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Auditors' Sensory Processing Capability and Objectivity: Are Auditors Really Objective?

Reyhaneh Haghighi[1] | Mohammad Ali Bagherpour Velashani[2*] | Ali Ghanaei Chamanabad[3] | Mohammad Reza Abbaszadeh[4]

1. Department of Accounting, Faculty of Economics and Administrative Sciences, Ferdowsi University of Mashhad, Mashhad, Iran. Email: re.haghighi@mail.um.ac.ir
2. Corresponding Author, Faculty of Economics and Administrative Sciences, Ferdowsi University of Mashhad, Mashhad, Iran. Email: bagherpour@um.ac.ir
3. Faculty of Education and Psychology, Ferdowsi University of Mashhad, Mashhad, Iran. Email: ghanaee@um.ac.ir
4. Faculty of Economics and Administrative Sciences, Ferdowsi University of Mashhad, Mashhad, Iran. Email: abbas33@um.ac.ir

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ABSTRACT

This paper investigates the effect of auditors' sensory processing on their objectivity. It is a descriptive survey, and the research population consists of independent auditors at different professional levels (the sample size is 115 auditors who work at audit organizations and IACPA audits). The required data was collected, in the year 2022, by standard questionnaires provided in the literature and analyzed by applying Structural Equation Modeling(SEM) method using "R" software. The results showed that auditors' sensory processing affects their objectivity. Therefore, it can be argued that auditors are not objective in all situations, implying that the audit quality may be impaired in specific conditions. This finding indicates that the auditors' objectivity could be affected by different personal traits leading to increased audit risk, which may negatively affect audit firms and audit professional reputations. The paper represents a start into the territory of the minds of auditors by investigating the effect of auditors' reactions to environmental stimuli on their objectivity. The results showed the significant effects of sensory processing capabilities on objectivity, leading to more developments in audit behavioral research. The findings may have some implications for regulators, standard setters and audit firms for providing insights to improve professional objectivity.

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1. Introduction

Auditors' objective judgment, as a kind of ethical decision-making, is vital in the audit process and audit quality, and adds value to financial statements (Balkir, 2000; Center for Audit Quality, 2014). According to prior research, auditors' objectivity can decrease audit risk, reduce the likelihood of misleading users and unexpected costs (Nelson, 2009; Beu et al., 2003), and increase the chance of achieving audit profession goals (Fjodorowa, 2013), leading to increased trust on audit profession (Zeni et al., 2016). However, in reality, auditors' objectivity is increasingly threatened, and various doubts have been raised about it (Fjodorowa, 2013), resulting in an expectation gap between the profession and the users in regard to auditors' objectivity. Therefore, it is necessary to conduct research in this area and identify the factors affecting auditors' objectivity to reduce this expectation gap, which we call the "audit objectivity expectation gap."

Bazerman et al. (1997) indicated that auditors' judgments could be biased in favor of their own and their client's interests, as one of the personality traits (PT). This bias may also occur indirectly due to selective sifting and integrating audit information. According to ISO 9001 (Part 2.2), auditors' personality traits can be crucial in undermining their objectivity (International Organization for Standardization, 2016). Moreover, based on the theory of planned behavior literature, the factors affecting auditors' compliance with ethical standards are divided into PT and organizational factors (Paino et al., 2012). Therefore, investigating the effect of personality factors on the auditors' objectivity and determining the type of impact can increase their objectivity and audit quality. In addition, improving audit quality can increase the credibility of financial information (Orazalin & Akhmetzhanov, 2019; Al-Thuneibat et al., 2011). This increased credibility provides another justification for doing this research.

Jung (1921) and Fukazawa (2010) indicated that ethical decision-making (including audit objective decisions) is affected by feeling as one of PT, which, itself, is influenced by the way of processing stimuli and responding to them (Bhattacharjee & Moreno, 2002), named as 'sensory processing capability.' In other words, it can be said that sensory processing capability can affect audit objectivity by influencing their feelings. Behavioral researchers concluded that sensory processing capability is the most crucial personality factor affecting objectivity (Renton et al., 2021). Moreover, Stenmark and Redfearn (2022) showed that sensory processing affects how individuals deal with ethical issues. Sensory processing also affects auditors as they usually face different ethical issues during the audit process. However, the audit literature review indicates a gap in the prior research as less attention has been given to this issue, requiring more related research.

