THE INFLUENCE OF AFFECT REGULATION ON PROFESSIONAL SKEPTICISM

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Abstract

Variances in professional skepticism are a primary cause of audit deficiencies, and thus understanding how these variations happen is of keen interest to practitioners, standard-setter, and regulators so that they can better manage professional skepticism. To this end, academics have created successively more explanatory professional skepticism models. One factor known to cause variations in professional skepticism is affect, yet how it causes these variations is still not understood as the most current models cannot explain why negative affect has been found to both increase and decrease professional skepticism. The purpose of this dissertation is to build a more explanatory model of professional skepticism with respect to affect by asking and answering the question, how does affect produce variations in professional skepticism? To answer the question, I first conduct a review of professional skepticism literature and relevant affect literature to identify affect regulation as a notable theory currently excluded from professional skepticism models. Affect regulation predicts people anticipate affect as it is being generated and change their behaviour to either up- or down-regulate the affect in service of some goal. This is notable as it can explain the contradictory results with respect to negative affect and professional skepticism observed in the literature. I further investigate this with an interview study, the results of which further support the inclusion of affect regulation into a new model of professional skepticism. Then, these insights are combined to create a new model of professional skepticism. Finally, I calibrate the model with an online experiment, the results of which fail to find significant results. Taken together, the new model of professional skepticism developed herein better explains how variations in professional skepticism occur and is of use to those looking to better manage affect to optimize professional skepticism.

Dedication

This is dedicated to all the accountants toiling away out there who wish that they were viewed a little more human. I see you.

Acknowledgements

Nobody makes it this far in life, let alone academia, without help along the way. First and foremost, thank you to my dissertation supervisor, Dr. Linda Thorne, for the many, many, many times I reached out for her feedback and advice which she always made time for. Your guidance goes well beyond the pages of this dissertation and has helped shaped me into the academic I am today. Thank you to the other members of my committee: Drs. Marcia Annisette and Theodore Noseworthy, whose feedback and comments proved time and again to be valuable. Thank you to the rest of the faculty at the Schulich School of Business who I had the pleasure of learning from. Thank you to the other PhD students I shared time (and the occasional drink) with as your inspiration and commiseration helped propel me through this experience. Thank you to my book club colleagues who helped me learn how to give feedback in a more human fashion, rather than that of a criticism-spewing robot. Thank you to my former colleagues at MNP, especially Keith Fonstad, who supported me in making this decision even though it meant I was leaving the company. The work experiences I gathered there inspire more research questions than you know. A special, loving thanks to my family: Marie, Dave, Nathan, Holly, Michael, and David, who may not have always understood what I was doing with my PhD or why, but were there for me nonetheless. A final thanks and sincere apology for those who I have forgotten to name here. I have received innumerable comments, criticisms, advice, and support throughout the years in conferences and phone calls and hallways and classrooms and pubs which have all contributed to the work before you. Academic work does not happen in a vacuum, rather it is the result of the collective contributions of those you meet along the way, and thus any success is a collective success. This dissertation would not be what it is without any or all of you, and I wish I could give you all the credit you deserve. Except for the errors which remain – those I keep for myself.

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"Indeed, it is now commonly argued that the principal way in which actual decision-making behavior deviates from the choices prescribed by economic models of decision-making may be in large part due to emotional factors that weigh heavily on our actual decision but are seldom taken into account by standard models. Hence, greater knowledge of the exact role that emotions play in decision-making is invaluable in building complete, accurate, models of choice."

~ Grecucci & Sanfey (2013) from Handbook of Emotion Regulation, Ch 9, pg 140

The Influence of Affect Regulation on Professional Skepticism

Chapter 1 – Introduction

Professional skepticism is the force which drives auditors to identify potential errors & irregularities and investigate them properly, should they exist. As such, it is the key tool an auditor brings to bear on an audit (CAS 320; ISA 320; PCAOB AS 2401, Kadous, 2001; Nelson, 2009, Hurtt 2010; Hurtt et al. 2013; Quadackers et al. 2014; Nolder & Kadous, 2018) and auditors are expected to maintain sufficiently high levels of it in all their engagements so they can produce high quality work (IAASB, 2012a; PCAOB AS 1015; PCAOB AS 2401; CAS 200; CAS 240; IAS 200; IAS 240). Auditing standards go so far as explicitly requiring auditors to use their professional skepticism when assessing all issues pertaining to materiality (PCAOB AS 2401; CAS 320; ISA 320). With this emphasis by standard-setters, professional bodies, and practitioners alike on the importance of professional skepticism, it should come as no surprise that understanding, explaining, and predicting variances in professional skepticism is of great interest.

Professional skepticism can be either too high or too low, and extremes in ether direction have serious consequences. Insufficient or low levels of professional skepticism have consistently and repeatedly been identified as a primary cause of audit deficiencies (IFIAR, 2015; 2016; 2017; 2018; 2019; 2020) and have serious implications for auditors. First and foremost, insufficient professional skepticism contributes to greater risk of audit failures (Carmichael and Craig, 1996). Along with the financial loss placed upon investors, audit failures also erode trust in the profession as a whole prompting public scrutiny and increased governmental oversight, such as what happened with the collapse of Enron. Along with these public consequences, insufficient professional skepticism also contributes to greater legal liability through increased malpractice claims against auditors (Anderson and Wolfe, 2002). It also can result in greater regulatory action taken against audit firms and auditors themselves through increased SEC enforcement actions (Beasley et al., 2001) and increased challenges of assessments of immaterial items by regulators (Acito et al. 2019). In addition to the obvious reputational effects of having lawsuits and enforcement actions taken against auditors, these also come with substantial financial consequences for both firms and individual auditors. For example, in December 2022, the PCAOB levied $7.7 million in penalties against KPMG for a series of infractions which undermined their audit quality (PCAOB, 2022). In addition to the firm, individual auditors were also fined between $25,000-$75,000 each for their role in the various infractions. Sanctions for

individual auditors can be more severe than fines and include being barred from public practice, such as what happened to 3 CPAs from E&Y in 2021 (SEC, 2021). While the down-side risk of exercising too little professional skepticism is great, there are also serious consequences for auditors being too skeptical. Auditing is a business where clients choose the auditors they work with, and therefore it is imperative that a successful auditor be both efficient in their work and be able to maintain good working relationships with their clients so they can continue doing business with them. Unfortunately, surpluses in professional skepticism can lead to overwork of audit files contributing to inefficient audits and increased client ill-will (Nelson, 2009; Nolder & Kadous, 2018). Overwork unnecessarily increases the labour required to complete an audit, thereby undermining the ability of firms to realize a profit. Furthermore, overwork due to overly high professional skepticism means more disruption to the day-to-day business of clients, questioning of their competence and ability to produce financial statements free from error, and naturally leads to greater ill-will between the parties. Given these serious consequences for exercising too much or too little professional skepticism, it naturally follows that understanding, diagnosing, and managing variations in professional skepticism is of keen interest to standard-setters, practitioners, and academics alike.

In order to facilitate effective management of professional skepticism, academics have worked to create professional skepticism models so it can be better understood how, when, where, and why variations happen. All models of professional skepticism are built upon a foundational relationship where auditors identify potential issues through a skeptical judgement and then take an appropriate response via a skeptical action (Nelson, 2009; Hurtt et al. 2013; Nolder & Kadous, 2018), and have evolved over time to better explain variations in professional skepticism by including more factors known to influence professional skepticism and better distinguishing how these individual and social factors influence the various components of professional skepticism. Individual factors are the differences between individual auditors which explain how they each may have different levels of professional skepticism. For example, studies of individual differences show that auditors with higher levels of trait skepticism or lower levels of trust exhibit more skeptical judgements (Hurtt et al., 2103; e.g.: Quadackers et al., 2014; Popova, 2013). Auditor expertise has a positive relationship with professional skepticism as audit quality is improved when senior audit personnel have a greater understanding of the client's business (Peecher et al., 2007; Knechel et al., 2007) and auditors with a greater understanding of the client's business are better able to resist being persuaded by the client (Reffett et al., 2012). Experience has been found to both increase and decrease professional skepticism. Studies have found that fraud-specific experience increases the likelihood of judging a misstatement to

be intentional (Rose, 2007) and experienced reviewers are more accurate at assessing fraud risk (Agoglia et al., 2009). Other studies have found that audit seniors are less skeptical than staff auditors (Payne and Ramsay, 2005) or a more general pattern of less skepticism in more experienced auditors (Shaub and Lawrence, 1999). Similarly, motivation can influence professional skepticism both ways: by increasing it to avoid litigation and PCAOB inspections, or by decreasing it through motivated blindness for anomalies (Hurtt et al., 2013). Professional skepticism is not just an individual factor, it is also situational and different contexts can drive variances.

Where individual factors inform us about how the individual things an auditor brings to bear influences their professional skepticism, social factors inform us about how the social situations an auditor enters and is exposed to influences their professional skepticism. By better understanding these social factors, we can better understand just when and where professional skepticism is more likely to be higher or lower. For example, the riskiness of the client has been found to influence professional skepticism such that auditors are more willing to accept aggressive reporting with moderate risk clients, but prefer more conservative reporting with higher risk clients (Hackenbrack and Nelson, 1996). A firm's social culture helps shape an auditor's beliefs and feelings about risk, and this can vary in either direction (Kirkham, 1992; Nolder & Kadous, 2018). Similarly, a firm's emotional culture influences the ways in which auditors emotionally respond to risks of misstatement (Nolder & Kadous, 2018). Many individual and social factors have been studies to build up our understanding of how, when, and where variations in professional skepticism occur. Yet, despite all of what is known about how different factors influence professional skepticism, there are still many which need further investigation. One such factor is affect.

Affect is a positively or negatively valenced subjective reaction experienced by a person and is an umbrella term which captures both moods and emotions (Wyer, Clore, & Isbell, 1999; Gross, 1998b). What makes affect particularly interesting with respect to professional skepticism is that it is both an individual and social determinant. It is individual in that peoples' feelings are their own and people can bring in their own affective states to their work (e.g.: showing up to work in a bad mood after having nightmares throughout the night before). It is social in that people take cues from their environment which generate affective states inside themselves (e.g.: feelings of dread and anxiety when you show up to a party and unexpectedly see your ex is also there; feelings of anger when you have to deal with an upset customer). Given the above, it is perhaps unsurprising that affect is widely recognized for having a significant influence on professional skepticism for it helps to shape feelings and attitudes towards risk,

as well as our behaviour in response to those feelings (Nelson & Tan, 2005; Nelson, 2009; Hurtt et al. 2013; Nolder & Kadous, 2018). And given that noted importance, it is perhaps surprising that affect is widely lamented for having a dearth of research investigating its influence on professional skepticism (Nelson & Tan, 2005; Hurtt et al., 2013; Nolder & Kadous, 2018) and presents a fantastic opportunity for needed research.

The early models of professional skepticism recognized the potential and likelihood of affect having an influence of some sort but stopped short of incorporating it into the model (Nelson, 2009; Hurtt et al., 2013). The reason for this is that they are both cognitive in nature and built upon the findings of previous studies of professional skepticism, of which there were precious few investigating the influence of affect. The most current professional skepticism model postulates that both positive and negative affect create variations in professional skepticism by influencing auditors' skeptical judgements directly (Nolder & Kadous, 2018) which is an improvement on previous models. However, this theorization fails to explain contradictory results observed in empirical studies of affect and professional skepticism. Different studies have produced evidence that negative affect both helps professional skepticism (Bhattarchee, Moreno, & Riley 2012; Hobson, Stern, & Zimbelman, 2020; Cianci & Bierstaker, 2009; Bhattacharjee & Moreno, 2002; Popova, 2013) and hinders professional skepticism (Brazel et al., 2016; Johnson, Lowe, & Reckers 2016). So, which is it? Should negative feelings be encouraged or minimized to increase professional skepticism? Or are they helpful in some situations and less so in others? These are questions which must be explained if professional skepticism is to be properly managed but, unfortunately, current models of professional skepticism fail to explain these results and thus cannot provide the guidance needed. If we are to better explain these results, truly understand how affect influences professional skepticism, and greater manage professional skepticism, a more explanatory model of professional skepticism is needed. It is precisely this gap which I address with this dissertation.

In this dissertation, I set out to construct and support a new model of professional skepticism. As there are contradictory results in studies of affect and professional skepticism which cannot be explained by extant models of professional skepticism, my preliminary, high-level research question which motivates this dissertation is "How does affect produce variations in professional skepticism?" I address this overarching research question with four steps. The first step is to understand how professional skepticism is currently understood to work and how affect is currently theorized to influence it. First, I conduct a literature review of the professional skepticism literature which

documents the evolution of professional skepticism models from Nelson's initial model of professional skepticism (Nelson, 2009) to the most current model (Nolder & Kadous, 2018). I also review the relevant studies investigating the influence of affect on professional skepticism to identify variations which current models fail to explain. Notably, studies of negative affect and professional skepticism have produced contradictory results which cannot be explained by current models of professional skepticism. This naturally leads to a review of psychology literature related to affect with an emphasis on affect regulation (Gross, 1998b; Andrade, 2005; Andrade & Cohen, 2007; Gross, 2013; Shiv, 2008; Cohen et al., 2018; McRae & Gross, 2020), a previously unconsidered psychological process which is known to have a significant influence on behaviour yet has heretofore been overlooked by professional skepticism research. Taken together, these literature reviews suggest that affect is under-theorized in current professional skepticism models, and that incorporating affect regulation into a new model will produce a more explanatory model of professional skepticism.

Second, I answer the question, "How does affect influence professional skepticism in practicing auditors?" by interviewing several Canadian professional auditors about how they observe and understand affect to influence their professional skepticism during their work. This data is analyzed using Gioia methodology, a qualitative methodology which distills high, researcher-level themes and constructs from ground, practitioner-level data, and organizes these themes into a data structure which connects the two (Gioia & Chittipedi, 1991; Corley & Gioia, 2011; Gioia, Corley, & Hamilton 2013; Gehman et al. 2018; Gioia, 2021). By organizing the data thusly, it makes it easy to compare what is being observed in practice against what is theorized by extant professional skepticism models, and easily see what is similar and what is different between the two. This analysis reveals that affect regulation has a significant influence on an auditors' professional skepticism by influencing their choice of skeptical action taken in response to a potential issue, and that this influence appears to influence skeptical actions directly instead of working through skeptical judgements. Both these revelations are not currently accounted for in extant models of professional skepticism and support the inclusion of affect regulation in my new model.

Third, I use the results from the prior two steps to construct a new model of professional skepticism and answer the question "What does a more explanatory model of professional skepticism look like?" At the heart of this new professional skepticism model is the acknowledgement and incorporation of two different groups of affective theories, affect evaluation and affect regulation, which work through parallel mediating processes by which affect influences individual behaviour

(Andrade, 2005; Andrade & Cohen, 2007; Shiv, 2008; Cohen et al., 2018). Critically, affect of the same valence (either positive or negative) can have a positive or negative influence on behaviour depending on which process it works through and thus, by integrating and distinguishing these two processes into a new model of professional skepticism, the previously observed contradictory evidence can be explained. My new model also departs form extant models by showing affect can influence both skeptical judgements and skeptical actions directly, instead of only influencing skeptical judgements. Most critically, the new model explains how negative affect can both help auditors identify issues, thus raising professional skepticism, and also deter them from taking appropriate actions in response to potential issues, thus lowering professional skepticism. Doing so proffers an explanation for how auditors can identify potential issues properly and yet still fail to take an appropriate response to the potential issue, and this understanding is useful for those who need to effectively understand and manage variations in professional skepticism, such as auditors or standard setters. It also helps identify and explain situations where anticipating affect may cause variations in how they exercise professional skepticism.

Finally, I attempt to triangulate my previous results with an online experiment to better calibrate the model developed in Chapter 5. The experiment focuses on the influence of negative affect on professional skepticism as that is where the contradictory results have been observed in prior literature. Subjects are given a realistic audit task in the form of control tests which they must evaluate and recommend appropriate action towards. The results of the experiment failed to find statistically significant results.

The remainder of this dissertation is as follows. Chapter 2 discusses professional skepticism research, in particular the evolution of the major models of professional skepticism, and the results of prior studies investigating the influence of affect on professional skepticism. Chapter 3 discusses affect regulation: how it works, how it is distinguished from affect evaluation, and why the two sets of theories may produce different behaviours from the same affect. Chapter 4 details the qualitative study where practicing professional auditors are interviewed about affect and professional skepticism. The resulting data is analyzed and then organized to identify factors currently missing from the models described in Chapter 2. Chapter 5 develops a new theoretical model of professional skepticism which explicitly recognizes the unique influences of affect regulation identified in the preceding chapters. Chapter 6 calibrates the model with an online experiment examining how negative affect influences professional skepticism through affect regulation. Chapter 7 concludes by discussing the contributions, implications, and limitations of this research, as well as suggestions for future research.

Chapter 2 – Literature Review: Professional Skepticism Models & Studies of Affect

In this chapter, I review the professional skepticism literature with respect to the evolution of professional skepticism models to understand how affect is currently understood to influence professional skepticism. I start by defining professional skepticism and detailing how it operates within auditors. I then review the professional skepticism literature with respect to extant models of professional skepticism, from Nelson (2009) to Nolder & Kadous (2018), to track its development over the years. I then review studies of affect and professional skepticism to see what current models can and cannot explain. Overall, while I find the most current model of professional skepticism (Nolder & Kadous, 2018) is a marked improvement in explanatory power over previous models, it is also limited in that it fails to explain certain contradictory findings in the literature with respect to affect and professional skepticism. Taken together, this suggests a new, more explanatory model is needed to explain how affect produces variations in professional skepticism.

2.1 – Professional Skepticism

Professional skepticism is important as it is the fundamental skill which auditors are expected to bring to bear on audits and is repeatedly referenced by regulators and in auditing standards (IAASB, 2012a; PCAOB AS 1015; PCAOB AS 2401; CAS 200; CAS 240; IAS 200; IAS 240). Yet, it is also a very complex issue, and one where there is a substantial lack of consensus because it has been proven difficult to define and to measure (Nelson, 2009; Hurtt, 2010; Hurtt et al, 2013; Glover & Prawitt, 2014; Nolder & Kadous, 2018). Standard-setters generally define professional skepticism as having an attitude that includes a questioning mind and a critical assessment of evidence (PCAOB AS 1015). Some, like Canadian and international standard-setters, go further and say it also includes alertness for conditions indicating possible misstatement (IAASB, 2012; CAS, 200). Practitioners will include that professional skepticism influences their professional judgement (e.g.: Glover & Prawitt, 2014), that it means different things to practitioners working in different areas (e.g.: audit, non-audit services, management, etc.) (IESBA, 2018), and that it is a spectrum rather than a binary concept as more of it is not always better for the audit (ICAEW, 2018). Academics have also defined it several different ways throughout the years. Examples include the ability to detect fraud (Choo & Tan, 2000), the opposite of trust (Shaub, 1996), the equivalent of independence (Kadous, 2000), as indicated by auditor judgements and decisions that reflect a heightened assessment of risk (Nelson, 2009), and the force which compels auditors to identify potential errors and investigate them (Nolder & Kadous, 2018) amongst others. This lack of consensus

among definitions means there has also been many different measures attempted to capture professional skepticism (Hurtt, 2010). The issue regarding definitions also is mirrored when it comes to defining the construct itself as professional skepticism has been identified as an individual characteristic trait (e.g: Shaub, 1996; Hurt, 2010) and as both a trait and a state (e.g.: Curtis et al., 2018; Nolder & Kadous, 2018). This debate over the precise definition of professional skepticism resulted in the first two models of professional skepticism including multiple definitions within their models instead of defining the construct explicitly (Nelson, 2009; Hurtt et al., 2013). The most recent model is the first to tackle this particular issue by defining the professional skepticism construct as both a mindset and an attitude (Nolder & Kadous, 2018). Overall, the question of consensus definition is a serious one as the IAASB Ethics Board has identified the lack of a consensus definition as one of the major issues preventing effective management and development of professional skepticism (IESBA, 2018).

In addition to the lack of consensus regarding the precise definition of professional skepticism, there is similar discord when it comes to the initial attitudes towards the riskiness of a client and their managerial assertions. These attitudes are important because they help determine the amount and how convincing evidence must be to pass testing, and are referred to as either a 'neutrality' or a 'presumptive doubt' perspective (Nelson, 2009). A *neutrality perspective* is where an auditor works hard to gather and evaluate audit evidence but does not assume any bias *ex ante*. That is, an auditor neither assumes the evidence/managerial assertion/financial statement is either correct or incorrect before starting their work; they remain neutral. This perspective is consistent with the majority of guidance set out for auditors by standard-setters (PCAOB AS 1015; IAS 200; CAS 200). A *presumptive doubt* perspective is similar to a neutrality perspective in that an auditor works hard to gather and evaluate evidence, but also different in that an auditor assumes some level of dishonesty and/or error *unless* the evidence indicates otherwise. That is, an auditor starts their work assuming the evidence/managerial assertion/financial statement is wrong and needs to gather a minimum level of supportive evidence before issuing a clean audit opinion. This perspective is supported in the wording of certain standards which tell auditors to presume a level of misstatement and to be ever mindful of the possibility of fraud (PCAOB AS 2301; PCAOB AS 2401; ISA 240; CAS 240). It is also consistent with the legal realities where auditors are likely to be sued for not exercising enough professional skepticism and allowing a material error to permeate the financial statements but are unlikely to be sued for exercising too much professional skepticism and doing too much work to ensure the integrity of the financial statements (Nelson, 2009). These attitudes are important on a very practical level as they help inform the level of work expected by an auditor, and how their work will be judged for sufficient professional skepticism.

Yet, despite this importance, there is still no consensus or guidance about which perspective is the proper one, or which one is better for auditors to assume.

While it may be difficult for people to precisely define and identify professional skepticism, people do agree that professional skepticism is very important, and that it is evident when there has been a lack of professional skepticism. Repeatedly and consistently, a lack of professional skepticism has been identified as the major cause of audit deficiencies (IFIAR, 2015; 2016; 2017; 2018; 2019; 2020). These audit deficiencies lead to major issues, such as SEC enforcement actions (Beasley et al., 2001), malpractice claims against auditors (Anderson & Wolfe, 2002), and audit failure (Carmichael & Craig, 1996) leading to increased challenges of assessments of immaterial items by regulators (Acito et al., 2019). Clearly, the seriousness with which professional skepticism deficiencies are taken and addressed, and the prominence they have within auditors and their work makes professional skepticism a compelling subject for academics and practitioners alike as there is a very tangible demand for deep understanding of this subject. However, the lack of consensus regarding different aspects of professional skepticism makes it an extremely complex subject to tackle. Thus, before proceeding with any work to develop a new model of professional skepticism, I must first establish how I define professional skepticism, how I perceive it to work within auditors, and identify any key assumptions.

2.1.1 – Definition

I define professional skepticism as the force which drives auditors to identify potential errors & irregularities and investigate them appropriately, should they exist. Under this definition, professional skepticism informs the cognitive processing needed to investigate issues, sets the threshold by which a skeptical judgement is taken, and also guides the choice of proper skeptical action taken in response to a potential issue. This definition is both consistent with and closely aligns with Nolder & Kadous' definition of professional skepticism (Nolder & Kadous, 2018). It is also consistent with practice where standard-setters and practitioners generally define professional skepticism as an attitude including a questioning mind, alertness for conditions indicating possible misstatement, and a critical assessment of evidence (IAASB, 2012; CAS 200; PCAOB AS 1015). Professional skepticism is a foundational skill of auditors and is crucial for their exercising proper professional judgement during audits. As such, they are expected to maintain appropriate levels of it throughout an engagement in order to produce high quality work (IAASB, 2012a; PCAOB AS 1015; PCAOB AS 2401; CAS 200; CAS 240; IAS 200; IAS 240).

2.1.2 – Conceptualization of Professional Skepticism

My conceptualization of professional skepticism is the same as presented by Nolder & Kadous in their most modern model of professional skepticism (Nolder & Kadous, 2018). Professional skepticism is conceptualized as both a mindset and an attitude. *Skeptical mindsets* consist of cognitive processes and procedures to facilitate information processing and eventual judgments. These mindsets are revealed in particular ways of thinking and processing information, and thus are captured with cognitive variables. *Skeptical attitudes* are evaluative responses associated with a target which can be measured in terms of auditors' beliefs about risk and/or feeling of doubt associated with the evidence or assertions being examined and can be measured by examining the extent of these evaluative responses. This relationship is bi-directional in that the processing of a mindset informs the associated attitude, and vice-versa. For example, more critical, effective cognitive processing of evidence produces more accurate risk assessments which informs how an auditor feels about the risk. On the other hand, stronger feelings about risk coming from an attitude leads to more detailed, careful processing of evidential information.

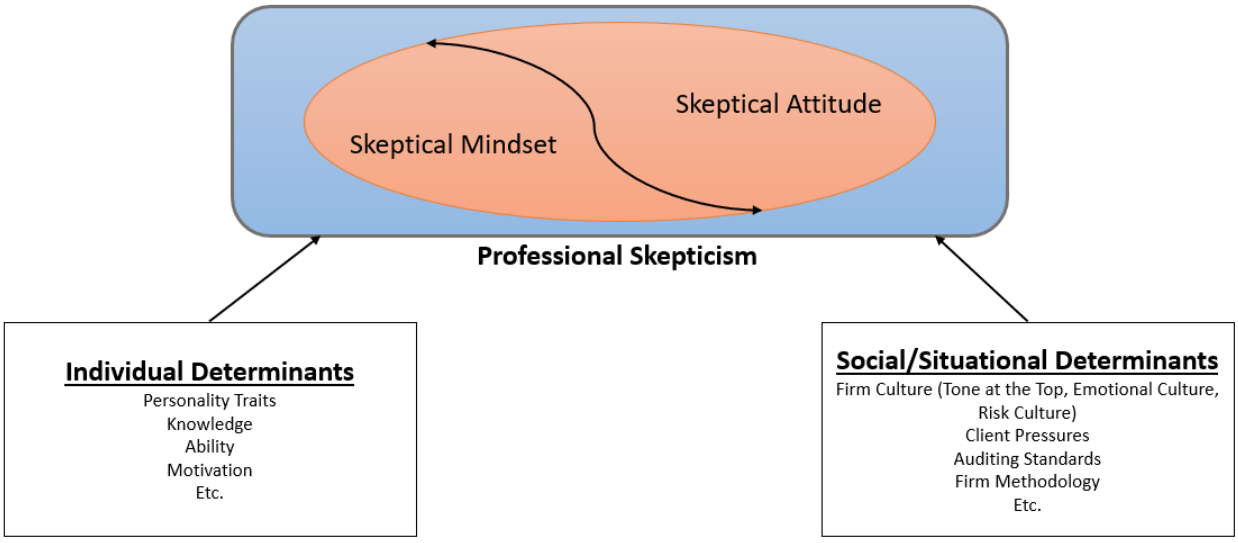

Figure 1: Professional Skepticism and Determinants

Professional skepticism can be moderated by both individual and social factors (Nolder & Kadous, 2018). Individual factors include personality traits, knowledge, personal ability, and motivation which can all either increase or decrease an individual auditor's level of professional skepticism. Social factors which can similarly increase or decrease professional skepticism include firm culture (for example, each firm has a custom level of risk they are willing to assume for an audit), firm

methodologies, client pressures, and auditing standards. Taken together, professional skepticism is complex, interconnected, as are the factors which influence it.

2.1.3 – How Professional Skepticism is Exercised

The process of exercising professional skepticism during an audit consists of several steps. First, *evidential input* is gathered to be assessed by the auditor. This evidence can take the form of the general financial statements or a particular managerial assertion over a specific piece of evidence, such as the accuracy of a receipt entered into the expense system, or anywhere in between. It can also include complimentary pieces of other information needed by the auditor to come to an ultimate judgment. Ultimately, the evidence in question serves as the input into the next step of the process: cognitive processing.

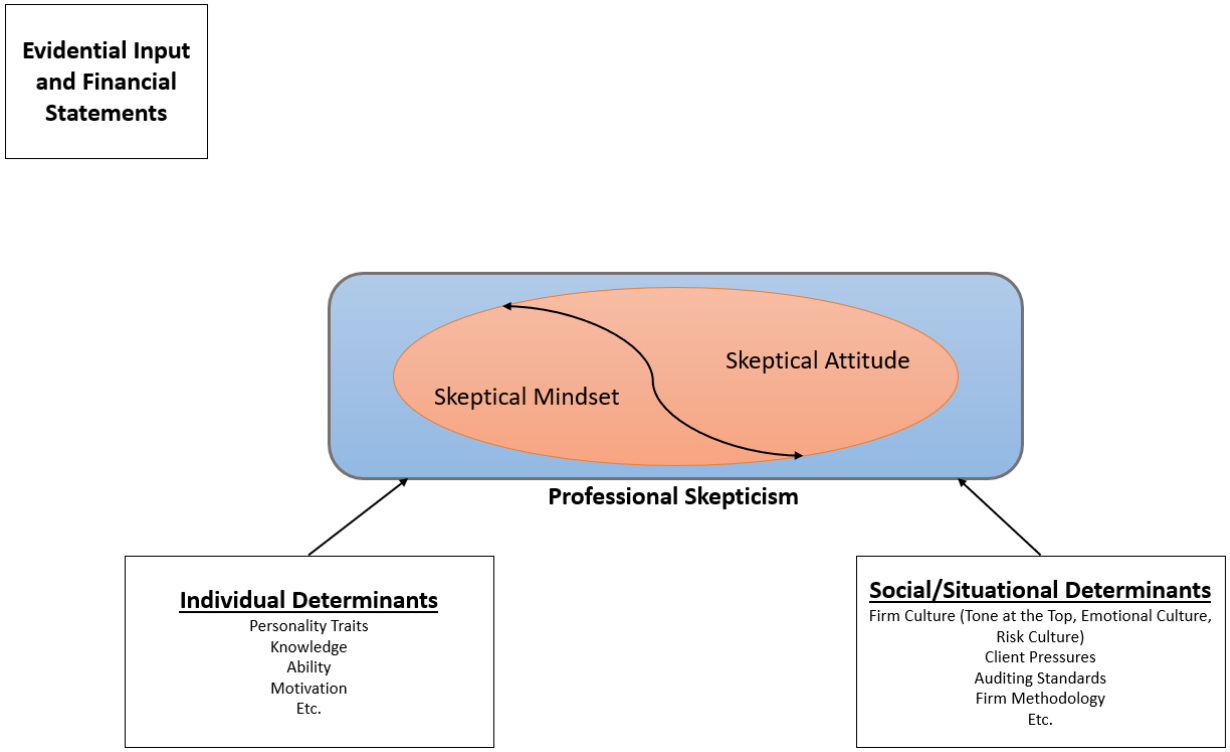

Figure 2: Step 1 of Exercising Professional Skepticism

Cognitive processing consists of understanding the issue, gathering the facts, considering alternatives, and performing analysis to determine the level of risk associated with the evidence being assessed (Nolder & Kadous, 2018). An auditor must first develop an *understanding of the issue* if they are to identify where potential problem areas may lie with respect to risks. *Gathering the facts* refers to auditors gathering sufficient and appropriate information regarding managerial assertions throughout

the audit to form their ultimate audit opinion. The extent and breadth of an auditors' search for facts must be enough to reasonably find any potential problematic or contradictory evidence in addition to evidence which supports a manager's position as a limited search would be much less likely to find enough evidence to make an appropriate decision. *Considering alternatives* is an auditor not simply accepting managerial explanations but considering alternative possibilities to explain what they are seeing. This step captures an auditors' receptiveness and openness to the possibility of fraud, error, or pervasive misstatement. Finally, evidence must be *analyzed* critically and in an unbiased manner. Auditors must think deeply about the analysis they are performing to determine the reliability of their analysis and the evidence being analysed. Taken together, these cognitive processing steps both help inform a risk assessment regarding the evidence in question, and subsequently lead to the next step, a skeptical judgement.

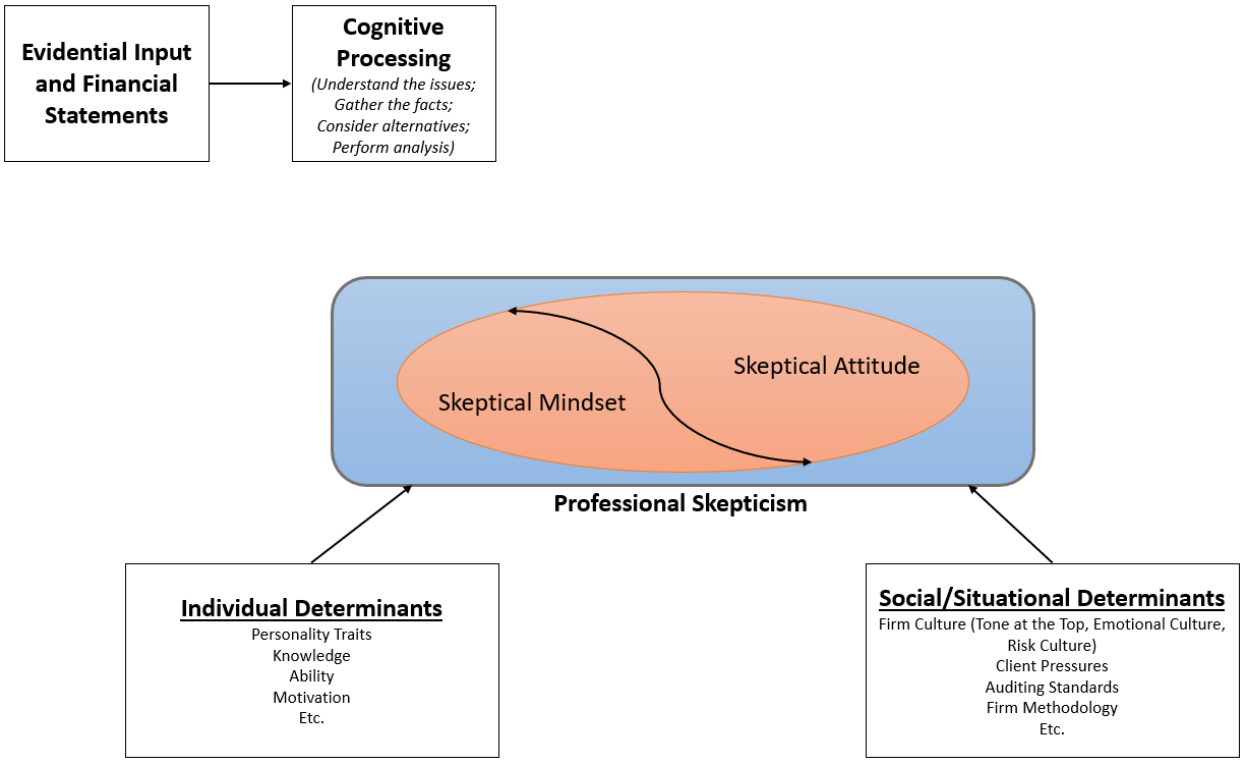

Figure 3: Step 2 of Exercising Professional Skepticism

Skeptical judgement represents a threshold that needs to be reached in order to promote further action by the auditor (Nelson, 2009). In other words, this can be thought of as the proverbial smell test to identify if an issue exists. After being analyzed through cognitive processing, evidence is evaluated against the skeptical judgement threshold. If the threshold is not reached, then the risk is not sufficient to promote additional or different action to be taken. However, if the threshold is reached,

the auditor is then spurred to take action which addresses this risk. The greater this threshold is exceeded, the stronger the action taken in response. For example, a cheque that is $0.10 different than the corresponding journal entry will prompt a different action than a cheque that is written to an unauthorized payee, and that action will be different still if the unauthorized payee is the controller's husband. Different actions are motivated based on the different levels that the skeptical judgement threshold is exceeded.

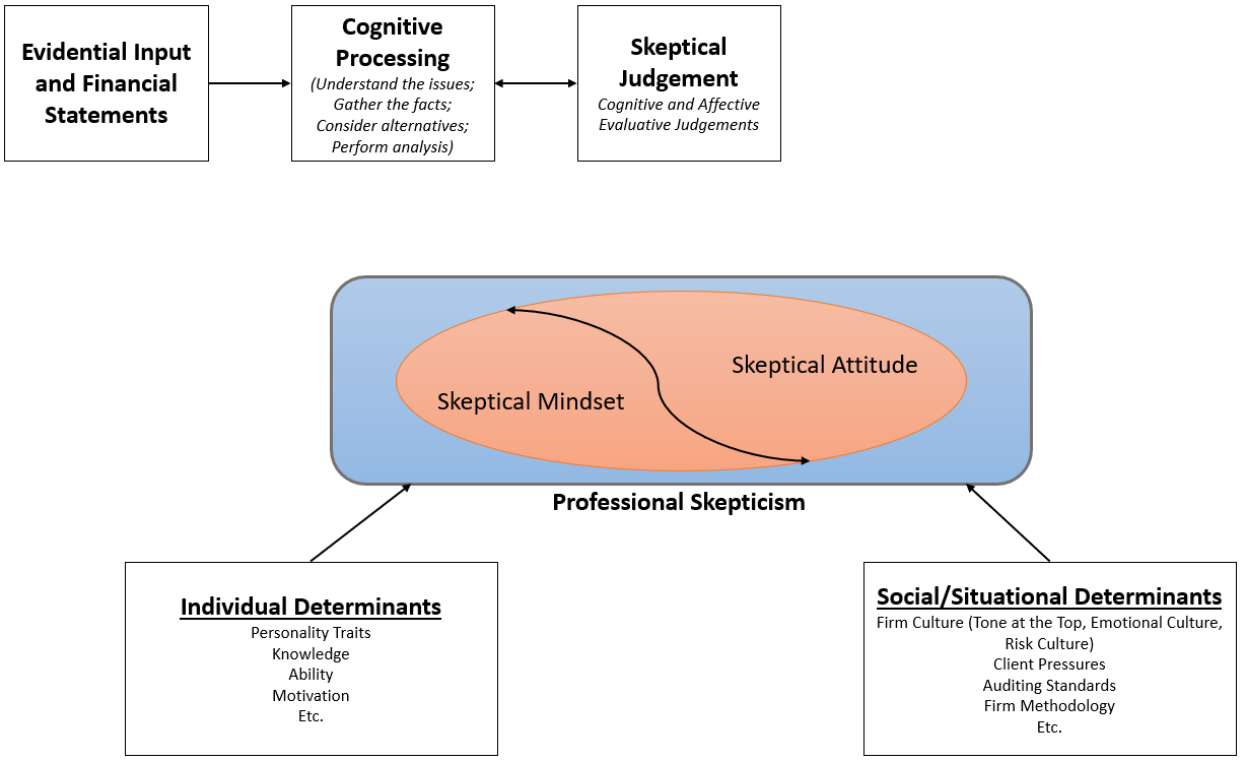

Figure 4: Step 3 of Exercising Professional Skepticism

The threshold which triggers a skeptical judgement is set by an auditors' professional skepticism by means of their skeptical mindset and their skeptical attitudes. The cognitive processing from an auditor's mindset helps inform the level of risk of the evidence of in question. The auditor's attitude also informs their belief and feelings about the riskiness of the evidence in question through both affective and cognitive evaluations. Practically speaking, this relationship between professional skepticism and the skeptical judgement threshold can be interpreted as higher professional skepticism results in a more stringent threshold. That is, the higher an auditor's professional skepticism, the more likely it is that a piece of evidence will exceed the skeptical judgement threshold and the more likely an auditor will be spurred to take additional action to better inform their ultimate decision regarding the evidence.

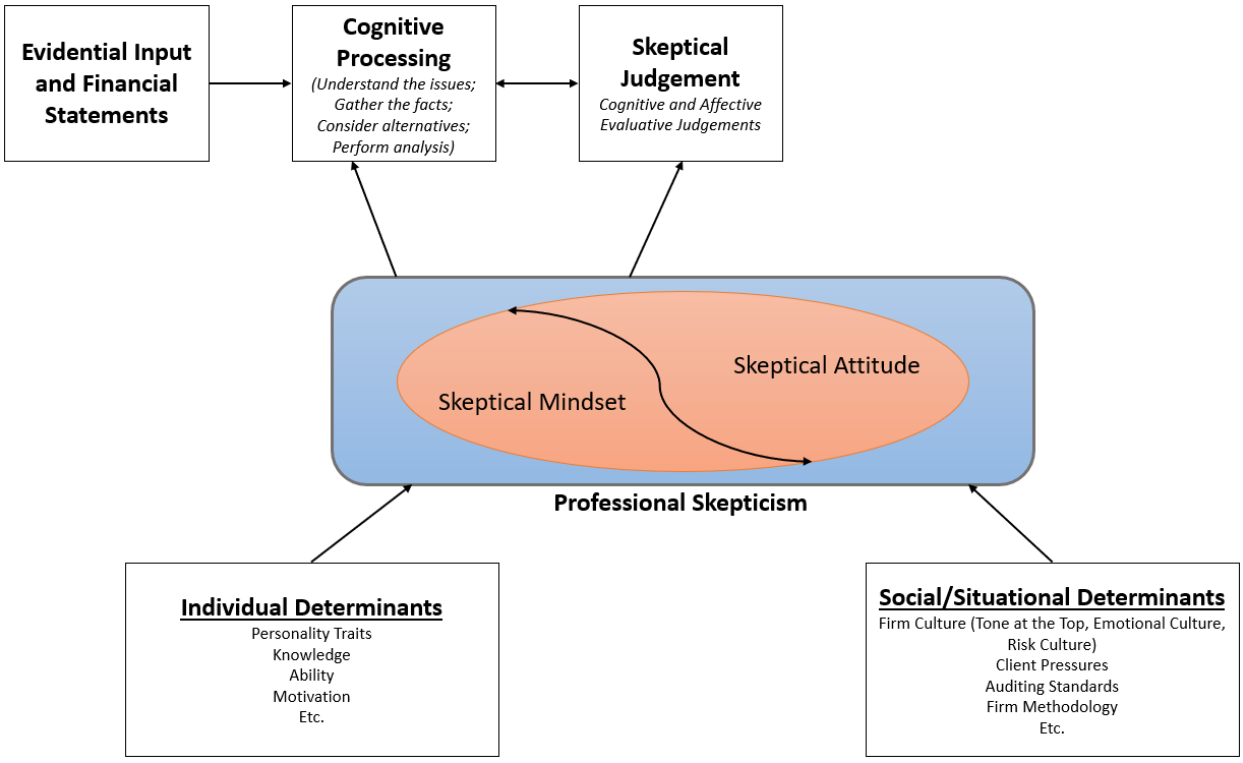

Figure 5: Step 4 of Exercising Professional Skepticism

Intention represents an auditors' intention to act further upon a piece of evidence. *Skeptical action* is the specific action actually taken by the auditor in response to a skeptical judgement which changes the amount or nature of evidence available as an input to the auditor (Nelson, 2009; Nolder & Kadous, 2018). These two steps are intertwined in that an auditor must have an intention to act before they can actually act. Change in intention will reliably equal a change in behaviour when the two are closely correlated (Ajzen & Fishbein, 1977). Skeptical judgement signals a potential issue with respect to risk, skeptical action changes the information available to an auditor to make an assessment regarding risk, so therefore I assume the two to be highly correlated and that intentions to act created by skeptical judgements reliably predict commensurate increases in skeptical actions. Practically speaking, a skeptical action is the additional work done to collect new, additional, or different evidence which will then help inform the next skeptical judgment over the evidence. The change in information garnered through a skeptical action can either further support or disconfirm managerial assertions. Ultimately, skeptical action is critical because exercising professional skepticism is an iterative process and the information gathered through skeptical actions feeds into subsequent iterations, ultimately influencing subsequent skeptical judgements. The output from a skeptical action changes the amount or nature of the initial evidence, this revised amount becomes the new evidential input for the next iteration, and,

depending on whether the new information set is more or less indicative of a problem, the evidence will be more or less likely to trigger a subsequent skeptical judgement than before until ultimately an audit opinion will be reached.

