

# **Are Auditors Really Independent in Making Professional Judgment?**

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## **Abstract**

The study aims to investigate whether auditors are really independent in making professional judgment. The research is a descriptive survey, and the statistical population consists of independent auditors (the sample size is 425 auditors who work at audit organizations and IACPA audits). The field survey and questionnaires (in the year 2022) have been used for data collection. The collected data were analyzed by applying Structural Equation Modeling (SEM) method with "R" software version 4.0.2. The results mainly indicate that auditors are not really independent in situations where they are affected by personality characteristics resulting in impaired audit quality. In other word, auditors are not really independent in making professional judgment. This paper is the first study that formulate auditors' real independence based on personal characteristics. The findings can help regulators and standard setters as well as other authorities to consider these factors in developing related regulations and standards. It can lead to the expansion of research literature.

Keywords- real independence, personality characteristics, emotional intelligence, executive function, anxiety and depression.

Paper type- Research paper

## 1. Introduction

The increasing demand for reliable information requires auditors to attest the financial reports, which makes auditing as an integral part of the financial reporting process (Gardner 2000). The need for this attention and also consideration of independence at the Code of Ethics issued by the International Ethics and Standards Board for Accountants (IESBA 2018), emphasized the importance of auditors' independence to monitor the contractual arrangements between principals and agents in the agency theory literature (Madison 2018). The auditors' independence and professional judgment play an important role in providing assurance to the stakeholders (Bebeji et al. 2022, Balkir, 2000, Chiang 2016). The impairment of independence in the audit processes, especially when making judgment results in reduced audit quality. Therefore, identifying the factors that can affect independence and ultimately professional judgement is important requiring more research in this area. Reviewing the related literature shows that all the potential factors affecting real independence are not investigated by prior researchers, especially in emerging markets requiring more research in this area. This provides the main reason for conducting the current study.

It is expected that auditors make similar and fair judgment in accordance with audit standards framework however, prior researches (Setiawan 2018, Nolder & Riley 2014) show that despite unique audit standards and Code of Ethics, auditors make different judgments on the same and similar issues implying that auditor's independence may be impaired. It indicates that other factors are also affecting auditors' independence, which provides justification for doing more research in this area.

According to International Federation of Accountants (IFAC) (2018) auditors' independence has two dimensions: independence of mind (real independence) and independence in appearance. Reviewing prior researches (such as Bartlett 1993, Teoh and Lim 1996) indicate that most of them have focused on independence in appearance and independence of mind is not well investigated. This is because of its nature, i.e., not observable and measurable, making difficult for researchers to develop and apply a suitable proxy. This study tries to formulate and introduced a proxy for measuring real independence by using professional judgment. According to 'IFAC (2018, pp1)', independence of mind (real independence) is 'the state of mind that permits the expression of a conclusion without being affected by influences that compromise professional judgment ...' implying that the professional judgment is the core of independence of mind.

Accordingly, it can be concluded that the factors, especially personality characteristics, affecting professional judgment can affect independence of mind as well. Therefore, we can use professional judgment as a proxy for independence of mind (real independence). It should be considered that both of them (professional judgment and independence of mind) take place in the mind (Carvalho Júnior et al. 2017, IFAC 2018), so it is expected that cognitive characteristics will be more influential than other affecting factors.

According to cognitive studies, the variables affecting decision making and judgment can be divided into four categories including: emotions (Vigil-Colet 2007), cognitive skills (Bertrand and Schoar 2003, Fischhoff 2010), personality type (Ji et al. 2018) and the feelings (Finucane et al. 2000, Mellers 2000). It should be mentioned that some of these variables (e.g., cognitive skills and feeling) are not studied in the auditing context, providing another justification for doing this research. Prior researchers also show that people with higher cognitive skills make choices, which are more complied with expected ethical values (Cokely & Kelley 2009) and differences in

cognitive skills can affect judgment and decision-making process (Peters & Levin 2008, Stanovich & West 2008) and ultimately real independence. In addition, different sensitive reactions to internal and external factors can result in different judgments (Mellers 2000).

Some theories such as Carl Gustav Jung theory (1921) and dual processing theory indicated emotion, cognitive skills, personality type, and feelings affect audit Judgment. Also, the results of cognitive research indicate that the appropriate decision-making process requires a balance between feelings and perceptions of individuals (Damasio 1994). Paying attention to cognitive skills and feelings can improve the quality of decision making and the degree of auditor risk-averse (Henninger et al. 2010, Jin et al. 2019, Damasio 1994) leading to improved audit independence and quality.

Investigating cognitive factors and their interaction is also one of the innovations of this study. The incorporation of them and their interactions in audit literature may provide a better understanding of auditors' judgment and decision-making processes especially, in emerging markets, which is not taken into full consideration in auditing and accounting literature (Salehi & Dastanpoor 2021). The third section provides the research method. The fourth section presents the study's findings, and the final section reports the conclusions, including implications and limitations.

## 2. Literature Review

In this section, a review of the related theories (dual process theory and Carl Gustav Jung theory), auditor's independence and judgment, cognitive factors affecting judgment are presented.

### 2.1. Dual Process Theory

Recent decision-making theories seek to integrate cognitive, emotional and contextual information in order to explain the complexities of decision-making processes (Wise 2014). One of the most important theories in this field is dual processing theory (Epstein et al. 1996). In this theory, individuals are influenced by two distinct nervous systems called "rational-analytical" system and "experiential-intuitive" system when making decisions. The "rational-analytical" system is a type of neural information processing that is slower, logical, analytical, and governed by rules. The "experiential-intuitive" system is a type of neural information processing that is faster, more associative in nature, and driven by emotions and intuition. Although rational and strategic decision-making is beneficial for humans, it is not the best option. Sometimes making decisions based on emotions and intuition can also have an important effect on improving choices and increasing the quality of decision making. In other words, the integration of two processes can lead to improvement, especially in uncertain and risky situations. In such situations, the use of the "experiential-intuitive" system becomes more important. Epstein et al. (1996) believe that decision-making processes rely more on the "experiential-intuitive" system. Hence, dual processing theory integrates logical cognitive processes with emotional and contextual processing. In other words, the function of neural structures based on emotions, cognitive components and their integration provides the possibility of sound decision making in different fields (Wise 2014). In 1998, Damasio presented somatic marker hypothesis that emphasized the role of emotion and emotional processing in better decision-making by providing a physical and emotional label. This "label" is reused during subsequent decisions based on experience. Damasio also believed that physical somatic is combined with cognitive processes by pinpointing which particular alternative in a decision scenario should be chosen by working memory (a component of executive function) (Bechara & Damasio 2005).

## 2.2. Carl Gustav Jung theory

Carl Gustav Jung identified four psychological functions, which are: sensation, intuition, thinking and feeling. Like thinking and feeling, sensation and intuition are opposite components. Although all four functions are experienced by each person, Jung assumed that only one function is more dominant in each person. In addition, he believes that each of these four functions is different according to the general attitude of introversion and extroversion. Intuition and sensation are functions related to perception. Also, thinking and feeling are related to the evaluation and interpretation of perceptions. In other words, he considers perception and evaluation as two separate categories (Jung 1921). The judgment and decision-making is a process of understanding and evaluating information and options, and as well as concluding based on perceptions (Pirtošek et al. 2009), so, attention to perceptions and evaluating them is essential to have a better understanding of judgment. Therefore, it can be implied that paying attention to personality characteristics and sensory processing in making decision is important. In recent psychological research such as Marjerison & Pan (2022) and Khoo et al. (2022) this theory was applied in examining decision making.