Understanding and addressing how the feeling is processed, reacted, and balanced improves objectivity and, ultimately, the quality of decision-making and judgment (Finucane et al., 2000; Mellers, 2000; Hurtt, 2010), reducing the gap in the literature. This provides the main justification for examining the relationship between auditors' objectivity and the auditor's sensory processing capability. The existing gap and the effect of feeling processes (auditor's sensory processing capability) on the auditor's objectivity are this research's primary concerns, creating doubts about the auditors' objective. Therefore, the main question of this research is how an auditor's sensory processing capability can affect auditors' objectivity.

This study's results can improve the quality of auditors' judgment and reports and provide helpful information for regulators and standard setters.

As mentioned above, the main innovation of this research lies in presenting a beginning into the area of the mind, including the introduction of new audit literature and investigating new auditors' personal characteristics by investigating the effect of auditors' reactions to environmental stimuli on their objectivity, a factor which prior researchers did not consider.

The following sections present a literature review, hypotheses development, statistical population, results, discussion, conclusion and limitation. It should be noted that the research is conducted for the first time in the audit field, so the following literature review is limited.

2. Literature Review and Hypotheses Development

2.1. Auditors' Objectivity

Audit objectivity is when an auditor's professional judgment is not influenced by personal interest or bias. In other words, objectivity means that an auditor does not take sides in a dispute. This could be

achieved by having the appropriate skills and experience to judge the assessed situation objectively (IESB, 2021).

2.2. Sensory Processing Capability

In order to be able to understand the environment around us and engage in learning, our brain needs to process information from different senses simultaneously. Sensory processing is the ability to organize and interpret information received through the senses to produce a response, including visual, auditory, gustatory (taste), olfactory (smell), tactile, proprioceptive and vestibular information (Dunn, 2001).

2.3. Auditors' Objectivity and Sensory Processing Capability

Like other professions, the audit profession has rules, principles and standards, requiring individuals to carry out their professional duties using knowledge, competence, skills and experience, without bias. Objectivity is the lack of positive or negative bias in auditors' opinions and beliefs (Cushing, 2000; International Organization for Standardization (ISO), 2016; Public Company Accounting Oversight Board, 2004).

According to the theory of planned behavior, motivation and factors affecting auditors for non-bias and compliance with ethical standards are divided into internal components, namely personality traits(PT), and external components, namely organizational factors (Paino et al., 2012).

According to prior literature (Mumford et al., 2008), ethical decision-making is affected by seven cognitive strategies, including recognizing circumstances, seeking help, considering others' perspectives, dealing with emotions, anticipating consequences, questioning one's judgment, and looking within to analyze personal motivations. In addition, these factors affect how individuals solve ethical problems (Caughron et al., 2011; Martin et al., 2011). Interestingly, emotions (as a PT) can affect the influence of these strategies on solving ethical problems (Kligyte et al., 2013). Therefore, investigating the effect of PT components on objectivity is more important than external components. Furthermore, previous researchers (Fisher, 2001; Zahmatkesh & Rezazadeh, 2017; Rzeszutek et al., 2015) showed that PT affects individuals' degree of bias and their objectivity as well (that is based on the real independence and integrity of auditors), as one of the main principles of the audit profession (Nelson, 2009).

International Ethics Standards Board (IESBA, 2021) introduced some threats affecting objective judgment and decision-making, including Self-interest threat (resulting from financial and non-financial incentives), Self-review threat (not appropriately evaluating the results of a previous judgment made or an activity performed), Advocacy threat (the threat that an auditor will promote a client's or employing organization's position to the point that their objectivity is compromised), Familiarity threat (The threat that results from close family and friendly relationship), and Intimidation threat (The threat resulted from actual or perceived pressures). We can infer that different threats can affect individuals with different PTs and feelings. This interpretation is supported by Jung (1921), indicating that the interaction between the thinking and feelings of individuals with different PT can result in different judgments and decision-making, leading to different levels of objectivity. Yusuf and Nurihsan (2008) believe that personality is all real thoughts, feelings, and behaviors. Waluyo (2017) found that auditors with sense, thinking, and intuition have higher professional objectivity and tend to be logical in making decisions because they consider the facts. This implies that different auditors may not have the same level of objectivity in similar cases, requiring more research in this area.

Attribution theory also refers to how a person interprets an event and the causes of their behavior. This theory states that internal and external stimuli determine an individual's behaviour (Tandiontong, 2016). The discussion of this theory leads to the factors causing the existence of an event or events. Researchers use the attribution theory to understand what factors influence the auditor when doing an assignment (Wahidahwati & Asyik,2022).