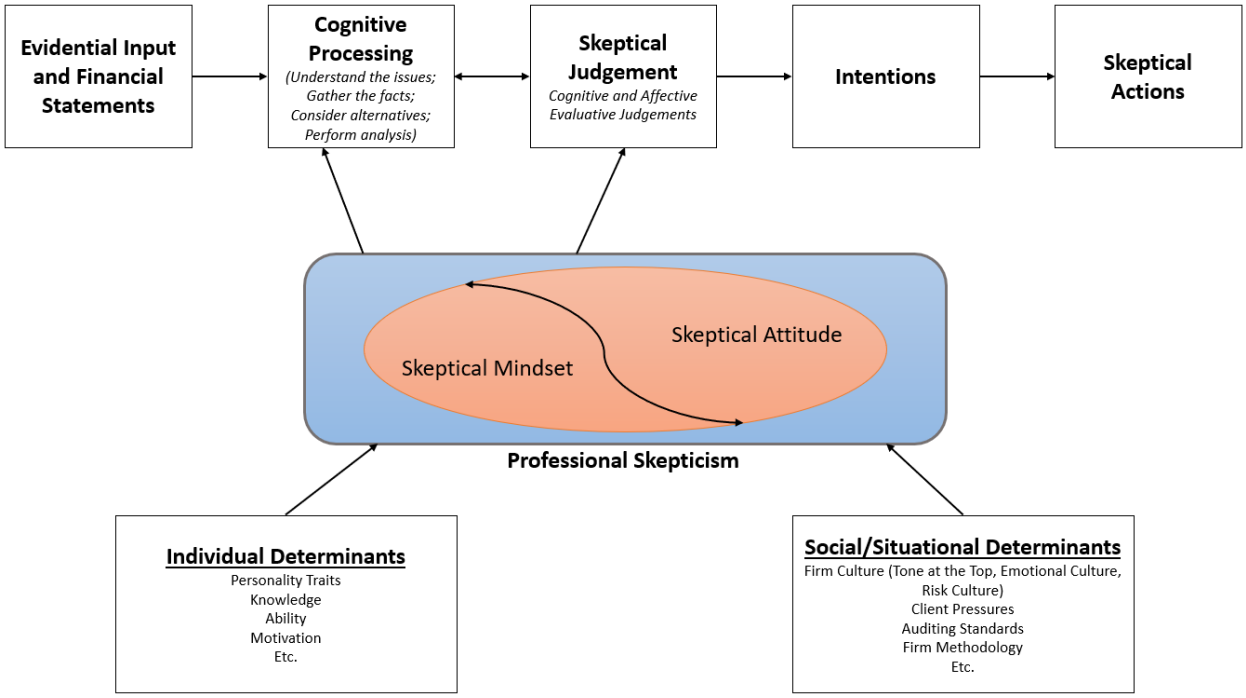

Figure 6: Step 5 of Exercising Professional Skepticism

2.2 – Models of Professional Skepticism

To understand how professional skepticism is currently understood to operate within auditors, I conducted a literature review of professional skepticism research to identify how academics have modeled it. A google scholar search was conducted with the terms 'professional skepticism' and 'model', and a further refined search was done of all FT50 accounting journals to identify papers which present explanatory models of professional skepticism. Ultimately, three models of professional skepticism were identified: The Nelson Model (Nelson, 2009), the Hurt et al. Model (Hurt et al., 2013), and the Nolder & Kadous Model (2018). As there are only three models to discuss, all three will now be discussed to better understand how they have built upon each other and evolved over time.

2.2.1 – Nelson Model (2009)

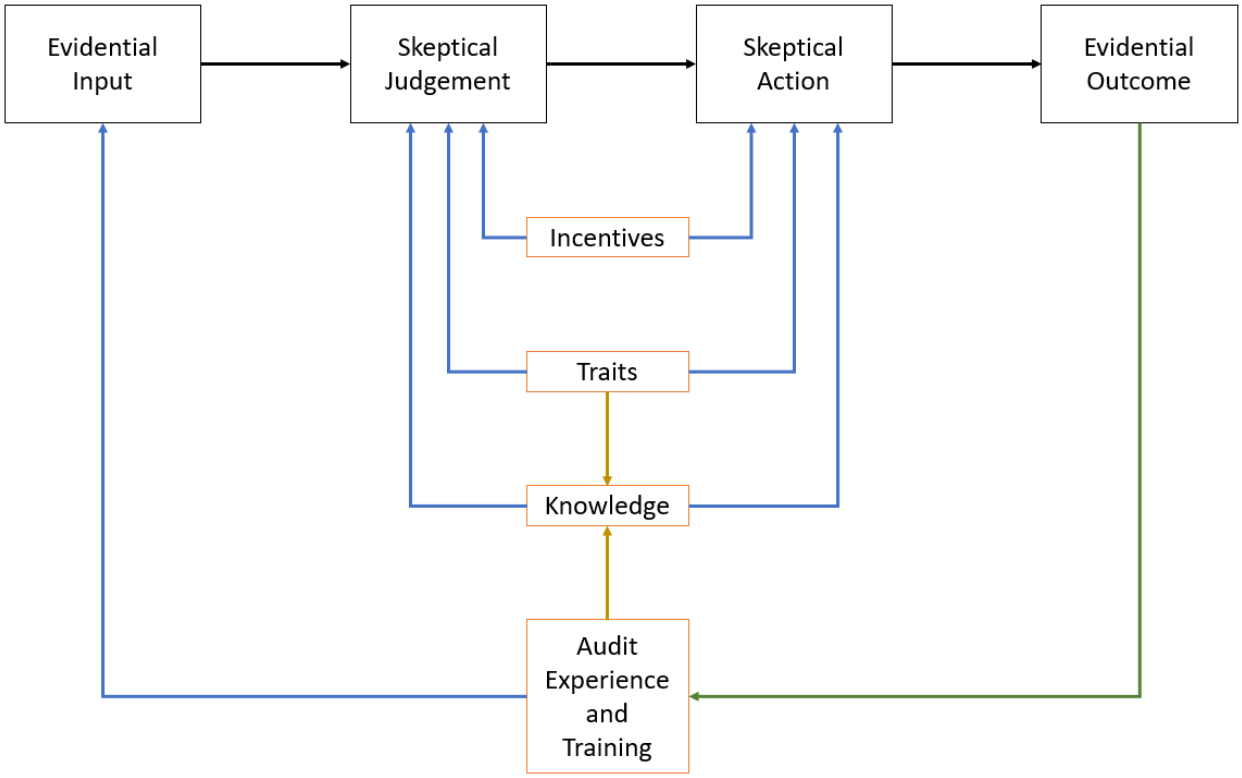

Figure 7: Nelson Model of Professional Skepticism (2009)

Nelson (2009) was the first to introduce a model of professional skepticism into accounting research. Cognitive in nature, the model lays out an iterative process by which the auditor makes decisions during an audit. At the core of the model are the two foundational components of professional skepticism: skeptical judgement and skeptical action. Identifying a problem is skeptical judgement and acting upon an identified problem is skeptical action. Professional skepticism sets the threshold between the two that is needed to be reached to promote action (pg. 9). For example, an auditor is presented with a piece of audit evidence which requires them to make a skeptical judgement upon. Professional skepticism acts as a plausibility hurdle which must be cleared for the piece of evidence to be accepted as valid; the higher the level of professional skepticism within the auditor, the more convincing the evidence must be to pass testing. If the item does not pass testing, then the auditor must decide which action to take to appropriately address the situation. This can include seeking out additional information, corroborating evidence, expanding testing, or questioning management for example. These skeptical actions reveal the internal level of professional skepticism within an auditor, where lower levels means it takes less to convince the auditor the evidence is satisfactory. This step can be repeated ad nauseum until the auditor makes a final judgement over the

evidence (evidential outcome), deciding whether it represents a material misstatement or not. Skeptical judgements and skeptical actions can both be influenced by incentives, auditor traits, and auditor knowledge (ie: prior audit experience and training). The focus on these individual factors does mean the Nelson model is primarily individual-focused. However, it does also recognize that there are contextual factors which can influence professional skepticism, such as the evidential input, incentives, and audit-planning for each situation.

The Nelson model assumes a "presumptive doubt" perspective of professional skepticism (as opposed to a "neutrality" perspective), and thus assumes auditors start their work presuming some level of inherent dishonesty or error. Adopting this perspective means the model assumes auditors are more likely to doubt evidence is true than doubt it is false and will collect relatively more evidence as a result. Thus, this model is not designed to find optimal levels of professional skepticism which balances efficacy with efficiency. Rather, it is designed to find determinants of professional skepticism to better understand how they increase or decrease professional skepticism.

As a first model of professional skepticism, the Nelson model has both its strengths and weaknesses. First and foremost, it established the fundamental 'skeptical judgement – skeptical action' relationship which is the foundation upon which all other models of professional skepticism have been built. It was also the first to model the recursive nature of professional skepticism, where the additional or altered information gathered through skeptical action becomes a new evidential input for the next iteration and so on until an ultimate audit decision can be made. It is hard to overstate the importance of these two points; they are truly the foundation of professional skepticism research going forward. Also, by being the first model of professional skepticism, it recognized and distinguished professional skepticism from other, similar models such as trust. It is also cognitive in nature, integrating psychology research with audit research to build the model. However, it is admittedly "…a simple model of PS [professional skepticism]." (Nelson, 2009, pg. 5) as it was built by consolidating the findings of prior research and not adding any new theoretical elements. As such, the model fails to consider many factors which can influence professional skepticism. Most notably, for my own purposes, it fails to consider affect. Furthermore, the different components identified lack clear measures which is important for both researchers looking to better study professional skepticism and practitioners who need measures to know how changes to audit practice are changing professional skepticism. Finally, the model does not explicitly define the professional skepticism construct, rather it adopts the more general

(and debated) definition that professional skepticism is reflected in the judgments and actions of auditors (Nelson, 2009, pg. 1).

While the Nelson model represented a significant first step by being the first model of professional skepticism, the obvious next step to making a more explanatory model would be to map on more factors which influence professional skepticism and that is exactly what Hurtt et al. set out to do.

2.2.2 – Hurt, Brown-Liburd, Early, and Krishnamoorthy Model (2013) aka: the Hurtt et al. model

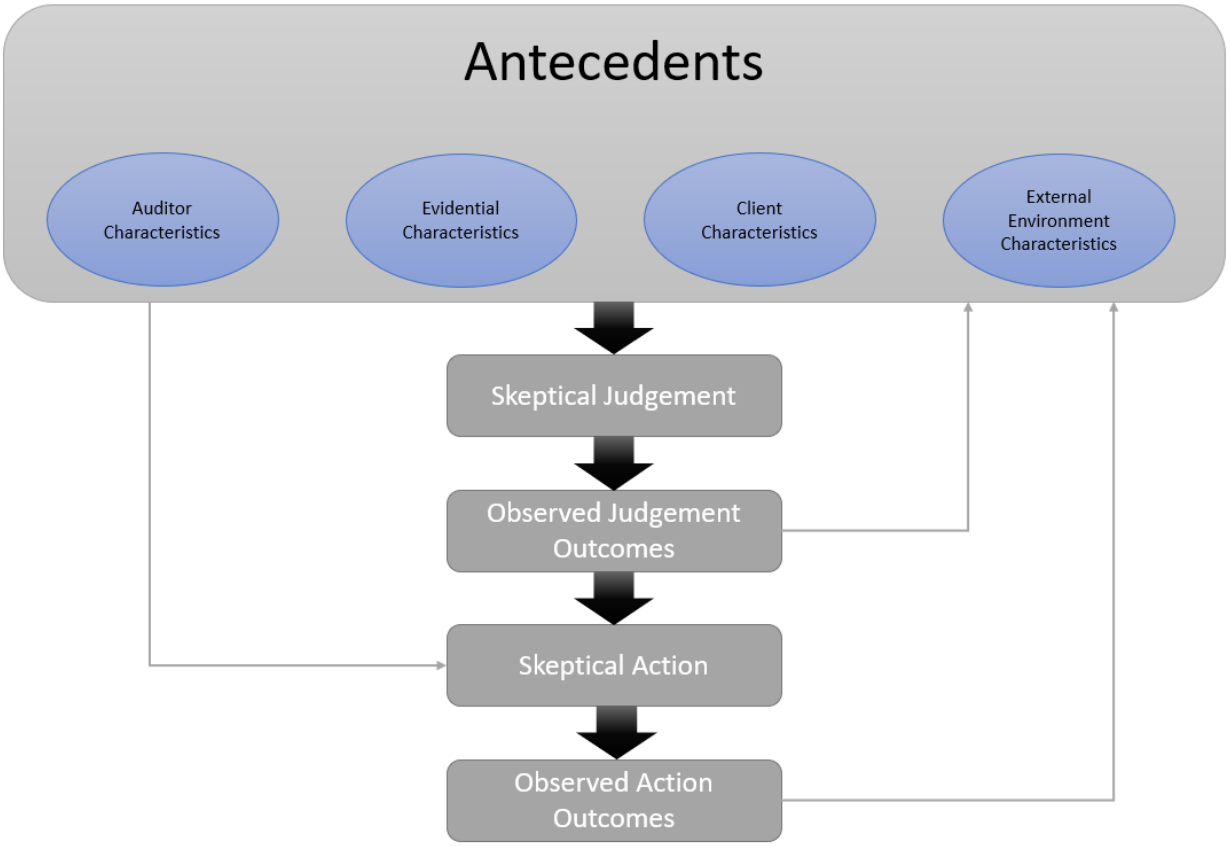

Figure 8: Hurtt et al. Model of Professional Skepticism (2013)

Hurtt et al. (2013) extend the Nelson model by considering, categorizing, and integrating additional antecedents to both skeptical judgements and skeptical actions rather than redefining the internal cognitive process. In this way they extend the Nelson model while retaining the foundational relationship between skeptical judgment and skeptical action. The authors identify four broader categories of antecedents: auditor characteristics, evidential characteristics, client characteristics, and environmental characteristics. As these antecedents are external in nature, they map onto the Nelson model without changing the iterative nature of the original.

The Hurtt et al. (2013) model differs from the Nelson model in two key ways. First, the model expands on the cognitive framework laid out in the Nelson model by considering a much broader set of antecedents to skeptical judgement and skeptical action, and then recategorizes the antecedents into groupings which reflect features of the audit environment that may affect auditor judgement and actions. This gives the overall model much more detail than the original and thus increases the ability of the model to explain variations in professional skepticism. Broadening increases the number of explanatory antecedents, and recategorizing clarifies which antecedents relate to individual auditors, auditors and their clients, or auditors and other elements of their environment such as the firm they work for.[1] Second, it relies upon prior work by Hurtt (2010) and thus similarly assumes a "neutrality" perspective of professional skepticism as opposed to a "presumptive doubt" perspective. Adopting this perspective means auditors are not predisposed to assume the client evidence is either honest or dishonest, accurate or erroneous – they start from a neutral position. As such, auditors may need to collect relatively less evidence to issue a clean audit opinion than if they assumed a presumptive doubt perspective. This also means the Hurtt et al. model (Hurtt et al., 2013) considers antecedents which can help find optimal levels of professional skepticism, increasing it when it is too low and decreasing it when it is too high.

By greatly expanding the amount and variety of antecedents to professional skepticism, the Hurtt et al. model represents a clear extension to the Nelson model by creating a much more explanatory model through its comprehensive accounting of factors which influence professional skepticism. The authors brought in many important new antecedents, such as negotiations, client relationships with the audit firm, audit standards, and corporate governance. They also refined several general characteristics into more detailed subcategories, such as eschewing 'traits' and instead listing individual characteristics, moral reasoning, moral courage, independence, and affect. As such, this model is the first to *explicitly* recognize the influence of affect. However, the model is limited with respect to affect in that it does not consider how these new antecedents may alter or redefine the base 'skeptical judgement – skeptical action' relationship established in Nelson (2009). The Hurtt et al. model is also similarly limited as the Nelson model in that it is cognitive in nature and the antecedents identified lack specific measures for each to help guide research and practice. Finally, the Hurtt et al.

[1] The Nelson model does not ignore the different elements, such as individual characteristics, client characteristics, or external environment characteristics, but the way in which these elements are classified in that model means they are applicable to multiple categories, depending on which facet is attended to. Hurtt et al. show how those various categories map onto their reclassified categories of antecedents in their Table 1 (Hurtt et al., 2013, pg. 49).

model also sidesteps defining the professional skepticism construct by considering all research which identifies antecedents to professional skepticism *regardless* of how those papers each define professional skepticism (Hurtt et al., 2013, p. 46).

While the Hurtt et al. model represented a clear step forward by greatly increasing the explanatory power with a professional skepticism model, a rethinking of the psychological processes at play and recategorization of factors was still needed to make an even more explanatory model. Enter Nolder & Kadous.

2.2.3 - Nolder & Kadous Model (2018)

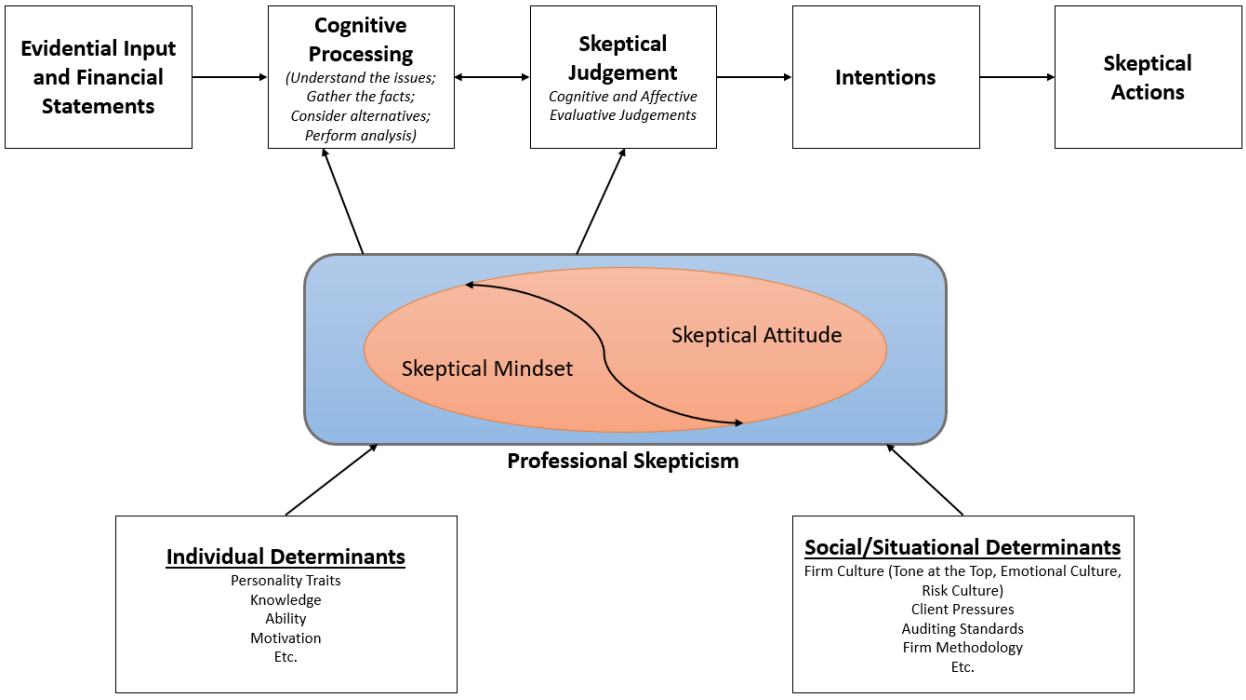

Figure 9: Nolder & Kadous Model of Professional Skepticism (2018)

Cognitive in nature, the Nelson model introduced and formalized the 'skeptical judgement – skeptical action' relationship (Nelson, 2009). The Hurtt et al. model expanded upon this by greatly increasing the number of antecedents which can influence the base relationship (Hurtt et al., 2013). While these cognitive models were both very important in establishing and advancing our understanding of professional skepticism and the factors which may influence it, they were rather unwieldly and somewhat difficult to link to practice. Nolder & Kadous (2018) re-conceptualized professional skepticism in a new model where they consider professional skepticism to be *both* a mindset and an attitude and affix measures to each. They also re-categorized the numerous moderators

to professional skepticism into the simpler, easier to use categories of 'individual' and 'social/situational' factors. In doing so, they moved the model beyond only considering cognition and established a better link between professional skepticism research and practice. Taken together, these steps combined to create a more explanatory model.

The major change made by Nolder & Kadous (2018) was to re-conceptualize professional skepticism as both a skeptical mindset and a skeptical attitude. This is important for this becomes the first major model to attempt to specifically define the professional skepticism construct. A *skeptical mindset* consists of judgement criteria and cognitive processes and procedures and captures the idea that professional skepticism is reflected in particular ways of processing information. Accordingly, these mindsets are evidenced by cognitive processing measures such as those which capture the extent of critical thinking. *Skeptical attitudes* are both cognitive and affective evaluative responses to specific targets which, in an auditor's case, would be relevant audit items such as the financial statements, managerial assertions, and audit evidence. These evaluative responses include auditor beliefs and feelings about audit evidence which drive their individual intentions and actions, and thus can be measured in terms of beliefs about risks and feelings of doubt over the same evidence. By specifically defining the professional skepticism construct to include both cognitive processing factors as well as auditor feelings and beliefs, the authors increase the explanatory power of their model (Nolder & Kadous, 2018).

Skeptical mindsets and skeptical attitudes are bi-directional, that is they can each influence and be influenced by each other (Nolder & Kadous, 2018). The cognitive processing from a skeptical mindset subsequently informs the attitude, and the feelings about risk from a skeptical attitude influences subsequent cognitive processing. For example, an auditor who engages in more critical thinking and generates more alternative explanations for a piece of evidence will generate a more accurate idea about the true level of risk, thus influencing the auditor's belief and feelings about the riskiness of the evidence. On the other hand, an auditor who believes risk is high about a managerial assertion or has distrusting feelings towards management will be more inclined to engage in deeper, more skeptical processing of information (Nolder & Kadous, 2018).

The authors also simplified the antecedents to professional skepticism into "individual" and social/situational" factors. This was done to further distinguish their model from researchers who conceptualize professional skepticism as solely as a fixed individual trait (e.g., Hurtt, 2010). Professional skepticism is socially constructed through several factors such as the expectations of performance put

on auditors put on them by financial statement users, regulators, and the like (Nolder & Kadous, 2018). Beliefs and feelings about risk are influenced by factors such as firm culture, where firms with stronger beliefs of greater inherent risk will demand more professional skepticism, or emotional responses such as the worry about potential misstatement. And while mindsets can be carried between different situations, unlike traits, individuals have access to several mindsets and can switch between them easily (Nolder & Kadous, 2018, pg. 4). By conceptualizing professional skepticism as both a mindset and an attitude, the authors establish that professional skepticism is malleable. By recognizing that there are both individual and social factors, the authors recognize professional skepticism is situational. Both of these reinforce the contention that professional skepticism is a factor which can be influenced and managed, thus creating a link between professional skepticism research and practice.

Nolder & Kadous further specify their model by adding additional detail to how professional skepticism is exercised. Though the base skeptical judgement – skeptical action relationship established in prior models remains, the Nolder and Kadous (2018) model includes two additional steps: cognitive processing and intentions. The cognitive processing stage reflects the particular influence of skeptical mindsets on the process of exercising professional skepticism. Intentions reflects the fact that an auditor must have an intention to act before they can actually take a skeptical action. Affective evaluations are particularly noted as "…precursors of intention and action" (Nolder & Kadous, 2018, pg.3). These two factors were not included in previous models and thus their inclusion helps specify the process by which professional skepticism operates. Taken together with the dual-conceptualization of professional skepticism, this also represents a further extension of professional skepticism as this is the first model to show both the conceptualization of professional skepticism and the process by which it operates.

Nolder & Kadous do not explicitly state whether they adopt a presumptive doubt or neutrality perspective of professional skepticism, however their model appears to accommodate both. They state their work is based on a belief that researchers, regulators, and auditors are concerned with insufficient professional skepticism (pg. 2), but also acknowledge it is possible to have too much professional skepticism, which is consistent with a neutrality perspective. Indeed, by acknowledging the situational nature of professional skepticism and explicitly including social factors such as firm culture and client pressures, the Nolder & Kadous model allows for efficiency and efficacy concerns to be captured in the model.

2.2.4 – Conclusions Regarding the Evolution of Professional Skepticism Models

From the Nelson model to the Hurtt et al. model to the Nolder & Kadous model, professional skepticism models have evolved to become explanatory by incorporating more factors and theories which explain variations in professional skepticism. Overall, the most modern model, the Nolder & Kadous model, represents an important extension to our understanding of professional skepticism. Where prior models only took a cognitive view (Nelson, 2009) or increased the antecedents (Hurtt et al., 2013), the Nolder & Kadous model creates a more complete understanding of professional skepticism by conceiving it as both a mindset (cognitive processing) and an attitude (affective & cognitive evaluations), greatly increasing the explanatory power of the model. By also including measures for the above, stronger links to practice is created for now the effects of audit practice changes on professional skepticism can be better measured. These changes are important because they combine to help better determine the root cause of audit deficiencies and thus empowers better management of professional skepticism.

Also important, this model is the first to explicitly incorporate the influence of affect on professional skepticism by means of evaluative responses of evidence which directly influence skeptical judgements. Affect's influence is recognized as both important and separate from the influence of cognitive processing. However, while taking the important step of recognizing the importance of affect, the model only considers affect to operate in a singular way and thus have a singular, uniform influence on professional skepticism by influencing evaluative skeptical judgements directly. However, affect can operate through different mediating processes, with each having a different influence on judgement, intention, and action. By only considering the influence of affect through evaluations, the model is able to explain findings which show affect having a congruent influence on professional skepticism and behaviour but fails to explain contradictory findings where affect has an incongruent influence. After all, if affect *only* influences skeptical judgements, then we should always see consistent results when in comes to affect influencing professional skepticism. For example, negative affect *should* make an auditor feel worse, feeling worse should influence their skeptical judgements accordingly to make them more likely to happen, and thus negative affect should increase overall professional skepticism (I feel bad, so I feel bad about this evidence, so I am going to take action and investigate it more). While there are studies which support this logic, there are also those which show professional skepticism *falling* with negative affect. By only conceiving affect to have a single influence on professional skepticism, the Nolder & Kadous model fails to explain the contradictory influence observed in other studies.

Furthermore, affect is not theorized to have a direct impact on skeptical action. Instead, affect works indirectly to influence intention and skeptical action through its direct influence of skeptical judgement. While this relationship where higher risk assessments (skeptical judgment) result in higher demands for evidence (skeptical action) (Nolder & Kadous, 2018, p.2) is consistent with prior models (Nelson, 2007; Hurtt et al. 2013), it also represents a step away from these models. Both the Nelson model and the Hurtt et al. model recognize that there are factors which can influence skeptical action independently from skeptical judgments but the Nolder & Kadous model limits the influence of attitudes, and thus affect, to influence skeptical judgements only. Relaxing this assumption would also help create a more explanatory model by acknowledging affect may indeed influence other components of professional skepticism.

2.3 - Literature Review: Studies of Affect and Professional Skepticism in Accounting

Affect's influence on decision making has been of interest to both the audit literature and the larger accounting literature. For example, managers' choices between investment alternatives is influenced by their affective reactions to people involved (Kida et al., 2001; Moreno et al., 2002), jurors' judgements of auditor negligence influenced by their affective reactions to employees' loss of retirement savings (Kadous, 2001), CSR reports induce affective states within investors who then use that affective information to influence their estimates of firm value (Elliott, Jackson, Peecher, & White, 2014), and managers high in emotional intelligence incorporate affective information into their capital budgeting decisions (Osecki, Wong, & Wynes, 2022). Clearly, affect is a factor which warrants investigation by accounting scholars.

With regards to the auditing literature specifically, affect is simultaneously recognized as an important antecedent to professional skepticism (Nelson, 2009; Hurtt et a. 2013; Nolder & Kadous, 2018) as well as lamented for the dearth of research investigating these potential effects (Nelson and Tan, 2005; Hurtt et al., 2013; Nolder & Kadous, 2018). What research of this type that does exist is sparse, to say the least. For example, prior research has shown audit managers react with irritation when team members speak up about potential audit issues (Nelson & Proell, 2018) and outcome knowledge biases supervisors' evaluations of team members' skeptical behaviour (Brazel et al., 2016). Status differences between auditors and clients can discourage auditors to ask for additional information (Bennett & Hatfield, 2013). Auditor intuition is better at assessing risk for less experienced auditors (Wolfe, Christensen, Vandervelde, 2019). Auditors' judgements and workpaper documentation can be influenced by their interpersonal affective reactions to certain clients (Bhattacharjee, Moreno,

Riley, 2012). Clearly, the literature would be well served with additional studies investigating audit and affect, a gap which this dissertation helps to address. As this dissertation specifically focuses on the influence of affect on professional skepticism, I next present the results of such a literature review where I searched for studies of positive or negative affect and professional skepticism. Please refer to Appendix A for a more detailed review of papers in question.

2.3.1 - Studies of Positive and Negative Affect on Professional Skepticism

Positive affect has been found to have a negative impact on professional skepticism.[2] Robertson found that auditors who have positive affect from client ingratiation increases their likelihood of complying with client requests (Robertson, 2010). Chung, Cohen, and Monroe take a look at how moods impact auditors' conservatism during an inventory valuation task and find that auditors in a positive mood make less conservative audit judgements (Chung, Cohen, & Monroe, 2008). Bhattarchee, Moreno, and Riley find that interpersonally generated positive affect decreases auditor obsolescence assessments, and thus decreases professional skepticism (Bhattacharjee, Moreno, & Riley, 2012). Rowe investigates positive affect through auditors' level of comfort and find that auditors are more comfortable with less evidence when uncertainty over those estimates is moderate compared to extreme because having more evidence makes it harder to defend their position (Rowe, 2019). Schaefer and Schaefer find that auditors grant lower fraud likelihood assessments for clients whom auditors feel positive affect for, though this effect can be canceled through having higher auditor accountability (Schaefer & Schaefer, 2019). Along similar lines, Eutsler, Norris, and Trompeter find that dealing with friendly managers make auditors less likely to assess questionable disbursements as exceptions needing follow-up (Eutsler, Norris, & Trompeter, 2018). Intuitively, these findings make sense and their influence can be seen in the familiarity threat to auditor independence taught in introductory audit programs.

Conversely, many studies have shown negative affect to have a positive influence on professional skepticism. Bhattarchee and Moreno find that inexperienced auditors experiencing negative affect make higher inventory obsolescence assessments, which is associated with higher professional skepticism (Bhattacharjee & Moreno, 2002). Bhattarchee, Moreno, and Riley find that interpersonally generated negative (positive) affect increases (decreases) auditor obsolescence

[2] This result is perhaps somewhat surprising because positive affect is correlated with higher construal levels in other research fields (Labroo & Patrick, 2009; Trope & Liberman, 2010), and there is evidence that auditors think and act with more professional skepticism under high construal levels than low construal levels (Rasso, 2019).

assessments, and thus increases professional skepticism (Bhattacharjee, Moreno, & Riley, 2012). Again, along similar lines, Chung, Cohen, and Monroe find that auditors in a negative mood make more conservative judgments in an inventory valuation task (Chung, Cohen, & Monroe 2008). Cianci and Bierstaker find that negative moods lead to less heuristic processing and positive moods lead to more heuristic processing, thus auditors in negative moods produce better explanations for fluctuations in financial ratios than auditors in positive moods (Cianci & Bierstaker, 2009). Popova finds that prior affective experiences with clients help inform auditors' feelings of trustworthiness with those clients, such that negative affective experiences makes a client seems less trustworthy and auditors consequently expect they are more likely to find misstatements with such clients, thus making them more skeptical (Popova, 2013). Hobson, Stern, and Zimbelman find that the callousness, lack of empathy, and lack of response to social stimuli in auditors who score higher on the Dark Triad make them less likely to trust and more resistant to lapses in professional skepticism brought on by social interaction (Hobson, Stern, & Zimbelman, 2020). Again, these overall findings make intuitive sense. The worse an auditor feels about an audit situation, the more likely they will suspect something is wrong and evidence will need to be more persuasive to assuage these feelings.

Interestingly, there are studies investigating negative affect which have found contradictory results to those mentioned in the paragraph prior. Bagley finds that multiple accountabilities creates anxiety within auditors which, in turn, impairs performance on low-complexity tasks (Bagley, 2010). While much research finds that auditors perform better on audit tasks when they are accountable to a superior, Bagley posits that having multiple accountabilities (accountable to more than one superior, such as a manager, partner, and additional evaluation committee) increases auditors' anxiety levels, thus increasing their level of negative affect, and this increase in negative affect impairs auditors' task performance by interfering with the amount of attention an auditor gives to a task and making it more likely an auditor focuses their attention on something other than the task at hand. The net result is that negative affect brought about through multiple accountabilities decreases an auditor's professional skepticism.

Another study which finds that negative affect decreases professional skepticism was done by Johnson, Lowe, and Reckers who find that negative, low arousal mood increases the likelihood of an auditor committing an unethical act (Johnson, Lowe, & Reckers, 2016). The authors examine auditors' ability to resist the pressure to comply with their superiors and commit an unethical act. They further posit that the emotional-laden nature of ethical decision making means an auditors' affective state will

influence their ability to resist pressure. They posit and find that individuals in positive, high arousal moods are able to better recognize ethical dilemmas, interpret them correctly through increased mood-congruency, and be confident enough to follow through with their underlying beliefs such that they are less likely to comply with pressure to commit unethical acts. Conversely, they find that negative, low arousal moods of fear and insignificance make auditors more likely to give in to pressure to commit an unethical act. Fear influences an individuals' view of the future to make it seem uncertain and risky, and that confrontations will bring about additional negative affect, thus inspiring avoidant behaviour and making it less likely for an individual to speak out against an unethical act as they want to protect their affective state from getting worse through unpleasant confrontation or through the uncertainty of what might happen if they speak out. Insignificance has a similar effect through making the individual feel like they have much less power than the individual pressuring them to comply, and thus they are more likely to go along with the unethical act. The authors induce affective states by having subjects read a scenario and measure affect through the positive and negative affect scale (PANAS) and have auditors answer how they would respond to 6 custom-designed audit scenarios where the auditors are being coerced to comply with unethical directives.

Finally, Brazel, Jackson, Schaefer, and Stewart (2016) find that audit supervisors negatively view staff members who employ an appropriate amount of skepticism during an audit but fail to find a misstatement. In their study, they find that outcome knowledge biases supervisors' evaluations of auditors who exercise appropriate amounts of professional skepticism but fail to find a misstatement with their extra skeptical action. Furthermore, a follow-up survey indicates junior auditors anticipate this change in perception from their supervisors leading the authors to speculate auditors change their behaviour to manage these perceptions accordingly. Juniors' who anticipate that they will be viewed and reviewed negatively when they are evaluated for taking additional skeptical action but failing to find a misstatement, will avoid taking additional skeptical actions so they can avoid those negative reviews and the feeling which go along with them.

Paper	Findings
Negative Affect	
Hinders Professional Skepticism	
Bagley (2010)	Anxiety impairs performance on low-complexity tasks
Brazel, Jackson, Schaefer, Stewart (2016)	Auditors' anticipating negative affect via an unfavourable evaluation are less skeptical

Johnson, Lowe, Reckers (2016)	Higher levels of negative affect are associated with higher auditor intentions to comply with unethical behaviour
Helps Professional Skepticism	
Bhattarchee & Moreno (2002)	Negative affect increases auditor obsolescence assessments
Chung, Cohen, Monroe (2008)	Compared to neutral- and negative-mood individuals, negative-mood individuals make the most conservative judgements
Cianci & Bierstaker (2009)	Auditors in negative moods generated more correct explanations for fluctuations in financial ratios
Bhattarchee, Moreno, Riley (2012)	Negative affect increases auditor obsolescence assessments
Popova (2013)	Auditors are more skeptical with less trustworthy clients as informed by prior affective experiences
Bhattarchee & Moreno (2017)	Bargaining opponents accept lower transfer pricing estimates when their opponent displays negative emotions
Hobson, Stern, Zimbleman (2020)	"Mean auditors" who score high in dark triad factors are more likely to resist lapses in professional skepticism
Positive Affect	
Hinders Professional Skepticism	
Chung, Cohen, Monroe (2008)	Compared to neutral- and negative-mood individuals, positive-mood individuals make the least conservative judgements
Robertson (2010)	Clients can strategically induce positive affect through ingratiation to influence auditor judgements
Bhattarchee, Moreno, Riley (2012)	Positive affect decreases auditor obsolescence assessments
Popova (2013)	Auditors are less skeptical with more trustworthy clients as informed by prior affective experiences
Eutsler, Norris, Trompeter (2018)	Auditors interviewing a friendly controller (as opposed to an intimidating controller) are less likely to determine potential issues are control exceptions
Rowe (2019)	Auditors' feelings of comfort can dissuade them from collecting additional evidence
Schaefer & Schaefer (2019)	The more positive affect felt by an auditor towards a client, the lower the fraud likelihood judgement
Helps Professional Skepticism	
None Noted	

Table 1: Summary of Research Investigating the Influence of Affect on Professional Skepticism

It is important to note that while the Nolder & Kadous model can explain some of the above findings, it cannot explain why researchers have observed negative affect having both positive and negative influences over professional skepticism. Per the Nolder & Kadous model, negative feelings should work through skeptical attitudes to influence the evaluations of evidence in a congruent manner, where more negative feelings decrease feelings of comfort over the evidence being evaluated and then produce a congruent increase in intentions and skeptical actions (Nolder & Kadous, 2018, pg. 9) resulting in an overall increase in professional skepticism. The converse is also true where positive affect is postulated to reduce the likelihood of a skeptical judgment and consequent intention & skeptical action. Yet, as noted above, some scholars have observed that negative feelings can decrease professional skepticism exercised by auditors. It is here where the Nolder & Kadous model falls short as it cannot explain how or why this may happen. Clearly, this is a gap which a more explanatory model can address. Furthermore, the peculiar contradictory findings with respect to negative affect and professional skepticism suggest that this new, more explanatory model should be tested further by studying the influence of negative affect on professional skepticism.

2.4 – Summary / Conclusion

In this chapter, I established an understanding of professional skepticism through a literature review. I first defined professional skepticism and detailed the process by which it works to establish a foundation for the remainder of my work. Then, I chronologically reviewed the evolution of professional skepticism models to see how they have become more explanatory over time and how affect is currently understood to influence professional skepticism. The most modern and most explanatory model (Nolder & Kadous, 2018) theorizes affect to influence evaluative decisions done as part of a skeptical judgement in a congruent manner, such that negative (positive) affect makes an auditor feel worse (better) about risk and thus more (less) likely to take skeptical action to investigate. While this is an improvement over previous models, it can only explain some of the findings observed in the literature as shown in my review of professional skepticism and affect studies. Thus, I conclude the following. First, affect can influence behaviour in multiple ways, more than just through evaluations. I explore one of these alternate ways, affect regulation, in Chapter 3. My second conclusion is that a more explanatory model should include secondary ways for affect to influence professional skepticism, an insight I use in Chapter 5.

Chapter 3 – Literature Review: Affect and Behaviour

In this chapter, I examine the affect literature as it relates to influencing behaviour to better understand how affect can influence professional skepticism. This review reveals there are two significant groups of theories with respect to behaviour and affect which are germane to professional skepticism: affect evaluation and affect regulation. Affect evaluation theories (Isen et al. 1978; Bower, 1981; Schwarz & Clore, 1983) explain how affect can produce a congruent influence on behaviour. As affect evaluation influences evaluations, these theories align with how affect is theorized to influence professional skepticism in the Nolder & Kadous model and explain why negative affect can increase professional skepticism. In contrast, affect regulation theories (Lazarus & Folkman, 1984; Forgas, 1995; Watson, 2000; Gross, 1998b; Rottenberg & Gross, 2007) explain how anticipated affect can produce an incongruent influence on behaviour and thus motivate behaviour differently than affect evaluation. This insight is critical as it can explain how negative affect can decrease professional skepticism, depending on the context. Furthermore, affect regulation is currently unconsidered within the Nolder & Kadous model, and thus incorporating both affect regulation and affect evaluation into a new model would create a more explanatory model of professional skepticism.