Attribution theory also refers to how a person interprets an event and the causes of his behavior. This theory stated that individual's behavior is determined by internal and external stimuli (Tandiontong 2016). The discussion of this theory leads to the factors causing the existence of an event or events. This attribution theory can be used to understand what factors influence the auditor when doing an assignment (Wahidahwati & Asyik 2022). As sensory processing shows the reaction of individuals to internal and external stimuli, so we can infer that the theory justifies the examination of this variable in current study.

## 2.3. Auditor's independence

Auditor independence is explained as the basis of auditing (Previts & Merino 1998) and is the essence of audit that provide objective assurance for financial statements and enhance the credibility and reliability of the financial reports (Quick & Warming 2009).

The International Federation of Accountants (IFAC 2018) categorized independence into two dimensions: independence in fact (mind) (IIF) and independence in appearance (IIA). Both dimensions are critical elements in the maintenance of public confidence in the audit profession (Pany & Reckers 1980). Independence in fact (IIF) is the state of mind which allows the auditor to carry out the audit processes with objectivity, integrity and professional skepticism. Independence in appearance (IIA) refers to the perception of the informed users in regard to the audit and auditors' following of audit standards.

Prior research show that independence in fact had more effect in corporate collapses of the early 21st century (Stempel 2009, Brown 2005), which requires more research to identify the factors affecting this kind of independence.

Audit researches investigated factors affecting independence such as gifts; purchase discount arrangement (Pany & Reckers 1980); the audit firm size (Gul 1989); the provision of management advisory services by the audit firm (Bartlett 1993, Teoh & Lim 1996); the level of competition in the audit services market (Gul 1989); the client's financial condition (Gul 1989, Gul & Tsui 1992); the nature of conflict issue (Knapp 1985); the audit firm's tenure (Teoh & Lim 1996); the degree of competition in the audit services market (Knapp 1985, Gul 1989); the audit fees or relative client size (Bartlett 1993, Teoh & Lim 1996, Pany & Reckers 1980); and the audit committee (Gul 1989, Teoh & Lim 1996). As can be seen investigated factors are mainly related to independence in appearance. It may be related to the fact that independence in fact is unobservable (it is inner

variable) and because of that it is not measurable, making it difficult for researchers to be investigated.

Based on the above definition provided by IFAC (2018), this paper argues that audit judgment can be a good proxy for independence in fact and hypothesizes that factors affecting audit judgment, especially psychological ones can affect independence in fact as well. Deficiencies in Auditors' psychological characteristics can affect negatively the audit process especially collecting information and making professional judgment. Demetriou et al. (2021) showed that depressed individuals have a negative bias in perceiving key cues, which can affect auditors' professional skepticism and judgment as well as independence requiring more research in this area. This paper investigated the effect of psychological characteristics on audit judgment (as a proxy of independence in fact) and provide a model for independence in fact based on this relationships.

#### 2.4. Auditor's professional judgment

The judgment is defined as a process of making a decision or drawing a conclusion among some possible alternative solutions in uncertain and risky conditions (Fischhoff & Broomell 2020).

'International Auditing and Assurance Standards Board (IAASB) (2018,pp.3)', defines professional judgment as 'the application of relevant training, knowledge, and experience, within the context provided by auditing, accounting, and ethical standards, in making informed decisions about the courses of action that are appropriate in the circumstances of the audit engagement.'

Regarding the vital role of the professional judgment in the audit process (Dawes & Hastie 2001), the quality of financial reports (Ionela 2016), the users' decisions (Firth 1980) and the market (DeAngelo 1981), it is necessary to study the factors that can affect it, i.e., psychology dimensions (emotion, cognitive skills, personality, and feelings), which is the subject of this research.

#### 2.5. Emotion and professional judgment

There is no scientific consensus on the definition of emotion (Kleinginna & Kleinginna 1981) and prior effort to reach a specific definition was not successful (Eelen 2018).

Sander et al.(2005, pp.318) defined emotion as "episode of interrelated, synchronized changes in the states of all or most of the five organismic subsystems in response to the evaluation of an external or internal stimulus event as relevant to major concerns of the organism.'

One of the factors that can affect and control the emotions and its components is emotional intelligence (Goleman 1995). Emotional intelligence (EI) has been defined as 'being able to motivate oneself and persist in the face of frustrations; to control impulse and delay gratification; to regulate one's moods and keep distress from swamping the ability to think; to empathize and to hope' (Goleman 1996). Mayer et al. (2004) consider four interrelated abilities for emotional intelligence, including using emotions to facilitate decision-making, perceiving emotion (oneself and others), perceiving emotion, and managing emotion.

According to Goleman (1998) decisions are dynamically related to mood and emotions, and this relationship can enhance the quality of decision making. In this regard, Buontempo (2005) and Damasio (1994) show that emotions and emotional intelligence affect decision making.

Emotional intelligence plays a prominent role in the situations that involve judgment and decision making (Goleman 1998), which is mainly the case in audit providing another justification for doing this research. Although, the effects of emotional intelligence on auditor's judgment is investigated in prior audit research (Yang et al. 2018, Coget et al. 2011, Côté et al. 2010) and the effects of its interactions with other importance psychological variables such as personality type and depression are considered in psychological research (Roman et al. 2019, Siu 2009, Vigil-Colet 2007, Furnham & Chamorro-Premuzic 2004), the effects of this interaction is not investigated in audit area.

Law et al. (2004) show that individual with high emotional intelligence can effectively realize their own emotions and regulate them for doing their task. Auditors deal with ethical dilemmas in their jobs and their emotional intelligence can help them taking appropriate ethical action (Ismail 2015). Prior research (Mesmer-Magnus et al. 2010, Deshpande & Joseph 2009, Angelidis & Ibrahim 2011) show that people with high emotional intelligence tend to do more ethically than those with lower emotional intelligence. Therefore, it is expected that auditors with high emotional intelligence can make better judgment resulting in high degree of independent in fact.

#### 2.6.Cognitive Skills and Judgment

Cognitive skills refer to an individual's ability to do a variety of mental activities that are mainly related to learning and problem solving (Wehmeyer & Kelchner 1994). They are applied in acquisition of knowledge, manipulation of information, reasoning, how people learn, remember, and pay attention (Kiely 2014, Danili & Reid 2006).

Schneider and McGrew (2012) classified individual cognitive abilities in four categories including: acquired knowledge (crystallized intelligence), domain-independent general capacities (fluid reasoning and memory), sensory-motor abilities (visual and auditory processing), and general speed (processing speed, reaction times, and psychomotor speed).