In this regard, feelings and emotions are influenced by the way stimuli are processed and responded to, called 'sensory processing capability'(Bhattacharjee & Moreno 2002). According to Jagiellowicz et al.(2011) and Kanwisher et al.(1997), it can be implied that sensory processing is an important element affecting objectivity. Sensory processing capability is one of the most basic psychological elements and the temperament/personality trait that is a basis for how people perceive and react to environmental stimuli (Jagiellowicz et al., 2011; Aron et al., 2012).

Sensory Processing capability is a temperament-based individual difference (Jagiellowicz et al., 2011) that concerns people's cognitive sensitivity to certain stimuli, including one's own internal processes as well as external stimuli (Acevedo et al., 2014). Internal stimuli may include an increased sensitivity to one's own emotions or bodily sensations. External stimuli include environmental or social sources, such as the emotional or social cues of others, loud noises, bright lights, and strong odors. In addition, highly sensitive people may find new or unpredictable stimuli unpleasant (Aron & Aron, 1997), and typically engage in a series of cognitive processes to sufficiently deal with the problematic situation or dilemma.

Each person has a unique method for processing sensory inputs. Based on these processing methods, Dunn (2001) developed a model. The sensory processing capability model is based on a 'person's neurological thresholds' and 'self-regulation strategies (behavior response).' A person's 'neurological thresholds' indicate how they respond to a stimulus. Individuals with high sensory processing sensitivity are likely to respond to a lower sensory threshold, realize the differences in the environment, fully address stimuli, and be more willing to process the stimuli more substantively (Aron & Aron, 1997; Aron et al., 2012).

Numerous functions of sensory-processing sensitivity (SPS) appear to be geared toward increased deliberation. SPS theory suggests that one of the hallmarks of being highly sensitive is an initial need for reflection (Aron & Aron, 1997). This need to reflect inclines individuals with high sensory processing (HSP) toward the input and processing of new stimuli, or potential conflicts, rather than output in terms of more immediate behavioral reactions. These processes result in longer periods of behavioral inhibition and increased attention and awareness of internal as well as environmental stimuli (Acevedo et al., 2014). SPS theory posits that HSPs may undergo a momentary behavioral inhibition before responding to the situation to facilitate the deep cognitive processing of potentially useful stimuli. As a result of this delay, a slower decision may be reached; however, fewer decision-making errors may be made due to the increased time spent reflecting.

In HSPs, the brain increases metabolic demand and energy to attend to more useful cues that might be used to make the best decisions. This means that subtle or non-relevant cues are also afforded equal attention until only the relevant cues are identified. Due to this initial nondiscriminant cognitive processing, HSPs are naturally predisposed to being more detail-oriented.

During the moment of behavioral inhibition, HSPs will reflect upon similar experiences and project future hypothetical scenarios that would be useful for making a better and more informed decision (Acevedo et al., 2014).

Iimura (2022) shows a relationship between high sensory processing and stress leading to low quality objective judgment. In contrast, individuals with low sensory processing sensitivity have a higher sensory threshold, meaning that they may miss stimuli others easily spot and address. Low-sensory individuals need stronger stimuli to elicit a respond (Dunn, 1997).

'Self-regulation strategies' are also defined as the individual's active or passive reactions to identified stimuli. These two factors have two spectra ('high and low'). Based on them, the four personality characteristics determined are: 'Low Registration,' 'Sensory Sensitivity,' 'Sensation Avoiding,' and 'Sensation seeking' (Dunn, 2001), depicted in Table 1 below.

Table 1. Dunn's Model (2001)

Neurological Threshold Continuum	**Behavior Response Continuum**	
	The brain acts by the threshold Passive	**Brain Counteracts threshold Active**
High	Low Registration	Sensory Seeking
Low	Sensory Sensitive	Sensory Avoiding

A high neurological threshold and passive response style are classified as 'low registration.' Individuals with this personality characteristic are inattentive to the environment and are often described as withdrawn, unmotivated, or narcissistic (Dunn, 1997). However, they have a higher concentration level on topics (Kamath et al., 2020). Due to their passive response characteristics, they are less influenced by the stimuli, so they are expected to have a higher level of objectivity. This trait (low registration) helps auditors, especially when gathering evidence and the auditor's opinion is under

environmental pressure. In this situation, auditors with the 'low registration' feature are less affected by environmental stimuli and perform the audit process by more relevant standards and guidelines.