3.1 – Key Definitions

Affect is defined as a "positively or negatively valenced subjective reaction that a person experiences at a given point in time" (Wyer, Clore, and Isbell 1999, p3). Humans live in a cultural system in which the majority of events can be broken into either good or bad (Baumeister, 2005), and thus the positive and negative dimensions of affect are socially created and specific to the contexts within which they are created. Affect varies on two broad dimensions. The *valence* of affect refers to whether the feeling is either positive or negative. *Arousal* refers to the intensity of the feeling. Overall, affect is the broadest, superordinate category that encompasses all of these valenced subjective states (Rottenberg & Gross, 2007).

Affect can be further broken into two components, moods and emotions, which are distinguishable by the source of the affective experience. *Moods* are general, indistinct, low-level feelings which *are not* consciously attributable to a source. *Emotions* are specific feelings of varying intensities which *are* easily attributable to a source. In other words, people are *in* a good or bad mood, but are angry or in love *with* somebody (Schwarz and Clore, 1983) and each of those situations is a unique affective state.

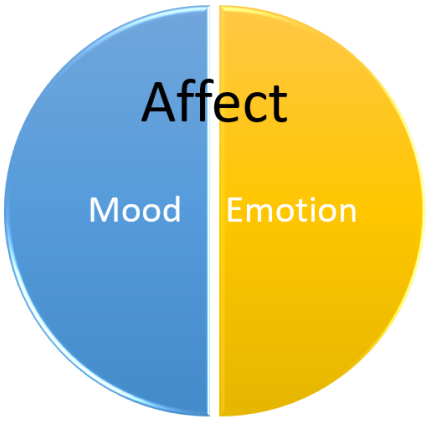

Figure 10: Relation between Affect, Mood, and Emotion

While the base relationship between affect, emotion, and mood is relatively straightforward, the system can get even more complex when we look beyond just valence and at the unique influences of discrete emotions. For example, emotions can further be divided into sub-categories of integral or incidental as they are in the appraisal-tendency framework (Lerner & Keltner, 2000; Han, Lerner, & Keltner, 2007). Integral emotions arise from the object a person is making a present judgment about. Incidental emotions are those which are carried over from unrelated events which still influence our judgements and current behaviour. The appraisal tendency framework further goes on to specify there are different cognitive dimensions associated with appraisals of emotions, and the different levels of these appraisals will have a nuanced influence on judgments and choices. In fact, per the framework, emotions of the same valence (i.e.: anger and fear) can have different effects on judgments, whereas emotions of different valences (i.e.: anger and happiness) can have similar effects purely based on how they are appraised (Lerner & Keltner, 2001).

Finally, affect may work through two distinct parallel mediating processes, evaluation or regulation, each of which can influence behaviour (Andrade, 2005; Andrade & Cohen, 2007; Shiv, 2008; Cohen et al., 2018). Understanding the distinction between affect evaluation and affect regulation is important to understanding the limitations of the Nolder & Kadous model which assumes affect only works through a single process to influence evaluations. *Affect evaluation* theories assume individuals' feelings at a single point in time influence processing, judgement, and subsequent behaviour. This influence can be either direct, such as affect-as-information theory (Schwarz & Clore, 1983), or indirect, such as mood congruency (Bower, 1981; Isen et al. 1978). Affect working through an affect evaluation

process will produce a congruent bias between affect, evaluative judgement, and subsequent behaviour, such that positive affect is expected to produce a more positive evaluation and motivate behaviour accordingly, and vice versa for negative affect. Take, for example, a person considering buying a new outfit they just spotted while out for a walk. If this individual feels bad currently (because they got in a fight with their partner before going for a walk), this negative feeling influences their evaluation about buying a new outfit congruently, and therefore demotivates them from purchasing it ('This is a bad idea'). *Affect regulation* theories posit individuals attempt to influence which emotions they have, when they have them, and how they are experienced & expressed (Gross, 1998b). These theories include coping (Lazarus & Folkman, 1984), mood regulation (Forgas, 1995; Watson, 2000), psychological defense (Bond, Gardner, Cristian, & Sigal, 1982 fr. Gross 1998b; Rottenberg & Gross, 2007), and the process model of emotional regulation (Gross, 1998b). Key to these theories is a basic notion of hedonic goal pursuit – that is individuals will naturally pursue a desired affective state. Thus, when affect is working through affect regulation, individuals will automatically project a discrepancy between their current affective state and a future affective state, and attempt to up- or down-regulate their feelings accordingly. Going back to the previous example, we have our person out for a walk who currently feels bad because of the fight they had with their partner but this time the negative affect works through affect regulation. Feeling bad feels bad, they want to feel good, and thus they are more motivated to change their affective state by doing something fun, like buying a new outfit. In this way, the same negative affect can motivate behaviour differently depending on whether it is working through affect evaluation or affect regulation.

Finally, I acknowledge that the exact nature of the relationship between cognition and affect is still a matter of significant debate (see Schwarz, 2000; Eder, Hommel, & De Houwer, 2007; Mather & Fanselow, 2018; Clore et al., 2018; MacKinnon & Hoey, 2021). For the purposes of this dissertation, I take the view that affect and cognition are distinct processes, albeit intertwined and able to influence each other. For example, cognitive processing over an audit task can inform feelings about risk, and feelings about the riskiness of an assertion being tested can prompt deeper cognition while performing the related audit task. Conceptualizing affect and cognition as distinct yet intertwined processes which are able to influence each other is also consistent with the dual-conceptualization of professional skepticism as both a mindset and an attitude (Nolder & Kadous, 2018), and thus appropriate for this study. Furthermore, I assume affect and cognition to be distinct processes and thus focus on the influence of affect solely in this dissertation, independent of cognition concerns. I acknowledge that the

intertwined nature of the two can lead to complex interactions, but these considerations are beyond the scope of this dissertation and thus I leave those questions to future research.

3.2 – Gross' Process Model of Emotion Regulation (Gross, 1998b)

Understanding the distinction between affect evaluation and affect regulation is important to understanding the limitations of the Nolder & Kadous model which assumes affect only works as predicted by affect evaluation theories. However, affect is complex and the Nolder & Kadous model is limited by its simplistic assumption that affect evaluation theories are the only relevant ones to professional skepticism. Understanding how affect regulation is different and incorporating these theories into professional skepticism will better reflect reality and thus create a more explanatory model. To this end, I choose to adapt Gross' process model of emotion regulation (Gross, 1998b; Gross, 2013; McRae & Gross, 2020) as my affect regulation theory of choice for this project.

Gross defines *affect* as the super-ordinate category for valenced states, such as emotions, moods, dispositional states, and traits (Gross, 1998b, pg.273) which is consistent with my definition of affect. *Emotions* are distinguished from the others by being more temporary in nature and generated by an emotional cue encountered during a situation, as opposed to more persistent dispositional states and traits. *Emotion generation* involves encountering a relevant situation where an emotional cue is generated, paying attention to key aspects of the situation, appraising/evaluating the situation, and then having experiential, physiological, and/or behavioural responses. For example, a student might have a meeting with a professor (situation), notice the professor's air of consternation (attention), interpret the consternation as displeasure with the student (appraisal), and experience disappointment and stare at the floor to avoid eye contact (response) during the meeting. While this scenario seems particularly negative, there are ways people can influence the emotions they encounter, experience, and express.

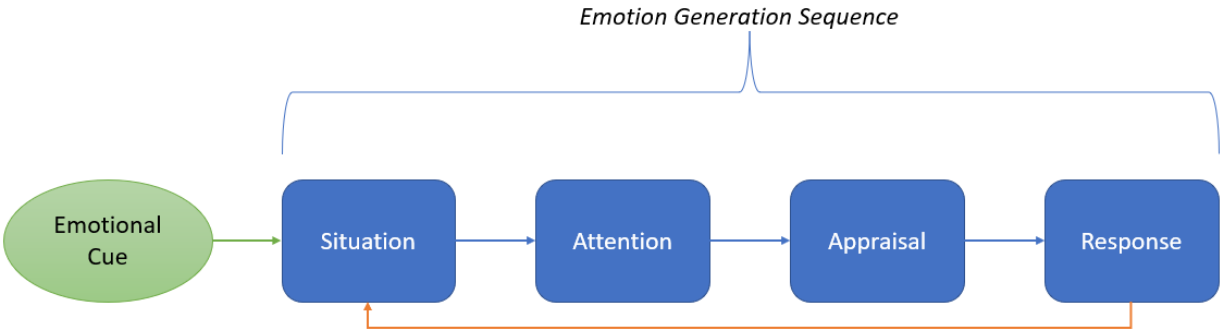

Figure 11: Emotion Generation Process

Emotion regulation refers to these processes whereby individuals influence which emotions they have, when they have them, and how they experience and express them (Gross, 1998b). It focuses on identifying points in the emotion generation process where response strategies can be employed to either up- or down-regulate a positive or negative emotion. These responses may be automatic or deliberate, conscious or unconscious, and may happen at several points during the emotion generation process. There are four antecedent-focused response tendencies and one response-focused response tendency which individuals can employ to regulate emotion during the emotion generation process. Regardless of response, emotions are regulated to help an individual reach a goal, such as consciously increasing anger to get better customer service from a clerk or automatically avoiding walking down a dark alley for favour of a lit street because the alley is spooky.

3.2.1 – Relation to Other Affect Regulation Theories

The process model of emotion regulation is one of a family of four affect regulation theories, each of which may be of interest in different contexts, and therefore it becomes important for Gross to distinguish between them and emotion regulation to better understand why one might choose one over the other. In addition to emotion regulation, there is coping, mood regulation, and psychological defense (Gross, 1998b; Gross, 2013). *Coping* refers to efforts by a person to manage their relations with their environment (Lazarus & Folkman, 1984), focuses on reducing negative emotional experiences by reducing the duration of the experience (Gross, 1998b), and includes nonemotional actions taken to achieve nonemotional goals like studying to pass an exam (Rottenberg & Gross, 2007). *Mood regulation* refers to affective responses which are of much longer duration, lesser intensity, and less concerned with altering emotion behaviour than altering emotional experience through indirect means to reduce negative mood states (e.g.: exercising, sleeping well to avoid being in a bad mood). Though there is

significant overlap, Gross makes this particular distinction to better define points of regulation where response tendencies occur as the indistinct nature of moods makes it difficult to identify where emotional regulation is happening in the emotion generation process (Gross, 1998b, pg 276). *Psychological defense* refers to relatively stable individual characteristics which focus on down-regulating negative emotions, particularly anxiety (Gross, 1998b).

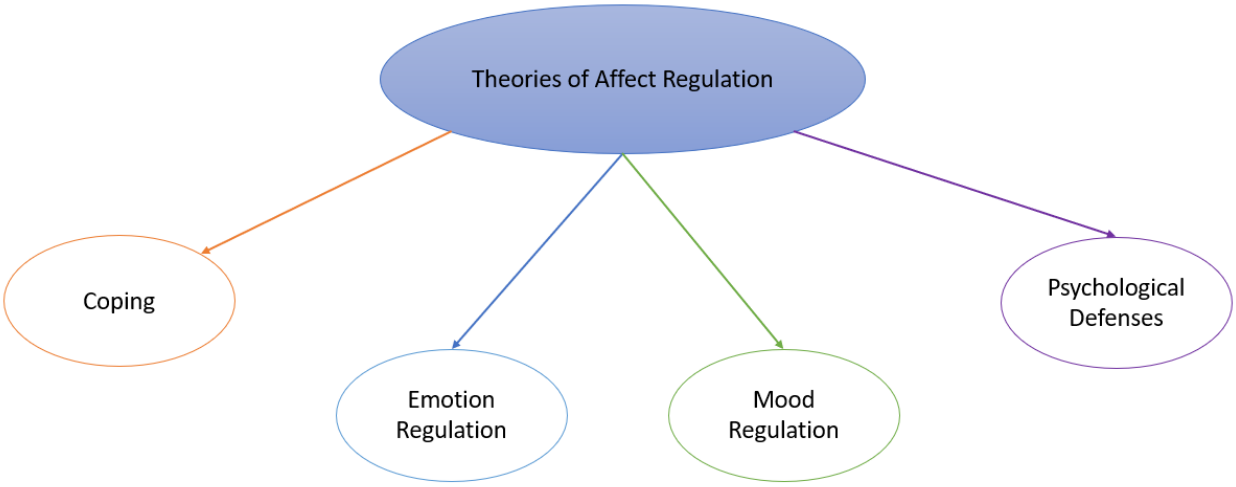

Figure 12: Theories of Affect Regulation

Gross admits there is some overlap between emotion regulation and these other forms of affect regulation, but his process model of emotion regulation is distinct for the following reasons. First, unlike coping and psychological defense, it is *non-normative* in that it does not focus on the down-regulation of negative affect. Indeed, both negative and positive affect can be either up- or down-regulated depending on what goal the particular individual is pursuing. Second, it specifically addresses behaviour unlike mood regulation which is too diffuse to produce any specific predictions on behaviour. Third, in this context emotions are temporary and malleable unlike stable characteristics, such as traits, which psychological defenses use to reduce anxiety.

3.2.2 – Emotion Regulation Strategies

Gross identifies five strategies which can be used to regulate emotions, four antecedent-focused (situation selection, situation modification, attentional deployment, and cognitive change), and one response-focused (response modulation) (Gross, 1998b; Gross, 2013; Gross & McRae, 2020). Antecedent strategies intervene prior to the emotion being fully generated; the lone response strategy intervenes post-emotion generation. *Situation selection* is simply approaching or avoiding certain people, places, or things to regulate emotion. For example, an auditor may choose to pull a large

number of receipts to test to reduce the discomforting feelings of risk they have over an account balance. Once selected, a situation can be customized to modify its emotional impact with *situation modification*. To continue the auditor example, they can choose to take the box of receipts into a pleasant, sunny boardroom to do their testing instead of staying in a dark, depressing storage room. Third, since each situation has unique aspects to it, a person can use *attentional deployment* to select which aspect of a situation to pay attention to. For example, our auditor can distract themselves from the tediousness of testing receipts by focusing on the music on the radio or the bonus they will receive when this audit is done. Even once a situation has been selected, modified, and attention deployed to a certain aspect of it, an individual can still change the meaning attached to the situation through *cognitive change*. For example, an auditor who finds an issue while examining receipts can reduce the stress of having to interrogate the client manager about it by reminding themselves this is their job and the financial statement users would want them to follow up on this issue. Conversely, they may also increase the stress by focusing on the risk of losing them as a client if the manager is overly upset by the questioning. Finally, *response modulation* refers to changing your response tendencies after an emotion has already been elicited. For example, an auditor can hide their embarrassment after their colleague points out that there is not actually an issue with the receipt, rather the auditor just misread the document and came to a mistaken conclusion. These responses align with the different points of the emotion generation process and thus exert influence during the assembly of a particular emotional cue and response.

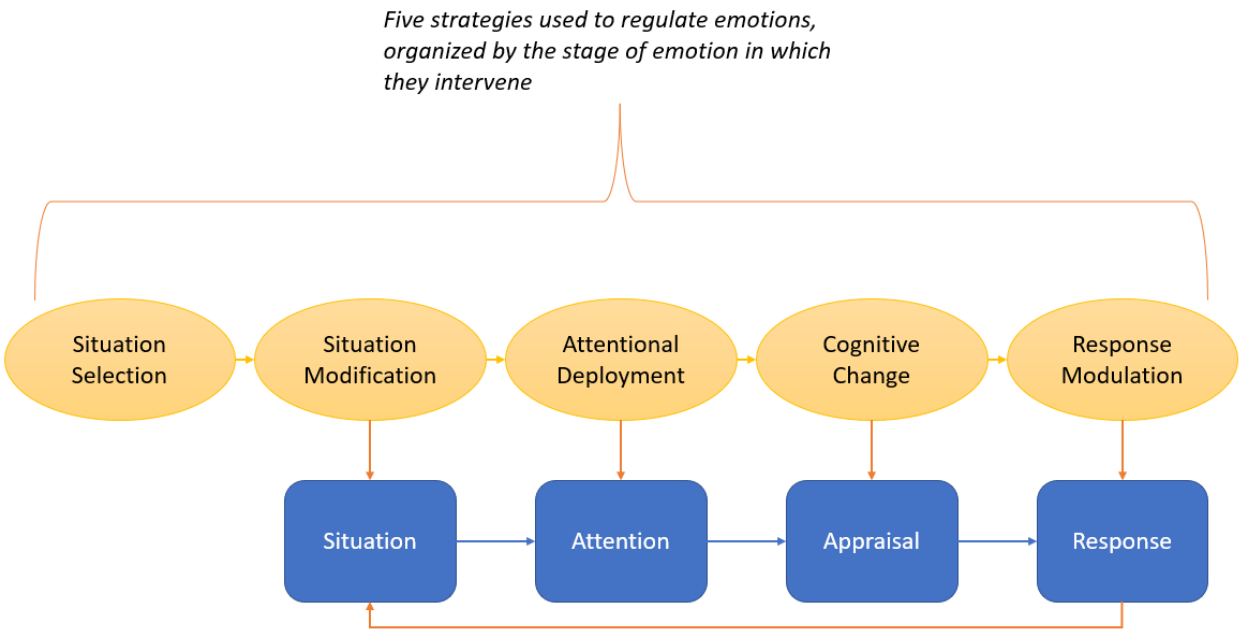

Figure 13: Emotion Regulation Strategies

A couple important points need to be made. First, practically speaking strategies take one of two forms. Cognitive *reappraisal* is used for antecedent-focused tendencies where the type or intensity of the emotion is altered, and *suppression* is used for the response-focused tendencies where an emotion is generated and then hidden away. This is important to understand because reappraisal techniques are generally more effective and adaptive than suppression techniques (McRae & Gross, 2020). It is also important to note that the process is iterative, and the results of the emotional regulation strategy are monitored after implementation to see how effective they were. This information feeds back into the model to consciously or subconsciously influence an individual to either employ a similar strategy in a similar situation if it was successful, or try a new strategy if the previous one was not successful.

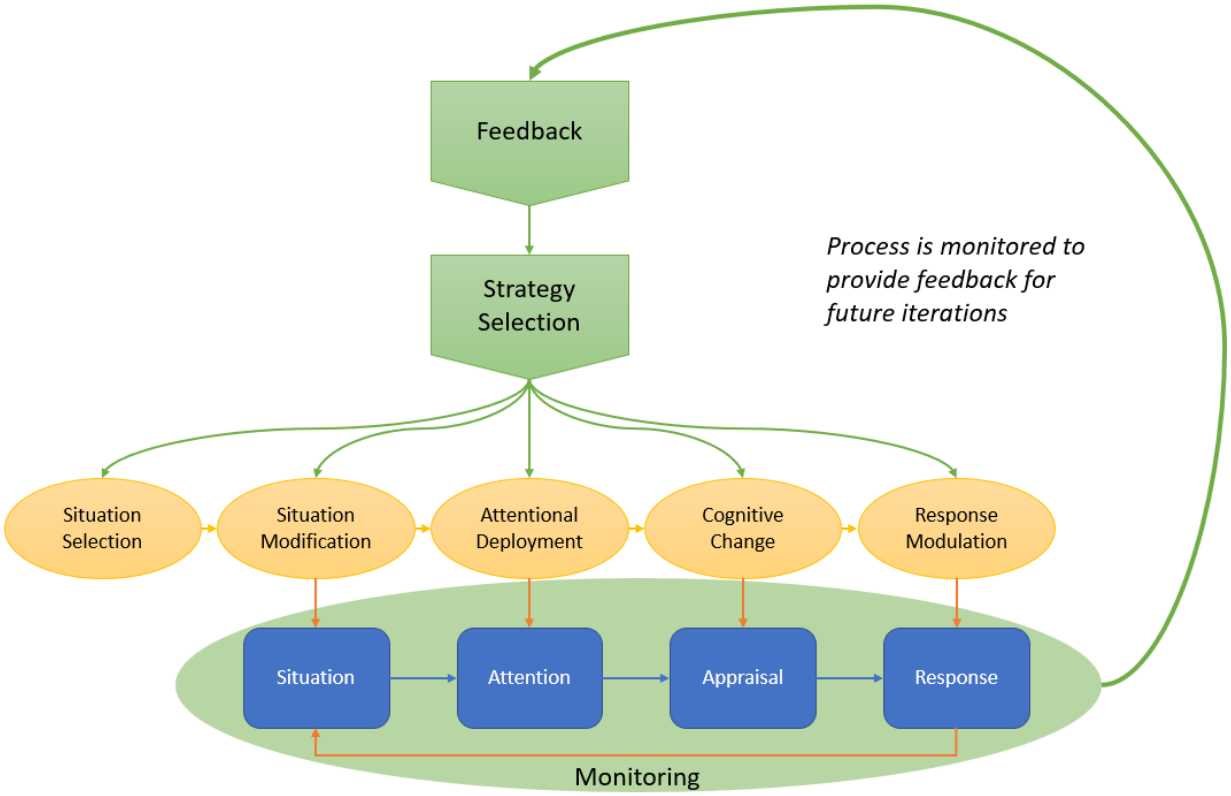

Figure 14: Emotion Regulation Process Loop

3.3 – Advantages to Adapting Gross' Process Model of Emotion Regulation

So why choose Gross' process model of emotion regulation as the affect regulation theory to adapt over other recognized theories of affect regulation? First, the emotion regulation model is non-normative which is important for adapting it to inform a model of professional skepticism. Coping and psychological defense theories work from the assumption that negative affect is undesirable and therefore its influence and experience should be universally minimized. However, auditors are different in that bad feelings can signal elevated risk, and therefore very desirable. Ignoring these feelings results in under-worked audits and increased probability of audit failures, and thus a model of professional skepticism should not assume *a priori* that negative affect is bad. Conversely, feeling too strong a negative feeling results in an inefficient, over-worked audit so there are circumstances where down-regulating negative affect is a reasonable goal, and a good model of professional skepticism should keep this possibility open. With these points in mind, it is important to use a non-normative affect regulation theory in a model of professional skepticism. Second, this model specifically addresses behaviour taken by individuals to regulate their emotions where mood regulation is not behaviour-focused and can be

too indistinct to deliver specific predictions. As the demand for a more explanatory model of professional skepticism directly relates to better managing auditor behaviour, using an affect regulation model which better explains behaviour than others makes sense. Third, this model deals with malleable feelings instead of stable traits as is the focus of psychological defenses. This is important because of the complexity and variety of affect which an auditor may encounter during their work, and a good model of professional skepticism should be able to explain the effects of this complexity. Fourth, given an audit is the process of transmitting feelings of comfort up the chain of command (Pentland, 1993), it makes sense to include a model which predicts how these feelings are both generated and influenced as they are constructed. Emotion regulation does precisely that. Fifth, though Gross uses the term 'emotion' to better distinguish the model from mood regulation, his definition of emotion includes both conscious and unconscious, automatic and deliberate elements, and thus aligns with the definition of affect I use throughout this dissertation. Thus, emotion regulation appears well suited to be integrated and adapted as my affect regulation theory of choice in a new model of professional skepticism.

3.4 – Summary / Conclusion

In this chapter, I defined key terms with respect to affect and identified two families of theories which predict how affect influences behaviour. Affect evaluation predicts affect will have a congruent influence on evaluations and behaviour, while affect regulation predicts affect can have an incongruent influence on behaviour. Affect evaluation is already incorporated into the Nolder & Kadous model and explains how negative (positive) affect decreases (increases) professional skepticism as observed in studies reviewed in Chapter 2. Affect regulation is not currently considered within the Nolder & Kadous model and can explain why, in certain contexts, negative affect will decrease professional skepticism as observed in studies reviewed in Chapter 2. Auditors who anticipate negative affect as a result from a skeptical action can utilize a response strategy to down-regulate the anticipated negative affect. When this strategy results in auditors avoiding or altering the follow-up work they do, variations in professional skepticism are the likely consequence. Overall, this suggests incorporating affect regulation into a professional skepticism model and distinguishing it from affect evaluation will produce a more explanatory model.

In this chapter, I also discussed a specific affect regulation theory, Gross' process model of emotion regulation, in detail. Notably, I distinguished it from other affect regulation theories, described the core process, and detailed the various response strategies taken to regulate affect. The non-normative nature of this model, its focus on behaviour, and its focus on temporary feelings rather than

stable traits makes it a good theory to adapt for a more explanatory model of professional skepticism. This development is detailed in Chapter 5.

Chapter 4 – Qualitative Interview Study

To further understand how affect may be influencing auditors' professional skepticism in ways which current professional skepticism models cannot explain, I conduct a qualitative study based on interviews with practicing auditors about how they see affect producing variations in professional skepticism. In doing so, I answer my second research question, which is to understand how affect influences professional skepticism in practicing auditors. The interview data is analyzed using Gioia methodology (Gioia and Chittipedi, 1991; Corley and Gioia, 2011; Gioia, Corley, and Hamilton 2013; Gehman et al., 2018; Gioia, 2021), a technique which requires distilling the ground, subject-level data into high, research-level themes and organizing these themes into a data structure which shows how the two are connected. Organizing the data into a data structure provides a valuable point of comparison by which I can compare and contrast these findings against the Nolder & Kadous model, enabling me to easily identify which themes are already accounted for by the model and which are currently missing and need to be brought in.

Overall, I find that auditors believe anticipated affect does indeed have a significant influence on auditors' behaviour with respect to professional skepticism, which supports my earlier contention that affect regulation should be included in a model of professional skepticism. Furthermore, I find anticipated affect causes variations in the approach, or skeptical action, taken to address potential issues. This represents a second major departure from the Nolder & Kadous model which assumes affect causes variations in identifying issues, or skeptical judgements, only. Taken together, the findings from this study both reinforces the insights from Chapters 2 & 3 and provides further guidance to what a more explanatory model of professional skepticism should look like.

4.1 - Gioia Methodology

"Quite honestly, I was also motivated to devise a systematic methodology for inductive research because too many nonqualitative scholars simply don't believe that inductive approaches are rigorous enough to demonstrate scientific advancement (see Bryman, 1988; Campbell, 1975; Popper, 1959)." ~ Gehman et al. (2018)

In order to answer my second research question, how does affect influence professional skepticism in practicing auditors, field research is required. For the purposes of this dissertation, I chose the most direct route and simply went out and asked auditors. This naturally begs the question of how best to analyze the data. With regards to the subject matter, feelings are a subjective experience as they are highly personal and internally generated by each individual feeling affect. Yet, they are not entirely subjective as affect is generated by an affective cue (Gross, 1998b), which can be external, and affect is also common enough that we understand how others feel because we share the same feelings. As affect has elements of subjectivity and objectivity, social and personal, so too should an appropriate methodology. Furthermore, interview data itself is inherently subjective as it is people reporting on their own interpretation of affective events, so a purely positivist approach would not be appropriate. On the other hand, a strict interpretivist approach is also inappropriate as I am trying to develop a model whose insights can be transferable from one situation to another so those in practice can learn from the model and apply its insight to their own situation. Again, what is needed is a methodology which can be the middle-ground between those two extremes, one which can respect the perspective of subjects and also build out transferable insights which can also apply to similar contexts.

4.1.1 - Why is Gioia Methodology Appropriate?

For this study, I chose to employ Gioia methodology (Gioia & Chittipedi, 1991; Corley & Gioia, 2011; Gioia, Corley, & Hamilton 2013; Gioia et al. 2018; Gioia, 2021). First introduced in Gioia & Chittipedi's study of sensemaking and sensegiving (Gioia & Chittipedi, 1991), Gioia methodology has been employed extensively in managerial and organizational research since. Gioia methodology is a flexible process by which qualitative data is analyzed on both a more grounded, interviewee-level and a higher, researcher-level to develop and extend theory (Gioia et al. 2013). First, subjects are interviewed about the topic of interest utilizing a semi-structured interview format (Gioia et al. 2013). This is done to maintain openness and flexibility, but also to allow interviewees the freedom to talk about their situation openly and intelligently without artificially limiting their responses by forcing them to rigidly adhere to a set of questions. This allows for the discovery of new and emergent themes not previously anticipated by the researcher. Once the data has been gathered, it is analyzed and coded into first-order themes. First-order themes are lower-level themes which capture and describe how interviewees interpret their situation, typically in interviewees own words by directly utilizing quotes. In this manner, Gioia Methodology retains interpretivist principles as it is built out of the subjective experiences of subjects. These are then gathered and coalesced into higher, researcher-level second order themes which speak to the larger, theoretical level concepts and constructs being examined. The theoretical

nature of these themes make them transferable to similar contexts, and thus the analysis is not purely interpretivist either. Finally, the second-order themes are then organized into aggregate dimensions. This creates an overall data structure by which a reader may follow the connections from the first-level themes to the researcher-level second order themes and back down for each aggregate dimension. Practically speaking, a data structure makes it clear to readers exactly which data a researcher is gathering their insights from by tying first-order data to the related second order themes. By showing both lower, practical-level data and higher, researcher-level data, Gioia methodology seeks to address the issue of prioritizing 'usefulness for theory' research over 'usefulness for practice' research by balancing both needs (Gioia, 2021). As the motivation for creating a new model of professional skepticism is to satisfy the needs of both auditing academia and auditing practitioners, this methodology is perfectly suited to my aims.

In addition to the above, Gioia methodology is appropriate for other reasons. First, Gioia Methodology leads to credible interpretations of data and helps convince readers that the conclusions are both plausible and defensible (Gioia et al. 2013, pg.15). This is done through the creation and illustration of data structures. In addition to making the research more communicable by expressing the findings in both informant-centered terms and theory-centered terms (Gioia et al. 2013; Gioia, 2021), a data structure directly visualizes the links between the raw data and the themes drawn from that data. This makes it much easier for a reader to see exactly where the researcher is drawing their conclusions from and provide assurance that a qualitative researcher is not simply cherry-picking the data to show what they wanted to find (Gehman et al. 2018). Furthermore, organizing data into a data structure where concepts are highlighted gives me something to compare existing professional skepticism models against, allowing me to quickly and easily see which themes are already accounted for and which are currently absent.

Second, by explicitly tying higher-order themes to practitioner-level codes, I give voice to practitioners' experiences and answer my second research question. Gioia methodology's use of codes and themes ensures I keep a balance between prioritizing work which speaks to theory as well as that which speaks to practitioners (Corley & Gioia, 2011; Gioia, 2021). This is important as understanding how professional skepticism is influenced by affect regulation has both theoretical and practical implications, and therefore this work should attempt to speak to both parties. Indeed, this same motivation was part of the reason Nolder and Kadous (2018) developed their own model of professional skepticism. This connection between what is being experienced in the field and the theoretical

elements of the model is vital if the intent behind creating a new model is to ultimately give guidance to those looking to manage professional skepticism better. Showing how these elements relate through a data structure further reinforces the applicability of a professional skepticism model to practice.

Third, this methodology can produce transferable concepts which can apply to a multitude of settings. Gioia methodology differentiates itself from "…pure interpretivists, who tend to maintain a stance that when one is studying the socially constructed structures and processes of others, those structures and processes are necessarily idiosyncratic because they are fashioned and performed by unique individuals acting within unique contexts." (Gioia et al. 2013, pg 24). The key point is that Gioia methodology believes it is possible to generate "principles that are portable" from one setting to another (pg. 24). Transferability is important because this study is focused on specific contexts where affect regulation is playing a role in influencing professional skepticism. Much like the audit context is unique and not always generalizable to other accounting situations, contexts where affect is playing a significant role in auditing are also unique and thus not necessarily broadly generalizable. Broad generalizability is a concern due to the specialized nature of audit research. There are only a limited number of auditors available due to them needing specialized training therefore broad generalization may not be possible. However, that does not mean we cannot find useful concepts and principles which are transferable between similarly specialized audit contexts and Gioia methodology is one such tool which allows researchers to find these concepts.

Fourth, Gioia methodology is well suited for multi-method studies and theoretical triangulation, and consequently has been recommended as such by the accounting literature (Gioia & Pitre, 1990; Hopper & Hoque, 2006; Hoque et al., 2013). The inherent flexibility in the method is intentional as it allows other researchers to bring their own modifications and innovations to the process (Gioia et al., 2013, pg 26). In this way, the primary principles of the methodology (e.g.: the data structure) can be retained to maintain a high level of qualitative rigor, but the exact process can be modified to fit the particular aims of the research. In my case, I am using Gioia methodology to craft a practitioner-understanding of how affect influences professional skepticism to see where it lines up with existing theory, and where it differs. Indeed, these differences are the key as they will help direct how and where to evolve the model presented in Chapter 5. That being said, the places where these results line up with our understanding is also important as it presents a connection between theory and practice; that the insights gained form the purely theoretical development of prior models is actually reflected in reality. Thus, Gioia methodology is overall very well suited for my study.

No technique is perfect, and certainly Gioia methodology is not without weaknesses. First, while the methodology can identify and develop concepts which are transferable, it is not well suited to testing the generalizability of these concepts. This fault is recognized by the authors and thus they encourage the use of other methodologies to further investigate and test the insights derived from this methodology (Gioia et al. 2013). Second, this methodology has a couple critical assumptions, namely the interviewees ability to intelligently interpret and speak about their situation as well as the researcher's ability to intelligently identify patterns in the data, including those which my not be noticed by interviewees. This interpretivist nature naturally opens the door to potential bias in the data if either party cannot intelligently interpret the situation at hand. These risks can similarly be addressed by testing the insights with additional studies, and thus lends additional motivation to test the broad generalizability of the model with an experiment in Chapter 6.

While Gioia methodology has been used extensively in organizational and managerial research, it has seen limited usage in accounting literature. Daoust and Malsch (2020) used Gioia methodology to study the means and extent of auditees' power to influence auditors. The authors identify power strategies by which auditees influence the efficacy of their power, constrain staff auditors' operational independence, and utilize social capital. They then triangulate these findings by comparing them against another set of data to generate additional support. Suleiman and Othman (2021) utilize Gioia methodology to explore how forensic accounting is used to investigate corruption cases. The authors' data structures identified four aggregate dimensions: commitment of national values, judicial reform, a preventative mechanism, and financial commitment. Consistent with Gioia methodology, the authors then call for quantitative research to test the model they developed using the methodology. Hoque, Covaleski, and Gooneratne (2013) argue that Gioia methodology, amongst others, is an appropriate method to use when seeking theoretical triangulation and methodological pluralism in accounting and organizational research. This is part of a deeper exploration of how and when multiple theories could be meaningfully integrated to deliver deeper understandings of accounting and organizational phenomena. All of this aligns with my overall goal to develop a new model of professional skepticism.

4.2 - Interviews

4.2.1 - Questionnaire Development

As per the guidance from Gioia et al. (2013), and as used in other studies utilizing this methodology (e.g.: Daoust & Malsch, 2020), I built my interview protocol around a general, preliminary research question: how does affect produce variations in professional skepticism? Keeping this

question in mind, I made use of a variety of sources (including my own knowledge & experiences as a professional auditor, professional literature, and the expertise of academic colleagues such as fellow PhD students and professors) to design an interview protocol which focused around the following areas of interest: a general understanding of how professional skepticism works (MQ 1, 2), how professional skepticism varies in different audit contexts (MQ 3,4,13; GQ 3,4,5), affect experienced in different contexts (MQ 5-12; GQ 1-5), and how affect & professional skepticism interact (GQ 2-5). In order to be thorough, several questions regarding each theme were asked. Questions were deliberately designed to be open-ended to encourage subjects to speak openly about their experiences as opposed to being leading or restrictive and to allow me to follow up with additional question in order to explore any new or unanticipated topics in depth (Gioia et al., 2013; Daoust & Malsch, 2020). Subjects were not required to answer every question. This interview strategy was used to further specify my preliminary research question by concentrating on the themes which were significant, yet currently missing, from the Nolder & Kadous model. Furthermore, the questionnaire was also vetted and approved by the research ethics board at York University. The full questionnaire is available in Appendix B.

4.2.2 - Subjects

Practicing professional accountants with assurance experience were targeted for this study. Subjects with minimum 6 months experience were sought so as to ensure they had enough time to get over the initial anxiety of starting a new job and enough experience to have had a reasonable chance at encountering a situation which would trigger their professional skepticism. No upper limit on experience was placed. Subjects interviewed ranged from articling students to partners with all levels in-between. Interviewee assurance experience ranged from 2.5 years to 19.75 years, with an average of 11.7 years experience.

Initial subjects were recruited through a combination of physical letter writing, email, and personal networking. Subjects were offered a charitable donation as incentive for their participation. Participants were offered a selection of five charities, chosen by the researcher, to vote for. A sum total donation of $500 CAD was split amongst the five charities according to the results of all participants' votes. All participating subjects were provided the questionnaire in advance of the interview taking place. Snowball sampling was employed to recruit additional subjects to the study. All subjects were offered the same procedures, protections, and incentives to participate.

In total, 12 subjects were recruited and interviewed for this study. Of those 12, 3 are female and 9 are male, meaning there is a risk of gender bias in my results. Gender bias is a concern in this

study as males are more likely to suppress affect and expressions of emotion (Butler et al., 2004; e.g.: Flynn et al., 2010). This is important because expressive suppression is linked to negative well-being outcomes (Haga et al., 2009) and may even increase negative affective experiences (Butler et al., 2004). This is germane for this study because, if the males I interviewed were more likely to downplay the effect of affect on skeptical judgement, it means they would be less likely to recognize the effect happening within themselves and could potentially bias the results accordingly. Indeed, I do find a predisposition within my results for the interviewees to see affect regulation as something happening in others but not themselves, and thus it is possible these results are being driven by gender biases. Further demographic information about the full sample is available in Appendix C – Demographic Information.

4.2.3 - Interviews

Interviews took place between January 2nd, 2020, and February 13, 2020. All interviews were one-on-one, and each was conducted either over the phone or in-person in a private room. Prior to the interviews taking place, a general interview protocol was developed as detailed in section 4.2.1. Interviews were semi-structured, and the interview protocol was used as a general guide for the conversation. Subjects were provided the interview protocol beforehand so they could have a sense of the questions they would be asked and were informed that they would be not required to answer every one of the questions. No subjects explicitly refused to answer any of the questions asked. The length of the interviews was between 25 and 51 minutes, with an average length of 32.6 minutes.

All subjects spoke on the condition of anonymity therefore, after each interview, audio transcripts were sent to a privacy-verified transcription service for transcription and then anonymized by hand via anonymizing names, places of work, etc. The anonymized transcripts were then sent back to each respective respondent for vetting before analysis was started, and any requested changes were made. No substantial changes were requested or required.

4.3 - Analysis

4.3.1 - Coding

Consistent with Gioia methodology, data analysis consists of two major rounds of coding (Gioia et al., 2013). The first involves iteratively coding raw, interviewee-level data to identify major items. As expected, initial efforts produced a large number of terms, codes, and categories. Following Gioia methodology, these were then examined for similarities & differences, and then condensed along

relevant dimensions until a more workable number of codes was arrived at (Gioia et al., 2013). The ultimate result of this are the first-order codes which reflect the interviewee-level experience and accurately reflects what is happening in practice. The second major round of coding moves from the interviewee lived experience level to the theoretical realm by thinking more abstractly about the first-order codes and considering if there are deeper, theoretical explanations for what is being observed (Gioia et al., 2013). These second order, researcher-level themes are the pervasive themes which may help explain the phenomena being observed.

Once the first-order codes and second-order themes have been assembled, these are further organized into overarching groups of themes to better classify the findings. Finally, all of these are combined to create a data structure. Crafting a data structure is "the pivotal step" of the entire process (Gioia et al., 2013; Stolowy et al., 2019) as it not only create a useful visual aid, it allows readers to graphically see how data analysis progressed from raw data to high-level themes and constructs, thereby demonstrating the qualitative rigor taken during its analysis. [See Figure 17: Data Structure] Especially important for my purposes, creating a data structure gives me something to compare against the Nolder & Kadous model so I can easily identify what elements are already incorporated into the model and which are missing.

NVivo software was used to assist the coding phase and subsequent analysis of the data. In addition to providing an elegant, computerized way to code qualitative data, NVivo allows the user to run sophisticated queries by cross-referencing segmented codes of text. For example, by cross referencing the questions related to "considering others' feelings", and actions taken in "change in skeptical action", a matrix is created which shows a change of approach is the most commonly suggested response to consideration of clients' feelings [See Figure 15: NVivo Heatmap & Figure 16: NVivo Coding Matrix]. Queries such as these provide context and insight into the questions from the interview protocol, thus they were used to guide general findings. Using NVivo, interviewee anonymized transcripts were analyzed, and open codes were developed along interviewee comments regarding different aspects of professional skepticism and its use. I allowed extant professional skepticism literature to guide the coding process to the extent that interviewee answers naturally fit into pre-existing constructs commonly used in the literature (ie: skeptical actions) and also remained open to new and emergent themes as they presented themselves in the data.

	A : Q10 - Consideration ...	B : Clients	C : Reviewers	D : Team Members	E : Users
1 : Change in Skeptical ...	0	1	1	0	0
2 : Approach	0	8	2	0	0
3 : Evidence	0	2	0	2	0
4 : Iteration	0	1	1	1	0
5 : Procedures	0	0	1	0	0

Figure 15: NVivo Heatmap

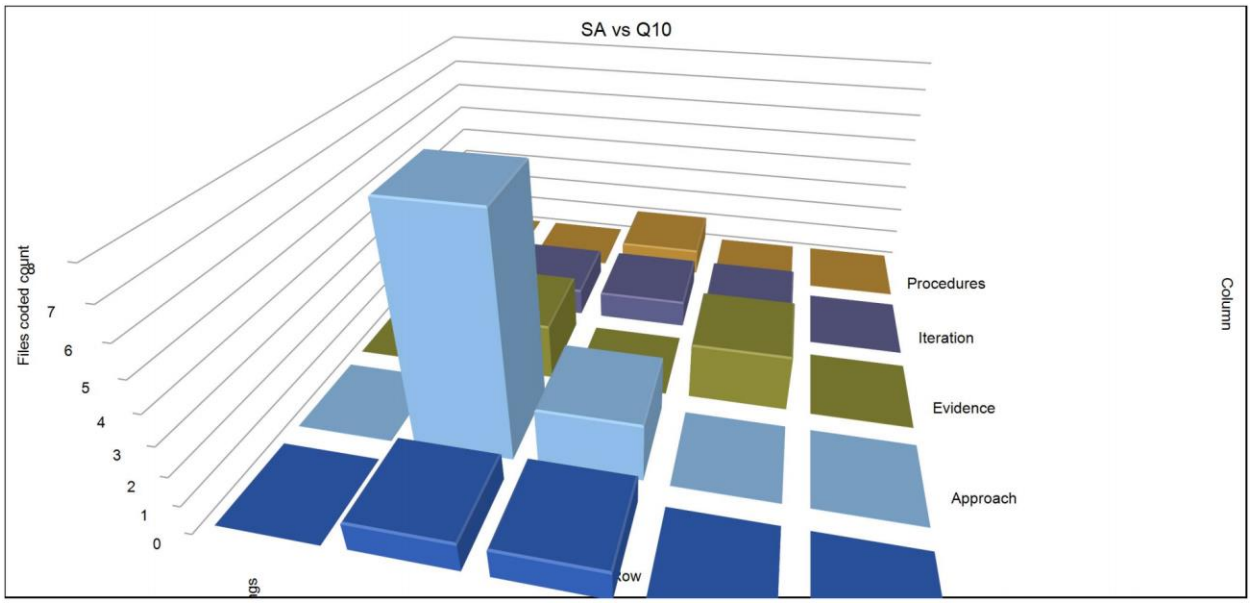

Figure 16: NVivo Coding Matrix

The codebook was initially constructed from the questions used in the interview protocol, particularly those which provided general information (e.g.: Q2 – Is professional skepticism fixed or variable within people?). Initial themes were categorized to the relevant question accordingly, where possible. Emergent themes were captured as they presented themselves. These were then re-assessed into higher order themes to form the data-structure.