One of the most important components of cognitive skills is executive functions (Michelon 2006). Executive functions are basically the management system of the brain and its deficiency can have a major impact on one's ability to perform tasks such as planning, prioritizing, organizing, paying attention and remembering details, controlling emotional reactions, and decision making (Alvarez & Emory 2006). Various studies such as Baruch Fischhoff (2010) show that decision making is affected by executive function. Prior research (Németh et al. 2020, Guarino et al. 2019, Alvarez & Emory 2006) also show that executive function can affect responding to environmental drivers, self-regulating thoughts and behaviors, flexibility, and decision making. In this regard prior psychological research shows that deficiencies in executive functions are associated with behavioral problems such as anxiety, depression, and emotional problems (Fujii et al. 2013, Hollocks et al. 2014), neurotic personality (Buchanan 2016, Bell et al 2020 ) unadaptability and unconsciousness (Buchanan 2016 , Bell et al. 2020).

#### 2.7.Personality (including disorders) and judgment

Personality is defined as 'a person's characteristic (trait) pattern of behaviors in the broad sense (including thoughts, feelings, and motivation)' (Uher & Visalberghi 2016, pp.3). Personality traits reflect people's characteristic patterns of thoughts, feelings, and behaviors (Matthews et al. 2003).

Personality traits can also be conceptualized as a set of stable individual differences in people's motivational reactions to environmental stimuli (Denissen & Penke 2008). There are different models of personality traits in a field of psychology. The most important and popular of them, which is labeled as Big Five, (Denissen & Penke 2008, Bakker et al. 2006, Wang 2014) is applied in this research. Multiple studies have evaluated the impact of personality traits on decision-making (Riaz & Batool 2012, Bajwa et al. 2016, Bayram & Aydemir 2017). In auditing, the relation between personality traits and judgment is also investigated (Sierra Molina & María 2002) but, the results are mixed (Muris et al. 2009), requiring more research in this area.

A personality disorder as a component of personality trait is a way of thinking, feeling and behaving that deviates from the expectations of the culture, causes distress or problems functioning, and lasts over time (American Psychiatric Association & American Psychiatric Association 2013). Psychologists believe that personality disorder is a common and chronic disorder and its prevalence is estimated to be 10-15% of the general population, which results in

unreasonable decision making (Ekhtiari & Behzadi 2001). Martin (2010) also show that personality disorder can result in unethical behavior, which can be the case in audit profession requiring more research in this area.

In audit research, only the relation between auditors' overconfidence and Machiavellian personality are investigated with judgment. While, anxiety and depression as important personality disorders affecting decision making and judgment (Demetriou et al. 2021, Hartley & Phelps 2012, Huys et al. 2015, Gur et al. 1992), are not studied in prior research.

## 2.8. Feelings and Judgment

The word "feeling" was used to explain the physical sensation of touch through either experience or perception and other experiences such as 'a feeling of warmth' and sentience (VandenBos 2006). Behavioral researchers concluded that feeling reactions (including feelings and mental states) play an important role in the judgment and decision-making process. Also, different reactions and sensory processing can result in different judgments (Finucane et al. 2000, Mellers 2000). Psychological research such as Damasio (1994) suggest that the appropriate decision-making process requires a balance between feelings and perceptions of individuals. LeDoux (1993) concluded that people's perceptions of their feeling reactions can help them to choose and make decisions in different circumstances. Regarding the audit process, which is full of decision making and judgment it seems that doing research in this area can help auditors to improve the quality of their decisions and judgments.

It is necessary to know and control the sources of feeling reactions. If the sources are not properly managed, they will easily lead to bias in judgment and decision making (Golman 1995). Sensory processing is one of these sources, which is the most basic psychological element underling how people perceive and react to environmental driver. Dun (2001) believes that each person has her/his unique way of processing sensory. People with high sensory processing tend to respond to lower sensory thresholds and can better recognize differences in the environment (Aron and Aron 1997). A person with a low sensory threshold pays full attention and response to drivers. When a person has a high threshold, it means that the person ignores drivers that other people easily notice (Dun 1997). Individuals with low sensory threshold (high sensory processing), are more affected by emotion than others, as they are more sensitive to drivers. In addition, the performance of their emotional memory, especially negative emotion, is better. This finding is consistent with studies that show individuals with high sensory processing sensitivity have higher levels of anxiety, negative emotions, and depression (Aron et al. 2005, Liss et al. 2005, Bakker & Moulding 2012, Grimen & Diseth 2016, Lionetti et al. 2019) affecting the level of attention and biased behavior resulting in unfair judgment. There is no research on this area in audit literature, which provides new subject for doing research in audit as well as accounting implying another justification for doing this research.

Stenmark & Redfearn (2021) show that individuals with higher sensory processing sensitivity (SPS) are more sensitive to stimuli and prefer to take their time in thinking on ethical problems. In the case of auditors, it can be argue that auditors with higher sensory processing may have higher level of independence in fact.

Recently, Fernandez-Prieto et al (2021) show that there is relationship between executive functions and sensory processing. Soler et al (2019) showed and there is a positive correlation between sensory processing style and executive functions but Adams et al. (2015) and Hebert (2015) did not find any relationship with them. Although these variables and their relationship is important in making judgment, it is not considered in prior audit research.

### 3. Research design

Since, the study investigates psychological factors on audit judgment, is categorized as a descriptive-correlative research, and as the researchers use questionnaires, it is also considered as a surveying investigation. In this research, a library method for the preparation of research literature, and questionnaires are applied in order to collect statistical data. The questionnaires for each variables are included, 60-item revised NEO personality inventory (Costa & McCrae 1985) for personality type, Bar-on (Bar-on 1997) and Facial expressions(1) for emotional intelligence, Adult sensory profile(Brown & Dunn 2002) for Sensory processing, Barkley questionnaire(Barkley 2011) and the SST test(Chikazoe 2009) for executive function, Beck anxiety and depression inventory questionnaire(Beck & Steer1990) for anxiety and depression and Hurtt questionnaire(2010) and Zarefar auditing ethics Questionnaire (2016) for professional judgment. These questionnaire choose based on psychological experts.

The statistical population consists of the auditors of the audit firms, which had Grade A during the last three years. They should have at least 3 years- work experience.

A maximum of 425 people with an effect size of 0.2, and first type error 0.05 and a power of 80% has been determined as a sample size using a special below formula for determining the sample size for modeling structural equations, that distributed, and 83 questionnaires were collected and finally 70 questionnaires were examined. The outbreak of Covide-19 and its consequences, especially in the audit firms, has a significant effect on the cooperation of the auditors. The collected data were analyzed using R statistical software version 4.0.2.