Auditors with professional objectivity in making decisions are more careful and seek additional information and evidence to ensure that the audited financial statements are free from misstatement (Wahidahwati & Asyik, 2022). It can be said that concentration has a positive effect on objectivity. Therefore, the first hypothesis is as follows:

H1: A positive relationship exists between the low registration and the auditor's objectivity.

A high neurological threshold and active response are classified as 'sensation seeking.' Individuals with this trait are more adventurous, tolerate higher risk levels, tend to pursue diverse and new experiences, and easily lose control (Zuckerman, 1994; Iancheva et al., 2018). Also, following previous research (Joireman et al., 2003; Chou et al., 2005; Joseph et al., 2009; Conner, 2021), such individuals are more likely to engage in immoral behaviors and negative emotions (e.g., embarrassment and shame, sorrow and sadness). Accordingly, such a feature is expected to affect the actions and behavior of auditors in the audit process as well as their objectivity. Therefore, the second hypothesis is as follows:

H2: There is a significant relationship between sensation seeking and the auditor's objectivity.

A low neurological threshold and a passive response method are classified as 'sensory sensitivity.' Individuals with this trait use less logic and are more affected by sensory stimuli (such as odors, harsh sounds, bright light, and spicy tastes), which leads to the subconscious and urgency arousal that negatively affects performance (Aron & Aron, 1997). Such people have more emotions, especially negative ones (such as embarrassment and shame, sorrow and sadness), and suffer from weak social skills and personality disorders, including anxiety and depression (Aron et al., 2005; Bakker & Moulding, 2012; Engel-Yeger et al., 2013; Brindle et al., 2015; Khodabakhsh et al., 2017), high stress, and low self-confidence (Benham, 2006). Moreover, previous research in this field shows that cognitive biases are higher among people with personality disorders (such as anxiety and depression) (Clark, 2005), and high stress leads to breaches of professional ethics (Häggström et al., 2008; Francine et al., 2013; Ajmal & Irfan, 2014). Therefore, it can be expected that 'sensory sensitivity' will cause auditors to be more biased and less objective. This exception can reduce the audit quality. Therefore, the third hypothesis is presented as follows:

H3: There is a negative relationship between sensory sensitivity and the auditor's objectivity.

A low neurological threshold and active response are classified as 'sensation avoiding.' Although individuals with this trait have active strategies for reducing the negative effects of environmental stimuli on their performance (Brown & Dunn, 2002), previous research (e.g., Engel-Yeger & Dunn, 2011) has shown a positive relationship between this trait and anxiety. Therefore, such individuals predominantly have a repressor personality type (Clark et al., 2019). These individuals disregard ethical and moral characteristics. Therefore, auditors with this feature are expected to be less willing to follow auditing standards and professional codes of ethics, which can reduce their objectivity. The fourth hypothesis is presented as follows:

H4: A negative relationship exists between sensation avoidance and the auditor's objectivity.

3. Statistical Population

This study adopts a descriptive survey research method. The statistical population includes auditors (with over 3 years of experience) who work at audit organizations and institutions that are members of the Society of Official Accountants of Iran (IACPA audits). The outbreak of Covid-19 and its consequences, especially in audit firms, had a significant effect on the cooperation of the auditors. Standard questionnaires of Adult Sensory Profiles (Dunn, 2001), objectivity (Hurtt, 2010), and library methods were used to collect data. Specialists confirm the reliability of indices and research questionnaires.

According to the special formula for determining the sample size (as follows) for modeling structural equations and testing research hypotheses, a maximum of 115 participants with an effect

size of 0.2, a Type 2 error rate of 0.05, and a power of 80%, was determined to be an appropriate sample size. After significant efforts, 82 questionnaires were received, 70 of which were used (Table 2). The Table below shows that most respondents (40%) are in the manager and partner category, and most managers and partners have an average age of 43 years. Since Alonso Debreczeni and Bailey (2021) showed that an increase in age is positively associated with depression. Most respondents are in the middle age group, which can be expected to affect their sensory processing capability. Of the respondents, 76% are men, and 24% are women.