4.3.2 - Thematic Development

Under Gioia methodology, the first step is to reduce the many 1st order categories by seeking similarities and differences amongst them and sorting them accordingly, thereby condensing the overall amount of themes to a more manageable number (Gioia et al. 2013, p20). This process was greatly expedited by having a pre-existing theoretical framework as I could look for similarities to extant theory (i.e.: skeptical judgment leading to skeptical action, impact of affect on evaluations) and, most importantly, differences (i.e.: consideration of others' feelings).

A few major insights became immediately apparent. First, auditors are keenly aware of others' emotional states, especially those of their clients. Anticipating and managing these states is considered a normal part of their job and has considerable impact on how they carry out their audit tasks. Some tended to see this as having an effect on other team members more than it had on themselves, but all acknowledged it would have some effect. This insight is important because extant models do not recognize anticipated affect as having *any* influence. As currently conceptualized within professional skepticism, affect is only seen to influence evaluations in the moment they are made. This data makes clear that anticipating affect plays a significant role in professional skepticism and should be incorporated into a new model.

Second, future affective states with their client were typically characterized as a type of conflict, and the anticipated valence of that future state then influences the way an auditor performs their audit task. Auditors look to engage in "healthy conflicts" with amicable managers and minimize engagement with contentious managers. Further discussions around client managers and their personality highlighted a key distinction from extant theory – auditors believe their skeptical judgments stay the same for issues but acknowledge their choice of consequent skeptical action would change. Different manager personalities changed the way auditors approached an anticipated conflict over audit evidence, ranging from speaking directly to management about it to delaying engagement and re-investigating the issue to be certain the auditor was right *before* approaching the manager. Again, this selective choice of behaviour governed by the anticipated change in affect for each option is consistent with affect regulation and thus further supports my new model. Auditors look to up-regulate positive affect by seeking healthy conflicts and down-regulate negative affect by avoiding contentious conflicts. These findings also suggest skeptical action fluctuates independently of skeptical judgement. That is, auditors can recognize a potential issue (skeptical judgement) but then selectively choose a more- or less-effective skeptical action to help manage their affective states. This is a second critical difference from previous professional skepticism models as they all assume skeptical action follows in lockstep with variations in skeptical judgements. If a piece of evidence triggers a strong skeptical judgement, then a big skeptical action would be taken to address the potential change in risk detected. If a piece of evidence passes testing and does not trigger a skeptical judgement, then no skeptical action will be taken either. The evidence from these interviews suggest that auditors can have a significant skeptical judgement and choose from a range of skeptical actions, and that this choice of skeptical action is not solely a reaction to a skeptical judgement. Anticipated affect also plays a role in the choice of skeptical action, where different options can be more or less appealing given the anticipated affect expected to

be generated by the action. This suggests that relaxing the assumption that skeptical action moves congruently with skeptical judgement would produce a more explanatory model.

Finally, key events and variables were identified through the interviews. Answers to the questions provided context to the role of affect and auditors' feelings during an audit. There are several notable findings germane to this project. The most common emotions brought up were anxiety and comfort, suggesting negative affect is most likely to influence professional skepticism. The most prominent future affective state which auditors consider is that created when they have to discuss contentious evidence with a client manager, and these interactions are typically characterized as a form of conflict – either healthy and agreeable or contentious and painful – and these characterizations influence the choice of action an auditor will take to address an issue. Auditors tend to use professional skepticism much more for qualitative issues than for quantitative issues because they can rely upon their materiality calculations to tell them when something requires their attention or not. Interestingly, none of the examples of qualitative materiality issues given by interviewees overlapped with audit tasks used in extant qualitative materiality experiments. There was some overlap with issues highlighted in relevant auditing guidance (PCAOB AS 2401). Taken together, these insights greatly flesh out gaps in extant theory and the themes of negative affect (anxiety & conflict) provide further evidence and context to how negative affect is perceived to influence auditors.

4.4 - Data Structure Analysis

My analysis discusses the theoretical development of data structure 1, and devotes some time discussing general findings including the development of a second data structure which offers further insight into how professional skepticism mature.

4.4.1 - Data Structure 1: Affect Regulation on Professional Skepticism

The specific research question driving this Chapter's study is how does affect influence professional skepticism in practicing auditors. As I began analysis, it quickly became apparent that affect regulation was both prevalent and influential on auditors' choices of skeptical actions, yet largely dismissed as having an overall effect on professional skepticism. Furthermore, affect was recognized to influence skeptical judgements directly which is consistent with affect evaluation. Not only that, but experiencing, anticipating, and managing affect was reported to be a significant part of an auditor's work. I will now go through the details of these findings.

Anticipated Affect

It is readily apparent that auditors are keenly aware of affective states, particularly those of others (clients, users, team members), and the effect their work might have on them:

> "Oh, absolutely. (INT 10)"

> "I mean, I think that for me personally, it was always something where I felt like I was very aware of the person's feelings and the extent that they felt I was in their space, or to a varying degree, people feel like their own work is being evaluated, so I was often very conscious of that, and people's defensiveness. Yeah. Personally, I always was very aware of how they felt they were in the audit, and that was a key thing that I had to pay attention to. Kind of like empathy, I guess. (INT 11)"

> "Yeah. Yeah, you try and read people and in any social situation you try and adjust for that, for sure. (INT 7)"

> "Oh yeah, absolutely. It's about that, how they're going to feel. Yeah. We always have to think of the users and the statements when we're doing these things. That's the number one there. That's their statements, not ours. (INT 3)"

Attention paid to internal team members was mixed. Some mid-level auditors would attempt to anticipate the future affective states of people above them (juniors to audit managers, audit managers to partners, etc.) and alter their work to some extent to make their superiors happy because that makes their future selves happy, and some did not consider them at all:

> "You get in a bit of a rhythm with providing information to people, and just knowing that though they'd specifically like to see this documented in the file. (INT 1)"

> “I don't think the general procedures change. It's just certain like core things or things they would like prefer to the other ones. (INT 6)”

> “No, not necessarily. I think it's more like, if you find something, you have to dig into it. (INT 2)”

> “The only thing I would consider from a feeling standpoint, would just be making sure that I haven't cut a corner or not presented all of the relevant information. (INT 12)

Similarly, evidence is mixed looking downstream from more senior members to more junior members:

> “Like sometimes you've got to be cognizant too especially with junior staff if they're scared. So sometimes when you're reviewing their work or asking them, well, did you really probe that question or did you just get the easiest answer or get a yes answer to get out of that room because you were really intimidated by this person. (INT 9)”

> “When I'm reviewing their work, I wouldn't say it's necessarily their attitude or their feelings. It's more their capabilities that can help take as a frame of reference. (INT 12)”

While these results may have been somewhat mixed, the story is quite different when it comes to dealing with clients. The future affective states of clients are auditors most prevalent affective concern because it directly impacts their own future affective states.

> “I certainly do. I feel like you have to have a certain degree of... for the sake of maintaining the relationship with management (INT 12)”

> “So I learned to empathize a lot more with a lot of clients. They might take a little more time because they've got a lot of distractions going on in a day. And then it helps me deal with clients a little more. (INT 3)”

> “Yeah, I mean in the situation if it were a new client and we found it I'd feel pretty good because I'd feel that our staff did a good job. You know, if it's an existing client... Again, if it was uncovered and it was the first year that this happened I'd feel pretty good because we're adding value to the client. If it's something that's been going on for years and we missed it, I guess it would depend on the situation. If there was no way that we could have ever found it I'd be... I don't know if I'd be not... I wouldn't have any feeling on that but if it's something that we missed during the course of our audit, I'd feel terrible. (INT 10)”

> “If you know they're in a bad mood, it's like, do you talk with them? Or stuff like that. Or making sure... Not as much about how I feel, but it's more about, the worrying how they're going to feel, I think. (INT 3)”

Auditors recognize that their work has an influence on their clients’ emotions, and that in turn impacts their own affective states. If they are making the client feel good, then they feel good. If they make the client feel bad, they feel bad. While some level of discomfort or awkwardness is to be expected in any audit, the better an auditor can anticipate these effects, the easier it becomes to audit effectively without damaging the relationship between auditor and client “I learned to empathize a lot more with a lot of clients…. And then it helps me deal with clients a little more. (INT 3)”. A happy client makes for a happy partner which makes for a happy audit team. Upsetting a client manager upsets the partner and trickles on down through the audit team “And then there's the other managers who you'd be a little more nervous to bring it towards where it's like a fire in the building. There's always a fire, and it's a big issue. It's a big problem. It puts a stress on you now, and you stress them out. (INT 8)” Anticipating clients’ emotions and emotional reactions allows auditors to anticipate their own future affective states, and managing these states is seen as normal part of the job. This insight is important because the consideration and management of future affective states is consistent with the precepts of affect regulation which is not currently incorporated into professional skepticism models.

When an auditor finds an anomaly during audit testing, it typically requires them to do some further work before coming to an ultimate decision about whether it signals a significant error. The personality of their client informs what their likely future affective states might be, and this in turn leads them to change the approach they take to handling anomalies. Clients fall into two general categories. *Agreeable* clients are pleasant to deal with, enjoy engaging with auditors "Go with the flow with it so you don't have to watch your tone as much, versus someone who's more angrier (INT 5)" and auditors feel comfortable going directly to management with issues found during audit work "They're looking for guidance and it's a lot easier conversation to have. (INT 10)", "…certainly with someone who's more direct, or more agreeable, you can be a lot more direct for sure. (INT 12)". *Contentious* clients are aggressive and likely to challenge auditors about any audit issue found "We know that some clients will get really defensive right away so you've got to be careful (INT 9)". Auditors tend to hesitate approaching management directly when issues are found and instead are more likely to challenge their own interpretation of the evidence before taking it to them "There'd be that hesitation, like I don't want to bring this to them and have them say it's stupid (INT 2)". Auditors will build their case before engaging with this type of management "but I would like quadruple check that these are all the things I'm going to talk to them about (INT 6)", "You've got to know that you've really got an issue, a potential issue, and you've got to be very specific in what you feel it is and where they need to support it. (INT 9)" and won't go unless they are certain of their position. If they are unable to come to a definite conclusion one way or the other, they may reassess the priority of the item they are investigating and question whether it is really an issue that needs to be investigated "There's that feeling of, 'I don't want to accuse this person of something that they're doing that they're not actually doing.' (INT 2)", "I mean, especially closer to issuing date, and if it's something that's maybe not that material or something that won't change your opinion, they'll just be like, 'Yeah, you know what? Let's just let it go. It's fine.' (INT 8)". Hesitation to engage with contentious clients is consistent with affect regulation processes engaging to protect an individuals' affective state, and also shows how a skeptical judgment can trigger yet a commensurate skeptical action *not* be taken to avoid negative affect.

An interesting theme emerged from these discussions regarding clients. Regardless of whether the interaction was anticipated to produce good feelings or bad feelings, auditors framed and approached the interaction as if it were a conflict. Calling these events conflicts may carry a negative connotation, but it is important to note that, in this case, a conflict can be both good and bad. Naturally, each side (management vs auditor) would prefer that the audit go smoothly, meaning no mistakes found and no issues to discuss with management. Practically speaking, this almost never happens and

that is why society has a thriving audit industry. The results of these conflicts have consequences which can impact the remainder of the current audit and beyond. If things go poorly, that is the conflict escalates and people come out feeling worse than before, it makes it more difficult for an auditor to do their job "But the conversations in those audits may be not as good as what you get with clients you like because the trust levels are different. (INT 4)" and can have repercussions when it comes to the client re-hiring them the next hiring period. If things go well, that is the conflict results in a mutually beneficial outcome and both auditor and management feel good about the outcome, it makes it easier to perform the rest of the audit "certainly with someone who's more direct, or more agreeable, you can be a lot more direct for sure. And you might not necessarily need to provide them as detailed as say a supporting analysis to convince them of a viewpoint on it. (INT 12)" and builds a stronger relationship because learning about what the issue is and how to fix it is good for the client "We're just trying to help you like succeed with your business and improve and there's just some areas that you're like exposed. And we can work together to implement stuff like controls and whatnot to then next year you'll see less and less of these and that's really good. (INT 6)". This leads auditors to adopt different strategies based on how they anticipate the conflict to go. If an auditor anticipates talking to management as a *healthy conflict*, then they are likely to bring newly discovered issues directly to management as discussing the issues benefits everybody and makes everybody happier. If an auditor anticipates talking to management as a *contentious conflict*, then they are more likely to try and minimize conflict by looking for alternative means of investigating issues and only bringing issues to management if they are absolutely certain they have found an error "I ran it by, obviously, my manager first, and then I'd obviously double-check my work to make sure I'm 100% correct, this is an error, before I bring it to them. (INT 8)", "It [sic] might drop something off if it was not really that important. (INT 1)" because engaging with management is going to be stressful and make everybody involved upset or angry. Once again, these findings support including affect regulation in professional skepticism as auditors are anticipating affect, and this anticipated affect influences their choice of skeptical action. Auditors change their intention and skeptical action to augment their final affective states in line with what is expect per affect regulation. If contentious conflict is anticipated, they down-regulate and choose different procedures to postpone talking to management and protect their affective state. If healthy conflict is anticipated, they go straight to management because their affective state is not at risk. Incorporating this insight into a new model would better explain variations in professional skepticism.

There were some interviewees who expressed intentions opposite to the above two themes. That is, they would NOT alter their behaviour based on the client's personality and anticipated conflict.

“At this stage of my career, no. 10 years go, yes. (INT 9). It should be noted, these few participants had something in common: they were all partners, and therefore held secure positions of relatively high power. Still, it appears that auditors naturally change their intentions with regards to investigating audit evidence based on the anticipated affect generated by the conflict.

Overall, anticipating affect appears to be both a major concern for auditors and a normal part of the job. Finding anomalies arouses feelings within auditors as this is both the interesting part of the job, but also sources of potential conflict with clients and managers. Client interaction is characterized as conflict but can either be a source of positive or negative affect depending on whether the conflict is anticipated to be healthy or contentious. Anticipating and managing affective states, such as minimizing the amount of negative affect generated by engaging in a contentious conflict, has considerable influence on the skeptical actions an auditor employs. Overall, these findings are insightful because anticipated affect is currently absent in extant models of professional skepticism as affect is only seen to have an influence on evaluations in the moment they are made.

Skeptical Judgements

Auditors acknowledged the potential for professional skepticism to vary for a variety of reasons, such as time pressure “When you're burnt out you're just going to try and hope. Just worry about getting it done. (INT 3)” or their current mood “If you're having a bad day, then maybe you'll be more likely to be on the more skeptical side, or just start an argument, because that's the mood I'm in. (INT 2)”, “I had to tell my audit senior at the time "don't audit angry" because he was very… Like I would say he was definitely digging harder into a lot of the expenditures. (INT 9)”. The advice “don’t audit angry” to avoid having an overly negative evaluation of audit evidence is consistent with affect evaluation processes engaging as theorized in previous professional skepticism models and supports retaining these elements in a new model.

Once again, one of the biggest drivers for these variances were the particular client an auditor was working with: “I think different clients cause me to have different levels of professional skepticism. (INT 2)”. When pressed on the issue of variable professional skepticism with respect to finding problematic audit evidence, a clear theme emerged. Auditors believe they would not be any more or less likely to act on a piece of evidence which required investigation depending on the client “Knowing that you have to go ask them about it makes you feel uneasy, but you have to do it. (INT 5)”, “In the end you got to be comfortable signing off. (INT 4)”. This attitude is consistent with automatic affect

regulation processes (Gross, 1998b; McRae & Gross, 2020) which may be influencing the choice of auditor behaviour without their conscious realization of it happening.

Overall, auditors saw professional skepticism as something which can vary for different reasons, both within and between people. With respect to affect, it is seen to influence skeptical judgements in ways which are consistent with the literature. Negative feelings, such as auditing angry, increases the likelihood of a skeptical judgement triggering during an evaluation of evidence. These observations are all consistent and accounted for in current models of professional skepticism.

Change in Approach

The most common way to manage anticipated affect arising from exercising professional skepticism appears to be changing the skeptical action taken in response to a skeptical judgement. Auditors are very open to changing their approach to handling problematic evidence, depending on the situation, and will choose a skeptical action based on the anticipated affect they expect to be generated:

> "I think in terms of your feelings and emotions around things, I think that's more the approach afterwards. Like I said, I find something that doesn't make sense. How I'm feeling that day or how I feel about that client may play more into the approach (INT 2)"
>
> "I would still get the evidence but I would approach it differently. (INT 5)"
>
> "For example, unsophisticated client, I'll do a little bit and if it just looks weird I'll go sit and we'll have a conversation and we'll chat through it and work through it. Versus the sophisticated client, you've got to do your research before going to them with anything. (INT 9)"

In other words, auditors believe their skeptical judgments are consistent, but their intentions and skeptical actions change frequently. This is interesting for a couple reasons. First, it appears that anticipating positive affect will have auditors choosing their first, best skeptical action "…certainly with someone who's more direct or agreeable, you can be a lot more direct (INT 12)". Conversely, anticipating negative affect may cause an auditor to switch to a second- or third-best option, or even delaying acting at all "It [sic] might drop something off if it was not really that important. (INT 1)". This change in approach in response to anticipated affect again supports and aligns with precepts of affective regulation in that the valence of an anticipated future affective state (Healthy Conflict = good;

Contentious Conflict = bad) motivates or de-motivates an auditor to challenge management on an anomaly discovered during testing. Furthermore, if an auditor engages in a delaying intention (build a case, gather evidence), it can lead to them reassessing whether this is an issue they must act on, or one they can hesitate on (assess priority) and result in two opposite behaviours (engage with client/management; avoid engaging with client/management). Second, this influence of anticipated affect on the choice of skeptical action is also not incorporated in models of professional skepticism. Indeed, in the Nolder & Kadous model, changes in skeptical action are seen to be a driven solely by changes in skeptical judgements rather than a factor which can vary independently, and thus these insights should be incorporated into a new model of professional skepticism.

Summary

In summary, by comparing the preceding second-order themes to the elements of the Nolder & Kadous model, it becomes readily apparent that 2 of the 3 themes are absent. Skeptical judgments are observed to be influenced by affect in a manner consistent with the model, but both anticipated affect and a change in approach are missing therefore I conclude the following. First, a new model should recognize that anticipated affect can significantly alter an auditor's behaviour to reflect what is happening in practice. In other words, affect regulation should be included in a new model of professional skepticism. Recall from Chapter 3 that affect regulation can motivate behaviour differently than affect working through affect evaluation (Andrade, 2005; Andrade & Cohen, 2007; Cohen, Pham, & Andrade 2018). Where affect evaluation produces congruent effects between affect and behaviour, affect regulation can produce incongruent behaviour and this is reflected in the data. Where "Don't audit angry" (INT 9) speaks to negative affect increasing the chance of skeptical judgements triggering, "Yeah, you know what? Let's just let it go. It's fine." (INT 8) speaks to how anticipated negative affect can motivate avoidant behaviour in an attempt to down-regulate the affect. Second, this analysis highlights that affect regulation influences different components of professional skepticism than affect evaluation. The reported willingness to alter approach (skeptical action) in response to anticipated affect suggests that affect regulation influences intention/skeptical action directly. This is further supported by subjects' contention that their skeptical judgements do not differ because of anticipated affect, but they do change because of present affect. Not only does this help show me where to distinguish affect evaluation and affect regulation in a professional skepticism model, it provides additional insight into how to construct a model which better explains the various influences of affect. Similar to how affect regulation is overlooked in prior models of professional skepticism, the fact auditors choose from different skeptical actions when responding to a skeptical judgement is also

overlooked and thus should be incorporated. Taken together, this analysis further supports the inclusion of affect regulation into a new model of professional skepticism as well as guides its construction by showing affect evaluation influences skeptical judgements and affect regulation influences intention/skeptical action.

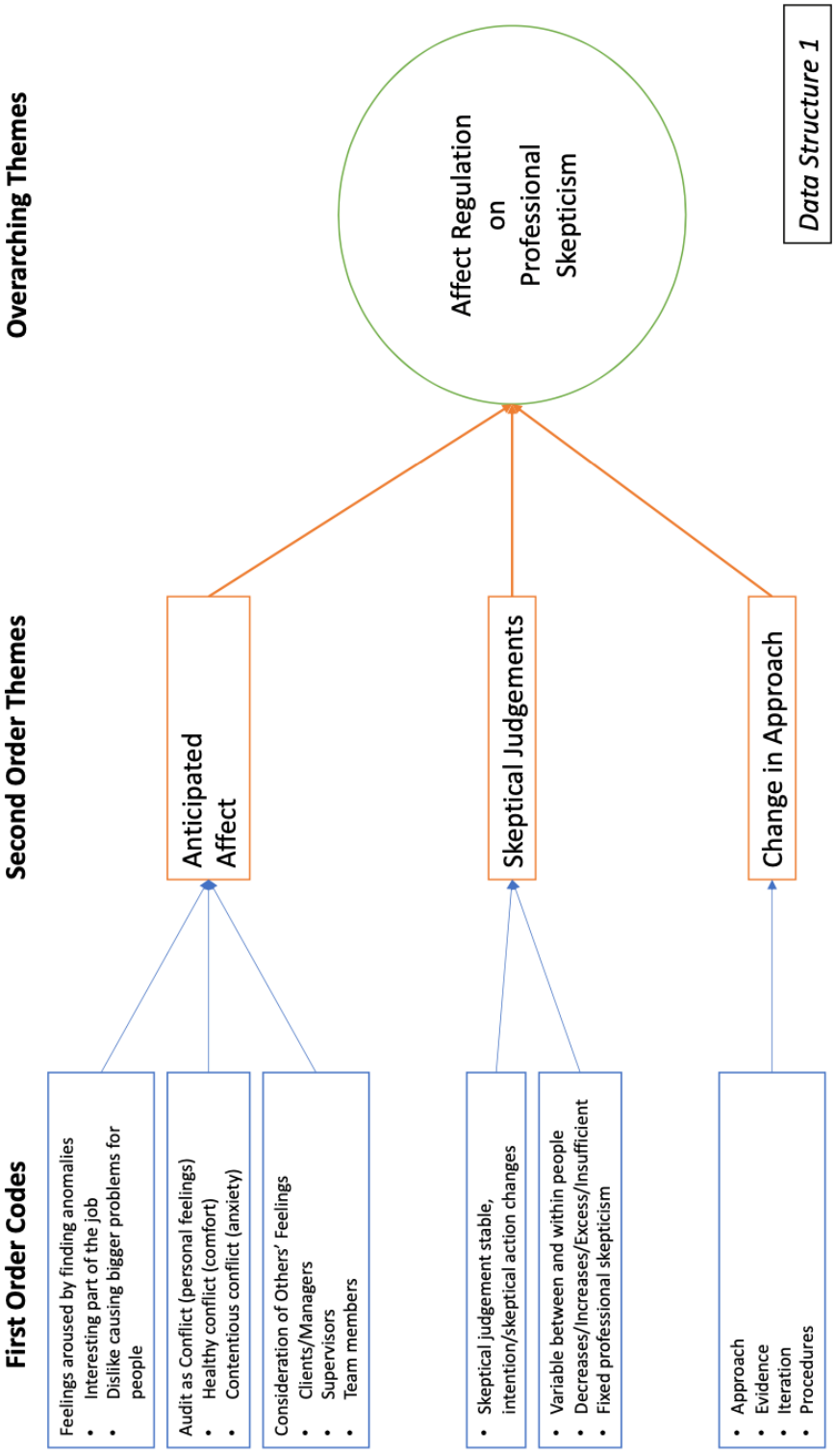

Figure 17: Data Structure 1

4.5 - Data Structure 2: Auditor Impressions of Professional Skepticism & Affect

Auditors also expressed distinct impressions of how their professional skepticism worked differently for different matters and how their own feelings impacted their professional skepticism. While not a specific theoretical development, these findings offer some interesting context to the findings in terms of auditor attitudes towards their own feelings and how they perform audits. Nevertheless, knowing the answers to these broad questions gives context to the interviewees themselves and informs readers about their particular perspectives on this topic, which may be of interest to some. For the purposes of this dissertation, understanding these contextual factors helps inform the design of the experiment which follows in Chapter 6.

4.5.1 - Qualitative Materiality vs Quantitative Materiality

When asked about if there was a difference in how professional skepticism works for qualitative materiality issues and quantitative materiality issues, interviewees consistently reported professional skepticism playing a much larger role in qualitative matters

> "Qualitative, like I said, it kind of comes with experience and you know what the user wants compared to the standard and everything but quantitative, you look at it - if it's under material threshold, we don't really care too much about it. I think that's consistent through our firm. (INT 5)"

> "I feel like the quant one, it is what it is. Like it's the number and the qual one, you'd have to like dig more into the issue. (INT 6)"

Responses point to the "bright line" of quantitatively calculated critical testing thresholds eliminating the need for a lot of professional skepticism to be exercised by the auditor, which makes intuitive sense. Quantitative issues are easy to determine the correct course of action – if the error of the item is greater than your calculated testing threshold, then the item requires action. Qualitative issues are less clear because they are contextual in nature (e.g.: a qualitative issue for one client may not be a qualitative issue for another client, and vice versa) and are not clear they are significant *ex ante*. Therefore, an auditor must use their professional skepticism in order to assess the criticality of such an error.

4.5.2 - Auditors and Emotion

Contrary to unfortunate stereotypes, auditors see themselves just as emotional as anybody else in society (GQ 1) "I think that's just, as a person, yourself, there's more emotional people, non-emotional people, and I don't think it has to do with being an accountant. (INT 8)" and therefore I expect affect regulation to play a similar role in auditors as it does in other people. Auditors reported an equal mix of feelings helping and/or hindering their work (GQ 2), suggesting that their affective states can equally be helpful as they could be hurtful "I think that your feelings could help you or hinder you whether you want to pursue something further. (INT 11)", which runs in contrast to previous literature which suggests emotions lead to sub-optimal decision making and need to be suppressed (Bhattarchee & Moreno, 2013). Finally, auditors trust their feelings (GQ 5) while auditing and use them to help guide their work "…it's done me well. You're able to see things….It's part of the profession. (INT 9)". Overall, this suggests auditors' affect is part of their work and not simply something extraneous. Auditors have feelings and they use those feelings in their work.

As expected, when talking about their own feelings, auditors frequently referred to feelings of trust, comfort, and suspicion which is to be expected as these feelings are related to informing auditors' risk assessments. These feelings are naturally related in this respect. If an auditor has enough comfort, then they can sign-off on the audit because they believe they have addressed the risks appropriately. Low levels of trust and high levels of suspicion lower levels of comfort, and vice versa.

> "And it's interesting, we always use the term, are you comfortable? Can you sleep tonight with this number on that sheet? (INT 9)"

Ultimately, auditors seek to arrive at a place of comfort with respect to the risks in an audit which is consistent with prior literature (e.g.: Pentland, 1993).

Two other feelings were frequently mentioned when auditors talked about their own feelings: anxiety and sympathy. Anxiety relates to auditors' nervousness about how clients and managers will react to their work, about the general adequacy of their work, and about potential conflict that may arise.

> "You know, I probably feel dread and anxiety because I always think about it, well, gee, A) is this a fraudulent event or, what's happening? What impact did that have on the client? If it is, how long has this been going on and did we not catch it? (INT 10)"

> "As a senior, I'm already a little nervous to bring it to my manager, because I know that's going to stress them out, who's going to bring it to the client. (INT 8)"

Again, anxiety appears to be prevalent when auditors talk about exercising professional skepticism. On one hand, this is not surprising because you may expect feelings of anxiety when dealing with risky items, like financial statement assertions, or the pressures of working in highly social settings, such as an audit where auditors have to interact with superiors, subordinates, client workers, client managers, and many others. Having many social demands can raise anxiety, and it certainly appears auditors are not exception. On the other hand, it is a little surprising to hear auditors talk about anxiety so frequently as they are experts in their field and, as such, one would expect them to act with confidence. Yet, repeatedly, auditors reported anxiety over potential conflict, over not catching a mistake, over how others will react, and so it obviously is a common feeling.

Interestingly, sympathy was also frequently mentioned by auditors. Most often, auditors reported feelings of sympathy for their clients as they recognized that they were also often in tough situations and that this may be the cause of issues rather than malicious intent.

> "There's lots of data entry and financial managers who are not, I guess, at the sophistication and training level that would be maybe expected at similar size organizations elsewhere. And between life experiences and living conditions and control environment, you definitely have some sympathy for when things are done wrong… You might just assume that it's a capability issue instead of an on-purpose issue. (INT 7)"

Auditors acknowledged that while sympathy for clients makes them more willing to work around their needs, they felt it did not change the results of their work, just they way they went about it.

> "Yeah, I understand when they're under pressure, tight reporting timelines where they have capacity constraints, things like that. Yeah, I can empathize for the situation they're in, but again, at the end of the day, our findings are whatever our findings are. (INT 12)"

> "So we kind of work together, but I don't think it... I'm sympathetic, but it still doesn't change the outcome. (INT 6)"

Auditors may be more patient with clients they feel sympathy for or more willing to work with them to find solutions, but they feel the final result is still the same.

4.5.3 – Data Structure 2: Maturation of Professional Skepticism

As is the nature of exploratory research such as what is done in this chapter, sometimes the researcher finds things which were not expected. In this case, interesting findings arose regarding how professional skepticism matures over time, and how that maturation influences the frequency and intensity of feelings that auditors experience while exercising professional skepticism. It appears auditors see professional skepticism as a mix of components (logic, experience, affect), each of which send signals which can trigger a skeptical judgement within auditors. These signals are equally weighted, can be sending out multiple signals simultaneously, and do not appear to happen in any particular order (e.g.: logic signals come before affective signals). As an auditor gains audit experience over time, the mix of these components change. As an auditor gains experience through the passage of time, their cumulative experience begins to crowd out the affective information, reducing the number of affective signals sent to the auditor while working. Interestingly, affective information does not entirely go away as auditors gain experience, rather they grow in intensity as they become less frequent. While a partner may have a lot of experience which guides them through most situations, when they do end up getting a feeling about something they *listen* to that feeling because they rarely encounter something they have not seen before. Taken together, this provides insight into exactly how professional skepticism matures and changes over time, a phenomenon suggested in the literature previously (Nelson, 2009). This interaction and crowding out effect between experience and affect is interesting because it helps to detail just how professional skepticism may change over time and, to my knowledge, has not been considered before. The implications of these findings are beyond the scope of this dissertation and, as such, I leave a deeper investigation of this potential phenomenon to future research. A full discussion of this maturation, including a supporting second data structure, is found in Appendix K.

4.6 - Summary / Conclusion

Interviewing practicing auditors about affect and professional skepticism has given critical insight into how to create a more explanatory model of professional skepticism, one which better explains how affect influences professional skepticism in practicing auditors. First, affect regulation appears to have a significant influence as auditors selectively choose behaviours based on the anticipated affect from different actions. This further supports the conclusions drawn in Chapters 2 and 3, and further suggests including affect regulation in a professional skepticism model would better

explain what is happening in practice. Second, anticipated affect is seen to influence the choice of skeptical action only, not the skeptical judgement. This supports relaxing the previously held assumption that affect influences skeptical actions through its influence of skeptical judgement and is a second major departure from the Noler & Kadous model. Interestingly, auditors tended not to perceive these variations in choice as impacting their overall professional skepticism which suggests this is an instance of automatic affect regulation happening.

When performing audit tasks, auditors perceived their skeptical judgements remain stable, but the actions they take to address an issue change according to their circumstance. When an anomaly requires action, auditors anticipate how each one of their considered action strategies will impact their future affective state and take the one which produces the greatest affective end state (avoid the one which creates the lowest affective end state). Clients are the greatest target of this affective attention by auditors, and their personality in times of conflict helps inform auditors about what the most likely end affective state will be. If a negative conflict is anticipated, this creates anxiety within auditors and therefore they are more likely to engage in a delaying strategy where they build their case to a point of certainty before going to a manager with the issue. If they cannot reach that point of certainty, or if other pressures (i.e.: time pressure) are present which force a decision before they are ready, they may reassess the priority of the issue and perhaps choose not to investigate it at all. This behaviour is all consistent with affect regulation processes operating within individuals and thus should be modeled accordingly.

Contextual information identifies client managers as a significant driver of anticipated affect. Client personalities create a sense of comfort or anxiety within auditors when it comes to approaching them with audit issues, and these feelings are exacerbated by the respective personality of different managers. Approachable managers instill a feeling of comfort within auditors, who are then more likely to engage directly with a manager when there is an issue. Contentious or hostile managers inspire feelings of anxiety and auditors are less eager to engage directly, instead choosing to change their approach. Therefore, feelings of comfort and anxiety brought on by anticipated dealings with either approachable or contentious managers is consistent with affect regulation. Furthermore, attitudes towards conflict also appears to have an impact on auditor skeptical action strategies. Auditors who view conflict with their client as healthy will are more likely to engage directly, and those who see it as contentious and damaging are less likely to engage. Not only does this provide further support for relaxing the monotonic positive relationship between skeptical judgement and skeptical action, it points

at an important solution for situations when affect regulation becomes problematic – reappraisal. Reappraising attitudes towards conflict differently can be an intervention to the natural motivation/de-motivation effect on behaviour of affective regulation (McRae & Gross, 2020).

Situations with incomplete information (ie: qualitative materiality scenarios) require more professional skepticism than quantitative professional skepticism situations because auditors can latch on to the tangibility of a quantitative materiality threshold breach and use that as a bright line to guide how severe of a skeptical action to take in response. Thus, any experiment testing professional skepticism should involve making a decision with incomplete information as opposed to simple mathematical processing of information.

By answering my second research question in this chapter, I have done the following. First, I have gathered evidence from the field which supports the inclusion of affect regulation in a new model of professional skepticism. Second, I have gathered extra detail into how exactly affect regulation influences different components of professional skepticism than affect evaluation, which again allows me to better construct a more explanatory model of professional skepticism. The insights from this chapter, as well as those from prior chapters, combine next in Chapter 5 to create a new model of professional skepticism.

Chapter 5 – Developing a New Model of Professional Skepticism

In order to answer the question of what a more explanatory model of professional skepticism looks like, I combine the insights derived from Chapters 2, 3, & 4 to construct a new model of professional skepticism. First, as reviewed in Chapter 2, I highlight the limitations of the Nolder & Kadous model as it currently stands and then discuss how integrating affect regulation (as reviewed in Chapter 3) can address these limitations. I then adapt and integrate affect regulation into professional skepticism and distinguish it from affect evaluation to explain how similarly valenced affect can produce opposite variations in professional skepticism and thereby provide an explanation for the contradictory finding observed in prior studies. Finally, I incorporate all of this into a new, more explanatory model of professional skepticism and discuss the implications thereof.

5.1 – Unresolved Questions from the Literature and Limitations of the Nolder & Kadous Model

As discussed in Chapter 2, the Nolder & Kadous model (Nolder & Kadous, 2018) is the most advanced model of professional skepticism currently in the literature, but when we look at studies of professional skepticism, questions remain. Contradictory findings exist within the literature with respect to affect which the model cannot explain. When looking at the influence of negative affect on professional skepticism, the majority of findings support an 'affect evaluation' theorization of the influence of affect which is consistent with the Nolder & Kadous model. Recall from Chapter 3 that affect evaluation theories predict a congruent influence of affect on behaviour. In the case of auditors, a congruent influence would be negative affect *increasing* professional skepticism through increased negative feelings of risk during evaluative judgements ('I feel bad about this piece of evidence – better check it out') and positive affect *decreasing* professional skepticism through lower feelings of risk ('I feel good about this piece of evidence – nothing to worry about'). Indeed, the majority of evidence shows positive affect impairing professional skepticism (Roberston, 2010; Bhattarchee, Moreno, & Riley, 2012; Chung, Cohen, & Monroe, 2008; Rowe, 2019; Schaefer & Schaefer, 2019; Eutsler, Norris, & Trompeter, 2018) and negative affect increasing professional skepticism (Bhattarchee, Moreno, & Riley, 2012; Hobson, Stern, & Zimbelman, 2020; Cianci & Bierstaker, 2009; Bhattarchee & Moreno, 2002; Chung, Cohen, & Monroe, 2008; Popova, 2013; Bhattarchee & Moreno, 2017) which is consistent with the predictions of the Noler & Kadous model. However, there is also evidence which is *not* consistent with

the predictions of the Nodler & Kadous model – evidence which shows negative affect *decreasing* professional skepticism (Brazel, Jackson, & Stewart, 2016; Johnson, Lowe, & Reckers, 2016). How can these findings be explained? By integrating affect regulation.

Recall from Chapter 3 that affect can work through different processes to influence evaluations and behaviour. Affect evaluation processes, such as affect-as-information (Schwarz & Clore, 1983) or mood congruency (Bower, 1981; Isen et al. 1978), will produce a congruent effect between affect, evaluations, and behaviour. Affect regulation processes operate when individuals influence which emotions they have, when they have them, and how they experience and express them (Gross, 1998b) in service of a goal pursuit. Thus, affect working through affect regulation may or may not produce a congruent effect on behaviour; it will influence behaviour in a way that best promotes the goals of the individual and this influence can be incongruous. For example, an auditor who anticipates their supervisor being upset by them doing extra audit testing which does not discover anything can down-regulate that negative affect by avoiding doing the tests, thus reducing professional skepticism (Brazel et al., 2016). Though significant, the influence of affect regulation is not incorporated into the Nolder & Kadous model and, as such, the explanatory power of the model is limited by its exclusion. Developing a new model of professional skepticism, one that incorporates affect regulation and distinguishes its influence from affect evaluation, will provide increased explanatory power and thus provide a commensurate benefit to scholars and practitioners looking to better understand and manage professional skepticism.

5.2 – Theoretical Development

Before discussing how affect evaluation and affect regulation fit into a model of professional skepticism, it should be noted that the nature of the audit issue at hand (qualitative versus quantitative) will moderate the influence of affect on professional skepticism. As evidenced in section 4.5.1, the influence of affect will be stronger in situations with qualitative materiality considerations than those with quantitative materiality considerations. Quantitative materiality issues involve calculating a pre-determined materiality threshold and then assessing whether the issue at hand exceeds the threshold or not. This 'bright-line' serves to make the skeptical judgement threshold visible in that if a potential error exceeds this threshold, then skeptical action will be taken. Qualitative issues are more contextual in nature (e.g.: a qualitative issue for one client may not be a qualitative issue for another client, and vice versa) and are less clear whether something is an issue or not. Consequently, an auditor must rely more upon their own professional skepticism to trigger a skeptical judgement because there is no

obvious bright line for them to refer to. The inherent uncertainty of situations such as this means affect will have a greater influence as it fills in the gaps caused by uncertainty. Thus, with respect to the overall model, quantitative materiality issues will moderate down the influence of affect, and qualitative materiality issues will moderate up the influence of affect.

5.2.1 – The Differential Effects of Affect Evaluation and Affect Regulation

The first step to adapting a more nuanced view of affect into a model of professional skepticism is to understand how affect would work through affect evaluation and affect regulation to influence different steps of the process. Doing so will highlight where each affective process influences different components of the Nolder & Kadous professional skepticism model, and thus make clear what changes need to be made in order to create a more explanatory model. How the skeptical attitude ultimately influences professional skepticism depends on which affective process it works through as affect evaluation and affect regulation impact different parts of the professional skepticism process.

Affect evaluation pulls in current affective information to inform and influence current evaluations and judgements, thus it works similarly as to how it is currently theorized within the Nolder & Kadous model. Affect evaluation influences evaluative judgements, skeptical judgements are evaluative judgements, and thus it is reasonable that affect working through affect evaluation would influence the skeptical judgment. Negative affect is introduced from an individual or social/situational source and influences an auditors' skeptical attitude. Negative affect directly influences skeptical judgement by decreasing feelings of comfort or increasing feelings of risk which increases the likelihood of an issue being recognized. This, in turn, produces a congruent increase in intention and skeptical action as the increase in feelings of risk from the skeptical judgement works its way downstream through the professional skepticism process.

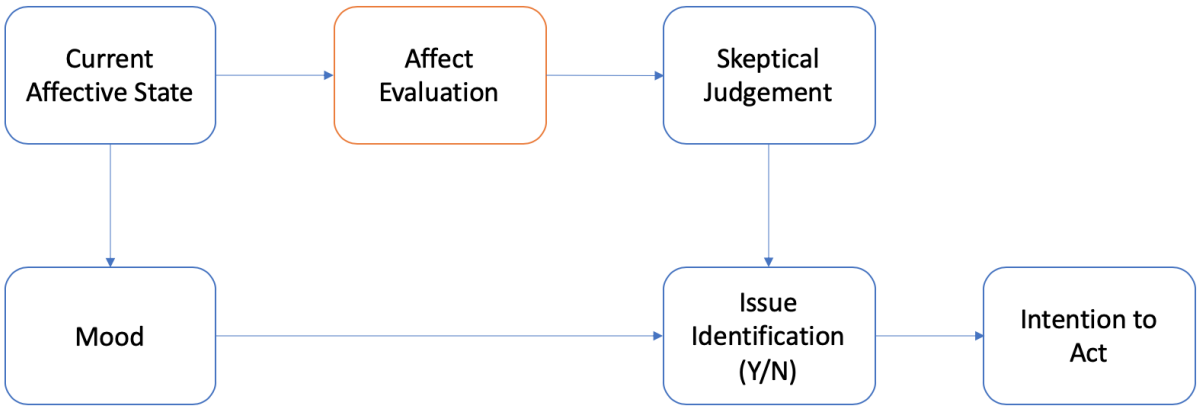

Figure 18: Affect Evaluation on Skeptical Judgement

Affect Evaluation mediates the process such that an increase in negative affect increases the likelihood of triggering a skeptical judgement, thus increasing the intention to take a skeptical action and increasing professional skepticism.