▪ **Error Function:**

$$\operatorname{erf}(x) = \frac{2}{\sqrt{\pi}} \int_0^x e^{-t^2} dt$$

▪ **The smaller bound sample size for a structural equation model:**

$$n = \max(n_1, n_2)$$

Where:

$$n_1 = \left\lceil 50 \left(\frac{j}{k}\right)^2 - 450 \left(\frac{j}{k}\right) + 1100 \right\rceil$$

$$n_1 = \left\lceil \frac{1}{2^H} \left( A \left(\frac{\pi}{6}\right) - B + D \right) + H \right\rceil$$

$$+ \sqrt{\left( A \left(\frac{\pi}{6}\right) - B + D \right) + H)^2 + 4^H \left( \frac{\pi}{6} + \sqrt{A} + 2^B - C - 2^D \right)}$$

$$A=1-p^2$$

$$B=\operatorname{parcsin}\left(\frac{p}{2}\right)$$

$$C=\operatorname{parcsin}(p)$$

$$D=\frac{A}{\sqrt{3-A}}$$

$$H=\left(\frac{\partial}{z_1-a/2-z_1-\beta}\right)^2$$

<sup>1</sup> [https://greatergood.berkeley.edu/quizzes/ei\\_quiz](https://greatergood.berkeley.edu/quizzes/ei_quiz)



Where:

J: is the number of observed variables,

k :is the number of latent variables,

$\rho$ : is the estimated Gini correlation for a typical two-variable random vector,

$\delta$ : is the size of the predicted effect,

$\alpha$  : is the amount of type 1 error with Sidak correction,

$\beta$  :is the amount of error Type two

z : usual standard score.

M: is the mean,

$\sigma$ : is the standard deviation

erf : the error function

#### 4. Results

Researchers use goodness-of-fit indicators to evaluate the fitness of overall model with the observed data that for research model are reported in Table 1. According to the obtained indicators, it can be seen that all the indicators are almost acceptable, so the results of the model are reliable.

Insert Table 1 Here

The Average variance extracted (AVE) and composite reliability (CR) indices, as well as the Cronbach's alpha value are reported in Table 4, respectively that show structure validity and reliability of the model.

Insert Table 2 Here

The results (Table 3) show a direct relationship between adults' sensory processing (PHB) and auditor's opinion (GH) (with intensity of 0.405). This shows that the sensory threshold (the level of stimulation that the person reacts to the stimulus) and the auditors' reaction to the environmental stimuli influence their opinion. In other words, the auditors' attention to environmental stimuli, and auditors' reaction can affect their concentration and emotions (Kamath et al. 2020), which can affect auditors' opinion and the judgments quality. Examining the results of behavioral research (Finucane et al. 2000, Mellers 2000) also shows that reaction to environmental stimuli affects their ability to make professional judgments and decisions.

The research results show that there is a negative relationship between anxiety and the auditor's opinion (GH) (with an intensity of 0.255). Anxiety leads to a decrease in the level of concentration (Azizpour et al. 2013) leads to a negative effect on decision-making (Karvay et al. 2021). In other words, anxious auditors have a lower level of concentration and cannot focus when expressing opinions, which can affect the quality of auditors' judgments and opinions. The result of the research is align with Hartley and Phillips (2012).

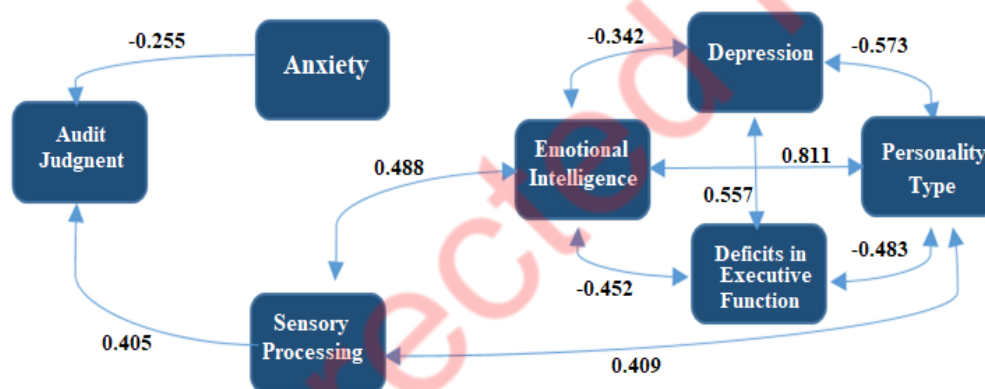
The results of the research showed that there is a negative relationship between emotional intelligence and deficits in executive function (with an intensity of 0.452). Individuals with higher emotional intelligence perform better in executive function components (such as time management, planning) (Godini & Baghfalki 2015, Arguedas et al. 2016). According to and Jerome and Liss (2005), there is a direct relationship between emotional intelligence and sensory

processing (align with the findings, with an intensity of 0.488) and also according Henderson and Zimbardo (2002) there is an negative relationship between emotional intelligence and anxiety and depression (align with the findings, with an intensity of 0.342), and according to findings, anxiety and sensory processing are related to opinions, It can be expected that emotional intelligence, deficits in executive function (KEB) and their interaction indirectly affect auditors' opinion. Also, the results show that there is a relationship between deficits in executive function (KEB) and depression (A) (with an intensity of 0.557). Due to the fact that depression has a negative effect on the level of concentration and decision-making (Azizpour et al. 2013, Karvay et al. 2021), it can affect their opinion and the quality of their judgment. The result of this research is align with the Hartley & Phelps (2012).

Insert Table 3 Here

The model based on research findings presented below:

**Figure 1- The final model**



## 5. Conclusion and Discussion

This study for the first time developed a proxy for measuring independent in fact and provide a conceptual model of its affecting psychological factors. In general, the findings imply that in some situation auditors' are not independent in fact because of these factors. The summary of findings are presented as below:

1- The sensory processing as a source of controlling feeling affects auditors' judgment. Accordingly, it can be argued that auditors in some situations are not really independent and do not act independently. This result is consistent with Bhattacharjee and Moreno (2002), Finucane et al. (2000) and Mellers (2000).

2- The anxiety affect auditors' judgment negatively. Due to the fact that auditors with high anxiety, show more negative biases in the interpretation of stimuli and also cannot have a high level of concentration, therefore it can be argued that such auditors have a lower quality of judgment and independence in fact. The result of prior researches (such as Chen et al., 2019, Leykin & DeRubeis 2010) show that anxious people are weak in making immediate and intuitive

decisions. It implies that auditors with this characteristic may have weak judgment as well as independence in fact. The finding is also consistent with Chen et al (2018), Hartley & Phelps (2012) and Zinbarg & Yoon (2008).

3- Emotional intelligence plays an important role in accurately recognizing feelings and controlling them (Wojciechowski et al. 2014, Porter et al. 2011). Also, individuals with this characteristic have a high skill in identifying inconsistencies and controlling stress (Nikolaou & Tsaousis 2002) and better compliance ethics. Therefore, it can be said that the influence of emotional intelligence on auditor's judgment can reduce auditors' tendency to inefficient behavior that can improve audit quality. It also helps auditors to comply with ethical requirements and independence of mind (real independence). The finding is align with Jerome. & Liss (2005).

4- Executive functions play an important role in controlling and directing behavior, performing tasks correctly, controlling and managing pressures. Also, due to the fact that executive functions components can help to control emotions (Tripathi 2017) and emotion control plays an important role in the quality of judgment and decision. The finding is align with Arguedas et al. (2016), Godini & Baghfalaki (2015). But the research result is not consistent with the research of Del Missier et al. (2012) who showed that executive function is not the determined factor for different aspects of decision making.

5- Personality traits indirectly affect audit judgment and independence in fact by the relationship with above psychological variables. The finding is align with Williams et al(2010), Denburg et al.(2009), Khalil (2016) ,but not consist with Bayram and Aydemir(2017) and El Othman et al.( 2020).