- **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:

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

$$n_1=?1/2(A(?/6)-B+D)+H+?((A(?/6-B+D)+H)^2+4(?/6+?A+2-C-2))?$$

$$A=1-p^2$$

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

$$C=p\arcsin(p)$$

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

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

- **Normal distribution cumulative distribution function(CDF):**

$$F\left(x;\mu;\partial^2\right)=\frac{1}{2}\left[1+\operatorname{erf}\left(\frac{x-\mu}{\sigma\sqrt{2}}\right)\right]$$

where'j' is the number of observed variables,'$\mathcal{K}$' is the number of hidden variables, ρ' is the estimated' Gini correlation' for a typical two-random variable vector, 'δ 'is the predicted effect size, 'α' is the type one error with Sidak correction, 'β' is the type two error, and 'z' typical standard score. Also, 'μ 'is the mean,' σ 'is the standard deviation, and 'erf 'is the error function.

Table 2. Received Questionnaires

Professional category	Number of respondents		Final sample		Sex				Average age
	Number	%	Number	%	Men-number	%	women-number	%	
Auditor	19	23	16	23	9	17	7	41	25.38
Senior auditor	13	16	11	16	5	9	6	35	32.45
Supervisor	12	15	11	16	8	15	3	18	34
Senior supervisor	4	5	4	6	4	8	0	0	38.75
Manager and partner	34	41	28	40	27	51	1	6	43.11
Total	82	100	70	100	53	100	17	100	–

4. Results

Section 4 presents descriptive statistics, confirmatory factor analysis (CFA), the variables' validity, and reliability below.

4.1. Descriptive Statistics

Table 3 presents the descriptive statistics. According to the average age range of the respondents (between 25 to 43 years) to interpret the results, the age group of 18-64 presented in the interpretation guide of the Sensory Processing Questionnaire (Dunn, 2000) has been used. The results of the above interpretation are as follows:

- The average of the low registration' component is between 45-75. In this component, auditors have a much higher rank than most people. This higher ranking means they are lower at responding to stimuli, especially weak stimuli (rather than other ones). Low performance in this component is associated with increasing concentration (Kamath et al., 2020), increasing auditors' objective judgment.
- The 'sensation seeking' component is between 36-42, so the score in auditors is lower than most people, indicating more conservatism and concentration, as well as a lack of overreaction to negative emotions. This can strengthen auditors' objectivity (Kamath et al., 2020).
- The 'sensory sensitivity' component is between 49-75. Therefore, this component is much higher in auditors than in most people. Individuals with this trait have the potential for persistent distraction (Kamath et al., 2020) and may have personality disorders such as anxiety, depression, and stress. Such disorders positively correlate with ethics non-compliance and professional standards (Clark, 2005), and can lead to more bias and less objectivity.

Simultaneously high scores of 'low registration' and 'sensory sensitivity' components indicate irregularity or unpredictability of participant's behavior in response to stimuli, as well as inconsistency with the environment (Kamath et al., 2020). This can affect auditor objectivity and highlight the need formore research in this field.

- The sensation avoiding component is between 42-49. Hence, the score of this component in these groups is higher than most people. Given that such individuals are more inclined to seek power (repressor personality type), according to previous research, high power-seeking is associated with non-complying moral values (Brown et al., 2018). Therefore, auditors with this trait are expected to be less inclined to observe the ethical values of the profession and objectivity.

Table 3. Descriptive Statistics

Questionnaires/ test	Components	Applied symbol	Mean	Median	Standard deviation	Skewness	Kurtosis
adults' Sensory processing (PHB)	Low registration	PHB1	55.114	57.000	11.1635	-1.525	3.121
	sensation seeking	PHB2	39.529	40.000	7.4322	-0.031	1.827
	Sensory sensitivity	PHB3	50.714	51.500	9.5979	-1.050	2.589
	Sensation Avoiding	PHB4	48.714	49.500	9.8513	-0.973	1.836
Auditor's objectivity (GH)	Search for Knowledge	GH1	22.700	28.000	10.4262	-0.395	-1.490
	Suspension of Judgment	GH2	17.743	19.000	6.5446	-0.109	-1.022
	Autonomy	GH3	18.729	19.000	4.8750	-0.128	2.746
	Questioning mind	GH4	13.843	14.000	4.1864	-0.047	-0.327
	Self-Esteem	GH5	13.829	13.500	4.0035	-0.018	0.104
	Interpersonal Understanding	GH6	17.543	18.000	6.3124	-0.086	-1.190

As shown in Table 4, in the low registration component, the highest score is related to the 'senior supervisor' (60.75), and the lowest is related to the 'auditor' (51.13). The concentration of the senior supervisor is higher than other professional categories, and auditors have a lower level of concentration because they have less experience. In the sensation seeking component, the highest score is related to the 'senior auditor' (43.64), and the lowest score is related to the 'supervisor' (36.36). The highest score for the sensory sensitivity component is related to the 'senior supervisor' (55), and the lowest score is related to the 'auditor' (46.81). The highest score for the sensation

avoiding component is related to the 'senior auditor' (54.55), and the lowest score is related to the 'auditor' (46.63).