Affect regulation begins with an emotional cue (Gross, 1998b) and response strategies engage to influence the construction of affect to reach a desired state. Per the process model of emotional regulation (Gross, 1998b; McRae & Gross, 2020), these strategies can engage at different points in the affect construction process. Thus, the first step into adapting and incorporating affect regulation into a model of professional skepticism is to identify the affective cue which generates affect. I contend that skeptical judgement is this affective cue. Skeptical judgements are the fundamental evaluation where any potential issue is identified. If no issue identified, no change to an auditor's affective state will occur. However, if a potential issue *is* identified, negative affect will increase through increased feelings of risk, doubt over managerial assertions, distrust over the veracity of financial statements, etc. Generating and acting upon these negative feelings is the affective core of professional skepticism and thus are the ones I focus on in this study.

The next step which must happen is to relax the previously held assumption that skeptical judgements have a monotonic, positive relationship with intention and skeptical action (Nelson, 2009; Hurtt et al. 2013; Nolder & Kadous, 2018). That is, the greater the issue identified with a skeptical judgement, the greater subsequent intention and skeptical action taken in response. Since affect regulation can cause individuals to up- or down-regulate their behaviour in service of a goal, it is

possible for individuals to trigger a skeptical judgment and yet not change their behaviour to the same degree. By relaxing this assumption, affect regulation can thus explain different behaviours being motivated by similarly valenced anticipated affect. Furthermore, the findings from Chapter 4 support this as auditors report changing their approach (skeptical action) but not changing their skeptical judgements.

5.2.2 – Points of Affect Regulation Within Professional Skepticism

The next step is to consider which response strategies will engage to regulate affect and create divergent behaviour which, in the case of affect regulation, would result in negative affect reducing the amount of intention and skeptical as opposed to producing a congruent increase in intention and skeptical action. Situation selection involves selectively choosing a situation which will generate a desired affective state by anticipating the affect cue associated with a situation and then selecting accordingly. In the case of professional skepticism, affect regulation offers an explanation for why auditors choose the test they do. Auditors seeking to address risk choose tests which are likely to generate negative affect to see if additional work is required. Conversely, unethical auditors will avoid those same tests to avoid increasing their feelings of risk. Anticipating the affect generated by each selection guides auditors' choices of tests and/or evidence, are not included in previous models, and thus recognizing this represents the first extension of a new model.

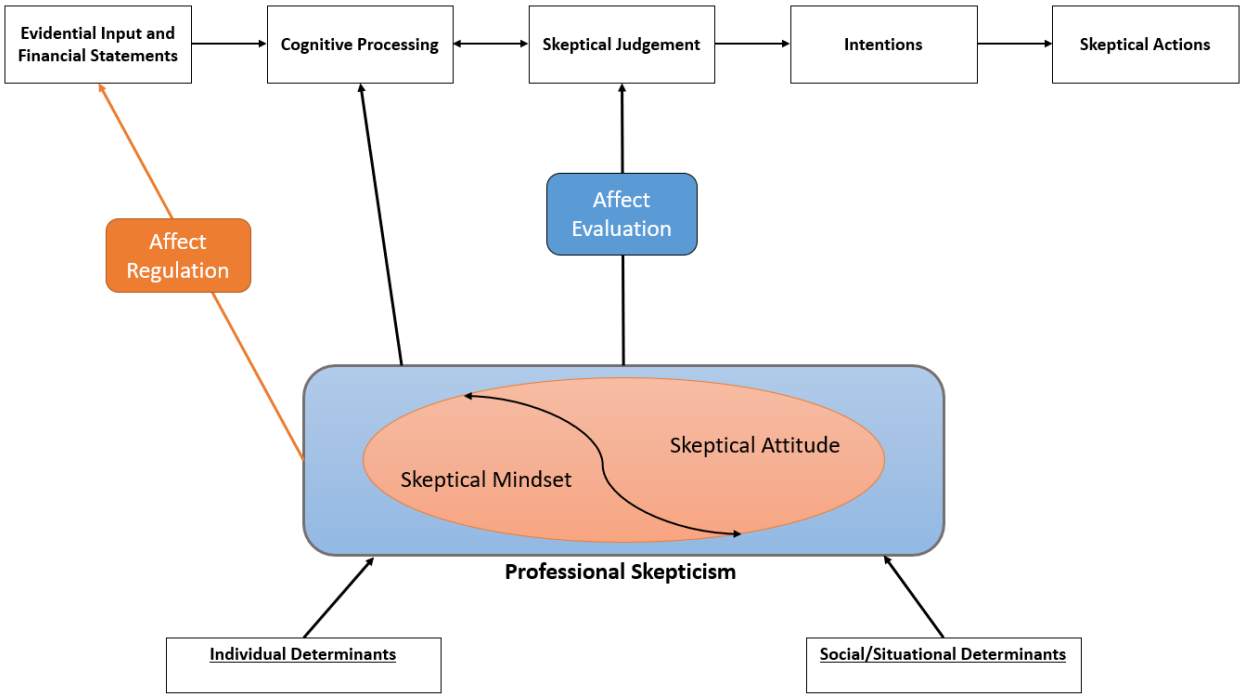

Figure 19: Extension 1 - Affect Regulation to Evidential Input

The next three strategies would all occur at the same point – after the skeptical judgment creates the cue and before intention and skeptical action. Situation modification involves altering the situation slightly to modify the affect generation process. In the case of an auditor, this would manifest in a change of follow-up action in response to the skeptical judgement. For example, an auditor who discovers a potential issue may be more inclined to talk to management to avoid the boredom and inconvenience of pulling and testing more receipts. Attention deployment involves selectively paying attention to a desirable part of the situation, like an auditor focusing on the 95% of the item being tested which is correct as opposed to the 5% which represents an error to minimize the feeling of severity of error. Cognitive change involves selecting one of several possible meanings which may be attached to a situation, such as an auditor changing the unpleasantness of having to interrogate an unruly manager about a potential issue to the satisfaction of pleasing financial statement users who want the auditor to follow up on potential issues. All of these three would engage after the emotional cue from the skeptical judgement and before the expected behaviour from that emotional cue has been elicited and, thus, all three would occur prior to intention and skeptical action. Importantly, all three could produce incongruent behaviour with respect to affect, skeptical judgement, intention, and skeptical action.

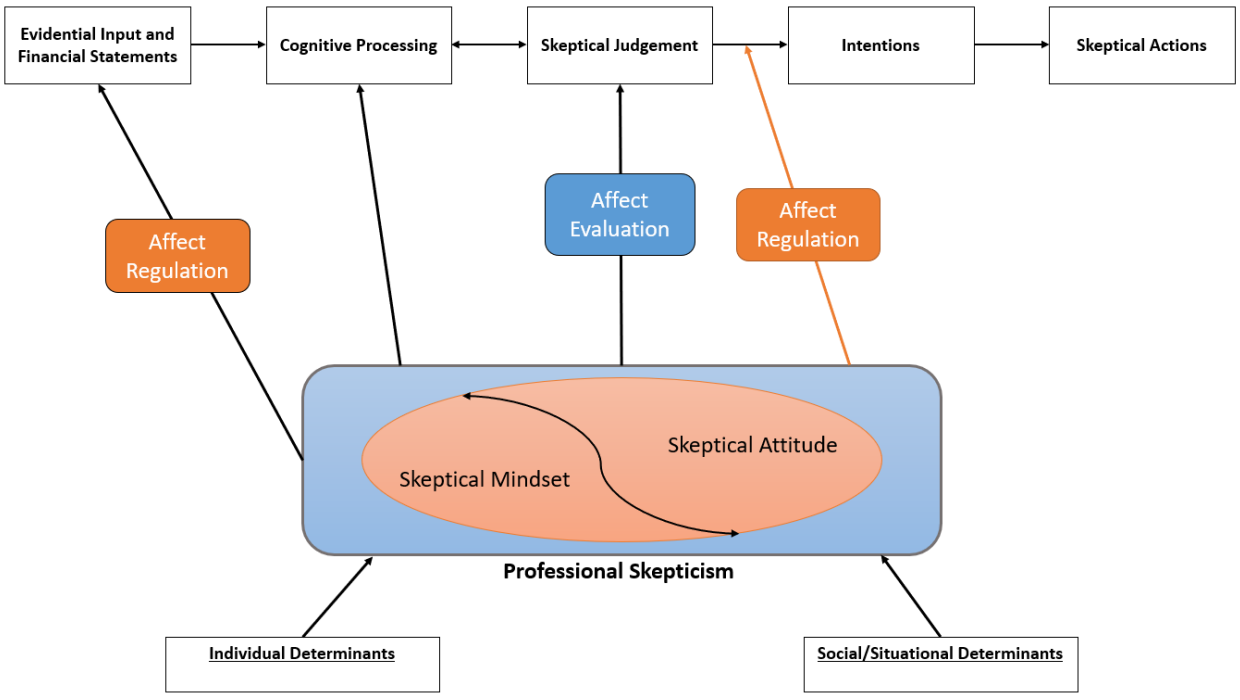

Figure 20: Extension 2 - Affect Regulation influences Intention & Skeptical Action

The final strategy, response modulation, is interesting because it involves influencing the response once the affect has already been elicited by decreasing the behavioural, experiential, or physiological response. For example, an auditor may find a potential issue requiring them to perform a number of additional tests on receipts, a task which the auditor happens to find quite boring. Response modulation can engage to suppress those feelings of boredom and keep the auditor motivated to finish the task. Or, response modulation can also engage to suppress the increased feelings of risk so the auditor can feel like they don't need to engage in quite as much testing as they normally would. Regardless of how it exactly manifests itself, response modulation would occur after the behaviour response to affect has been chosen (Gross, 1998b) and thus would not influence divergent behaviour.

To complete the integration of affect regulation into a new model of professional skepticism, the iterative nature of both models must be considered. Professional skepticism is iterative in that skeptical actions change the information set at hand. This new information set is then used in a subsequent iteration to make another skeptical judgement and, if necessary, skeptical action. Since affect informs attitudes regarding risk, affective information from early iterations becomes part of this set which is used by subsequent iterations. Affect regulation is also iterative as the affective consequences of the strategies taken by an individual are monitored and help influence the choice of strategies taken the next time a similar affect-generating situation presents itself. Thus, the affective information generated by affect regulation strategies becomes part of the information set which feeds back into subsequent iterations of skeptical judgements, intentions, and actions. Intuitively, this makes a lot of sense when we think about how auditors use professional skepticism to inform planning. If an auditor knows that interrogating a client manager will upset them, they will try to down-regulate that negative affect by selecting to do tests which do not require them to talk to managers instead.

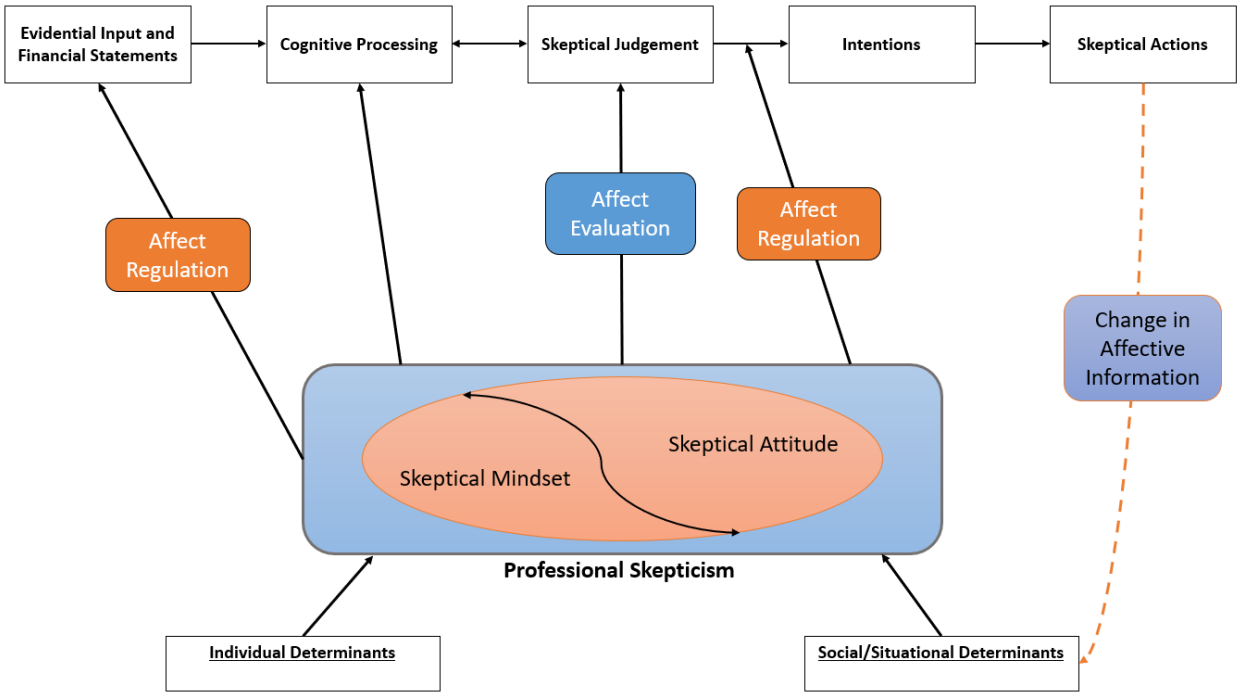

Figure 21: New Model of Professional Skepticism

5.2.3 – How Affect Regulation Can Explain Negative Affect Reducing Professional Skepticism

Now that the model is completed, it is time to consider how affect regulation can result in different behaviour than affect evaluation. After all, it would seem to make sense that an auditor would *want* increased negative affect as that would signal heightened risk and thus auditors would use affect regulation to up-regulate negative affect, the net result being higher exercised professional skepticism – the same as you would expect through affect evaluation. However, this is not always the case. Remember that affect regulation can be both deliberate or automatic, conscious or unconscious, so an auditor may not always be aware when it is being engaged. Furthermore, it also is driven by goal pursuit and auditors can have multiple goals. Notably, auditors may have purely hedonistic goals ('I want to feel good') along with professional auditing goals ('I want to audit well') and these hedonistic goals may also guide behaviour. When a skeptical judgement is triggered, an auditor can select from many skeptical actions. If all actions were equal in changing the persuasiveness of evidence, then the choice of action would not matter. However, this choice *does* matter because different actions are better (worse) situated for different situations and thus produce better (worse) information to base the next skeptical judgement upon. When taking a skeptical action also results in a change in an auditor's affective state, we have a situation where an auditor may want to take a skeptical action to serve their professional goals, but be more inclined to select a less effective one in order to protect their personal affective

state. A less effective action results in worse information being fed into the next subsequent skeptical judgement and the chances of incorrectly concluding a serious issue is benign increases. Thus, anticipating negative affect can actually reduce the amount of professional skepticism being exercised.

What makes it all the more likely that auditors will not even notice when they are caught in this process is the relationship between negative affect and construal level. Negative affect lowers people's construal level, which makes them very focused on what is immediately in front of them instead of the long-term consequences of their choices (Labroo & Patrick, 2009; Trope & Liberman, 2010). In an audit situation, this means negative affect decreases the ability of an auditor to see the consequences of their preferential choice of skeptical action (Rasso, 2015). Once again, this increases the likelihood an auditor may unwittingly allow an item to pass testing when it should not, and thus exercise less professional skepticism than they should.

In order to better explain how affect evaluation and affect regulation influence professional skepticism, consider the following hypothetical audit situation. Let's say an auditor is conducting an audit and happens to be in a bad mood because they got in a fight with their spouse that morning and those feelings are lingering. As they go to evaluate a piece of evidence, affect evaluation kicks in and that negative affect helps inform their skeptical judgement. The negative affect decreases their feelings of comfort making it less likely the evidence they are examining will pass testing and more likely a skeptical judgement will be triggered than it would otherwise. Now that a potential issue has been identified, the auditor must next decide how to best address it. They consider a couple options, each which changes the persuasiveness of the evidence to different degrees. The first is walking into the controller's office directly and questioning them about this item, the other is simply making a mental note of the potential issue and continuing the testing to see if additional evidence of an issue presents itself. Let's also say that meeting with the manager will threaten to increase their level of negative affect because either the manager is very unpleasant to deal with or because a new audit documentation policy has just been implemented requiring very extensive, very boring documentation of every anomaly investigated. Affect regulation kicks in and the auditor automatically assesses the affective impact of each option, causing them to avoid the mood-threatening cue (confronting the manager) and instead to choosing to hesitate for the time being (protect affective state)[3]. Perhaps they

[3] Andrade (2005) uses the term 'mood-threatening cue' to discuss the negative affect manipulation in his study of affect regulation. As I use the same manipulation for my own study, I retained the same terminology to be consistent and use it throughout this paper.

even engage in some rationalization to support their decision and tell themselves that a good auditor does not upset their client without a reason. Hesitating does not add any new factual information on its own so, if no other troubling signals present themselves, then the persuasiveness of the evidence does not change. And since the hesitation has also protected their affective state, the auditor feels comfortable signing off on their work and concluding there are no issues because the feelings of risk and doubt have not increased. As an audit is the act of passing comfort up the chain of command from staff auditors to partners (Pentland, 1993), these feelings of comfort on the sign-off mask the potential issue that has slipped through and lingers within. Thus, the quality of this audit is lowered creating a potential issue for stakeholders because the auditor did not properly exercise their professional skepticism. By integrating and distinguishing affect regulation from affect evaluation into the professional skepticism model, and by also relaxing the assumption of a monotonic positive relationship between skeptical judgement and skeptical action, my new model of professional skepticism can explain just how negative affect can either increase or decrease professional skepticism. Recognizing and understanding this phenomenon is of great use for those looking to manage their own professional skepticism properly or diagnose what happened when professional skepticism was not properly exercised.

5.3 – Summary / Conclusion

In this chapter, informed by the literature reviews in earlier chapters and the qualitative study in Chapter 4, I developed a new model of professional skepticism which incorporates, adapts, and distinguishes the roles of affect regulation and affect evaluation within it. By incorporating affect regulation, I created a model with more explanatory potential as it can logically explain more auditor behaviour than prior models. First, affect regulation offers an explanation for contradictory findings regarding negative affect and professional skepticism, notably those papers which find that negative affect reduces professional skepticism. Auditors who anticipate feeling greater negative affect will automatically engage affect regulation to down-regulate the negative feelings, protect their affective states, choose less effective skeptical actions, and thus exercise less professional skepticism. Affect evaluation alone cannot explain this behaviour as it is incongruent. Second, affect regulation also explains how auditors can feel like they are doing a proper job but still let issues slip through testing. The increase in affective state generated by taking a less effective, yet affectively pleasing, skeptical action creates more positive affective information, which then feeds into the next iteration of professional skepticism and reduces the chance of escalating a potential issue into a material misstatement. Finally, affect regulation also helps explain why auditors choose the tests and items to

test that they do. By using situation selection to choose audit tasks which are most likely to increase feelings of risk and doubt and avoiding those which previous experience has taught them does not inform those feelings, auditors design their audits to address risk. Taken together, this model is more effective at explaining how affect causes variations in professional skepticism than previous models without losing the strengths of the Nodler & Kadous model. That is, this model retains the non-normative view towards affect, recognizing that auditing is complex and there can be situations where auditors will want to up- and/or down-regulate both positive and negative affect. This model also retains the measurability established in the Nolder & Kadous model which is crucial for those trying to measure the effect of efforts to change professional skepticism.

Chapter 6 – Online Experiment

As noted in previous chapters, there are both many ways affect can be regulated as well as many strategies to regulate affect, meaning there is many ways to look at affect regulation. One way is to look at *extrinsic* versus *intrinsic* affect regulation (Gyurak et al., 2011; Braunstein et al., 2017), or whether affect regulation is happening deliberately or automatically. Extrinsic affect regulation is effortful, with insight and awareness, and can influence behaviour in line with explicit goals. Intrinsic affect regulation, while automatic, can still influence behaviour through automatic goal pursuit which shows that goals can be activated and behaviour changed outside of the awareness of an individual (Custer & Aarts, 2010). A person has both extrinsic and intrinsic affect regulation processes to help them deal with the many affect regulation demands they encounter in their day-to-day lives. Intrinsic affect regulation relieves a person from much effortful processing by rendering the process automatic, and thus save a person from being overwhelmed by affect regulation needs (Gyurak et al., 2011). With respect to my dissertation, extrinsic versus intrinsic affect regulation is an important factor to consider because these can motivate different types of regulation strategies, each of which may motivate behaviour differently (Braunstein et al., 2017). Given this potential for different influences on behaviour and the implications thereof, the influence of both extrinsic and intrinsic affect regulation is a prime concern of professional skepticism research because it means that affect regulation may be engaging both deliberately to change behaviour, but also automatically and influencing professional skepticism outside of the awareness of auditors. While interviews, such as those done in Chapter 4, help speak to the influence of extrinsic affect regulation, they cannot speak to implicit regulation which happens outside of conscious awareness; a different method is required. An experiment, to be precise.

The benefit of doing a mixed methods study is that both explicit and implicit affect regulation *can* be investigated in the same study – explicit with interviews, and implicit with an experiment. Where the interviews done in Chapter 4 combine with insights from literature to construct the model in Chapter 5, a complimentary experiment further calibrates the model by investigating intrinsic affect regulation. Furthermore, a mixed-methods study combines multiple methods to provide complimentary examinations of validity, which is something a single-method study cannot do. In this case, an experiment will speak to the external validity of my model. Finally, testing the model with an experiment is a notable step further than what other professional skepticism modellers have done in the past as they have simply relied on previous literature to assemble their models, rather than also

attempting to provide new evidence themselves. Thus, I set out in this chapter to experimentally test my model.

To further triangulate my findings and calibrate the model developed in Chapter 5, I test my new model with an online experiment. Utilizing established experimental materials, I conduct an online experiment to examine the influence of anticipated negative affect on professional skepticism. Anticipated affect is used because it speaks to the implicit influence of affect regulation. Negative affect is used because that is the dimension in which contradictory results were previously observed. Though I fail to find statistically significant results, subsequent examination of the data suggests some interesting insights which I report upon.

6.1 - Introduction

As discussed in previous chapters, affect is a known source of variation in professional skepticism (Nelson, 2009; Hurtt et al., 2013; Nolder & Kadous, 2018). Current models recognize that affect has a congruent influence on behaviours as predicted by affect evaluation theories (Isen et al., 1978; Bower, 1981; Schwarz & Clore, 1983 ; Andrade, 2005; Andrade & Cohen, 2007; Shiv, 2008; Cohen, Pham, & Andrade 2018). Negative affect informs auditors feelings about risk such that items are judged to be more risky, making it more likely that action is taken to investigate them. In this way, negative affect increases professional skepticism and several studies have found evidence supporting this for both negative affect (Bhattarchee, Moreno, & Riley 2012; Hobson, Stern, & Zimbelman, 2020; Cianci & Bierstaker, 2009; Bhattacharjee & Moreno, 2002; Popova, 2013) and the converse for positive affect (Chung, Cohen, & Monroe, 2008; Robertson, 2010; Bhattarchee, Moreno, & Riley, 2012; Popova, 2013; Eutsler, Norris, & Trompeter, 2018; Rowe, 2018; Schaefer & Schaefer, 2019).

In addition to affect evaluation, there is a second family of theories which predict how affect influences behaviour: affect regulation. As reviewed in Chapter 3, affect regulation is distinct from affect evaluation because it can have an incongruent influence on behaviour as subjects anticipate affect, and then alter their behaviour to either up- or down-regulate the anticipated affect (Gross, 1998b; Gross, 2013; McRae & Gross, 2020). This is particularly meaningful to professional skepticism research for it can explain the findings of professional skepticism studies which contradict the predictions of affect evaluation (Bagley, 2010; Brazel et al., 2016; Johnson, Lowe, & Reckers, 2016). These studies find negative affect to decrease professional skepticism, and while affect evaluation fails to explain this behaviour, affect regulation can. However, affect regulation is currently absent in the most sophisticated models of professional skepticism currently in the literature.

Failing to have affect regulation reflected in current models is an issue which needs to be addressed for a number of reasons. First, including affect regulation would create a more explanatory model of professional skepticism which is useful for anybody looking to understand, diagnose, and manage variations in professional skepticism. This exact demand from practitioners, standard-setters, and academics has motivated the evolution of models in the past (Hurtt et al., 2013; Nolder & Kadous, 2018) and is the motivation behind my development of a new model in Chapter 5. In this chapter, I further calibrate the model by experimentally testing its predictions with respect to affect regulation and negative affect.

To guide my investigation, I rely upon my new professional skepticism developed in Chapter 5 which posits that negative affect can work through either affect evaluation or affect regulation. If it works through affect evaluation, it will influence the skeptical judgement directly. On the other hand, if the affect is *anticipated* affect, it should work through affect regulation and cause a change in intention/skeptical action without influencing the related skeptical judgement. As the contradictory findings in the literature are found in studies of negative affect, I predict that auditors anticipating negative affect from taking skeptical action will be less likely to actually take action, preferring instead to delay taking action as they attempt to down-regulate the anticipated affect. Importantly, this hesitance in taking action will happen even though they are just as likely to recognize a potential issue exists as those auditors who do not anticipate negative affect from taking action. Furthermore, as affect regulation can be mitigated with an intervention (McRae & Gross, 2020), I also predict these effects can be countered with a reappraisal exercise.

I examine my predictions in an experimental audit exercise where subjects are asked to evaluate and provide guidance about a series of control tests over cash disbursements. I then test the predictions using a 2x2, between-subjects experiment where junior auditors (and their equivalents) examine a series of control tests. In the experiment, subjects learn they must evaluate each item to determine if a potential issue exists (skeptical judgement), and then recommend how much extra work is required to adequately address each potential issue (none to substantial). The subjects must then document the rationale behind their decisions.

The two manipulated variables are anticipated negative affect and an affect regulation intervention. Consistent with other studies of affect regulation (i.e.: Andrade, 2005), I operationalize anticipated negative affect as the amount of documentation required, ranging from substantial (several minutes of writing required) to light (a line or two). Again, consistent with prior research (i.e.: Ehring,

Tuschen-Caffier, Schnulle, Fischer, & Gross, 2010), I operationalize the affect regulation intervention as a reappraisal exercise (present or not) where those receiving the reappraisal are asked to take the perspective of those who rely upon the documentation for their own work. The subjects must then document the rationale behind their decisions.

The results from the experiment fail to find statistical significance. Supplementary examination of the results reveals that low power appears to be one reason for this happening. Partial eta-squared values were very small in each of the tests, suggesting that the effect sizes were much smaller than anticipated. This power issue was compounded greatly by the circumstances under which the experiment was conducted as it made an already difficult task of finding adequately trained accountants even more difficult, thus greatly limiting the number of subjects available. However, supplementary examination of the data plots does show differences between skeptical judgements and skeptical actions which is an indication that skeptical actions do vary independently of skeptical judgement. If their relationship was fixed, as is maintained in prior literature, then we would expect to see congruent variation in both. Regardless, the lack of statistical significance means I fail to find evidence of external validity for my model.

6.2 - Hypothesis Development

As reviewed in Chapter 3, affect can generally influence behaviour in 2 ways. Affect evaluation theories (Isen et al., 1978; Bower, 1981; Schwarz & Clore, 1983) predicts a congruent influence on behaviour. Affect being presently felt colours the evaluation at hand and the subsequent behaviour response. As evidenced by prior studies (e.g.: Bhattarchee, Moreno, & Riley 2012; Hobson, Stern, & Zimbelman, 2020; Cianci & Bierstaker, 2009; Bhattacharjee & Moreno, 2002; Popova, 2013), this means negative affect would influence skeptical judgements negatively, thus increasing skeptical action in response, and resulting in an overall increase in professional skepticism. Affect regulation theories (Gross, 1998b; Gross, 2013; McRae & Gross, 2020) predict anticipated affect influences behaviour in a way which helps an individual achieve a personal goal, and this may result in an incongruent influence of affect on behaviour. Generally speaking, people like to feel good so anticipating that a course of action will threaten a person's affective state will cause them to instinctively take action to reduce the intensity and/or duration of that negative affect. In a professional skepticism context, an auditor who anticipates negative affect from taking a skeptical action will be less motivated to take that action. Instead, that auditor will be more likely to either take fewer skeptical actions or hesitate taking any skeptical action at all. As skeptical actions are taken to augment the information at hand for the next iteration of

professional skepticism, taking a worse action (or none at all) will produce a worse information set to base the next skeptical judgement upon, and thus lower overall professional skepticism.

Furthermore, affect regulation can be either intrinsic or extrinsic (Gyurak et al., 2011; Braunstein et al., 2017). Intrinsic affect regulation kicks in automatically, activates automatic goal pursuit, and changes behaviour accordingly without the subject being aware of its influence. Paperwork can trigger affect regulation as it is boring and it threatens a subjects' affective state (Andrade, 2005). Since people do not like to feel bored, they will automatically regulate their affective state and change their behaviour to lessen the anticipated feelings of boredom when presented with such a mood-threatening cue. As posited by my model in Chapter 5, this change in behaviour results in a change in skeptical action chosen by the auditor. The new model predicts that subjects who anticipate taking a skeptical action will result in negative affect, such as the boredom of having to fill out excessive paperwork, will be less motivated to take skeptical action. Accordingly, the new model predicts that when auditors are exposed to a mood-threatening cue, they will be less likely to take the associated skeptical action. Formally stated:

> **H1: Subjects will be less likely to recommend increased skeptical action when a mood-threatening cue is present than subject for whom a mood-threatening cue is absent.**

The new model also predicts that affect regulation will influence skeptical action without first influencing skeptical judgement. This is informed through the analysis done in Chapter 4 where auditors identified a change in approach as a common response to anticipated negative affect. More importantly, this aligns with the emotion-generation process and affect regulation strategies identified in Chapter 3. Three affect regulation strategies (situation selection, attention deployment, cognitive change) engage *after* the affect generating event begins. In the context of professional skepticism, the initial affect generating cue would be an auditor discovering a potential issue (skeptical judgement). If taking a skeptical action is associated with anticipated negative affect, then auditors should naturally attempt to down-regulate the amount of anticipated negative affect by modifying their choice of intention/skeptical action, not by modifying the skeptical judgement made. Furthermore, affect regulation impacts the response to anticipated affect, not the evaluation which starts the emotion-generation process.

In contra-distinction to my model, the Nolder & Kadous model of professional skepticism posits affect influences skeptical judgements directly, and skeptical actions are subsequently indirectly

influenced. This theorization is consistent with an affect-as-information perspective (Schwarz & Clore, 1983) where negative affect has a congruent influence on skeptical judgments. Negative affect causes an auditor to evaluate evidence more negatively, making it more likely that a skeptical judgment is triggered because of the increase in professional skepticism. This perspective is also supported by several studies which find negative affect to increase professional skepticism (i.e.: Bhattarchee & Moreno, 2002; Chung et al., 2008; Bhattarchee et al., 2013). If the negative affect anticipated by subjects (via the mood-threatening cue) only influences skeptical judgments, as is predicted by the Nolder & Kadous model, then we should observe increased skeptical judgements in those subjects exposed to negative affect. I test this supposition with my second hypothesis, stated formally as:

H2: Subjects for whom a mood-threatening cue is present will differ significantly in terms of skeptical judgement from those for whom a mood-threatening cue is absent.

One way to provide assurance affect regulation is driving variations in skeptical actions and professional skepticism is to introduce a known moderator of affect regulation and effectively mitigate its effect. Reappraisal interventions involve reinterpreting a situation and/or one's goals to change one's appraisal of the anticipated affect associated with a potential course of action. Practically speaking, this type of intervention typically involves instructing individuals to think of a potentially negative affective experience in a way which makes the experience seem less negative, often by using their imagination to take a different perspective on the situation. Reappraisal interventions (McRae & Gross, 2020) are known to effectively mitigate negative affect regulation, decreasing negative emotional experiences (Goldin, McRae, Ramel, & Gross 2008; Ehring et al., 2010) and resulting in real outcomes such as enhanced learning (Strain & Mello, 2015) and better stress responses (Jamieson, Crum, Goyer, Marotta, & Akinola 2018). If affect regulation is the process impacting skeptical actions, then exposing subjects to a reappraisal intervention should mitigate the influence of affect regulation on professional skepticism. If there is a significant difference between subjects anticipating a mood-threatening cue who receive a reappraisal intervention and those who do not receive a reappraisal intervention, we can then say that affect regulation is indeed driving variations in the professional skepticism process. Stated formally:

H3: Subjects anticipating a mood-threatening cue and not receiving reappraisal instruction will be less likely to recommend severe skeptical actions than subjects anticipating a mood-threatening cue and receiving reappraisal instructions.

6.3 - Method

I test my predictions using a 2x2 between-subjects, experimental design with a mix of accounting professionals and accounting students. The experiment was delivered online as the data was gathered during the COVID-19 pandemic and in-person testing was prohibited. The use of both trained accountants and accounting students is a function of trying to get as large a sample as possible to test my hypotheses. The use of post-secondary accounting students as a proxy for junior accountants is both consistent with other studies (i.e.: Eutsler, Norris, & Trompeter, 2018) and realistic as the experimental task is consistent with the responsibilities of a junior accountant on an audit. In terms of the experiment, using these students serves a very practical need to help increase the sample size. Audit subjects are notoriously difficult to procure, and the use of post-secondary students is necessary to procure a large sample.

The experiment asks auditors to exercise their professional skepticism by tasking them with reviewing tests of controls over cash disbursements for exceptions (*skeptical judgement*) and recommending an appropriate response (*skeptical action*). I manipulate affect regulation by varying the amount of paperwork required to justify the decision (*high or low*) and I manipulate the affect regulation intervention with a reappraisal (*present or absent*).

6.3.1 - Participants

In total, 123 subjects successfully participated in this study. To be eligible to participate, I required prospective subjects to have a base knowledge of accounting so that they would be able to understand and complete the control testing task given, which is a task suitable for a junior auditor. Subjects came from two major sources: online recruiting from Canadian Universities and online recruiting from the crowd-sourcing platform, Prolific. Both undergraduate and graduate accounting students from 4 different Canadian universities were invited to take part in the study as they would have the requisite accounting skills to perform the task. From this source, 171 respondents started the study, 87 did not finish, and 84 complete responses were ultimately acquired.

The remainder of subjects were sourced from Prolific, an online crowd-sourcing platform based in the United Kingdom. Similar to MTurk, Prolific maintains a massive sample pool of potential subjects for researchers to access and utilize. Base demographic information for all participants is collected so, by making use of extensive screening tools and questions, researchers are able to be connected with

participants suitable for their needs. For the purposes of this study, potential participants were first screened using the Prolific participant demographic tools to identify those most likely to have the requisite accounting skills. As the Prolific tools are not granular enough to identify which potential subjects have base accounting skills, these subjects were then sent an invite to do a preliminary screener task to ensure they had the requisite knowledge to do the audit task. In the screener, subjects were asked some general questions about their audit experiences, either as an auditor or as someone who has been audited, and also asked their level of formal accounting training and experience. Those subjects either identifying as a professional accountant or as having studied accounting at university were then contacted subsequently to participate in the formal experiment. From this pool, 60 started and 21 did not finish the study, netting 39 usable responses.

In total, 39 responses were acquired from Prolific and 84 responses from university recruiting for a total of 123 usable responses. All subjects completed the experiment online. The average time to complete the study was 36 minutes. On average, respondents were 22.6 years old, 59.3% Female, and 25.2% of respondents had accounting firm work experience. Additional demographic information is available in Appendix F. All subjects were compensated for their participation in the study. As Prolific both compensates its subjects in British pounds and sets their own rates for compensation based on subject profile and estimated time to complete the experiment, the precise amount of compensation varied between participants. Subjects recruited through Canadian universities were offered Amazon gift cards for their participation. The average amount of compensation paid was equivalent to $4.23 Canadian.

6.3.2 - Materials

The experimental materials used were adapted from Eutsler, Norris, & Trompeter's (2018) experimental study of professional skepticism and client-auditor interactions. Subjects were asked to assume the role of Chris, an auditor on the Fitex audit engagement who is tasked with evaluating potential control exceptions and recommending an appropriate response to the potential issue. Completing control testing over cash disbursements is an audit task that would be expected of junior auditors on an audit engagement. Specifically, subjects were asked to evaluate two cheques which they were told may or may not be control exceptions. Consistent with Eutsler et al. (2018), the cheques given represented different levels of control risk (*high risk vs low risk*). To help evaluate each potential error, subjects were given a complete list of control procedures being tested, a vendor master file, and a list of authorized signees and their authorization limits. Each item was also accompanied by an

explanation of the issue from the Fitex controller for review. The complete materials can be viewed in Appendix H.

Consistent with prior accounting research using subjects to respond to scenarios (e.g.: Farrar et al., 2021; Cohen et al. 1998) I asked subjects to assume a third-person role in the scenario to control for social desirability bias as subjects are less likely to give socially desirable responses when they are asked to respond from the perspective of a third person (Hughes & Huby, 2004). This is important in my study because subjects are being asked to assess audit evidence and may try to look as good as possible by chasing down every loose end. The use of a third-party measure is also consistent with social psychology research showing respondents have more accurate impressions of peers and overly positive impressions of themselves (Epley & Dunning, 2000).

6.3.3 - Task

All subjects, regardless of where they were recruited from, were provided with a link which took them to the online study. Once giving informed consent, subjects were then taken to a page where they read a short scenario about Chris, an auditor who has been assigned to review cash disbursements and determine if they represent a control failure or not. Chris is also asked to recommend an appropriate response to each potential issue in the form of recommending how much additional audit time needs to be added to this engagement to investigate each issue further. A list of cash disbursement control procedures, authorized vendors, and authorized signees are provided. Subjects then received or did not receive the manipulation text as appropriate to the condition which they had randomly been seeded into. They were then asked to assume the role of Chris and answer as they think Chris might to the evidence at hand. Before proceeding to the actual task, subjects are then asked attention check questions to ensure they had read and paid attention to the manipulation texts.

Subjects were presented with two cheques (one at a time) to examine. One was a high-risk item and a low-risk item (as determined in Eutsler et al. (2018)), and each also had a corresponding explanation from the Fitex controller for the possible issue. The high-risk cheque lists a vendor who does not appear on the approved vendor list and is explained by the controller as a one-time payment they needed to process and was deemed not worth the time to put on the approved vendor list. The low-risk cheque featured one mismatched signature which was explained as the signee having sprained his dominant hand and temporarily forced to sign with his non-dominant hand. For each item, subjects were asked to rank the believability of the controller's explanation, recommend how much additional work is required to address the item, and document the reasoning behind their decisions. After

completing work on both cheques, subjects were asked to provide demographic information and thanked for their time before exiting the study.

6.3.4 – Independent Variables

I manipulated the presence of a mood-threatening cue and presence of a reappraisal intervention. The mood-threatening cue determines whether the subject will anticipate negative affect or not and was manipulated as either *present* or *absent*. This cue took the form of a requirement (or lack thereof) of significant additional documentation to support subjects' skeptical action recommendations because extra paperwork is considered boring. Documentation was chosen as the manipulation for two reasons. First, using documentation to manipulate affect regulation has been previously tested and is consistent with prior literature (i.e.: Andrade, 2005). Second, adding documentation to the task means the associated affect is not related to the evidence or client being audited, which helps avoid conflation concerns. Feelings about an audit client and their evidence informs evaluations over the riskiness of said evidence. If the audit evidence or the client is the source of negative affect (e.g.: a hostile, threatening manager), the subject runs the risk of misattributing the source of negative affect and potentially triggering affect evaluation rather than affect regulation. Thus, to avoid this conflation, I chose the source of anticipated negative affect to be something incidental to the focus of the audit – paperwork required by the audit firm. In the *present* condition, subjects received the following text prior to starting the experimental task:

> *"Since more severe recommendations adds more time to the audit budget, Chris' firm requires additional documentation to support these decisions. Recommending extra time to the audit will trigger the following additional questions to be answered by the auditor within the audit program:*
>
> *-Details about the issue in question;*
> *-Evaluation of the controller's explanation;*
> *-Estimated severity of the issue;*
> *-Other accounts affected by the issue;*
> *-Stakeholders impacted by the issue;*
> *-Anything else necessary to understand your decision.*
>
> *If you decide to recommend action which adds time to the audit, please also write several lines documenting your decision in detail.*
>
> *If your recommendation adds no time to the audit, only a line or two explaining your decision is necessary."*

Subjects in the *absent* condition received no additional text and were simply instructed to write a line or two of documentation to support their decisions.

The reappraisal intervention was taken from the affect regulation literature (McRae & Gross, 2020; i.e.: Ehring et al., 2010) and was manipulated as either *present* or *not*. A reappraisal will mitigate affect regulation strategies by having subjects think about a situation in a different way, often by having them take a different perspective of the situation. Subjects in the *present* condition received the following additional text prior to starting the experimental task:

> *"The firm realizes that having to fill out a lot of paperwork can be tedious, but it is very necessary. To help make filling out the necessary documentation easier, try thinking about the task in a different way. For example, imagine you are a partner having to explain to the client manager why these additional procedures are necessary and how they will make a higher quality audit. This will help you think of relevant points to document for any issues you may encounter."*

Subjects in the *absent* condition received no additional text.