6- Personality disorders such as depression can make it difficult for auditors to control and properly manage their emotions. In addition to affecting people's social relationships, the lack of proper management of emotions can also affect a person's job performance. Due to the fact that the audit profession is a team work profession and deals with different clients, therefore, emotion management is important for them. Also, in past researches (Suri et al., 2004) showed that the inability to manage feelings and emotions in depressed people leads to an increase in the sense of hopelessness in them and reduces the quality of decision-making, This can have a negative effect on the quality of auditors' judgment and independence of mind (real independence). The finding is align with Karvay et al. (2021), Hindmarch et al. (2013), and Leykin et al.(2011).

This study has limitations. Generalizability is first limitation. Also, carelessly answer to questionnaire is another limitation. The outbreak of Covid-19 and its consequences is other limitation that affected the number of received questionnaire. The final limitation suggests that in addition to the variables, there could be several more effective factors s which are not considered in this paper.

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Reference

1. Adams, J. N., Feldman, H. M., Huffman, L. C., & Loe, I. M., 2015. Sensory processing in preterm preschoolers and its association with executive function. *Early human development*, 91(3), 227-233.
2. Alvarez, J. A., & Emory, E. (2006). Executive function and the frontal lobes: a meta-analytic review. *Neuropsychology review*, 16(1), 17-42.
3. American Psychiatric Association, & American Psychiatric Association. , 2013. Diagnostic and statistical manual of mental disorders: DSM-5. *Arlington, VA*.
4. Angelidis, J., & Ibrahim, N. A., 2011. The impact of emotional intelligence on the ethical judgment of managers. *Journal of Business Ethics*, 99(1), 111-119.

5. Arguedas, M., Daradoumis, T., & Xhafa, F., 2016. Analyzing the effects of emotion management on time and self-management in computer-based learning. *Computers in Human Behavior*, 63, 517-529.
6. Aron, E. N., & Aron, A., 1997. Sensory-processing sensitivity and its relation to introversion and emotionality. *Journal of personality and social psychology*, 73(2), 345.
7. Aron, E. N., Aron, A., & Davies, K. M., 2005. Adult shyness: The interaction of temperamental sensitivity and an adverse childhood environment. *Personality and Social Psychology Bulletin*, 31(2), 181-197.
8. Azizpour, M., Mohebbi, M., Khodaparast, M. H. H., & Varidi, M., 2013. Foam-mat drying of shrimp: characterization and drying kinetics of foam. *Agricultural Engineering International: CIGR Journal*, 15(3), 159-165.
9. Bajwa, R. S., Batool, I., Asma, M., Ali, H., & Ajmal, A., 2016. Personality traits and decision making styles among university students (Pakistan). *Pakistan Journal of Life and Social Sciences*, 14(1), 38-41.
10. Bakker, A. B., Van Der Zee, K. I., Lewig, K. A., & Dollard, M. F. , 2006. The relationship between the big five personality factors and burnout: A study among volunteer counselors. *The Journal of social psychology*, 146(1), 31-50.
11. Bakker, K., & Moulding, R., 2012. Sensory-processing sensitivity, dispositional mindfulness and negative psychological symptoms. *Personality and individual differences*, 53(3), 341-346.
12. Balkir, I. H., 2000. *Effects of analytical review results, optimism and patterns-for-coping on audit effort of accounting estimates* (Doctoral dissertation, Concordia University).
13. Barkley, 2011. Barkley Adult ADHD Rating Scale—IV (BDEFS-LF)
14. Bar-on, R., 1997. The BarOn Emotional Quotient Inventory (BarOn EQ-i). Toronto, ON: Multi-Health Systems Inc.
15. Bartlett, R. W., 1993. A scale of perceived independence: New evidence on an old concept. *Accounting, Auditing & Accountability Journal*, 6(2), 0-0.
16. Bayram, N., & Aydemir, M., 2017. Decision-making styles and personality traits. *International Journal of Recent Advances in Organizational Behaviour and Decision Sciences*, 3(1), 905-915.
17. Bebeji, A., Okpanachi, J., Nyor, T., & Ahmed, M. N., 2022. Independence factors influencing audit expectation gap in listed deposit money Banks in Nigeria. *Journal of Accounting and Taxation*, 14(1), 1-12.
18. Bechara, A., & Damasio, A. R., 2005. The somatic marker hypothesis: A neural theory of economic decision. *Games and economic behavior*, 52(2), 336-372.
19. Beck, A. T., & Steer, R. A., 1990. Manual for the Beck anxiety inventory. San Antonio, TX: Psychological Corporation.
20. Bell, T., Hill, N., & Stavrinou, D., 2020. Personality determinants of subjective executive function in older adults. *Aging & mental health*, 24(11), 1935-1944.
21. Bertrand, M., & Schoar, A., 2003. Managing with style: The effect of managers on firm policies. *The Quarterly journal of economics*, 118(4), 1169-1208.
22. 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.
23. Brown, C., & Dunn, W., 2002. *Adolescent/adult sensory profile*. San Antonio, TX: Pearson.
24. Brown, R. E., 2005. Enron/Andersen: crisis in us accounting and lessons for government. *Public Budgeting & Finance*, 25(3), 20–32. <http://dx.doi.org/10.1111/j.1540-5850.2005.00365.x>
25. Buchanan, T., 2016. Self-report measures of executive function problems correlate with personality, not performance-based executive function measures, in nonclinical samples. *Psychological Assessment*, 28(4), 372–385. <https://doi.org/10.1037/pas0000192>
26. Buontempo, G., 2005. *Emotional intelligence and decision making: The impact on judgment biases*. Columbia University.
27. Carvalho Júnior, C. V. D. O., Cornacchione, E., Rocha, A. F. D., & Rocha, F. T. , 2017. Cognitive brain mapping of auditors and accountants in going concern judgments. *Revista Contabilidade & Finanças*, 28(73), 132-147.
28. Chen, C. Y., Rossignac-Milon, M., & Higgins, E. T., 2018. Feeling distressed from making decisions: Assessors' need to be right. *Journal of personality and social psychology*, 115(4), 743.
29. Chen, Y. P., Chan, A. T., Le, Q. T., Blanchard, P., Sun, Y., & Ma, J., 2019. Nasopharyngeal carcinoma. *The Lancet*, 394(10192), 64-80.
30. Chiang, C., 2016. Conceptualising the linkage between professional scepticism and auditor independence. *Pacific Accounting Review*.
31. Chikazoe, J., Jimura, K., Hirose, S., Yamashita, K. I., Miyashita, Y., & Konishi, S., 2009. Preparation to inhibit a response complements response inhibition during performance of a stop-signal task. *Journal of Neuroscience*, 29(50), 15870-15877.
32. Coget, J. F., Haag, C., & Gibson, D. E., 2011. Anger and fear in decision-making: The case of film directors on set. *European Management Journal*, 29(6), 476-490.
33. Cokely, E. T., & Kelley, C. M., 2009. Cognitive abilities and superior decision making under risk: A protocol analysis and process model evaluation.
34. Costa, P. T., & McCrae, R. R., 1985. The NEO Personality Inventory manual. Odessa, FL: Psychological Assessment Resources.
35. Côté, S., Lopes, P. N., Salovey, P., & Miners, C. T., 2010. Emotional intelligence and leadership emergence in small groups. *The Leadership Quarterly*, 21(3), 496-508.