Table 4. Sensory Processing Capability - Average Comparison Based on Professional Category

Professional category	low registration	sensation seeking	sensory sensitivity	Sensation Avoiding
Auditor	51.13	37.44	46.81	46.63
Senior auditor	57.55	43.64	52.55	54.55
Supervisor	54.91	36.36	52.46	50.27
Senior supervisor	60.75	38.50	55.00	49.75
Manager and partner	55.71	40.50	50.86	46.86
Total	55.11	39.53	50.714	48.71

Table 5 shows the objectivity based on the professional category. The highest and lowest values of the 'search for knowledge' are related to the 'supervisor' (23.82) and 'senior supervisor' (20.25). The highest and lowest values of the 'suspension of judgment' are related to the 'manager and partner' (18.39) and 'senior supervisor '(16.75). The highest score of the 'autonomy' component is related to the 'manager and partner' (19.46), and the lowest score is related to the 'senior supervisor' (16.50). The highest score of the 'questioning mind' component is related to the 'supervisor' (14.27), and the lowest score is related to the 'senior auditor' (12.82). The highest and lowest components of 'self-esteem' are related to the 'auditor' (14.75) and 'senior supervisor' (11.00). The highest and lowest components of 'interpersonal understanding' are related to the 'supervisor' (18.91) and 'senior supervisor' (14.50).

Table 5. Auditors Objectivity - Average Comparison Based on Professional Category

Professional category	Search for Knowledge	Suspension of Judgment	Autonomy	Questioning mind	Self-Esteem	Interpersonal Understanding
Auditor	23.06	17.44	18.00	14.19	14.75	17.50
Senior auditor	23.09	17.18	18.55	12.82	13.36	16.45
Supervisor	23.82	17.45	18.91	14.27	13.45	18.91
Senior supervisor	20.25	16.75	16.50	13.00	11.00	14.50
Manager and partner	22.25	18.39	19.46	14.00	14.04	17.89
Total	22.7	17.74	18.73	13.84	13.83	17.54

Although some factors such as expertise (Smith & Kida, 1991) and age, can affect the objectivity and the component of sensory processing, the ANOVA analyses indicate that the effectiveness of these variables is not significant. Therefore, the results are not presented.

4.2. Confirmatory Factor Analysis (CFA) - Adults' Sensory Processing Capability

In this step, confirmatory factor analysis (CFA) was performed to identify the variable's components, sensory processing capability. Components with a load factor higher than 0.4 indicate the construct components of this variable.

The 'sensation seeking' component is removed due to having a load factor of less than 0.4 and the resulting model is illustrated in Figure 1. Table 6 shows that all the remaining components have a load factor of more than 0.4, enjoy the desired condition, and are effective in measuring the desired structure.

Table 6. Confirmatory Factor Analysis Result- Adults' Sensory Processing Capability

Component	No. of questions	Non-standard estimation	Criterion error	t statistic	p-value	load Factor
Low registration	15	1				0.888
Sensory sensitivity	15	0.858	0.082	10.485	<.001	0.886
Sensation Avoiding	15	0.916	0.082	11.118	<.001	0.922