Important to this study, both of the manipulations chosen do not add any additional information regarding the audit evidence, the controller, or their explanation of the potential error. This is important to ensure subjects have the same informational set when they start making their skeptical judgments and choosing skeptical actions. For example, audit students are commonly taught that a hostile or unruly client manager is possible 'red flag' of fraud and the reasonable response would be to take additional skeptical action in response to this new information. By having cues which are extraneous to the audit evidence and controller, I can better isolate the effects of affect working through affect regulation.

For the purposes of this particular experiment, I relied upon the manipulation tests done in prior literature for both manipulations. This was done for the following reasons. First, finding an appropriate sample was anticipated to be very difficult given the conditions under which the experiment was forced run under. Collecting data in-person, though preferable, was rendered impossible due to the COVID-19 pandemic forcing this experiment to be moved online. This move also greatly impacted recruiting plans, and online recruiting was extremely difficult because it was hard to convince people who were now spending their entire days working online to spend extra time focusing on an experiment. I consulted other experimental accounting experts, and it was concluded that the risk of running out of subjects before running the experiment was too great to burn sample on pretests when I could just use established manipulations already proven in other studies. Thus, I decided to rely on prior literature for the manipulation tests.

6.3.5 – Dependent Variables

After reviewing the cash disbursement and associated information, subjects responded to a series of questions about the likelihood of this being a control exception and how to respond to it. To capture the subjects' skeptical judgment *(SJ)*, subjects rated their confidence in the controller's explanation for the potential audit issue on a scale from 0%-100% (10% intervals), with 100% indicating the issue was explained to the auditor's satisfaction and that there is no additional risk detected. Skeptical action *(SA)* was captured by having subjects recommend how much time would be needed to be added to the audit budget to perform the additional work necessary to properly investigate the potential issue. Respondents chose the recommended time on a 5-point scale, the lowest being "no time added' to 'substantial time to be added'. The greater the additional time recommended to be added, the greater the skeptical action deemed to be taken. Lastly, subjects were also asked a series of questions regarding the context to check manipulations and demographics to categorize responses.

6.4 - Results

The majority of subjects passed all of the attention checks. 95 passed one, but not both, of the attention checks. Subsequent analyses were run with both the sample which passed both attention checks and those who only passed one of the two questions. The results from these were not significantly different and thus results from the full sample are presented below. Results from the reduced sample which passed both attention checks only is available in Appendix J.

The correlation matrix for all variables can be found in Appendix G. There were significant correlations for the low-risk skeptical action task and thus I performed an ANCOVA to control for the covariates. For the other conditions, I performed ANOVA testing to evaluate my hypotheses as there were no significant covariates.

Skeptical Judgement

For the high risk evidence, there was no statistically significant interaction between the effects of *mood cue* and *reappraisal* on skeptical judgement-confidence $F(1,119)=0.432$, $p=0.512$. Main effects for either condition was also not statistically significant.

Tests of Between-Subjects Effects
Dependent Variable: Skeptical Judgement - High Risk Evidence

Source	SS	df	MS	F	Sig.	Partial Eta Squared
MoodCue	1.647	1	1.647	0.203	0.653	0.002
Reappraisal	0.003	1	0.003	0.000	0.984	0.000
MoodCue * Reappraisal	3.501	1	3.501	0.432	0.512	0.004
Error	963.452	119	8.096			
a. R Squared = .005 (Adjusted R Squared = -.020)						

Table 2: ANOVA Results - Skeptical Judgement (High Risk)

High Risk (SJ)		**Reappraisal** Present	Absent	Total
Mood Cue	Present	6.74 (2.71) n=31	6.39 (2.98) n=33	6.56 (2.83) n=64
	Absent	6.17 (2.93) n=29	6.50 (2.75) n=30	6.34 (2.82) n=59
	Total	6.47 (2.81) n=60	6.44 (2.85) n=63	

Table 3: Cell Means - Skeptical Judgment (High RIsk)

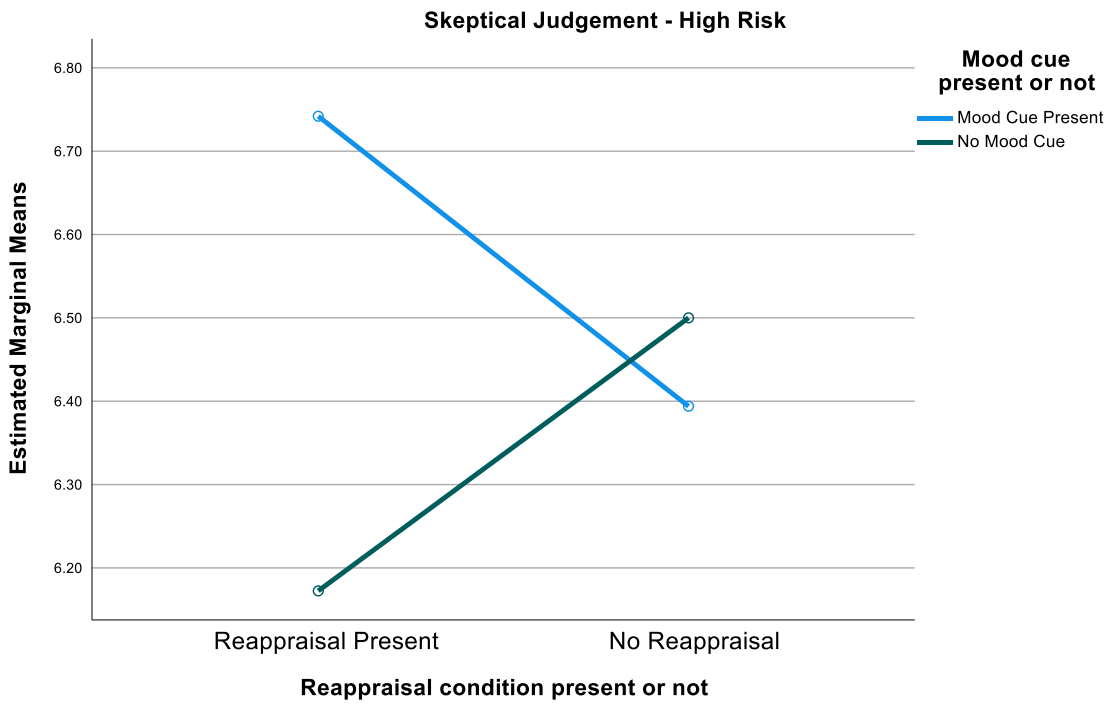

Figure 22: Skeptical Judgement Plot (High Risk)

For the low risk evidence, there was no statistically significant interaction between the effects of *mood cue* and *reappraisal* on skeptical judgement-confidence F(1,119)=0.083, p=0.774. Main effects for either condition was also not statistically significant. The lack of significant differences means I fail to find support for hypothesis 2.

Tests of Between-Subjects Effects

Dependent Variable: Skeptical Judgement - Low Risk Evidence

Source	SS	df	MS	F	Sig.	Partial Eta Squared
MoodCue	0.140	1	0.140	0.015	0.904	0.000
Reappraisal	1.814	1	1.814	0.188	0.665	0.002
MoodCue * Reappraisal	0.801	1	0.801	0.083	0.774	0.001
Error	1147.459	119	9.643			

a. R Squared = .002 (Adjusted R Squared = -.023)

Table 4: ANOVA Results - Skeptical Judgement (Low Risk)

	Reappraisal		
Low Risk (SJ)	Present	Absent	Total

Mood Cue	Present	6.32 (3.15) n=31	6.73 (3.03) n=33	6.53 (3.07) n=64
	Absent	6.55 (3.27) n=29	6.63 (2.98) n=30	6.59 (3.10) n=59
	Total	6.43 (3.18) n=60	6.68 (2.98) n=63	

Table 5: Cell Means - Skeptical Judgment (Low RIsk)

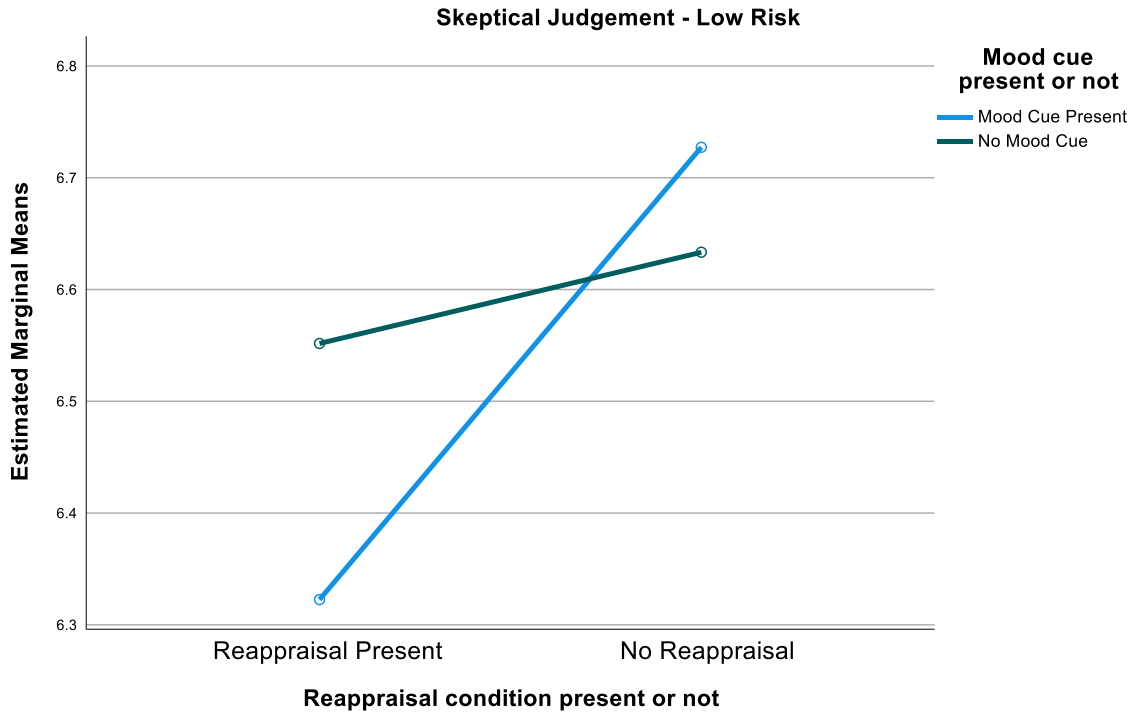

Figure 23: Skeptical Judgement Plot (Low Risk)

Skeptical Action

For the high risk evidence, there was no statistically significant interaction between the effects of *mood cue* and *reappraisal* on skeptical action F(1,119)=0.487, p=0.486. Main effects for either condition was also not statistically significant.

Tests of Between-Subjects Effects

Dependent Variable: Skeptical Action - High Risk Evidence

Source	SS	df	MS	F	Sig.	Partial Eta Squared
MoodCue	4.805	1	4.805	3.027	0.084	0.025
Reappraisal	0.320	1	0.320	0.202	0.654	0.002
MoodCue * Reappraisal	0.774	1	0.774	0.487	0.486	0.004
Error	188.891	119	1.587			

a. R Squared = .030 (Adjusted R Squared = .006)

Table 6: ANOVA Results - Skeptical Action (High Risk)

High Risk (SA)		**Reappraisal** Present	Absent	Total
Mood Cue	Present	1.06 (1.44) n=31	1.12 (1.43) n=33	1.09 (1.42) n=64
	Absent	0.83 (1.14) n=29	0.57 (0.94) n=30	0.69 (1.04) n=59
	Total	0.95 (1.29) n=60	0.86 (1.24) n=63	

Table 7: Cell Means - Skeptical Action (High RIsk)

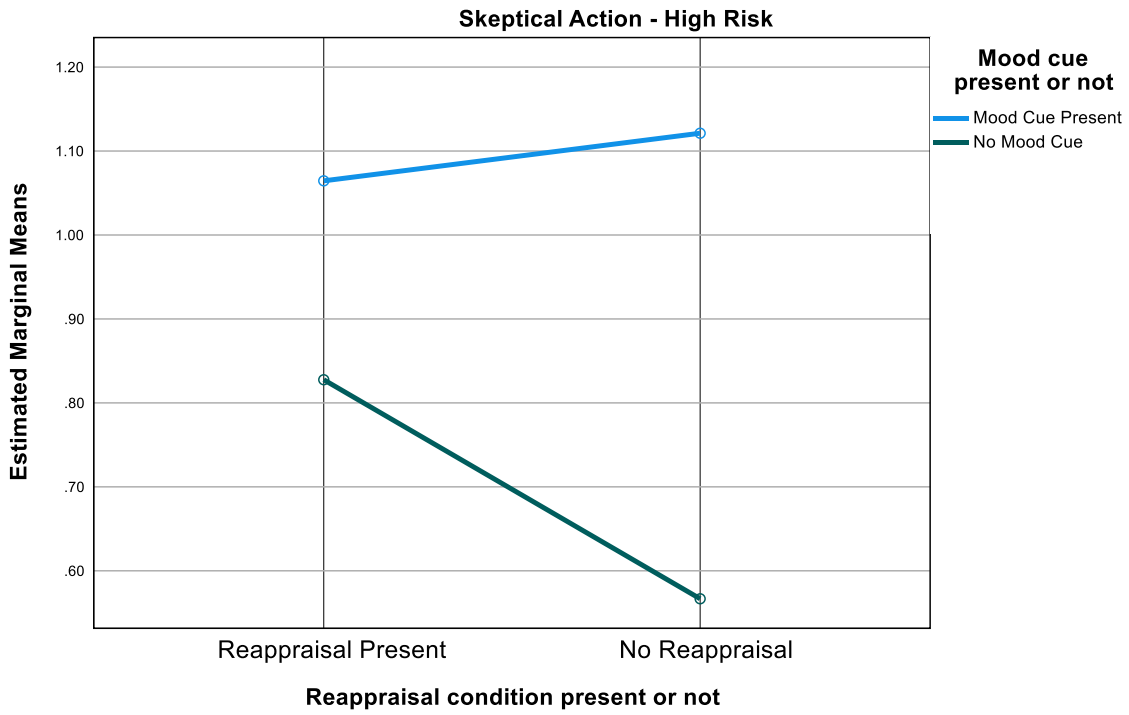

Figure 24: Skeptical Action Plot (High RIsk)

For the low risk evidence, there was no statistically significant interaction between *mood cue* and *reappraisal* on skeptical action, whilst controlling for Gender, Age, Work Experience, Accountant, Accounting Experience, and Education F(1,113)=1.203, p=0.275. Main effects for either condition was also not statistically significant. Thus, I fail to find support for Hypothesis 1 and Hypothesis 3.

Tests of Between-Subjects Effects

Dependent Variable: Skeptical Action - Low Risk Evidence

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
MoodCue	1.956	1	1.956	1.795	0.183	0.016
Reappraisal	0.589	1	0.589	0.540	0.464	0.005
MoodCue * Reappraisal	1.311	1	1.311	1.203	0.275	0.011
Gender	8.115	1	8.115	7.448	0.007	0.062
Age	0.257	1	0.257	0.236	0.628	0.002
Work_Exp	0.007	1	0.007	0.006	0.938	0.000
Accountant_YN	4.727	1	4.727	4.339	0.040	0.037
Actg_Exp	2.224	1	2.224	2.041	0.156	0.018
Education	8.919	1	8.919	8.186	0.005	0.068
Error	123.124	113	1.090			

a. R Squared = .238 (Adjusted R Squared = .178)

Table 8: ANOVA Results - Skeptical Action (Low Risk)

Low Risk (SA)		Reappraisal		
		Present	Absent	Total
Mood Cue	Present	0.65 (1.08) n=31	1.00 (1.25) n=33	0.83 (1.18) n=64
	Absent	0.72 (1.13) n=29	0.70 (1.15) n=30	0.71 (1.13) n=59
	Total	0.68 (1.10) n=60	0.86 (1.20) n=63	

Table 9: Skeptical Action (Low Risk)

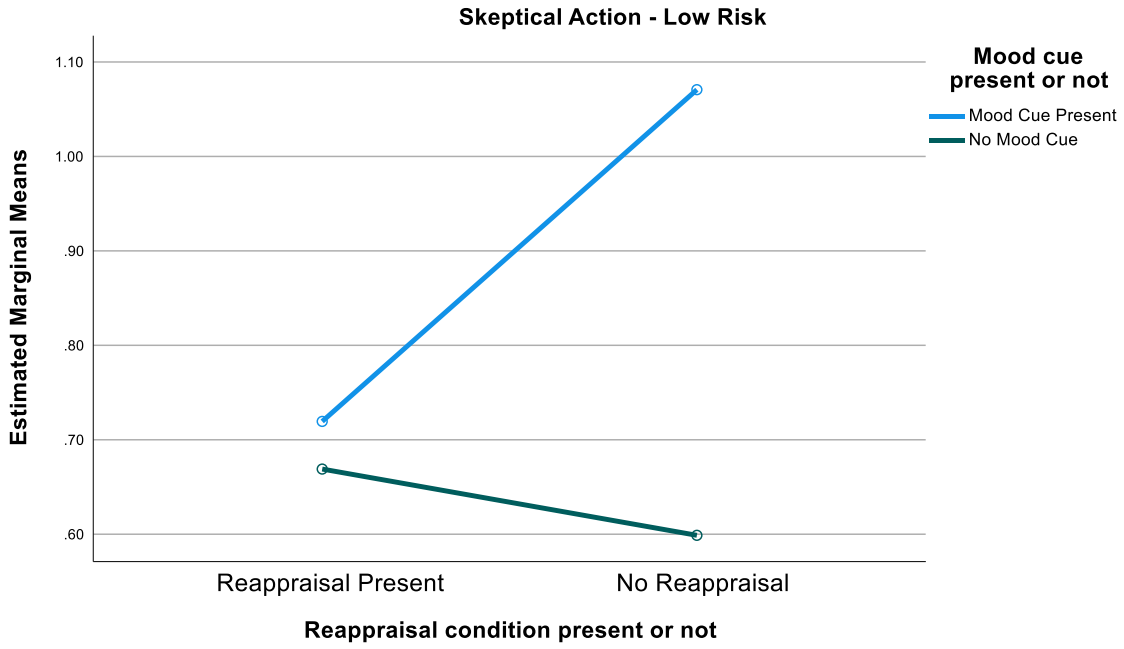

Figure 25: Skeptical Action Plot (Low Risk)

6.5 - Discussion

There is no significant difference in skeptical judgments for subjects anticipating negative affect and those who are not, and thus I fail to find support for hypothesis 2. This news is not entirely bad as hypothesis 2 was a test of the prior model and runs in contra-distinction to the predictions of my new

model, so failing to find support simply means I have failed to find evidence which disproves my model. Indeed, this is exactly what we would expect to see if different affective processes influence skeptical judgements and skeptical actions differently. If the anticipated negative affect had operated through affect evaluation processes, this negative affective information would have a congruent influence on skeptical judgements, and we would expect to see less confidence in the controller's explanations. However, the fact that there is no significant difference between the conditions suggest that anticipated negative affect does not influence skeptical judgments significantly.

With regards to skeptical action, there is also no statistically significant differences between those anticipating negative affect and those who are not, which means I fail to reject the null for hypotheses 1 and 3 and cannot say that affect regulation has an influence on skeptical action. When we take a look at the results, we see that the plots do differ between skeptical judgements and skeptical actions, which suggests that skeptical actions do indeed vary independently of skeptical judgement. If their relationship was fixed, as is assumed in prior literature, then we would expect to see congruent variation in both. High confidence in the controller's explanation would result in lower skeptical actions, and vice versa. Though not significantly significant, this does suggest that I was right to drop the assumption of congruency between skeptical judgment and skeptical action in my new model.

Interestingly, the introduction of a reappraisal intervention does appear to be influencing the results of skeptical action in an unforeseen way. The reappraisal intervention appears to be having a debiasing effect on skeptical action with the net effect of optimizing professional skepticism with respect to the relative riskiness of each item. Remember, auditors are expected to take skeptical action commensurate with the change of perceived risk of an item such that higher-risk items get more work than originally planned and lower-risk items get less work. For the high-risk item, we would want to see an auditor taking greater skeptical action to address the extra risk inherent in the issue. Those receiving the mood cue are taking higher skeptical actions but for those who did not also get a mood cue, only those receiving a reappraisal are also recommending higher skeptical action. For the low-risk item, the opposite is true and we would want to see an auditor to recommend less skeptical action to avoid over-working a relatively low-risk item that does not require such attention. Again, we see the reappraisal lowering skeptical actions for those subjects also receiving a mood cue, bringing them in line with those subjects not receiving a mood cue at all. Though secondary and not previously hypothesized, it is interesting to observe the reappraisal influencing certain subjects to take skeptical actions more

optimally, by increasing skeptical actions for high-risk items and lowering skeptical actions for low-risk items, and thus influencing more optimal behaviour.

Overall, the lack of statistical support for hypothesis 1 and 3 is disappointing. So, what happened? There are several possible explanations for why the experiment failed. First, partial eta-squared values for the values were very small in each of the tests, suggesting that effect sizes are much smaller than anticipated. This is surprising because I had based my study of materials that had been proven effective in prior research. The experimental materials were taken from a proven auditing experiment and the manipulations were also taken from other successful experiments which had shown them to be effective. One possible explanation for this is the necessary adaptation of the base materials from an in-person format to an online format. This change was necessary for two reasons: a) data collection occurred during the COVID-19 pandemic and it was impossible to do in-person testing of my subjects, and b) Prolific is an online-only service and subjects can only be tested online. This is entirely speculation, but it appears possible that the change in medium from in-person to online may be interfering with the results by suppressing the influence of affect. Regardless of why, the effect sizes are small and thus the power of this study would need to be greatly increased to pick up on the anticipated effects, if any.

Second, the sample used to test the experiment is potentially problematic as it was drawn from two very different sources: accounting students and online recruited participants. There are several known factors *other* than affect which can influence professional skepticism (e.g.: experience, knowledge, understanding of issues, etc.) and these two populations from which the sample was drawn likely has different levels of each. These differing levels may have had a confounding effect with the results and prevented me from finding results. Likely, the results would have been different had I been able to secure a sample of practicing auditors with similar experience, but the conditions under which I was attempting to recruit sample made this practically impossible.

Third, the design decision to use manipulations from the literature without running pretests is also problematic. This choice was made due to salient concerns about not being able to gather enough subjects to run my experiment, let alone run pre-tests beforehand, and thus I relied upon the pre-testing done in prior studies in assuming the manipulations would work similarly well in my experiment. Without pre-testing the manipulations, I cannot be assured they worked as intended and that the resultant low-power results are from ineffective manipulations rather than low power, or a combination

of both. If I had more subjects available I could have run pre-tests, but unfortunately that was not the circumstances I found myself in.

Finally, in attempting to study affect, I may have set the sights of this experiment too broad. Affect is a super-ordinate category and encompasses a complex set of feelings. These feelings can have different valences, different levels of arousal, and be either distinct or indistinct. Consequently, affect encompasses a very complex set of feelings, and each specific feeling within it has the potential to influence behaviour in a slightly different manner. This inherent complexity may have made it too difficult to pick up on the effects of affect regulation, and I would have been better off to simply focus on one specific emotion (i.e.: anxiety). Simplifying things by focusing on a specific emotion would allow for more precise manipulations to be employed and potentially increase the likelihood of finding significant results.

6.6 – Summary / Conclusion

In this chapter, I conducted an online study to test the key propositions arising from my new model of professional skepticism. To wit, the new model suggests skeptical action can vary differently than skeptical judgement and that affect regulation is the previously unconsidered psychological reason for these variations. While interview evidence supports the influence of extrinsic affect regulation on professional skepticism, an experiment was necessary to test intrinsic affect regulation as subjects are not able to speak about its influence due to its automatic nature. Specifically, I test the influence of anticipated negative affect on skeptical judgement and skeptical action with an experiment and fail to find statistically significant results. There were several concessions and errors made with respect to designing a proper experiment, from a mixed sample of subjects from different backgrounds to low power to inadequate pre-testing of manipulations, all of which may have played a role in the experiment's failure. Regardless of the reason(s) why, the experiment fails to find significant results and thus fails to find evidence that intrinsic affect regulation plays a significant role within professional skepticism. Consequently, the experiment fails to find evidence of external validity meaning that I cannot say my model can be generalized to other situations, people, or settings outside of those noted in the qualitative study done in Chapter 4. Those results support the model operating within audit situations, where auditors are consciously engaging in affect regulation to influence affective states. However, the results (or failure to find results) of this experiment suggest readers should exercise caution when applying the model to non-audit scenarios, or to subjects who are not practicing auditors.

Chapter 7 – Conclusion

In this chapter, I conclude this dissertation with an overview of the high-level findings from Chapters 2-5, and a discussion of why the experiment in Chapter 6 failed to find results. I then reflect upon utilizing a mixed-methods approach and discuss the benefits and challenges therein. I also discuss the overall contributions of this dissertation, the implications of the research, the limitations of my studies, and avenues for future research.

7.1 – Overall Conclusions

In this dissertation, I set out to develop and deepen our understanding of how affect produces variations in professional skepticism. Overall, I find that affect is currently under-theorized within professional skepticism research and a model is made more explanatory by incorporating affect regulation. Current models only conceive affect as operating through affect evaluation which predicts a congruent effect between affect and behaviour (Nolder & Kadous, 2018). While this is an improvement over earlier models, it fails to explain contradictory results observed in the literature (Bhattarchee, Moreno, & Riley 2012; Hobson, Stern, & Zimbelman, 2020; Cianci & Bierstaker, 2009; Bhattacharjee & Moreno, 2002; Popova, 2013; Brazel et al., 2016; Johnson, Lowe, & Reckers 2016) and thus other theories of affect need to be considered. One such theory is affect regulation (Gross, 1998b; Andrade, 2005; Andrade & Cohen, 2007; Gross, 2013; Shiv, 2008; Cohen et al., 2018; McRae & Gross, 2020) which explains how the same valence of affect can motivate behaviour differently. By incorporating affect regulation into a model of professional skepticism and distinguishing its influence from affect evaluation, this new model offers more explanations for variances in auditors' professional skepticism, such as that observed in the contradictory studies of negative affect.

Interview data from practicing auditors triangulates the findings of the literature review and gives evidence that not only is affect regulation happening in practice, but it is also an expected part of the job. Auditors anticipate affect, particularly that which may be generated through their skeptical actions and change their approach accordingly by choosing different skeptical actions which help them arrive at their desired affective states. The analysis of the interview data highlights that anticipating affect (affect regulation) and changes in approach (variation in skeptical actions) are happening in practice but not reflected in the Nolder & Kadous model. That being said, the analysis also supports the model by showing that current affective states can have a congruent influence on skeptical judgements.

Taken together, this triangulates the insights from the literature review and helps detail how a new model of professional skepticism should look when it incorporates affect regulation.

The new model of professional skepticism developed in Chapter 5 incorporates affect regulation, distinguishes it from affect evaluation, and shows how it can influence skeptical action without influencing skeptical judgements. This change in skeptical action is important because these very actions change the information set an auditor makes their skeptical judgements upon and is the key to explaining how negative affect can hinder professional skepticism as well as help it. Where negative affect felt in the moment can make it more likely for a skeptical judgement to trigger, thus raising professional skepticism, anticipating negative affect and choosing a less effective skeptical action which helps reduce the anticipated negative affect also changes the information set for the next skeptical judgement. Part of this new information set is affective information, and if an auditor is taking actions which make them feel better, then those good feelings are liable to influence the next evaluation and make it less likely a skeptical judgement triggers, thus lowering professional skepticism. Altogether, this new model is able to explain the contradictory results observed in prior studies and thus represents an increase in explanatory power supported by theory and interview evidence.

Despite the support for the new model, the experiment conducted in Chapter 6 failed to find significant results. There are several reasons why this may have happened, some which relate to the practical design of the experiment and some which relate to theoretical elements. First and foremost, the shift to online delivery must be considered. Online data is inherently noisier than data gathered from subjects performing an experiment in controlled circumstances, such as subjects in a dedicated lab. Online subjects' attention can not be assured as they may be in a distraction-rich environment, or perhaps some of the sample recruited through Prolific are indeed part of a new breed of professional survey-takers who are simply trying to maximize their earnings through these services by batch processing task or using computer assistance to complete them faster. This increased noise makes it significantly more difficult to tease out the underlying signal from the noise and works against finding significant results. However, this shift to online delivery was done out of necessity as this experiment was launched at the height of the COVID-19 pandemic and in-person experimentation was simply not possible during lockdown. If this experiment were to be run again, I would strongly recommend using an in-person sample as opposed to online-only.

Second, the manipulations used were taken straight from prior literature and not pre-tested for use in this particular experiment. Without properly pretesting the manipulations, I cannot be certain

that the manipulations are having their intended effect on subjects and again this would manifest itself in noisy data and low partial-eta squared values. The rationale for not pretesting the manipulation was that there was significant concern that, if I used sample on pretests, I would not be able to find enough subjects to run the main experiment. Indeed, one only needs to look at the recruiting and attrition statistics to see that these concerns were valid. Out of a potential pool of hundreds (and tens of thousands, if the potential Prolific pool is considered), I could only get 231 subjects to start the study, nearly half of whom dropped out before completing the experiment. There were simply not enough subjects available to be able to properly pretest everything. Again, the solution to this problem is to pretest the manipulations to ensure they are working as intended.

Third, while the source materials for the experiment were originally designed for an in-person experiment, I adapted them to be used for online delivery without testing if the change in medium also resulted in a loss of efficacy. Similar to the pre-testing of manipulations, the experiment needed to be pre-tested to ensure it was working as intended before being rolled out broadly.

Fourth, the subjects were a mix of accounting students and online subject through prolific, so there are inherent questions about whether my sample is truly representative and can be tested without issue. Given that they came from such different areas and were recruited through a variety of methods means that my results may be driven by the peculiarities of the sample I managed to obtain. The more I mix things up, the harder it become for me to assume the sample is truly representative of junior auditors, or if it is representing something else. However, yet again, this was the best I could manage given the significant impedance of the COVID-19 pandemic. People in lockdown had just started to adjust to a work-from-home life, asking them to spend more time online to complete an experiment was simply a difficult request. Once again, the solution to the above would be to secure a steady sample of subjects and have them perform the experiment in a controlled environment, such as having accounting students spend time in the lab completing the experiment. By restricting myself to accounting students, I could better be assured they are representative of junior auditors. Better still, a future experiment would use actual junior auditors as the sample to be certain that they are representing junior auditors as a whole. There are several other factors known to influence professional skepticism (i.e.: experience, education, knowledge of issues, work incentives, etc.) which would be different between practicing junior auditors and full-time students, and these may confound results unless a pure sample of practicing auditors is used.

A further design issue is that I did not test against a control sample, which makes comparison of groups problematic. Ideally, this experiment would be structured as a pair of 3x2 experiments with subjects primed with an affective state (positive, negative, neutral) and either receiving the affect regulation manipulation or not. I would also vary the valence of affect regulation, with subjects either anticipating a positive or a negative cue. Not only would this allow me to craft better hypotheses for testing, it would provide better points of comparison to observe the effects of affect regulation and also allow me to investigate the influence of positive affect as well as negative.

Finally, my choice to study negative affect instead of a specific, discreet emotion (i.e.: anxiety) may have worked against my finding results. Affect is nuanced in nature and very influenced by context. Furthermore, its general nature includes many subsets – moods, emotions, discrete emotions, etc. – each of which can have different influences on judgments and behaviour than the other. All of this is to say that it is complex and difficult to see the influence of affect regulation, and perhaps I stacked the deck against myself by keeping things at the most general, highest level of negative affect instead of focusing in on a specific, discreet emotion which would have allowed me to better isolate and manipulate it in terms

7.2 - Reflections on Using a Mixed-Methods Approach

In this dissertation, I undertook a mixed-methods approach to investigating, developing, and evolving a model of professional skepticism with respect to affect. The primary reason one should take such an approach, and indeed why there should be greater demand for papers of this style, is that mixed-methods studies are the only papers which can address multiple forms of validity at the same time. Complimentary validity is extremely desirable in research as each unique research methodology comes with its own inherent strengths and weaknesses with respect to validity. By combining multiple research methods in a single study, the strengths of one methodology can compliment and address the weaknesses of another. For example, an in-depth literature review can be the basis for development of a feasible model, but the work will lack in ecological and external validity. By complimenting the model with real-world interviews about the subject of interest, these ecological and external validity weaknesses are addressed as the reader can see how the phenomenon manifests itself in the real world.

Using a mixed-methods study also provides inherent triangulation of results for the paper. By taking multiple approaches to address the same research question, the findings are automatically cross-checked against each other and provides additional support that the area of interest is occurring as expected. Again, if only a single method is used, then multiple studies are required to truly verify the

findings – thus the importance of replication of research in academia. Thus, a mixed-methods approach develops a more complete picture than that would be developed by a single study.

There were also many challenges to using a mixed-methods approach, and these were quite significant. First, it can be very difficult to get the results from different methodologies to line up well with one another and produce a consistent story. Part of this is that different methodologies were developed and are used for different reasons, and thus are better or worse suited for certain contexts. For example, experiments are not well suited for highly specialized contexts, such as an auditing context, because they may require large numbers of subjects to be able to distinguish the signal from the noise and these subjects simply are not available. Certainly, that was a significant challenge that I struggled with greatly. It was *extremely* difficult to gather enough subjects together to run my experiment and I desperately pulled whomever I could find to try and get enough power. In doing so, I mixed accounting student recruited from campus with accounting professionals with online subject recruited internationally from Prolific, and this cobbled-together sample made it even more difficult to find results because of the potential for the subjects to be so different from one another. However, this process was necessary if I ever hoped to derive a large enough sample to effectively test my model, so the best I could do was try to get my sample high as possible and hope it worked out, which it did not. On the other hand, qualitative studies are great for examining specialized contexts as they can derive meaningful results from much smaller samples than experiments and offer great insight into how things look in the real world. Indeed, this was also the case for me as I was able to interview Canadian auditors about their observation and opinions regarding professional skepticism and affect, and get real-world data about how this is observed by auditors in actual practice. The fact that one method could provide support for my model and the other could not is a significant risk for any mixed-method study.

Along similar lines, it can also be difficult to get meaningful feedback for a mixed-methods study as the vast majority of researchers are specialists in a single field, meaning they can only speak to one part of a mixed-methods study. Not only does this present a practical challenge in getting feedback as you have to be constantly finding multiple sources, it presents the risk that the feedback and advice from one party may very well not line up with that of another because each of them are only comfortable giving feedback on a portion of the paper instead off the paper as a whole. Reconciling these differences can be extremely challenging and much more difficult than if a single method had been used.

Finally, it should be said that doing a mixed-methods study is more akin to doing multiple single-methods studies in that the practical expectations is that each piece of a mixed-method study should be able to stand on its own, despite the overall study not being designed with that in mind. In other words, the strengths of having complimentary validity within a study cannot be traded off against doing a less in-depth study than would be expected as if only a single methodology was used. Practically speaking, this once again greatly increases the amount of work needed to make a mixed-methods paper which will satisfy those reviewing it.

7.3 – Contributions

Professional skepticism is the fundamental way by which auditors recognize and respond to potential audit issues (CAS 320; ISA 320; Kadous, 2000; Nelson, 2009; Hurtt, 2010; Hurtt et al. 2013; Quadackers et al. 2014; Nolder & Kadous, 2018. Managing professional skepticism so that sufficient levels of it is exercised on engagements is a major concern of practitioners, standard-setters, and professional bodies because of the serious consequences when professional skepticism is not managed properly (IFIAR, 2020; Beasley et al., 2001; Anderson and Wolfe, 2002; Carmichael and Craig, 1996; Acito et al., 2019). Academics seeking to answer how and why variations in professional skepticism occur have created a series of professional skepticism models, each more explanatory than the last (Nelson, 2009; Hurtt et al., 2013; Nolder & Kadous, 2018). However, audit deficiencies due to variations in professional skepticism continue to happen (IFIAR, 2015; 2016; 2017; 2018; 2019; 2020), so more work developing a model of professional skepticism is needed.

One factor noted for having a significant influence on professional skepticism is affect. Affect has been repeatedly noted as both a significant influence on professional skepticism (Nelson, 2009; Hurtt et al. 2013; Nolder & Kadous, 2018) and thus has been explicitly incorporated into models of professional skepticism. Still, questions about affect's influence remain as studies have shown negative affect to both increase (Bhattarchee, Moreno, & Riley 2012; Hobson, Stern, & Zimbelman, 2020; Cianci & Bierstaker, 2009; Bhattacharjee & Moreno, 2002; Popova, 2013) and decrease professional skepticism (Brazel et al., 2016; Johnson, Lowe, & Reckers 2016). This has led to repeated calls for research into better understanding the influence of affect on professional skepticism (Nelson & Tan, 2005; Hurtt et al. 2013; Nolder & Kadous, 2018), calls which I answer with this dissertation. Accordingly, in this dissertation I developed a new model of professional skepticism with greater explanatory power which answers both the very real need from practice and the gap in understanding sitting in academia.

I developed a new, more explanatory model of professional skepticism by first asking the general question, how does affect produce variations in professional skepticism? I then addressed this question by the asking the following: How is affect currently understood to influence professional skepticism and what can we not explain? How does affect influence professional skepticism in practicing auditors? What does a more explanatory professional skepticism model look like? I then attempted to further calibrate the model with an experiment.

The first question was answered by reviewing the existing professional skepticism and affect literature to determine how affect is currently theorized to influence professional skepticism. Per the Nolder & Kadous model, affect influences skeptical judgements directly to have a congruent influence on professional skepticism (Nolder & Kadous, 2018) where negative affect makes auditors feel worse in their evaluative judgements over evidence, prompting them to take more action to investigate potential issues, and vice versa for positive affect. The model's theorization explains the findings of several studies of professional skepticism and affect (Bhattarchee, Moreno, & Riley 2012; Hobson, Stern, & Zimbelman, 2020; Cianci & Bierstaker, 2009; Bhattacharjee & Moreno, 2002; Popova, 2013), however it fails to explain the results of studies where an incongruent influence is observed (Brazel et al., 2016; Johnson, Lowe, & Reckers 2016). Though not considered by the Nolder & Kadous model, this behaviour can be explained by affect regulation, which predicts an incongruent behavioural response to affect (Gross, 1998b; Andrade, 2005; Andrade & Cohen, 2007; Gross, 2013; Shiv, 2008; Cohen et al., 2018; McRae & Gross, 2020). Thus, incorporating affect regulation into a new model will increase its explanatory power.

The second question was addressed via a qualitative study where practicing Canadian auditors were interviewed regarding the influence of affect on professional skepticism. Gioia methodology (Gioia & Chittipedi, 1991; Corley & Gioia, 2011; Gioia, Corley, & Hamilton 2013; Gehman et al. 2018; Gioia, 2021) was utilized to develop a data structure which identified transferable concepts and enabled easy comparison of these same concepts to the Nolder & Kadous model to determine which were already accounted for and which the model was missing. The results support affect regulation being a significant factor as auditors change their approach (skeptical action) in response to anticipated affect. The results also provide evidence affect regulation's influence on professional skepticism is transferable between similar audit contexts and, taken together, they support affect regulation's inclusion in a new model of professional skepticism. Furthermore, the results indicate that affect can influence an auditor's approach to addressing a potential issue without influencing the skeptical judgement which

identifies a potential issue. This gives additional support to how affect regulation should be incorporated into a new model, and how it should be distinguished from affect evaluation. Finally, by actually obtaining data from practitioners which supports the extensions I put in my new model, I take a step more than what prior model creators have done.

The third question was addressed by combining the insights of Chapters 2, 3, and 4 to create a new model in Chapter 5. The new model recognizes the influence of affect regulation, distinguishes it from affect evaluation, and is the first to be able to explain the contradictory results observed in the literature. Thus, the new model presented in Chapter 5 is a more explanatory model, one that is needed by practitioners and academics alike.

An online experiment was done to calibrate the new model. Variations in skeptical judgements and skeptical action was measured when subjects were exposed to (spared) a mood-threatening cue and associated reappraisal. Experimental results failed to find statistically significant results, though subsequent examination of the plots suggests that skeptical judgements and skeptical actions do indeed vary differently from one another. Nevertheless, the lack of significant results suggests further calibration of hypotheses and testing instrument is required in order to properly test the new model.

7.4 – Implications

First and foremost, this research helps humanize auditors by better showing how affect plays a role within their professional lives. Prior to this, the majority of research investigating professional skepticism and affect would suggest making auditors experience negative affect is a good thing as it raises their professional skepticism and thus we should strive to make auditors as unhappy as possible for the sake of the audit. The research presented here says we need to be careful about giving such advice too broadly as there are circumstances where negative affect may indeed hurt auditor's professional skepticism and, conversely, situations where positive affect may indeed increase professional skepticism. While feeling negative affect in the moment of a skeptical judgement can be a good thing as it means the auditor will be more critical of evidence, anticipating negative affect can hurt the quality of response taken to this signal. Anticipating negative affect being generated from taking skeptical action causes auditors to choose different skeptical actions, some of which can harm future skeptical judgments. Auditors I interviewed admitted to changing their behaviour due to anticipating negative affect, but also failed to recognize changing these skeptical actions might impact their overall professional skepticism. By bringing this behaviour to light and detailing how this additional process works in my new model of professional skepticism, both academics and practitioners can be aware

about how negative affect may work to *both* increase and decrease professional skepticism, thus allowing for better management of professional skepticism within auditors.

Though my study focused on the influence of negative affect, it should be noted that my new model works for both negative and positive affect and that the implications for positive affect are similar to those of negative affect. Where I argue that negative affect may not always be a good thing for auditors' professional skepticism, positive affect may not always be a bad thing. By incorporating both affect regulation and affect evaluation processes into my new model of professional skepticism, we can see how positive affect can impair skeptical judgements (thus lowering professional skepticism) but *increase* the quality of skeptical action taken (thus raising professional skepticism). If an auditor anticipates their affective state will be protected, or even increased, by taking a skeptical action, then they are more likely to choose those actions. Practically speaking, this means that an auditor whose affective state is protected is more likely to engage with their first choices of skeptical actions, which would then feed back better-quality information and increase the likelihood of them making better skeptical judgements in the future. This directly speaks to the familiarity threat within auditing – that auditors' judgement is seen to be compromised if they are overly comfortable with a client. Indeed, this model posits that having a healthy relationship with a client can lead to *better* quality audits because the auditor does not have to fear their affective state being threatened by taking the skeptical actions they want to take. As such, this can help inform discussions regarding client rotation and auditor familiarity as we should not automatically assume an auditor-client relationship need be hostile to be effective for financial statement users.