36. Damasio AR, 1994. *Descartes' error: emotion, reason, and the human brain*. New York: Grosset/Putnam.
37. Danili, E., & Reid, N., 2006. Cognitive factors that can potentially affect pupils' test performance. *Chemistry education research and practice*, 7(2), 64-83.
38. Dawes, R.M., & Hastie, R., 2001. Rational choice in an uncertain world: The psychology of judgement and decision making. *Thousand Oaks, CA: Sage Publications*, 33(6), 817-818.
39. DeAngelo, L. E., 1981. Auditor size and audit quality. *Journal of accounting and economics*, 3(3), 183-199.
40. Del Missier, F., Mäntylä, T., & De Bruin, W. B., 2012. Decision-making competence, executive functioning, and general cognitive abilities. *Journal of Behavioral Decision Making*, 25(4), 331-351.
41. Demetriou, E. A., Park, S. H., Pepper, K. L., Naismith, S. L., Song, Y. J., Thomas, E. E., ... & Guastella, A. J. ,2021. A transdiagnostic examination of anxiety and stress on executive function outcomes in disorders with social impairment. *Journal of Affective Disorders*, 281, 695-707.
42. Denburg, N. L., Weller, J. A., Yamada, T. H., Shivapour, D. M., Kaup, A. R., LaLoggia, A., ... & Bechara, A. ,2009. Poor decision making among older adults is related to elevated levels of neuroticism. *Annals of Behavioral Medicine*, 37(2), 164-172.
43. Denissen, J. J., & Penke, L., 2008. Motivational individual reaction norms underlying the Five-Factor model of personality: First steps towards a theory-based conceptual framework. *Journal of research in personality*, 42(5), 1285-1302.
44. Deshpande, S. P., & Joseph, J., 2009. Impact of emotional intelligence, ethical climate, and behavior of peers on ethical behavior of nurses. *Journal of Business Ethics*, 85(3), 403-410.
45. Dunn, W., 1997. The impact of sensory processing abilities on the daily lives of young children and their families: A conceptual model. *Infants and young children*, 9, 23-35.
46. Dunn, W., 2001. The sensations of everyday life: Empirical, theoretical, and pragmatic considerations. *American Journal of Occupational Therapy*, 55(6), 608-620
47. Eelen, P., 2018 .Classical Conditioning: Classical Yet Modern. *Psychologica Belgica*, vol. 58, no. 1, 2018, pp. 196–211.
48. Ekhtiari, H., & Behzadi, A., 2001. Prefrontal cortex, decision making deficits, and assessment instruments.
49. El Othman, R., El Othman, R., Hallit, R., Obeid, S., & Hallit, S., 2020. Personality traits, emotional intelligence and decision-making styles in Lebanese universities medical students. *BMC psychology*, 8(1), 1-14.
50. Epstein, S., Pacini, R., Denes-Raj, V., & Heier, H., 1996. Individual differences in intuitive–experiential and analytical–rational thinking styles. *Journal of personality and social psychology*, 71(2), 390.
51. Fernandez-Prieto, M., Moreira, C., Cruz, S., Campos, V., Martínez-Regueiro, R., Taboada, M., ... & Sampaio, A. , 2021. Executive functioning: A mediator between sensory processing and behaviour in autism spectrum disorder. *Journal of Autism and Developmental Disorders*, 51(6), 2091-2103.
52. Finucane, M. L., Alhakami, A., Slovic, P., & Johnson, S. M., 2000. The affect heuristic in judgments of risks and benefits. *Journal of behavioral decision making*, 13(1), 1-17.
53. Firth, M., 1980. A note on the impact of audit qualifications on lending and credit decisions. *Journal of Banking & Finance*, 4(3), 257-267.
54. Fischhoff, B., 2010. Judgment and decision making. *Wiley Interdisciplinary Reviews: Cognitive Science*, 1(5), 724-735.
55. Fischhoff, B., & Broomell, S. B., 2020. Judgment and decision making. *Annual review of psychology*, 71, 331-355.
56. Fujii, Y., Kitagawa, N., Shimizu, Y., Mitsui, N., Toyomaki, A., Hashimoto, N., ... & Kusumi, I. ,2013. Severity of generalized social anxiety disorder correlates with low executive functioning. *Neuroscience letters*, 543, 42-46.
57. Furnham, A., & Chamorro-Premuzic, T., 2004. Personality and intelligence as predictors of statistics examination grades. *Personality and individual differences*, 37(5), 943-955.
58. Gardner, H., 2000. A case against spiritual intelligence. *The international journal for the psychology of religion*, 10(1), 27-34.
59. Godini, S., & Baghfalaki, A., 2015. Emotional intelligence and time management survey at different levels of management: A case study of the relationship between emotional intelligence and job satisfaction of employees of Razi University in Kermanshah. *International Journal of Applied Business and Economic Research*, 13(6),3689–3704
60. Goleman, D., 1995. *Emotional Intelligence*, Bantam Books, New York, NY.
61. Goleman, D., 1996. *Emotional Intelligence*. London: Bloomsbury Publishing.
62. Goleman, D., 1998. *Working with emotional intelligence*.
63. Golman, D., 1995. *Emotional intelligence*. New York: Bantam Books.
64. Grimen, H. L., & Diseth, Å.2016. Sensory processing sensitivity: Factors of the highly sensitive person scale and their relationships to personality and subjective health complaints. *Comprehensive Psychology*, 5, 2165222816660077.
65. Guarino, A., Favieri, F., Boncompagni, I., Agostini, F., Cantone, M., & Casagrande, M., 2019. Executive functions in Alzheimer disease: a systematic review. *Frontiers in aging neuroscience*, 437.
66. Gul, F. A., 1989. Bankers' perceptions of factors affecting auditor independence. *Accounting, Auditing & Accountability Journal*, 2(3), 0-0.
67. Gul, F. A., & Tsui, J. S., 1992. An empirical analysis of Hong Kong bankers' perceptions of auditor ability to resist management pressure in an audit conflict situation. *Journal of International Accounting, Auditing and Taxation*, 1(2), 177-190.
68. Gur, R. C., Erwin, R. J., Gur, R. E., Zwiil, A. S., Heimberg, C., & Kraemer, H. C. ,1992. Facial emotion discrimination: II. Behavioral findings in depression. *Psychiatry research*, 42(3), 241-251.