7.5 – Limitations

This dissertation, like any other research, is subject to important limitations. First, the qualitative study is based on interviews with practicing Canadian auditors and thus the insights and support derived from them may only be applicable to similar Canadian auditing contexts. Should the same process be carried out with auditors in a significantly different context, such as auditors in a different country, then these results may not be fully transferable. The same logic applies to auditors who may be working in a significantly less rigorous regulatory environment or those who are dealing with a highly specialized client base with their own particular nuances. On the other hand, it is possible that the results I did observe are a consequence of some heretofore unconsidered artifact shared between my interviewees. While the Gioia analysis attempts to address it by virtue of its methodology

imposing qualitative rigor, I cannot say with absolute certainty that this possibility does not exist. Thus, readers should use caution when applying this research to other contexts.

Additional analysis is needed for both the qualitative and experimental studies to address to distinct possibility of gender bias in my results. The majority of subjects in the qualitative study are male (75%), and this male bias is a concern because men are traditionally less likely to openly discuss their feelings compared to females. Furthermore, different social dynamics between males and females mean that different genders likely experience and are exposed to different feelings in their lives. As the interviews were intended to get auditors to talk about the feelings they encounter and experience at work, it is entirely possible that gender bias may be influencing the results. Similarly, there is a potential for gender bias in my experimental results as the majority of respondents are female (59%) and, again, gender bias may have influenced the response to affect within the experiment. Given the aforementioned concerns about gender bias on affect, extra analysis is warranted to ensure this bias is not influencing results, possibly in a future study.

Once again, the experiment failed to produce statistically significant results as predicted by my hypotheses. While one may be able to derive some insight through examining the results, any insights need to be subjected to the very important caveat that they lack statistical support. Again, this experiment was done to further calibrate the new model and thus failing to find statistical significance should caution readers against broadly applying the model to different contexts.

7.6 – Future Research

There are several avenues for future research stemming from this dissertation. First, future research could investigate the influence of positive affect on professional skepticism instead of just negative affect. Currently, positive affect is seen to have a negative influence on professional skepticism but my new model opens the door to positive affect actually being desirable for having a positive influence on professional skepticism. And would it not be nice to be able to say it is a good thing for auditors to feel good.

Second, future research could better experimentally test the precepts of my new model. By necessity, the majority of my participants were university students with very little work experience. Furthermore, actually acquiring a large enough sample was exceedingly difficult during the pandemic. It was simply too big of an ask for many to spend extra time online, focusing on an experiment, when their entire lives had been switched to work-from-home and online-only during the pandemic. By either

acquiring a different sample, say practitioners rather than students, or by utilizing a lab where people's full attention is assured, the likelihood of observing significant results will be increased and better evidence obtained.

Third, this new model opens the door for auditing academic to explore and understand the implications of having skeptical actions vary differently than skeptical judgements. To date, most professional skepticism work has focused factors which influence skeptical judgments as it was assumed that skeptical actions would vary in the same way as skeptical judgments and thus not something to worry about. Future research could examine situations where this congruency between factors does not happen, and how those situations ultimately influence auditors' professional skepticism.

Finally, it was made clear through my review of the literature that while psychology research has made strides in research into affect, emotion, and mood, auditing research is sorely lagging behind. There are many opportunities to examine many more cutting-edge psychological theories and how the interact with professional skepticism; affect regulation is but one of them. A common theme amongst much psychological research is the nuanced and highly contextual nature of affect, emotions and moods. These are very sensitive to the contexts in which they operate and thus each unique context should be investigated as the same emotion may have different influences on judgement and behaviour, depending on the nature of the context. Similarly, investigating the influence of discrete emotions on judgement is also a potential avenue for future research instead of stopping at general valenced affect. For example, the appraisal-tendency framework (Lerner & Keltner, 2000; Han, Lerner, & Keltner, 2007) can help shed further light on how specific emotions can influence behaviour, and thus provide more meaningful predictions of behaviour than basing recommendation on simple valence of affect (i.e.: Bhattarchee & Moreno, 2013). For example, Lerner and Keltner find that angry and happy people have more optimistic risk assessments whereas fearful people have more pessimistic risk assessments (Lerner & Keltner, 2001). If this situation was simply evaluated on the basis of affect, we would expect the negative valence emotions (anger & fear) to have similar influences on behaviour, but the appraisal-tendency framework suggests that context and the specific feelings being elicited from each situation is very important when it comes to predicting behaviour. Thus, future research can explore these specific contexts in more detail to determine just how different discrete emotions are influencing behaviour in specific contexts. Finally, not only valence but arousal can influence behaviour with respect to affect. My study was limited to exploring valence, but different levels of arousal with affect of the same valence can produce different reactions in subjects (Kuppens et al., 2013) and future studies can investigate how

different levels of arousal influence behaviour. For example, research in marketing has shown that low levels of arousal increase preferences for incongruities (subjects are more interested in something different) and high levels of arousal decrease preferences of incongruities (subjects avoid things that are very different) (Noseworthy et al., 2014). As reacting to incongruities with expectations and inconsistencies in evidence is a fundamental part of an auditors' work, future research could investigate this to see how arousal interacts with professional skepticism to influence behaviour. Clearly, there are many opportunities to bring in psychological research to accounting research to deepen our understanding of professional skepticism.

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Appendices

Appendix A: Professional Skepticism – Affect Literature Review

Title	Citation	Method	Description	Major Findings	Effect on PS
The Effects of Ingratiation and Client Incentive on Auditor Judgement	Robertson, J. C. (2010). The effects of ingratiation and client incentive on auditor judgment. Behavioral Research in Accounting, 22(2), 69-86.	Experiment	When a client induces positive affect in an auditor through ingratiation, auditors are more likely to comply with the requests of clients with low incentive to influence than those with high incentive.	Clients can strategically induce positive affect through ingratiation to influence auditor judgement.	Positive affect hinders PS
The effect of moods on auditors' inventory valuation decisions.	Chung, J. O., Cohen, J. R., & Monroe, G. S. (2008). The effect of moods on auditors' inventory valuation decisions. Auditing: A Journal of Practice & Theory, 27(2), 137-159.	Experiment	Consistent with the literature, the main experiment finds that mood states affect the dispersion and extent of conservatism in an inventory valuation judgement task. A follow-up experiment suggests that this effect may be due to	Compared to neutral- and negative-mood individuals ,positive-mood individuals make the least conservative judgement and negative-mood individuals make the most	Hinders PS (Pos) Helps PS (Neg)

			the mood-congruent retrieval of information by informants.	conservative judgement.	
Auditors' comfort with uncertain estimates: More evidence is not always better	Rowe, S. P. (2019). Auditors' comfort with uncertain estimates: More evidence is not always better. Accounting, Organizations and Society, 76, 1-11.	Experiment	When estimate uncertainty is extreme (moderate), auditors are more comfortable with more (less) evidential support. More evidence in the moderate uncertainty condition decreases comfort because it makes auditors' positions harder to defend.	Auditor feelings of comfort (in moderate uncertainty conditions) can dissuade them from collecting additional evidence.	Positive affect hinders PS
Interpersonal affect, accountability and experience in auditor fraud risk judgments and the processing of fraud cues.	Schafer, B. A., & Schafer, J. K. (2019). Interpersonal affect, accountability and experience in auditor fraud risk judgments and the processing of fraud cues. In Advances in Accounting Behavioral Research (Vol. 22, pp. 43-65). Emerald Publishing Limited.	Experiment	The study examines the influence of auditors' affect towards client management and how it influences fraud likelihood judgements, as well as whether accountability and experience moderate	The more positive affect toward a client by an auditor, the lower the fraud likelihood judgement. Accountability moderates this effect in	Positive affect hinders PS.

			these effects. The study also explores the process by which affect influences the evaluation of fraud evidence clues.	experienced auditors.	
A live simulation-based investigation: Interactions with clients and their effect on audit judgment and professional skepticism.	Eutsler, J., Norris, A. E., & Trompeter, G. M. (2018). A live simulation-based investigation: Interactions with clients and their effect on audit judgment and professional skepticism. Auditing: A Journal of Practice & Theory, 37(3), 145-162.	Experiment	A live simulation where auditors' interact with either a friendly or intimidating controller about a potential control exception. Participants' trait skepticism is measured and then they conduct an audit interview with the controller.	Findings indicate that, in general, participants who interview a friendly controller (rather than an intimidating controller) are less likely to determine questionable cash disbursements to be control exceptions and less likely to recommend more intensive follow-up.	Positive affect hinders PS
The outcome effect and professional skepticism.	Brazel, J. F., Jackson, S. B., Schaefer, T. J., & Stewart, B. W. (2016). The outcome effect and professional	Experiment	Outcome knowledge biases supervisors' evaluations of skeptical behaviour	Field auditors anticipating negative affect (via an	Anticipated negative affect hinders

	skepticism. The Accounting Review, 91(6), 1577-1599.		such that a favourable (unfavourable) evaluation depends on whether an exception is ultimately identified (not identified). Furthermore, field auditors anticipate this behaviour and are discouraged from pursuing skeptical behaviours for fear of receiving an unfavourable evaluation.	unfavourable evaluation) are less likely to exhibit skeptical behaviours.	professional skepticism.
The influence of mood on subordinates' ability to resist coercive pressure in public accounting.	Johnson, E. N., Lowe, D. J., & Reckers, P. M. (2016). The influence of mood on subordinates' ability to resist coercive pressure in public accounting. Contemporary Accounting Research, 33(1), 261-287.	Experiment	This experiment evaluates the influence of three different mood-states (arousal, fear, insignificance) on auditors' ability to resist obedience pressure to commit or overlook unethical acts by their superiors.	Low levels of positive mood (arousal) and high levels of negative moods (fear and insignificance) were associated with higher auditor intentions to comply with or engage in	Negative affect hinders professional skepticism.

				unethical behaviour.	
The impact of affective information on the professional judgements of more experienced and less experienced auditors	Bhattacharjee, S., & Moreno, K. (2002). The impact of affective information on the professional judgments of more experienced and less experienced auditors. Journal of Behavioral Decision Making, 15(4), 361-377.	Experiment	This study examines whether the presence of realistic, yet irrelevant affective information influences the professional judgments of experienced and inexperienced auditors.	The results indicate that the inventory obsolescence risk assessments of less experienced auditors were significantly higher when they were provided with negative affective information on a client than when no such information was provided. No such differences were found for the more experienced auditors.	Negative affect helps PS.
The role of informal controls and a bargaining opponent's	Bhattacharjee, S., & Moreno, K. K. (2017). The role of informal controls	Experiment	The study examines how a bargaining opponent's emotions	In the absence (presence) of cooperation	Negative affect helps PS.

emotions on transfer pricing judgments.	and a bargaining opponent's emotions on transfer pricing judgments. Contemporary Accounting Research, 34(1), 427-454.		provide signals that can be used by a manager during transfer pricing decisions. When informal controls to encourage cooperation were absent, management selling price estimates were more conciliatory when the opponent was displaying negative emotions than when displaying positive emotions. When cooperative controls were present, the manager was more conciliatory when the opponent was displaying positive emotions rather than negative emotions.	controls, managers accept lower transfer pricing estimates when the opponent displays negative (positive) emotions.	
The benefit of mean auditors: The influence of social interaction and the Dark Triad on unjustified auditor trust.	Hobson, J. L., Stern, M. T., & Zimbelman, A. F. (2020). The benefit of mean auditors: The influence of social interaction and the Dark Triad on unjustified	Experiment	Social interaction builds trust and positive interpersonal affect between people, thus high Dark Triad individuals	High Dark Triad auditors' callousness, lack of empathy, and lack of response	Negative affect helps PS.

	auditor trust. Contemporary Accounting Research, 37(2), 1217-1247.		will be more resistant to these effects. Using both an abstract laboratory experiment and contextually rich experiment, they find higher Dark Triad auditors are relatively more resistant to lapses in professional skepticism due to the effects of social interaction, likely driven by callousness and lack of empathy.	to social stimuli makes them more likely to resist lapses in professional skepticism due to social interactions.	
The impact of positive and negative mood on the hypothesis generation and ethical judgments of auditors.	Cianci, A. M., & Bierstaker, J. L. (2009). The impact of positive and negative mood on the hypothesis generation and ethical judgments of auditors. Auditing: A Journal of Practice & Theory, 28(2), 119-144.	Experiment	Negative (positive) mood leads to less (more) heuristic processing, positive moods lead to more ethical-decision making, and these assertions are tested in an experiment in which auditors perform a task involving the generation of explanations for fluctuations in	Auditors in a negative moods generated more correct explanations for fluctuations in financial ratios.	Negative affect helps PS.

			financial ratios. Mood states influence auditors' judgments such that auditors in a negative mood generated more correct explanations for fluctuations, but made less ethical judgements.		
The interplay of interpersonal affect and source reliability on auditors' inventory judgments.	Bhattacharjee, S., Moreno, K. K., & Riley, T. (2012). The interplay of interpersonal affect and source reliability on auditors' inventory judgments. Contemporary Accounting Research, 29(4), 1087-1108.	Experiment	The study experimentally examines how interpersonally generated affect influences auditor decisions with respect to low competence clients vs high competence clients. Negatively generated affect results in higher assessed obsolescence risk for a more competent client, similar to that which would be typically assigned to a less competent	Negative (positive) affect increases (decreases) auditor obsolescence assessments.	Negative affect helps PS; Positive affect hinders PS

			client. Positively generated affect for a low competence client results in lower assessed obsolescence risk, similar to that which would typically be given to a high competence client.		
Exploration of skepticism, client-specific experiences, and audit judgments.	Popova, V. (2013). Exploration of skepticism, client-specific experiences, and audit judgments. Managerial Auditing Journal.	Experiment	The paper experimentally examines how levels of trait professional skepticism and different experiences with a specific hypothetical client (i.e. positive, negative, or none) affect audit judgments. Positive affective experiences increase feelings of trustworthiness & vice versa.	Auditors' are more (less) likely to expect to uncover a misstatement with less (more) trustworthy clients. Prior affective experiences influence the perceived trustworthiness of a client, such that negative experiences make a client seem less trustworthy and vice versa.	Negative affect increases professional skepticism.

Appendix B: Interview Questionnaire

Project Title

The Role of Mindsets and Attitudes on Auditors' Professional Skepticism

Research Objective

To investigate how auditor attitudes and feelings influence their professional judgements.

Background Questions

Please tell us about your background:

- What is your current position in the firm?
- For how long have you held your current position?
- How long have you worked as an auditor?
- What region do you work in?
- What is your educational/professional background (e.g., college/university degrees, professional designations)?
- What are your areas of expertise (e.g., financial/accounting, legal/regulatory, risk management, strategy, public policy, sales/marketing, etc.)?

Main Questions

Common wisdom warns us that your feelings will lead you astray, implying that feelings and emotions are not to be trusted and should be supressed. Yet, auditors can refer to their professional judgement as 'a feeling' which lets them know when and where they should be more skeptical during an audit. And while most know professional skepticism when they see it (or, perhaps more accurately, they know a *lack* of it when they see it), accounting researchers still debate about what professional skepticism is and how it actually operates within auditors. I am interested in your feelings towards professional judgement and how your feelings work with your professional judgment in order to better understand how professional skepticism works.

1. What is professional skepticism/professional judgement?

2. Is professional skepticism fixed or variable within people?

3. Do you think you use professional judgement for when looking at *qualitative* misstatements or *quantitative* misstatements?

4. What would you consider to be an example of a qualitatively material misstatement?

5. How does finding questionable evidence make you feel?

6. How does challenging management on questionable evidence make you feel?

7. When auditing on site, does the audit room change the way you feel? Ie: feel better in board room with windows as opposed to cramped broom closet?

8. Thinking of the supervisor you are responsible to, how does finding questionable evidence and taking further action upon it make them feel?

9. Thinking of a client you work or have worked with, how does finding questionable evidence and taking further action upon it make them feel?

10. How much do you consider other people's feelings when you evaluate evidence?

11. Can you think of an example of where you felt sympathy for a client or member of the client's team?

12. Can you think of an example of where you felt sympathy for a user or users of the financial statements?

13. Assuming differences in the way an auditor feels influences their personal level of professional skepticism, do you think this would affect qualitative materiality and quantitative materiality issues differently?

General Questions

1. Do you think auditors/accountants are any more or less emotional than other people?
2. Would you say that your feelings help or hinder you during an audit?

3. Can you think of examples of how an auditor's personal feelings might change the way they conduct an audit?
4. Does working with a client you don't like (maybe they make you feel angry, annoyed, depressed, etc) change the way you approach an audit compared to a client you like?
5. Do you *trust* your feelings? Why? Why not?

Final Questions

- Do you have any additional comments about auditors' feelings or professional skepticism?
- Is there somebody you think would be good for me to talk to about this matter? If so, can help me get in contact with them?

Thank you for your time!

Appendix C: Interviewee Demographic Information

Interviewee	Date of Interview	Gender	Big 4/Non Big4	Position	Assurance Exp (Yrs)	Interview Length (in min.)
1	Jan-20	Male	Non Big4	Manager	10	30
2	Jan-20	Male	Non Big4	Manager	6.5	27
3	Jan-20	Male	Non Big4	Manager	15	25
4	Jan-20	Male	Non Big4	Partner	15	28
5	Jan-20	Female	Non Big4	Articling Student	2	25
6	Jan-20	Female	Non Big4	Manager	5.5	35
7	Jan-20	Male	Non Big4	Partner	19.75	29
8	Jan-20	Male	Non Big4	Manager	2.5	34
9	Jan-20	Male	Big4	Partner	10	33
10	Feb-20	Female	Big4	Partner	25	36
11	Feb-20	Male	Non Big4	Audit Quality Specialist	17	51
12	Feb-20	Male	Big4	Director - Assurance	12	39

Appendix D: Additional Representative Interview Data for Second-Order Themes

Data Structure 1

Anticipated Affect
• And I actually didn't think that I was able to deal with people properly, and in a lot of ways, be a good auditor because of that. (INT 11) • I mean, at the end of the day, if I'm being honest, you're in an environment, especially when you work for these big four firms and you're dealing with these million dollar engagements, it becomes dollars at the end of the day. So it's kind of a fine line of, "Okay, where do we push the buttons of the client before they actually get mad?" Right? Especially as a senior, you don't want to bring this up. You end up bringing it up. You have to. Right? Because that's part of your professional obligation as an accountant or as an auditor. So you do bring it up, but it's not an easy conversation, because then it's like, you know that some of the partners, and I've experienced it at these big four firms, they just count dollars at the end of the day. So it's like, where do they draw the line of, "Okay, when do I bring this to the client? How do I bring it to the client?" (INT 8) • Yeah, I think it does because if someone has been, for example, terminated before an audit, we would try and look at where some other decision making would have maybe impacted or created poor decisions that maybe we have a write down on a certain area, within significant investments. So I think it would impact us and we'd be a little more cognizant of our job. (INT 10) • For the client? No idea. (INT 7) • You know, I probably feel dread and anxiety because I always think about it, well, gee, A) is this a fraudulent event or, what's happening? What impact did that have on the client? If it is, how long has this been going on and did we not catch it? {any case where it makes you feel good?} No, I don't think so. (INT 10) • You're not the problem, but sometimes in that position, in that sort of senior position at a big four in an audit team where you're dealing with these really senior partners or managers, you can feel like that. You're bringing this problem to them. You're causing problems for the audit team. You're delaying the engagement. You're making the client unhappy. (INT 8) • Nobody likes conflict, so if that question is going to create conflict, then you're probably somewhat nervous about it. (INT 1)

Professional Skepticism

- Knowing that you have to go ask them about it makes you feel uneasy, but you have to do it. (INT 5)
- No. I think we still have to do our professional responsibilities… {Would you change your approach?} Yeah. I'd probably approach them in a very delicate matter knowing that it's a sensitive issue but you still have to approach them. (INT 10)
- No, it just changes the approach on how you go to the client. (INT 3)
- It's our job to do what the standards say. So you can't compromise client's feelings for the standards, but there's a different way of approaching it. (INT 4)

Change in Approach

- There'd be that hesitation, like I don't want to bring this to them and have them say it's stupid… There'd be that hesitation, like I don't want to bring this to them and have them say it's stupid (INT 2)
- No, definitely, certainly the approach does need to be a bit different. Yeah. If you're looking at some very antagonistic members of management team that's where you always have to take a bit more of an indirect approach with them, where it's almost you present, lay out all the facts and circumstances that we've looked at and it's almost that old seashell con contest where you actually had to guide them to the same conclusion that you arrived at…. Yeah, yeah certainly with someone who's more direct, or more agreeable, you can be a lot more direct for sure. And you might not necessarily need to provide them as detailed as say a supporting analysis to convince them of a viewpoint on it. (INT 12)
- I think experience plays a big role in professional skepticism. Maybe not at the level of, do you have the professional skepticism? But how you approach that afterwards with people and with clients and with team members here. (INT 2)
- I think in terms of your feelings and emotions around things, I think that's more the approach afterwards. Like I said, I find something that doesn't make sense. How I'm feeling that day or how I feel about that client may play more into the approach (INT 2)
- We know that some clients will get really defensive right away so you've got to be careful. You praise them for the work that they do and everything else and just say, hey, what do you think about this. Versus some of the clients that you have really good rapports with, you can just go right in and just say, "hey, we're looking at this, what do you think?" (INT 9)
- I would still get the evidence but I would approach it differently. (INT 5)
- For sure. For example, unsophisticated client, I'll do a little bit and if it just looks weird I'll go sit and we'll have a conversation and we'll chat through it and work through it. Versus the sophisticated client, you've got to do your research before going to them with anything. (INT 9)
- Yeah, I would say a lot of my private companies who I'm dealing with they're more willing to have those conversations. They're more willing to open their ... They're looking for guidance and it's a lot easier conversation to have. It's more almost like a training conversation and information and you're working for the right numbers. Whereas with that sophisticated client, you've really got to have your ducks in a row. You've got to know that you've really got an

issue, a potential issue, and you've got to be very specific in what you feel it is and where they need to support it. (INT 9)

- If they're angry I do a little more behind the scenes prep. Like I would make sure, not that I don't make sure, but I would like quadruple check that these are all the things I'm going to talk to them about (INT 6)

Healthy Conflict

- Yeah, yeah certainly with someone who's more direct, or more agreeable, you can be a lot more direct for sure. And you might not necessarily need to provide them as detailed as say a supporting analysis to convince them of a viewpoint on it. (INT 12)
- Yeah, I do. I love healthy conflict, let's call it. (INT 6)

Contentious Conflict

- There'd be that hesitation, like I don't want to bring this to them and have them say it's stupid… There'd be that hesitation, like I don't want to bring this to them and have them say it's stupid (INT 2)
- Go with the flow with it so you don't have to watch your tone as much, versus someone who's more angrier. (INT 5)
- Preparation, that would be the main thing, having better preparation for the issue just to make sure if you're going to cause conflict that you want to make sure you've got your ducks in a row. You also may have extra people in the room or extra resources available. (INT 5)
- I ran it by, obviously, my manager first, and then I'd obviously double-check my work to make sure I'm 100% correct, this is an error, before I bring it to them. (INT 8)
- Nobody likes conflict, so if that question is going to create conflict, then you're probably somewhat nervous about it. (INT 1)
- if we use the example of the CFO that they're dealing with that is miserable to deal with. I think they would probably ask fewer questions and try not to tick him off. Try to do the work quickly and maybe not ask all the questions that they should. (INT 10)
- So do I need to do this and not need to do that, you got to make that judgment call or how deep of a dive. Sometimes you just got to say, okay, let's spend an hour on this and see if it goes anywhere. (INT 4)

Appendix E: Codebook

Nodes

Name	Description	Files	References
Change in Skeptical Action		1	3
Approach	Changes the way an auditor approaches a situation	10	31
Evidence	Changes in evidence requested or needed	9	10
Iteration	Where the PS/SA process is either iterated enough or not enough	5	10
Procedures	Changes in actual audit procedures	2	2
Examples	Examples given from auditor experience	11	39
Good Quotes	Quotable lines to save for later	10	20
GQ1 - Accountants more or less emotional than other people	Are accountants or auditors more or less emotional than other people	11	11
GQ2 - Feelings Help or Hinder	Do your feelings help or hinder you during an audit?	11	11
GQ5 - Trusting feelings	Do you trust your feelings? Why or why not?	11	12
Personal Feelings		0	0
Anxiety about conflict		9	20
Clients		4	4
Negative feelings		10	15
Positive Feelings		9	16
Q7 - Environment	Does the audit room change your mood, and then change the way you perform your audit?	9	9
Reviewers		1	3
Users		3	3

Name	Description	Files	References
Professional Skepticism		0	0
Decrease PS	Quotes and thoughts about situations which would suppress PS	6	9
Excessive PS	Situations where there is too much PS	8	10
Fixed PS	Statements indicating PS is fixed	9	23
Increase PS	Situations and factors which would raise PS	5	7
Insufficient PS		6	9
Mix of Attributes		9	20
Q1 - Define PS	Subjects' description of PS and how it works	11	14
Q2 - Fixed v Variable	Answers to the direct question of Is PS fixed or variable?	10	15
Variable PS	Statements indicating PS is variable	11	42
PS change over time		9	25
PS Stable; SA changes	Indicators that Professional Skepticism is stable, yet Skeptical action changes	7	17
Q10 - Consideration of others feelings		2	2
Clients		11	33
Reviewers		7	12
Team Members	Do you consider the feelings of someone who's work you are reviewing or responsible for?	7	9
Users		9	12
Q3 - PS and Quant Qual MIsstatements	How is professional skepticism different between quantitative and qualitative misstatements?	4	5
PS Qualitative Misstatements		11	24

Name	Description	Files	References
PS Quantitative misstatements		5	5
Q5 8 9 - Finding questionable evidence	5 - How does finding questionable evidence make you feel?: 8 - Hopw does finding questionable evidence make supervisor feel?; 9 - How does findign questionable evidence make client feel?	3	4
Negative Affect	Any feelings with negative valence	9	16
Positive Affect	Feelings with a positive valence	9	15

Appendix F: Demographic Question Results

Table – Descriptive Statistics of Survey Responses

Descriptive Statistics							
	N	Minimum	Maximum	Mean	Std. Deviation	Skewness	Kurtosis
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic
SA_High	123	0	4	0.9024	1.26371	1.252	0.339
SA_Low	123	0	4	0.7724	1.151	1.245	0.167
SJ_High	123	1	12	6.4553	2.81754	0.02	-0.967
SJ_Low	123	1	11	6.56	3.071	-0.264	-1.138
Gender	123	1	3	1.61	0.506	-0.262	-1.476
Age	123	18	42	22.6	3.826	2.317	6.253
Work Exp	123	0	15	2.14	2.848	2.149	4.695
Accountant	123	1	2	1.8	0.398	-1.558	0.433
Audit Exp	123	0	8	0.93	1.433	3.042	10.804
Assurance Professional	123	1	2	1.75	0.436	-1.156	-0.674
Firm Position	31	1	3	1.35	0.608	1.553	1.5
Political Attitudes	123	0	100	43.5772	21.41242	0.114	-0.443
Education Level	123	2	7	3.16	1.276	0.771	-0.242
Income	121	1	3	1.22	0.438	1.646	1.538
Valid N (listwise)	30						

Demographic Frequency Statistics

Gender		
	N	%
Male	49	39.80%
Female	73	59.30%
Other	1	0.80%

Accountant y/n		
	N	%
Yes	24	19.50%
No	99	80.50%

Assurance professional		
	N	%
Yes	31	25.20%
No	92	74.80%

Firm Postion		
	N	%
Junior accountant	22	17.90%
Senior accountant	7	5.70%
Manager	2	1.60%
Missing System	92	74.80%

Age		
	N	%
18	1	0.80%
19	2	1.60%
20	32	26.00%
21	35	28.50%
22	19	15.40%
23	8	6.50%
24	4	3.30%
25	3	2.40%
26	2	1.60%
27	2	1.60%
28	4	3.30%
29	1	0.80%

30	3	2.40%
31	1	0.80%
32	2	1.60%
33	1	0.80%
34	1	0.80%
35	1	0.80%
42	1	0.80%

Work Experience		
	N	%
0	27	22.00%
1	4	3.30%
1	10	8.10%
1	1	0.80%
1	33	26.80%
1	2	1.60%
2	1	0.80%
2	16	13.00%
3	5	4.10%
4	5	4.10%
5	4	3.30%
6	5	4.10%
8	2	1.60%
9	3	2.40%
10	3	2.40%
12	1	0.80%
15	1	0.80%

Audit Experience		
	N	%
0	43	35.00%
0	1	0.80%
0	8	6.50%
1	10	8.10%
1	1	0.80%
1	10	8.10%
1	1	0.80%
1	1	0.80%
1	27	22.00%
2	11	8.90%
3	4	3.30%
4	1	0.80%
5	1	0.80%

6	2	1.60%
8	2	1.60%

Political Attitudes		
	N	%
0	5	4.10%
3	1	0.80%
15	1	0.80%
17	1	0.80%
18	3	2.40%
19	7	5.70%
20	3	2.40%
22	3	2.40%
23	1	0.80%
24	1	0.80%
25	2	1.60%
28	2	1.60%
29	5	4.10%
30	7	5.70%
31	1	0.80%
32	1	0.80%
34	1	0.80%
35	2	1.60%
36	1	0.80%
37	1	0.80%
38	1	0.80%
39	2	1.60%
40	6	4.90%
41	1	0.80%
42	1	0.80%
44	2	1.60%
45	1	0.80%
48	1	0.80%
49	3	2.40%
50	14	11.40%
51	4	3.30%
52	4	3.30%
53	1	0.80%
54	1	0.80%
55	2	1.60%
57	1	0.80%
60	2	1.60%
61	2	1.60%
63	1	0.80%

65	3	2.40%
68	1	0.80%
69	1	0.80%
71	4	3.30%
72	3	2.40%
73	1	0.80%
75	1	0.80%
76	1	0.80%
79	1	0.80%
80	3	2.40%
81	2	1.60%
82	1	0.80%
87	1	0.80%
100	1	0.80%

Education		
	N	%
High school	57	46.30%
University certificate or diploma below bachelor level	13	10.60%
Bachelor's degree	38	30.90%
University certificate or diploma above bachelor level	7	5.70%
Master's degree	7	5.70%
Earned doctorate	1	0.80%

Income		
	N	%
Less than $47,630	95	77.20%
Between $47,630 and $95,259	25	20.30%
Between $95,259 and $147,667	1	0.80%
Missing System	2	1.60%

Appendix G: Correlation Matrix

Correlations

		SA_High	SA_Low	SJ_High	SJ_low	Gender	Age	Work Exp	Acct (Y/N)	Audit Exp	Assurance (Y/N)	Firm Pos	Political Attitude	Education	Income
SA_High	Pearson Correlation	--													
	N	123													
SA_Low	Pearson Correlation	0.109	--												
	Sig. (2-tailed)	0.232													
	N	123	123												
SJ_High	Pearson Correlation	-.303**	0.025	--											
	Sig. (2-tailed)	0.001	0.787												
	N	123	123	123											
SJ_Low	Pearson Correlation	-0.138	-0.144	0.015	--										
	Sig. (2-tailed)	0.128	0.111	0.871											
	N	123	123	123	123										
Gender	Pearson Correlation	-0.086	.226*	0.051	-0.111	--									
	Sig. (2-tailed)	0.346	0.012	0.576	0.221										
	N	123	123	123	123	123									
Age	Pearson Correlation	-0.083	.216*	0.047	-0.042	0.097	--								

	Sig. (2-tailed)	0.363	0.017	0.603	0.643	0.287									
	N	123	123	123	123	123	123								
Work Exp	Pearson Correlation	-0.038	.195*	0.046	-0.061	0.061	.837**	--							
	Sig. (2-tailed)	0.678	0.031	0.613	0.499	0.506	0.000								
	N	123	123	123	123	123	123	123							
Acct (Y/N)	Pearson Correlation	-0.006	-.330**	-0.022	-0.024	-0.056	-.375**	-.393**	--						
	Sig. (2-tailed)	0.951	0.000	0.805	0.794	0.542	0.000	0.000							
	N	123	123	123	123	123	123	123	123						
Audit Exp	Pearson Correlation	-0.027	.192*	0.050	-0.057	-0.101	.529**	.577**	-.369**	--					
	Sig. (2-tailed)	0.767	0.033	0.586	0.530	0.266	0.000	0.000	0.000						
	N	123	123	123	123	123	123	123	123	123					
Assurance (Y/N)	Pearson Correlation	-0.045	-0.001	0.054	0.009	0.145	-0.110	-0.128	0.139	-.313**	--				
	Sig. (2-tailed)	0.621	0.992	0.552	0.926	0.110	0.226	0.158	0.124	0.000					
	N	123	123	123	123	123	123	123	123	123	123				
Firm Pos	Pearson Correlation	0.125	0.171	-0.073	-0.232	-0.035	.676**	.666**	-.571**	.780**	.c	--			
	Sig. (2-tailed)	0.503	0.358	0.698	0.210	0.853	0.000	0.000	0.001	0.000					
	N	31	31	31	31	31	31	31	31	31	31	31			
Political Attitude	Pearson Correlation	0.005	0.042	-0.081	0.069	-.263**	-0.018	0.023	-0.033	0.109	-.235**	0.028	--		

	Sig. (2-tailed)	0.955	0.648	0.374	0.447	0.003	0.839	0.799	0.718	0.232	0.009	0.882			
	N	123	123	123	123	123	123	123	123	123	123	31	123		
Education	Pearson Correlation	-0.061	.316**	0.105	-0.036	0.074	.544**	.400**	-.308**	0.145	-0.014	.509**	0.079	--	
	Sig. (2-tailed)	0.501	0.000	0.250	0.693	0.418	0.000	0.000	0.001	0.109	0.877	0.003	0.383		
	N	123	123	123	123	123	123	123	123	123	123	31	123	123	
Income	Pearson Correlation	-0.027	0.041	-0.038	-0.146	0.064	.248**	.208*	-0.139	.223*	-0.145	.624**	-0.022	.335**	--
	Sig. (2-tailed)	0.773	0.653	0.679	0.110	0.485	0.006	0.022	0.129	0.014	0.112	0.000	0.814	0.000	
	N	121	121	121	121	121	121	121	121	121	121	30	121	121	121

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

c. Cannot be computed because at least one of the variables is constant.

Appendix H: Experimental Material List

Table 1 - Experimental Source Materials

Item	Source	How Used
Experimental Materials	Eutsler, J., Norris, A. E., & Trompeter, G. M. (2018). A live simulation-based investigation: Interactions with clients and their effect on audit judgment and professional skepticism. *Auditing: A Journal of Practice & Theory*, 37(3), 145-162.	Live simulation to study how client-auditor interactions impact subjects' professional skepticism. Subjects used were accounting students.
Affect Regulation Manipulation	Andrade, E. B. (2005). Behavioral consequences of affect: Combining evaluative and regulatory mechanisms. *Journal of consumer research*, 32(3), 355-362.	The experiment manipulates a mood-threatening cue by means of a long (versus short) questionnaire subjects need to complete and measures the associated change in behaviour to proxy for the influence negative affect working through affect regulation.
Affect Regulation Intervention	McRae, K., & Gross, J. J. (2020). Emotion regulation. *Emotion*, 20(1), 1-9.	Describes various reappraisal interventions and summarizes research utilizing reappraisal interventions to mitigate the effects of affect regulation.

Appendix I: Experimental Survey Materials

1 – Informed Consent [New screen]

Informed consent taken from 'InfConsent-AttitudePS-EOsecki20' will be shown to the participants before they see any of the study materials.

2 – Introduction [New Screen]

To better understand accountant decision-making, we have prepared a short questionnaire for you to complete.

There are no correct answers to any of the questions asked. We are merely interested in your own opinions and assessments. All individual responses will be kept completely anonymous. There is no way for the administrators of this experiments to individually identify any participant and, as such, your identity will never be shared with anyone including – but not limited to – other participants, your employer, regulators, additional researchers, or members of the general public.

On the following screen you will answer a few questions. Then you will read a short scenario and asked some follow-up questions, including a couple confirmation questions to ensure you have carefully read the scenario. Finally, you will be asked some general demographic questions to better categorize your responses.

Your honest responses are very important to our research and we appreciate your help!

3 – Scenario Introduction [New Screen]

Below is a story about a company named Fitex and an auditor named Chris. Imagine that you are Chris. Please read the story carefully, as you will be asked some follow-up questions.

Audit Scenario

Welcome to the Fitex Audit Engagement! Please complete the following audit task:

Chris has been assigned to complete test of controls procedures for the Fitex International Inc audit engagement. Testing of controls is important because it sets the appropriate risk level for the audit. If

there are control deficiencies found, the risk will be high requiring more testing at year end. It is essential to set the risk at the right level or your firm may miss errors in substantive testing which increases the chance of an audit failure (and potential lawsuits).

The controls that Chris is testing are listed on the next page. Another staff auditor started testing these controls and identified 6 cash disbursements that they were not sure if they were control exceptions or not. They also collected a brief explanation for each issue from the controller. It is Chris' job to document a final conclusion and explanation for each in the audit work papers.

3 – AR Induction (Andrade, 2005)

[mood-threatening cue]

Since more severe recommendations adds more time to the audit budget, Chris' firm requires additional documentation to support these decisions. If you decide to recommend action which adds time to the audit, please also spend several minutes documenting your decision in detail. If your recommendation adds no time to the audit, only a line or two explaining your decision is necessary.

[neutral affect – no cue]

3 – AR Intervention - Reappraisal (McRae & Gross, 2020)

[Reappraisal condition]

The firm realizes that having to fill out a lot of paperwork can be tedious, but it is very necessary. To help make filling out the necessary documentation easier, try thinking about the task in a different way. For example, imagine you are a partner having to explain to the client manager why these additional procedures are necessary and how they will make a higher quality audit. This will help you think of relevant points to document for any issues you encounter.

[No intervention – no cue]

ATTENTION CHECK [new page]

1) What kind of testing is Chris being asked to do?
    a. Test of controls
    b. Substantive testing
2) How much time should you spend documenting a recommendation which adds time to the audit? ***[MC1 - negative affect condition only]***
    a. Several seconds
    b. Several minutes
3) Who should you imagine you are explaining issues to if you need to document an issue? ***[MC2 – Reappraisal condition only]***
    a. A partner explaining to a client manager
    b. A partner explaining to another partner

[new page]

The following two links contain evidence you will need for testing (these links will open in a new tab). The first document contains each authorized signature approval amount and the signatures. The second list contains the list of all of the approved vendors (i.e. the VMF list).

You will want to use these documents to:
(1) verify signatures,
(2) verify authorized amounts, and
(3) check if a vendor is on the VMF.