69. Hartley, C. A., & Phelps, E. A., 2012. Anxiety and decision-making. *Biological psychiatry*, 72(2), 113-118.
70. Hartley, C. A., & Phelps, E. A., 2012. Anxiety and decision-making. *Biological psychiatry*, 72(2), 113-118.
71. Hebert, K., 2015. The association between impulsivity and sensory processing patterns in healthy adults. *British Journal of Occupational Therapy*, 78(4), 232-240.
72. Henderson, L., & Zimbardo, P., 2002. Measuring the dimension of shyness: Shyp. In Slides from a presentation given at the conference of the western psychological association.
73. Henninger, D. E., Madden, D. J., & Huettel, S. A., 2010. Processing speed and memory mediate age-related differences in decision making. *Psychology and aging*, 25(2), 262.
74. Hindmarch, T., Hotopf, M., & Owen, G. S., 2013. Depression and decision-making capacity for treatment or research: a systematic review. *BMC medical ethics*, 14(1), 1-10.
75. Hollocks, M. J., Jones, C. R., Pickles, A., Baird, G., Happé, F., Charman, T., & Simonoff, E., 2014. The association between social cognition and executive functioning and symptoms of anxiety and depression in adolescents with autism spectrum disorders. *Autism Research*, 7(2), 216-228.
76. Hurtt, R. K., 2010. Development of a scale to measure professional skepticism. *Auditing: A Journal of Practice & Theory*, 29(1), 149-171.
77. Huys, Q. J., Daw, N. D., & Dayan, P., 2015. Depression: a decision-theoretic analysis. *Annual review of neuroscience*, 38, 1-23.
78. IAASB, 2018. Standards, and Pronouncements. ISBN 978-1-60815-389-3
- Farahani, A. A. K., & Gholam-Shahbazi, H., 2019. The relationship between the emotional intelligence of Iranian EFL learners and their performance on the listening section of IELTS. *Journal of Language Teaching and Research*, 10(3), 469-476.
79. IFAC, 2018. Handbook of the International Code of Ethics for Professional Accountants. Available at: <https://www.ifac.org/system/files/publications/files/IESBA-Handbook-Code-of-Ethics-2018.pdf>
80. International Ethics Standards Board for Accountants (IESBA), .2018, International Code of Ethics for Professional Accountants, available at: <https://www.iesbaecode.org/guide-to-thecode.html>
81. Ionela, I. V. A. N., 2016. The importance of professional judgement applied in the context of the International Financial Reporting Standards. *The Audit Financiar journal*, 14(142), 1127-1127.
82. Ismail, S., 2015. Influence of emotional intelligence, ethical climates, and corporate ethical values on ethical judgment of Malaysian auditors. *Asian Journal of Business Ethics*, 4(2), 147-162.
83. Jerome, E. M., & Liss, M., 2005. Relationships between sensory processing style, adult attachment, and coping. *Personality and individual differences*, 38(6), 1341-1352.
84. Ji, M., Xu, Q., Xu, S., Du, Q., & Li, D., 2018. Proactive personality and situational judgment among civil flying cadets: The roles of risk perception and cognitive flexibility. *Transportation research part F: traffic psychology and behaviour*, 59, 179-187.
85. Jin, J. Y., Kanagaretnam, K., Liu, Y., & Lobo, G. J., 2019. Economic policy uncertainty and bank earnings opacity. *Journal of Accounting and Public Policy*, 38(3), 199-218.
86. Jung, C. G., 1921. *Psychologische typen*. Rascher.
87. Jung, C. G., 1921. *Psychologische typen*. Rascher.
88. Kamath, M. S., Dahm, C. R., Tucker, J. R., Huang-Pollock, C. L., Etter, N. M., & Neely, K. A., 2020. Sensory profiles in adults with and without ADHD. *Research in Developmental Disabilities*, 104, 103696.
89. Karvay, Y., Imbriano, G., Jin, J., Mohanty, A., & Jarcho, J. M., 2021. They're watching you: the impact of social evaluation and anxiety on threat-related perceptual decision-making. *Psychological Research*, 1-10.
90. Khalil, R., 2016. Influence of extroversion and introversion on decision making ability. *International Journal of Research in Medical Sciences*, 4(5), 1534-1538.
91. Khoo, N. H. L., Li, F., Chen, C. H., Liu, Y., Trapsilawati, F., & Sourina, O., 2022. Attention Distribution and Decision-Making in the Process of Robot's Appearance Design and Selection. In *International Conference on Human-Computer Interaction* (pp. 535-544). Springer, Cham.
92. Kiely, K., 2014. "Cognitive function". In Michalos, Kim M. (ed.). *Encyclopedia of Quality of Life and Well-Being Research*. Springer. pp. 974-978. doi:10.1007/978-94-007-0753-5\_426. ISBN 978-94-007-0752-8.
93. Kleinginna, P. R., & Kleinginna, A. M., 1981. A categorized list of emotion definitions, with suggestions for a consensual definition. *Motivation and emotion*, 5(4), 345-379.
94. Knapp, M. C., 1985. Audit conflict: An empirical study of the perceived ability of auditors to resist management pressure. *Accounting Review*, 202-211.
95. Law, K. S., Wong, C. S., & Song, L. J., 2004. The construct and criterion validity of emotional intelligence and its potential utility for management studies. *Journal of applied Psychology*, 89(3), 483.
96. LeDoux, J. E., 1993. Emotional memory systems in the brain. *Behavioural brain research*, 58(1-2), 69-79.
97. Leykin, Y., & DeRubeis, R. J., 2010. Decision-making styles and depressive symptomatology: Development of the Decision Styles Questionnaire. *Judgment and Decision making*, 5(7), 506.
98. Leykin, Y., Roberts, C. S., & DeRubeis, R. J., 2011. Decision-making and depressive symptomatology. *Cognitive therapy and research*, 35(4), 333-341.
99. Lionetti, F., Pastore, M., Moscardino, U., Nocentini, A., Pluess, K., & Pluess, M., 2019. Sensory processing sensitivity and its association with personality traits and affect: A meta-analysis. *Journal of Research in Personality*, 81, 138-152.

100. Liss, M., Timmel, L., Baxley, K., & Killingsworth, P., 2005. Sensory processing sensitivity and its relation to parental bonding, anxiety, and depression. *Personality and individual differences*, 39(8), 1429-1439.
101. Madison, M., 2018. Financial Statements Town of Madison, Maine June 30, 2018. Available at: <https://core.ac.uk/download/pdf/217151962.pdf>
102. Marjerison, R. K., & Pan, J., 2022. Decision-Making Styles of the Next Generation of Chinese Business Leaders. In *Handbook of Research on Emerging Business Models and the New World Economic Order* (pp. 365-386). IGI Global.
103. Martin, M. W., 2010. Personality disorders and moral responsibility. *Philosophy, Psychiatry, & Psychology*, 17(2), 127-129.
104. Matthews, G., Deary, I. J., & Whiteman, M. C., 2003. *Personality traits*. Cambridge, UK: Cambridge University Press.
105. Mayer, J. D., Salovey, P., & Caruso, D. R., 2004. TARGET ARTICLES:" Emotional Intelligence: Theory, Findings, and Implications". *Psychological inquiry*, 15(3), 197-215.
106. Mellers, B. A., 2000. Choice and the relative pleasure of consequences. *Psychological bulletin*, 126(6), 910.
107. Mesmer-Magnus, J., Viswesvaran, C., Deshpande, S. P., & Joseph, J., 2010. Emotional intelligence, individual ethicality, and perceptions that unethical behavior facilitates success. *Revista de Psicología Del Trabajo y de las Organizaciones*, 26(1), 35-45.
108. Michelon, P., 2006. What are cognitive abilities and skills, and how to boost them? Retrieved from <https://sharpbrains.com/blog/2006/12/18/what-are-cognitive-abilities/>
109. Muris, P., Bos, A. E., Mayer, B., Verkade, R., Thewissen, V., & Dell'Avvento, V., 2009. Relations among behavioral inhibition, Big Five personality factors, and anxiety disorder symptoms in non-clinical children. *Personality and individual differences*, 46(4), 525-529.
110. Németh, N., Péterfalvi, Á. Czéh, B., Tényi, T., & Simon, M., 2020. Examining the relationship between executive functions and mentalizing abilities of patients with borderline personality disorder. *Frontiers in psychology*, 1583.
111. Nikolauou, I., & Tsaousis, I., 2002. Emotional intelligence in the workplace: Exploring its effects on occupational stress and organizational commitment. *The International Journal of Organizational Analysis*.
112. Nolder, C., & Riley, T. J., 2014. Effects of differences in national culture on auditors' judgments and decisions: A literature review of cross-cultural auditing studies from a judgment and decision making perspective. *Auditing: A Journal of Practice & Theory*, 33(2), 141-164.
113. Pany, K., & Reckers, P. M., 1980. The effect of gifts, discounts, and client size on perceived auditor independence. *Accounting Review*, 50-61.
114. Peters, E., & Levin, I. P., 2008. Dissecting the risky-choice framing effect: Numeracy as an individual-difference factor in weighting risky and riskless options.
115. Pirtošek, Z., Georgijev, D., & Gregorič-Kramberger, M., 2009. Decision making and the brain: Neurologists' view. *Interdisciplinary Description of Complex Systems: INDECS*, 7(2), 38-53.
116. Porter, S., ten Brinke, L., Baker, A., & Wallace, B., 2011. Would I lie to you?"Leakage" in deceptive facial expressions relates to psychopathy and emotional intelligence. *Personality and Individual Differences*, 51(2), 133-137.
117. Previts, G. J., & Merino, B. D., 1998. A history of accountancy in the United States (Vol. 250). Columbus: Ohio State University Press.
118. Quick, R., & Warming, R. B., 2009. Auditor Independence and the Provision of Non-Audit Services: Perceptions by German Investors. *International Journal of Auditing*, 13(2), 141-162. <http://dx.doi.org/10.1111/j.1099-1123.2009.00397.x>
119. Riaz MN, Riaz MA, Batool N. Personality types as predictors of decision making styles. *J Behav Sci*. 2012, 22(2):100-14. 25.
120. Roman, M., Bostan, C. M., Diaconu-Gherasim, L. R., & Constantin, T., 2019. Personality traits and postnatal depression: the mediated role of postnatal anxiety and moderated role of type of birth. *Frontiers in Psychology*, 10, 1625.
121. Salehi, M., & Dastanpoor, Z., 2021. The effects of psychological factors on the performance of independent auditors in Iran. *Current psychology*, 40(4), 1621-1630.
122. Sander, D., Grandjean, D., & Scherer, K. R., 2005. A systems approach to appraisal mechanisms in emotion. *Neural networks*, 18(4), 317-352.
123. Schneider, W. J., & McGrew, K. S., 2012. The Cattell-Horn-Carroll model of intelligence.
124. Setiawan, W. Y. (2018). Gender Differences in Auditors' Judgments: Evidence from Indonesia. *Review of Integrative Business and Economics Research*, 7, 350-358.
125. Sierra Molina, G., & María, S. M. P., 2002. La formación Del juicio profesional: las diferencias individuales del auditor.
126. Siu, A. F. (2009). Trait emotional intelligence and its relationships with problem behavior in Hong Kong adolescents. *Personality and individual differences*, 47(6), 553-557.
127. Soler, N., Hardwick, C., Perkes, I. E., Mohammad, S. S., Dossetor, D., Nunn, K., ... & Dale, R. C. , 2019. Sensory dysregulation in tic disorders is associated with executive dysfunction and comorbidities. *Movement Disorders*, 34(12), 1901-1909.
128. Stanovich, K. E., & West, R. F., 2008. On the relative independence of thinking biases and cognitive ability. *Journal of personality and social psychology*, 94(4), 672.
129. Stempel, J., 2009. Ex-Parmalat auditors settle US investor lawsuit, Reuters. Retrieved from <http://uk.reuters.com/.../2009/.../parmalat-auditors-settlement-idUKN19190127>

130. Stenmark, C. K., & Redfean, R., 2021. The role of sensory processing sensitivity and analytic mind-set in ethical decision-making. *Ethics & Behavior*, 1-15.
131. Suri, R., Altshuler, L. A., & Mintz, J., 2004. Depression and the decision to abort. *American Journal of Psychiatry*, 161(8), 1502-1502.
132. Tandiontong, M., 2016. *Kualitas Audit dan Pengukurannya*. Bandung: Alfabeta
133. Teoh, H. Y., & Lim, C. C., 1996. An empirical study of the effects of audit committees, disclosure of nonaudit fees, and other issues on audit independence: Malaysian evidence. *Journal of International Accounting, Auditing and Taxation*, 5(2), 231-248.
134. Tripathi, A., 2017. Impact of internet addiction on mental health: An integrative therapy is needed. *Integrative Medicine International*, 4(3-4), 215-222.
135. Uher, J., & Visalberghi, E., 2016. Observations versus assessments of personality: A five-method multi-species study reveals numerous biases in ratings and methodological limitations of standardised assessments. *Journal of Research in Personality*, 61, 61-79.
136. VandenBos, G., 2006. *APA Dictionary of Psychology*. Washington, DC: American Psychological Association
137. Vigil-Colet, A., 2007. Impulsivity and decision making in the balloon analogue risk-taking task. *Personality and Individual Differences*, 43(1), 37-45.
138. Wahidahwati, W., & Asyik, N. F., 2022. Determinants of auditor's ability in fraud detection. *Cogent Business & Management*, 9(1), 2130165.
139. Wang, C. H., 2014. Gender differences in the effects of personality traits on voter turnout. *Electoral Studies*, 34, 167-176.
140. Wehmeyer, M. L., & Kelchner, K., 1994. Interpersonal cognitive problem-solving skills of individuals with mental retardation. *Education and Training in Mental Retardation and Developmental Disabilities*, 265-278.
141. Williams, P. G., Suchy, Y., & Kraybill, M. L., 2010. Five-factor model personality traits and executive functioning among older adults. *Journal of Research in Personality*, 44(4), 485-491.
142. Wise, R. J., 2014. *Stress and decision making: the role of impulsive personality* (Doctoral dissertation, Monash University).
143. Wojciechowski, J., Stolarski, M., & Matthews, G., 2014. Emotional intelligence and mismatching expressive and verbal messages: A contribution to detection of deception. *PLoS One*, 9(3), e92570.
144. Yang, L., Brink, A. G., & Wier, B., 2018. The impact of emotional intelligence on auditor judgment. *International Journal of Auditing*, 22(1), 83-97.
145. Zarefar, A., & Zarefar, A., 2016. The Influence of Ethics, experience and competency toward the quality of auditing with professional auditor scepticism as a Moderating Variable. *Procedia-Social and Behavioral Sciences*, 219, 828-832.
146. Zinbarg, R. E., & Yoon, K. L., 2008. RST and clinical disorders: Anxiety and depression.