Link 1

Title	Name	Authorization Amount	Signature
Controller	Peter Tremblay	$25,000.00	
CEO	David G. McCormick	unlimited	
CFO	Tanya Anding	unlimited	
Corporate Treasurer	Cindy Paige	unlimited	
Payroll	Vernon Lopez	$6,000.00	
Assistant Controller	Gina Shaffer	$10,000.00	
VP Sales	Henry Calloway	$2,500.00	
VP Marketing	Jan Bailey	$2,500.00	
VP Finance	Carlton C. Zellers	$25,000.00	
VP Operations	Kimberly T. Heiser	$2,500.00	
Payable Clerk 1	Andrew McBride	$1,000.00	
Payable Clerk 2	Louise Mendez	$1,000.00	

Link 2

Fitex Co.
Vendor Master File

Approved Company Name	Address
ABC Telecom	7379 Old Square, Roaches Corner, Oregon, 97579-8739, US, (458) 969-2548
Ajax	4468 Wishing Forest Port, Crayon, New Jersey, 08556-8884, US, (848) 192-6705
Ankh-Sto Associates	8839 Velvet Embers Heights, Pie, Vermont, 05861-5486, US, (802) 553-6030
Atlantic Northern	3906 Lazy Butterfly Corner, Slacks, New Jersey, 07588-6952, US, (908) 616-1843
Axis Chemical Co.	8161 Umber Trace, Earth, Maryland, 21198-3860, US, (240) 595-4137
Barrytron	6163 Sunny Rise Isle, Winnebago, Texas, 75749-0093, US, (806) 083-4536
Blammo	2248 Fallen Pine Freeway, Heartstrong, Utah, 84408-1836, US, (801) 509-1464
Bluth Company	9663 Rocky Boulevard, Peekamoose, Iowa, 52024-8628, US, (563) 090-2231
Burleigh and Stronginthearm	38 Thunder Glade, Euthtilloga, Florida, 33155-4503, US, (321) 555-4368
C.H. Lavatory and Sons	4518 Crystal Road, Wallstreet, Connecticut, 06285-0281, US, (203) 038-3866
Carrys Candles	8555 Noble Corners, Spiritwood, Tennessee, 37711-5606, US, (901) 832-5895
Central Perk	6552 Dusty Quay, Nitta Yuma, New Mexico, 88457-5935, US, (575) 689-3208
Charles Townsend Agency	5799 Cinder Anchor Farms, Krumroy, Ohio, 45597-4466, US, (614) 842-9630
Chasers	716 Clear Wagon Concession, Limpytown, Tennessee, 38206-0825, US, (901) 269-2064
Colonial Movers	7237 Honey Valley, Shipswatch, Missouri, 65916-0154, US, (573) 820-7932
Corellian Engineering Corporation	3304 Blue Deer Link, Lafleche, Alabama, 35010-3981, US, (334) 674-7596
Data Systems	3932 Bright Impasse, Sugar House, South Carolina, 29047-7999, US, (843) 083-3648
Extensive Enterprise	4086 Lost Chase, Creston, Nevada, 89435-9612, US, (775) 227-4128
Fake Brothers	1848 Easy Crescent, Hollywood, Maine, 04993-3754, US, (207) 904-1267
Flowers By Irene	2054 Gentle Robin Jetty, Nut Tree, Indiana, 47218-4943, US, (260) 208-7356
Foo Bars	1789 Misty River Court, Streepy, Michigan, 49557-3627, US, (517) 632-7731
Gadgetron	4875 Grand Fox Ramp, Winklepleck Grove, Kentucky, 42503-3021, US, (502) 066-6146
Galaxy Corp	6097 Foggy Beach, Meeteetse, South Dakota, 57864-8731, US, (605) 745-6643
General Forge and Foundry	1794 Amber Diversion, White Settlement, Ohio, 43524-1392, US, (937) 858-5669
General Products	8707 Round Gate, Miami Beach, Oklahoma, 73289-0794, US, (405) 593-8143
General Services Corporation	6132 Heather Willow Carrefour, Fairlight, Ohio, 44031-3449, US, (740) 333-2698
George Rogers	7285 Green Pioneer Mountain, Wahkiacus, Nevada, 89463-8250, US, (775) 387-6083
Gizmonic Institute	5634 Rustic Apple Island, Brilliant, Mississippi, 39495-6906, US, (228) 247-5405
Globex Corporation	7360 Iron Ledge, Blackpipe, Minnesota, 56219-4928, US, (218) 384-3367
Globo Gym American Corp	8546 Indian Nook, Deer Lick, Georgia, 39949-0765, US, (762) 175-8091
Globo-Chem	6507 Golden Cloud Landing, Pierceland, Louisiana, 71571-5492, US, (504) 424-8431
Gringotts	9214 Middle Quail Line, Jugs Corners, District of Columbia, 20008-7506, US, (202) 082-7808
Henry Saunderson	9621 Sleepy Mews, Spearmint, California, 92475-9182, US, (209) 286-0832
Incom Corporation	3210 Silver Berry Circuit, Lake of the Pines, Maine, 04114-7918, US, (207) 596-5579
Industrial Automation	1293 Colonial Zephyr Pointe, Blue Earth, Virginia, 24260-6468, US, (540) 983-0982
Input, Inc.	1478 Broad Shadow Orchard, Tingley, Kansas, 66273-3583, US, (785) 738-1017
Josh Hinds	3481 High Mall , Sacred Heart, Minnesota, 55820-7940, US, (507) 392-3877
Keedsler Motors	7117 Quaking Bank, Coleville, Tennessee, 38458-7971, US, (731) 120-6018
Kenny Wardon	892 Hazy Highlands, Aimwell, West Virginia, 24892-5008, US, (304) 297-9512
Kevin White	5711 Merry Path, Battle Mountain, Hawaii, 96703-9988, US, (808) 257-3332
Klimpys	5224 Silent Hickory Maze, Show Low, New York, 11134-9377, US, (845) 221-9339
Kumatsu Motors	6863 Pleasant Bay, Manassas, Texas, 76884-1916, US, (682) 743-1178
Leeding Engines Ltd.	4527 Red Panda Wood, Coffee Hill, Kentucky, 41960-6358, US, (270) 526-9253
Mainway Circuits	5594 Emerald Gate Green, Stoner Place, Washington, 98006-3605, US, (425) 844-8825
Malleable Wires Inc.	8846 Jagged Grounds, Black Betsey, New Hampshire, 03668-2524, US, (603) 997-7426
Mammoth Pictures	6484 Cotton Inlet, Wyoming, Nevada, 89425-8058, US, (702) 827-5431
McMahon and Tate	5989 Tawny Lagoon Close, Turkey Foot Corner, Minnesota, 55667-6477, US, (763) 345-9430
Megadodo Publications	5792 Stony Brook Highway, Parrot, North Carolina, 27633-9372, US, (980) 195-6718
Milliways	8999 Little Treasure Crossing, Weedpatch, Nebraska, 69620-8050, US, (531) 924-6643
Monarch Playing Card Co.	7080 Quiet Island Meadow, Bully Hill, West Virginia, 26142-0701, US, (304) 872-3288
Mooby Corp	5435 Quaking Limits, Invermay, Missouri, 65152-5371, US, (636) 112-2714
Nathan Scott	9566 Green Butterfly Isle, Welagamika, Wisconsin, 54969-1068, US, (715) 780-6543
Niagular	9634 Clear Pine Trail, Lac du Bonnet, Nevada, 89149-2878, US, (775) 067-1778
Nordyne Defense Dynamics	8904 Cozy Common, Screamer, Kentucky, 41017-2607, US, (859) 977-3916
North Central Positronics	2820 Harvest Leaf Promenade, Englefeld, Utah, 84734-7889, US, (385) 727-4325
Oliver David	8027 Velvet Crescent, Bald Knobs, Connecticut, 06876-6798, US, (203) 212-1636
Omni Consimer Products	3998 Silent Goose Walk, Bentley, Nevada, 89907-5709, US, (775) 735-7045
Osato Chemicals	9288 Emerald Grove, Taylors Gut Landing, North Dakota, 58746-9799, US, (701) 328-2788
Petrox Oil Company	4267 Broad Willow Road, Yah-ta-hey, Alabama, 35531-0130, US, (251) 225-3062
Powell Motors	1363 Cinder Circle, La Push, Maryland, 21997-9313, US, (443) 618-8413
Praxis Corporation	2853 Fallen Brook Boulevard, Firebrick, Massachusetts, 02449-4138, US, (781) 427-1083
Primatech	2624 Rustic Bluff Concession, Crum, Idaho, 83653-3947, US, (208) 179-1366
Richardson Rubber Goods	152 Umber Terrace, White Earth, Kansas, 66883-1445, US, (316) 168-0129
Roboto Industries	1336 Old Elk Loop, Canora, Rhode Island, 02864-0993, US, (401) 888-6672
Rouster and Sideways	1006 Sunny Quay, Ko Ko, West Virginia, 25215-3213, US, (304) 305-6686

Roxxon	9268 Honey Deer Grounds, Rainy River, Missouri, 64300-0318, US, (660) 111-9547
Russell Tate	7706 Heather Prairie Diversion, Big Cut, North Dakota, 58538-1508, US, (701) 633-7677
Sirius Electronics Corporation	9916 Amber Cove, Killdeer Island, South Dakota, 57806-0955, US, (605) 756-7222
Sixty Second Avenue	3920 Bright Horse Jetty, West Nipissing, West Virginia, 25883-8292, US, (304) 989-0374
Smith and Co.	7083 Dewy Pines, Jot Em Down Store, Texas, 79949-7073, US, (832) 506-5037
Sombra Corporation	2060 Hazy Glade, Pail Shop Corners, West Virginia, 25357-9213, US, (304) 078-2617
Sonky Rubber Goods	7902 Hidden Branch Farms, Stavely, Alaska, 99864-4824, US, (907) 300-3461
Spacely Fabrication and Design	4560 Silver Round, Dummer, Ohio, 45573-4976, US, (330) 147-6025
Spade and Archer	409 Dusty Lagoon Byway, Lucky Shot Landing, Alaska, 99954-0677, US, (907) 013-8646
SpringShield	4609 Lost Wood, Job, New Hampshire, 03381-5161, US, (603) 025-0354
Steve Marino	1145 Sleepy River Villas, Nokomis, West Virginia, 25647-9416, US, (304) 913-8346
Sto Plains Holdings	584 Round Corner, Mazda, Wyoming, 82137-3481, US, (307) 255-4525
Taggart Transcontinental	526 Blue Mall , Sheepshead Bay, California, 96043-7926, US, (661) 813-0679
Taylor Matthews	3154 Noble Pond Via, Midale, Utah, 84369-2952, US, (801) 563-8866
Tessier-Ashpool	3790 Lazy Pointe, Point Truth, Illinois, 61692-0747, US, (217) 376-3378
Thatherton Fuels	8169 Foggy Nectar Thicket, Delaware, Maryland, 21005-1282, US, (240) 787-2136
The New Firm	600 Middle Creek Dell, Finland, Nebraska, 69570-2594, US, (308) 013-3540
Three Waters	1894 Merry Forest, New Prague, Maryland, 20843-4058, US, (443) 152-7041
Thrift Bank	3217 Jagged Hills Key, Satans Kingdom, California, 94186-1528, US, (619) 230-6279
Transworld Consortium	9337 Tawny Downs, Snake Nation, New Mexico, 88485-4892, US, (575) 499-2500
U.S. Robotics and Mechanical Men	2554 Indian Link, Treasure Island, Nevada, 89571-0288, US, (775) 990-8719
Universal Export	5411 Crystal Oak Ramp, Dollar Settlement, Kentucky, 41952-0202, US, (606) 149-6348
Videlectrix	7455 Iron Point, Buzzards Roost, New York, 12962-5067, US, (315) 574-9836
Virtucon	7646 Grand Bear Corners, Kankakee, North Carolina, 27712-0334, US, (910) 550-4210
Water and Power	8798 Pleasant Log Trace, Hustle, Kansas, 66353-1851, US, (620) 028-6911
Wayne Enterprises	9635 Shady Manor, New Market, Indiana, 46004-1477, US, (574) 845-8873
Wentworth Industries	9716 Little Barn Townline, Hardshell, Connecticut, 06203-5085, US, (203) 387-7588
Wernham Hogg	3711 Red Wagon Falls, Loco Hills, Iowa, 51700-9697, US, (641) 713-8976
Western Gas & Electric	954 Colonial Fox Campus, Cow Run, Georgia, 39824-2672, US, (470) 501-6446
ZiffCorp	2103 Easy Stead, Estiffanulga, New Jersey, 08959-7652, US, (908) 567-3160

The controls that you are testing include:
1)All cheques disbursed over $10,000 must have two signatures.

2)All cheques should be manually signed only by authorized signers.

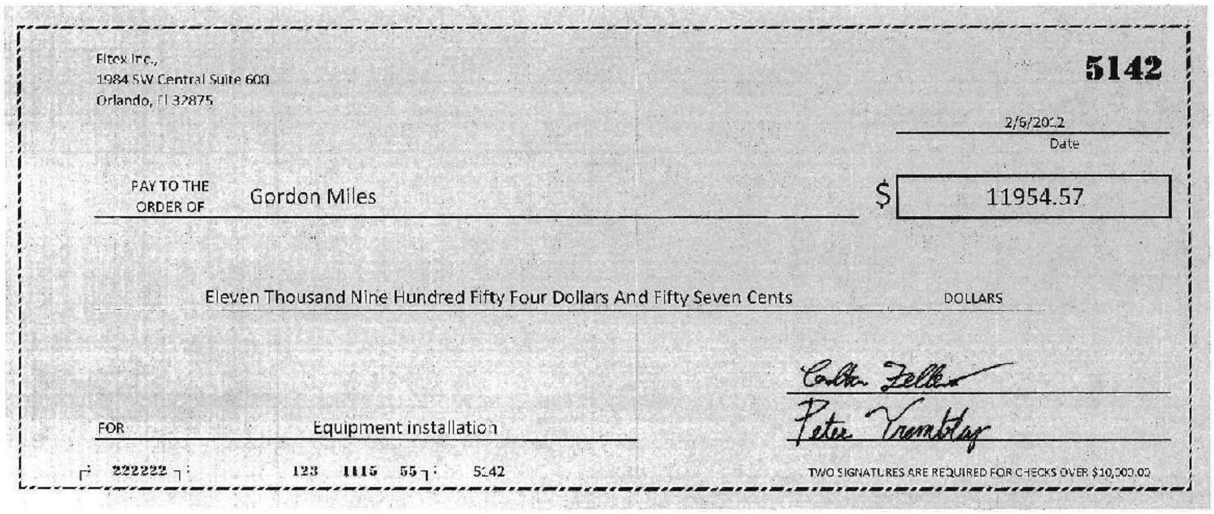
3) All cheques should not exceed the signers authorized amount.

4)No cheques for large amounts should be written to "petty cash" and no cheques at all should be written to "cash."

5)Cheques are made out to approved vendors on Vendor Master File (VMF) list.

Q152 **1. Flagged Cheque [*High risk item*]:**

5142: Initial Concern: Vendor is not listed on VMF list.


Fitex Inc.,
1984 SW Central Suite 600
Orlando, FL 32875

5142

2/6/2012
Date

PAY TO THE ORDER OF Gordon Miles $ 11954.57

Eleven Thousand Nine Hundred Fifty Four Dollars And Fifty Seven Cents DOLLARS

FOR Equipment installation

222222 123 1115 55 5142

TWO SIGNATURES ARE REQUIRED FOR CHECKS OVER $10,000.00

Controller's Response (5142):

"We wrote this cheque as a one time order to the contractor (Gordon Miles) who was working on our new machining project. The consultant (Nathan Scott, who is on the VMF list) required us to use Gordon Miles to do the installation and implementation. This was a one time disbursement to this contractor "through the consultant", we don't expect to ever use this contractor again and didn't think it would be worth our time to put it on the VMF list. In hindsight it would have been easier to make it out to Nathan."

[SJ 1] t1a **1a.** What is the likelihood that the given explanation provides a sufficient explanation that the transaction is not a control exception? (0=The explanation is insufficient, the transaction is control exception ; 100= The explanation is sufficient, the transaction is not a control exception):

- ○ 0% (2)
- ○ 10% (3)
- ○ 20% (4)
- ○ 30% (5)
- ○ 40% (6)
- ○ 50% (7)
- ○ 60% (8)
- ○ 70% (9)
- ○ 80% (10)
- ○ 90% (11)
- ○ 100% (12)

[SJ 2] t1b **1b.** Do you believe this item is a control exception or is not a control exception?

- ○ Control Exception (1)
- ○ Not a Control Exception (2)

---

t1c **1c**. Document the reasoning for your decision:

_____

_____

_____

_____

_____

Display This Question:

If 1b. Do you believe this item is a control exception or is not a control exception? = Control Exception

[SA 1] t1d ***1d.*** *Only respond to this question if you concluded that the item is a control exception:*

Recommend an appropriate audit response to your audit team for this specific control (ranging from least severe to most severe):

- ○ Not severe enough to warrant extra work right now. Hold off on extra procedures for now and keep an eye out for similar issues during substantive testing. (will not add any additional time to audit). (1)
- ○ Try to identify root of cause by expanding test of controls over disbursements by increasing the sample size (will add approximately 30 minutes to audit). (2)
- ○ Reducing reliance on control and finding an additional compensating control over cash disbursements and testing compensating control (will add approximately 1 hour to audit). (3)
- ○ Increasing level of control risk associated with account (or assertion) and performing more substantive testing (will add approximately 2 hours to audit). (4)

t1e ***1e.*** If your recommendation has added time to the audit, please document the reason this extra time is needed. Be sure to address the issue in question, the explanation from the controller, the severity of the issue, other accounts which may be affected, which stakeholders this may impact, and any other details you feel is necessary to understand your decision.

_____

_____

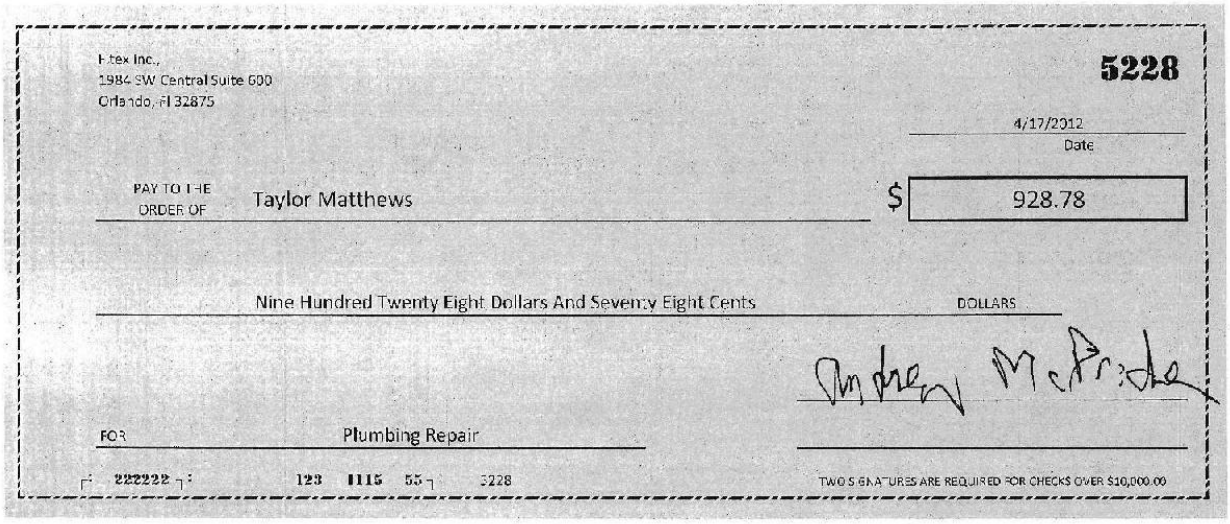
_____

_____

_____

Q156 **2. Flagged Cheque [*low risk item*]:**

5228: Initial Concern: Signature doesn't match signature card at all.



Ltex Inc.,
1984 SW Central Suite 600
Orlando, Fl 32875

5228

4/17/2012
Date

PAY TO THE ORDER OF Taylor Matthews $ 928.78

Nine Hundred Twenty Eight Dollars And Seventy Eight Cents DOLLARS

FOR Plumbing Repair

⑈ 222222 ⑈ 123 1115 55 3228

TWO SIGNATURES ARE REQUIRED FOR CHECKS OVER $10,000.00

Controller's Response (5228):

"Andy sprained his right hand while on a fishing trip. It really caused a lot of problems around the office. He was forced to sign cheques with his left hand instead of his right which made the signature different. "

[SJ 1] t2a **2a.** What is the likelihood that the controller's explanation provides a sufficient explanation that the transaction is not a control exception? (0=The explanation is insufficient, the transaction is control exception; 100= The explanation is sufficient, the transaction is not a control exception):

- ○ 0% (1)
- ○ 10% (2)
- ○ 20% (3)
- ○ 30% (4)
- ○ 40% (5)
- ○ 50% (6)
- ○ 60% (7)
- ○ 70% (8)
- ○ 80% (9)
- ○ 90% (10)
- ○ 100% (11)

[SJ 2] t2b **2b**. Do you believe this item is a control exception or is not a control exception?

- ○ Control Exception (1)
- ○ Not a Control Exception (2)

---

t2c **2c**. Document the reasoning for your decision:

_____

_____

_____

_____

_____

Display This Question:

If 2b. Do you believe this item is a control exception or is not a control exception? = Control Exception

[SA 1] t2d ***2d.*** *Only respond to this question if you concluded that the item is a control exception:*

Recommend an appropriate audit response to your audit team for this specific control (ranging from least severe to most severe):

- ○ Not severe enough to warrant extra work right now. Hold off on extra procedures for now and keep an eye out for similar issues during substantive testing. (will not add any additional time to audit). (1)
- ○ Try to identify root of cause by expanding test of controls over disbursements by increasing the sample size (will add approximately 30 minutes to audit). (2)
- ○ Reducing reliance on control and finding an additional compensating control over cash disbursements and testing compensating control (will add approximately 1 hour to audit). (3)
- ○ Increasing level of control risk associated with account (or assertion) and performing more substantive testing (will add approximately 2 hours to audit). (4)

t2e ***2e.*** If your recommendation has added time to the audit, please document the reason this extra time is needed. Be sure to address the issue in question, the explanation from the controller, the severity of the issue, other accounts which may be affected, which stakeholders this may impact, and any other details you feel is necessary to understand your decision.

_____

_____

_____

_____

_____

[DEMOGRAPHICS]

Please answer the following questions:

1) What is your preferred gender: male female other **[gender]**
2) What is your age? _____ **[age]**
3) Number of years of your full-time work experience: _____ **[work_exp]**
4) Number of years of audit experience: _____ **[aud_exp]**
5) Do you consider yourself primarily an assurance professional? Yes **[1]** No **[0]**
    a. If so, please indicate the highest position you have occupied within an audit firm: **[aud_rank]**
        i. Junior accountant **[1]**
        ii. Senior Accountant **[2]**
        iii. Manager **[3]**
        iv. Partner **[4]**

6) Where would you place your political attitudes on the following scale? Please move the slider below to indicate your position [0 to 100]. **[pol_att]**

Extremely Liberal Moderate/Middle of the Road Extremely Conservative

7) Please indicate your highest level of education completed: [these levels correspond with the 2016 Canadian census https://www12.statcan.gc.ca/nhs-enm/2016/ref/questionnaires/questions-eng.cfm] **[education]**

Less than high school **[1]**

High School **[2]**

University certificate or diploma below bachelor level **[3]**

Bachelor's Degree **[4]**

University Certificate or diploma above bachelor level **[5]**

Master's degree **[6]**

Earned doctorate **[7]**

8) What is your annual earned income? [These levels correspond with Canadian Federal Tax Rates https://www.canada.ca/en/revenue-

agency/services/tax/individuals/frequently-asked-questions-individuals/canadian-income-tax-rates-individuals-current-previous-years.html#federal] **[income]**

Less than $46,605 **[1]**

Between $46,605 and $93,208 **[2]**

Between $93, 209 and $144,489 **[3]**

Between $144,489 and $205,842 **[4]**

Greater than $205,842 **[5]**

9) Do you have any comments or anything else you would like to share? (open-ended)

Inducement [New Screen]

Thank you for participating! To receive your gift card, please provide your email in the box below. The gift cards will be mailed out once all the data has been collected.

Email:_____

Exit Screen [New Screen]

The survey is over. Thank you very much for participating!

Appendix J: Attention Pass Test Results

Tests of Between-Subjects Effects
Dependent Variable: Skeptical Judgement - High Risk Evidence

Source	SS	df	MS	F	Sig.	Partial Eta Squared
MoodCue	0.746	1	0.746	0.093	0.761	0.001
Reappraisal	3.509	1	3.509	0.437	0.51	0.005
MoodCue * Reappraisal	0.121	1	0.121	0.015	0.903	0
Error	730.782	91	8.031			

a R Squared = .006 (Adjusted R Squared = -.027)

Tests of Between-Subjects Effects
Dependent Variable: Skeptical Judgement - Low Risk Evidence

Source	SS	df	MS	F	Sig.	Partial Eta Squared
MoodCue	0.044	1	0.044	0.004	0.948	0
Reappraisal	4.53E-05	1	4.53E-05	0	0.998	0
MoodCue * Reappraisal	1.174	1	1.174	0.115	0.735	0.001
Error	926.425	91	10.18			

a R Squared = .001 (Adjusted R Squared = -.032)

Tests of Between-Subjects Effects
Dependent Variable: Skeptical Action - High Risk Evidence

Source	SS	df	MS	F	Sig.	Partial Eta Squared
MoodCue	2.508	1	2.508	1.609	0.208	0.017
Reappraisal	0.001	1	0.001	0.001	0.98	0
MoodCue * Reappraisal	0.667	1	0.667	0.428	0.515	0.005
Error	141.83	91	1.559			

a R Squared = .023 (Adjusted R Squared = -.009)

Tests of Between-Subjects Effects
Dependent Variable: Skeptical Action - Low Risk Evidence

Source	SS	df	SS	F	Sig.	Partial Eta Squared
Gender	7.846	1	7.846	7.578	0.007	0.079
Accountant_YN	3.329	1	3.329	3.215	0.076	0.035
Education	3.704	1	3.704	3.577	0.062	0.039
MoodCue	1.283	1	1.283	1.239	0.269	0.014
Reappraisal	0.378	1	0.378	0.365	0.547	0.004
MoodCue * Reappraisal	2.216	1	2.216	2.14	0.147	0.024
Error	91.11	88	1.035			

a R Squared = .207 (Adjusted R Squared = .153)

Appendix K: Maturation of Professional Skepticism

The analysis done in Chapter 4 revealed a secondary data structure, one which was not anticipated but still insightful to the nature of professional skepticism and how it changes over time. Professional skepticism is comprised of three components - logic, experience, and affect – each of which serves to signal that a potential issue may exist. Over time, the mix of these components change so that affective signals become less frequent, but more intense in experienced auditors. While interesting, these findings do not directly inform how affect produces variations in professional skepticism and thus I relegate these findings to this appendix. A full discussion of these findings follows.

K.1 Maturation of Professional Skepticism: Thematic Development

Insights into the maturation process of professional skepticism within auditors began to naturally emerge from the data. This was rather surprising because it was not directly related to the original intent of the study. Nevertheless, through repeated interviews, insight into this process re-appeared and reaffirmed themes emerging from other interviews. It appears auditors see professional skepticism as a mix of components (logic, experience, affect), each of which send signals which can trigger a skeptical judgement within auditors. These signals are equally weighted, can be sending out multiple signals simultaneously, and do not appear to happen in any particular order (e.g.: logic signals come before affective signals). As an auditor gains audit experience over time, the mix of these components change. Logic stays consistent over time, which is to be expected. If something doesn't make sense logically, it doesn't make sense logically irrespective of what point in an auditor's career it happens. The story is different for affect and experience. When an auditor is just beginning, they do not have much experience to draw upon. They may have relevant experience through their prior work experience or perhaps through some of their school studies, but they lack practical experience. This creates a gap in the information set they need to properly exercise professional skepticism. Consistent with the precepts of affect-as-information theory, affect fills those gaps for auditors and guides them when and where to act. Affect can send out false signals though, and that is why interviewees report junior auditors both over-reacting (i.e.: "seeing the ghosts of fraud everywhere") and under-reacting ("take everything at its face") to potential errors. As an auditor gains experience through the passage of time, their cumulative experience begins to crowd out the affective information, reducing the number of affective signals sent to the auditor while working. However, affect does not go away, and perhaps strengthens when it does trigger an auditor's professional skepticism. Where auditors with a lot of experience, like a partner, may rely on their experience with matters to guide them through most issues

they encounter, when they do end up getting a feeling about something, they listen to that feeling because it is so rare they encounter something they have not seen before. Taken together, this provides insight into exactly how professional skepticism matures and changes over time, a phenomenon suggested in the literature previously (Nelson, 2009).

K.2 Emergent Theme: Data Structure 2 – Maturation of Professional Skepticism

Professional skepticism is composed of 3 primary components: logic, experience, and affect. Logic is the process of thinking through things and identifying items which do and do not make sense, such as non-compliance with standards or contradictory evidence. Experience is the cumulative lessons learned via all the past audits, where an auditor can use the benefit of knowing how an audit issue resolved in the past to inform their prediction of how this issue will resolve in the future. "The more experience there, more you know what to look for. (INT 2)"Affect is the smell test, the sum of the emotional signals received which may indicate an issue is present or not "Does it pass the smell test basically? …It's that gut feeling. (INT 3)". These signals are equally weighted, can be sending out multiple signals simultaneously, and do not appear to happen in any particular order (e.g.: logic signals come before affective signals). All three of these components play a role when auditors exercise professional skepticism "I think there is a bit of logic. As well as gut. I think experience definitely is a big factor. (INT 4)", "Combination. (INT 7)", and all three are equally weighted in that all three can provide a signal about whether action is needed or not on an item "I think the logic usually what drives the feeling. But I feel like it could be any order. (INT 6)".

While the 3 primary components identified were consistent between interviewees, the ratio of the mix changes over time. Logic stays relatively constant throughout time; if something does not make logical sense at the start of your career, it is not going to start making logical sense later in your career. Younger auditors (i.e.: juniors) are more likely to use affect signals than more experienced auditors "In the beginning stages, I would say it's more so based off of logic and a gut feeling. (INT 8)", "The further down the path on your continuing professional skepticism you are likely the greater the ability you have to take emotions out of it. (INT 12)", which intuitively makes sense as they have no experience to draw upon instead. Affect is subtle, subjective, and contextual in nature. It can influence inexperienced auditors' professional skepticism either way, both increasing and decreasing, excessive and insufficient. On one hand, inexperienced auditors can both see the ghosts of fraud everywhere "some people are... Concerned everything's about fraud and the next one's not. (INT 4)", where the truth of the matter is that business is often weird:

> “Business is weird. The way clients do things is definitely weird and sometimes it just doesn't look right from a transaction perspective or from a debit credit kind of perspective but there's a business rationale behind it. (INT 9)”

On the other hand, new auditors might also take everything at face value and think that any answer is a good answer instead of thinking deeper about whether the explanation actually makes sense “[T]here's others who are just oblivious. They don't... You look at it and say, well this is a farmer, we have a drought this year and like, they doubled their revenue. Do you know why? And they go, no, we didn't think about that. (INT 10)”. Furthermore, affect signals are often obfuscated and could come from an indirect source such as the stress they are feeling of starting a new job or time pressure just as likely as they could come from the audit evidence or client being audited. Experienced auditors (i.e.: partners) use experience to a much greater degree because, quite simply, they have so much more of it to draw upon “[P]artner level skepticism's going to be based on experience and history. (INT 4)”. Experienced auditors have seen more issues during audits and therefore are better able to judge the relative risk of issues because they know how similar issues have resolved in the past.

> “I think that's because I think it comes with experience, too. What you've seen, what you've dealt with. Because for instance, let's just say I'm a first year accountant, I go into a company, and I see something and I'm like, "My professional skepticism as an A1 accountant kicks in. Oh, this actually looks fishy, it looks like fraud." You bring it to a manager or a partner and they'd say, "Actually, no, this is just an error that I've seen before. It's just a keying error or something like that. It's not necessarily along the lines of fraud." (INT 8)

In this way, experience offers a tangible “bright-line” offering context to how risky a certain issue or considered skeptical action is. As experience grows over time, affective signals are crowded out which is consistent with the precepts of “affect-as-information” theory (Schwartz & Clore, 1983). It is important to note that, despite affect playing less of a role in experienced auditor professional skepticism, it is not ignored. Rather, partners are *more* likely to pay attention to affective triggers because it is rare when they encounter something they have not experienced before “Because it's rare that you come into something you haven't seen before. It still happens. (INT 6)” and they have learned when and when not

to trust their feelings “Just... it's done me well. (INT 9)”, “I would probably say not trusting [my feelings]. (INT 4)”. A graphical representation of this maturation process is in Appendix E – Illustration E.

This maturation model helps to inform how professional skepticism changes throughout time and offers a rationale as to why these changes occur. Prior research has noted that inexperienced auditors and experienced auditors demonstrate different levels of professional skepticism (i.e.: Cianci & Bierstaker, 2009). Juniors rely on affective information to fill the gaps left by their lack of experience. These signals could be highly skewed, particularly if the auditor is experiencing affect from indirect sources (i.e.: job stress, time pressure), and lead to juniors exhibiting much higher levels of professional skepticism. Partners rely on experience to trigger and guide their professional skepticism. They are much less likely to panic when they discover an anomaly because, chances are, they have seen this issue before and can quickly sort out whether it is innocuous or significant. Thus, a partner will exhibit a relatively lower level of professional skepticism. This model offers an explanation for these behaviours.

Summary

A surprising secondary contribution of this study comes from data structure 2 which details the maturation process of auditor professional skepticism. Logic, experience, and affect are identified as the three primary signals to trigger professional skepticism within auditors. This mix of components changes over time. Inexperienced auditors utilize more affective signals to fill the gap left by their lack of experience. As they progress in their career, their experience begins to crowd out the affective signals further and further. Affect never goes completely away, however, and remains a strong, albeit less frequent, signal for experienced auditors that skeptical action is needed on an item. Other researchers have noted that the level of professional skepticism changes over time (Nelson, 2009) and that experience and inexperienced auditors express different levels of professional skepticism (Cianci and Bierstaker, 2009), and this study adds to those findings by offering insight into both the process and rationale of how those changes occur.

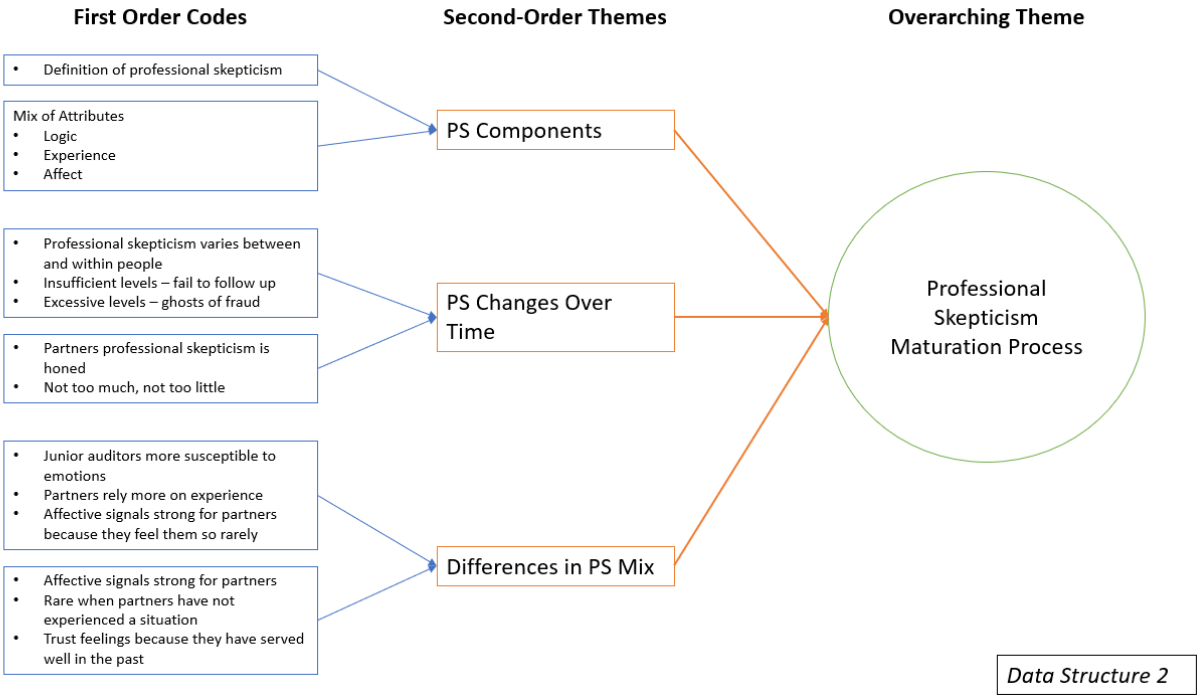


Figure 26: Data Structure 2

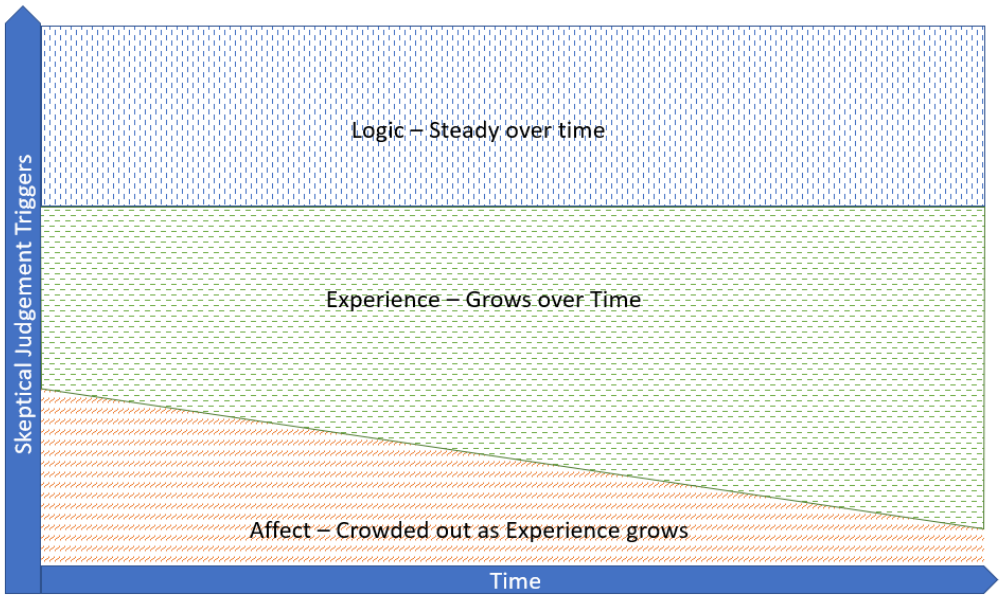


Figure 27: Maturation of Professional Skepticism

K.3 Additional Representative Quotes for Data Structure 2

PS Components
• Well I think there is a bit of logic. As well as gut. I think experience definitely is a big factor. (INT 4) • Combination. (INT 7) • I think it's going to be both. You have to use logic and then you have to use experience of the industry and when both of those... the client is still telling you something totally opposite, that's when the feeling kicks in that something's wrong. (INT 10) • Well, I think again, it comes with experience. I'll use fraud as an example. Because you've dealt with clients over the years and you might remember another client where a similar situation happened and it was a fraud situation. So you draw upon that experience to say, hey, what I'm seeing here really mimics something that has happened before and I think we need to really look into this. (INT 10) • I think it's both. It would have to be both. Because the logic side of it is just like, "Hey, we've already looked at this and we know that what you're telling me isn't right." That's kind of a yes or no thing, I would say, versus just, "Hey, I'm not really quite sure. This just doesn't feel right," would also be on the other side of it. (INT 1) • Obviously there's going to be something there that's going to tingle your feeling that it's not going to work, or it's not right. (INT 2) • I feel like it's a gut feeling, but you're incorporating like a bunch of knowledge of the client versus what you have the information in front of you to assess whether something's right or wrong. (INT 6) • Definitely there's a gut feeling to it, but what I would say is a lot of it equates to experience is what I would say. It's like when you're first out As a young up-and-coming, obviously you're very skeptical coming out of university. You don't believe the numbers. As an auditor, you're supposed to be out there finding all the wrong stuff so you're very critical of what's there. Whereas I find later on in my career that I've moved to more like just what you see in experience, what you see on other files, what you see in ratio analysis, what you see in industry trends. For example, especially in economy downturn, you're seeing companies that are having record years. Well, does that really make sense? You're skeptical of those numbers. So I would say it's a factor of definitely experience, either a lack of it or just more of it. (INT 9)

PS Changes Over Time
• If you have someone that's more relaxed, then they're less likely to look into everything versus someone who normally an over analyzer in their personal and professional lives. So they're more likely to be like, 'Oh, this is two cents off and I want to figure out why it is. (INT 5) • My feelings, I would trust my gut feeling if something doesn't look right, I'm going to look into it more and it might end up being nothing or it might end up being a $50 million mistake. • So I would say anytime an individual has a bit of a continuum where stuff like their baseline is to where they can get to, which would be further developed over time. But part of it too is also taking a factual lens on things too. So there might be people who almost come off as too skeptical at the start, and just don't have the full context or background on the scenario, or the client's business process. (INT 12) • I mean, I think, again, I think really your life experience and your experience within the firm changes your professional skepticism. Well, I think you know more. I think you're more attuned as you develop in your career. I think you're more involved with what's happening in an industry. You're maybe a little bit more knowledgeable. When you go into a file, you step back and say, okay, what do I think might be affecting this particular client based on the industry that they're in. And so you end up developing outside expectations. But I think when you're quite a junior accountant or a junior auditor coming in, they don't think about that. (INT 10) • I think in some respects I feel like the application to really apply professional skepticism certainly is developed over time. (INT 12) • I think that's because I think it comes with experience, too. What you've seen, what you've dealt with. Because for instance, let's just say I'm a first year accountant, I go into a company, and I see something and I'm like, "My professional skepticism as an A1 accountant kicks in. Oh, this actually looks fishy, it looks like fraud." You bring it to a manager or a partner and they'd say, "Actually, no, this is just an error that I've seen before. It's just a keying error or something like that. It's not necessarily along the lines of fraud." (INT 8) • I think it comes on experience, too. The more experience there, more you know what to look for, and the more you might be ... A new hire would take everything they hear as ... I mean we drill into people, right? Be skeptical, be skeptical. New people would be more likely to be ... [Trusting] Or not trusting? I would say no, I don't know if any of this makes sense because I don't know, right? (INT 2) • Well, partner level skepticism's going to be based on experience and history. Some of the junior and newer people, some of them will have zero skepticism, some will have way too much, it'll vary. But how they apply that is very different because they don't have the experience on how to apply it or you know, how to interact with the clients to find that kind of stuff. (INT 4) • your professional judgment develops as you go on in your career. (INT 5) • Maybe like it develops over time and it's just with more experience. I don't know if that's the right answer or the answer you're looking for, but it's just as you gain more experience, that underlying gut feeling, let's call it, develops and has more defined approaches to auditing, I guess. (INT 6) • *Are you more likely to chase after a gut feeling now than you would when you were younger?* Yeah. I guess so, yeah. Because it's rare that you come into something you haven't seen before. It still happens. (INT 6)

Differences in PS Mix
• Yeah, the further down the path on your continuing professional skepticism you are likely the greater the ability you have to take emotions out of it. But if you haven't ventured very far down that path and you are very early in your career and you don't have a whole breadth and depth of experience to leverage off of, there certainly would be a greater tendency that you could almost get, yeah, Strong-armed by your own emotions (INT 12) • I think really your life experience and your experience within the firm changes your professional skepticism. (INT 2) • I feel like the juniors, you get drilled into in university like fraud, fraud, fraud. And then once I like get out of the gates and hit the ground like auditing, they're very, very skeptical about everything and just jump to really extreme conclusions sometimes. I was one of them. They're like, oh my God, there's no receipt. It must be fraud. Which is... As you develop your professional judgment and skepticism. You're like, okay, there's no receipts. It's probably based on my experience and my knowledge of the client and all those other factors. It's not as I once saw it, if that makes sense. (INT 6) • Yeah, some people are... Concerned everything's about fraud and the next one's not. (INT 4) • In the beginning stages, I would say it's more so based off of logic and a gut feeling. Right? I wouldn't say I'd walk into... Because there's two types of people, right? There's people who walk into a company, and I've seen it, and it's like, "Oh, fraud, fraud, fraud." They're always looking at fraud. They think everything is done purposely. And then the other side of it, where you walked through company, you look at their financial statements from the most unbiased perspectives, as best to your ability. And then when you see something, or you see a material statement, or you see an incorrect entry or something like that, now you start to, the gears started turning. Okay, your professional skepticism starts to kick in: "Okay, is this fraud or just just an error?" And then you start kind of digesting that, going through that. (INT 8) • I would say definitely and we see it all the time too with young starts too is they have the mindset that they're out there to find fraud. That's their job is they're out there to try and uncover fraud or that the numbers just aren't right. So they start digging in and going down rabbit holes and, after a while, you get into the role and you understand the majority of the people aren't trying to pull the wool over your eyes. The majority of it is just truthful and even when you see some weird stuff, there's usually a business reason. Business is weird. The way clients do things is definitely weird and sometimes it just doesn't look right from a transaction perspective or from a debit credit kind of perspective but there's a business rationale behind it. (INT 9)