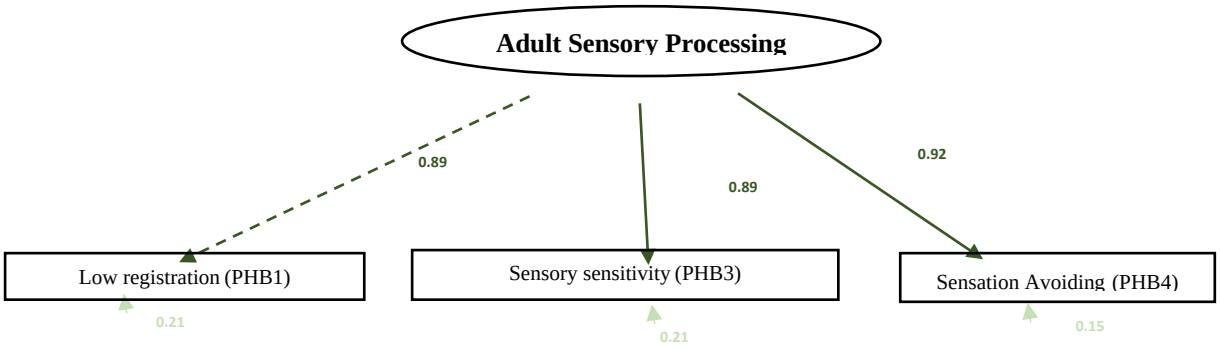

Fig. 1. The Measurement Model - Adult Sensory Processing Capability

4.3. Confirmatory Factor Analysis (CFA)-Auditor's Objectivity

As in the previous section, confirmatory factor analysis (CFA) was performed to identify the components of the objectivity variable. Components with a load factor higher than 0.4 indicate the variable's construct components.

The 'autonomy' component is removed due to a load factor of less than 0.4; the resulting model is presented in Figure 2. Table 6 shows that all the remaining components have a load factor of more than 0.4, enjoy the desired condition, and are effective in measuring the desired structure (Described in the indexes in Figure 2).

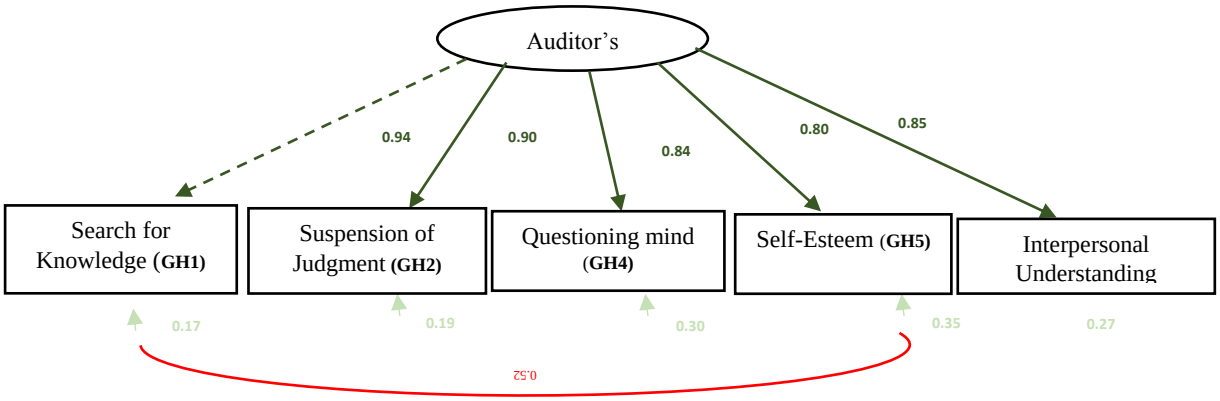

Fig. 2. The Measurement Model- Auditor's Objectivity

Table 7. Confirmatory Factor Analysis Result- Auditor's Objectivity

Component	Non-standard estimation	Criterion error	t statistic	p-value	load Factor
Search for Knowledge	1				0.944
Suspension of Judgment	0.597	0.046	13.087	<.001	0.898
Questioning Mind	0.357	0.033	10.689	<.001	0.839
Self-Esteem	0.327	0.04	8.221	<.001	0.805
Interpersonal Understanding	0.548	0.049	11.191	<.001	0.854

4.4. Assessing the Validity and Reliability

To evaluate the validity and reliability of each construct variable, the average variance extracted (AVE), composite reliability (CR), and Cronbach's alpha indices are calculated, respectively. Suppose the average variance extracted (AVE) is more than 0.4, the composite reliability (CR) is between 0.5 and 1, and Cronbach's alpha is more than 0.7. In that case, the constructed variable demonstratesgood validity and reliability and is considered valid. The results of the validity and reliability of each measurement model are reported in Table 8. According to the results, the validity and reliability of the construct variables are at a desirable level.

Table 8. Reliability and validity Indicator -Convergent validity and Construct reliability

Model	AVE	CR	Cronbach's Alpha
Adult sensory processing	0.807	0.926	0.854
Auditor's objectivity	0.755	0.939	0.785

5. Discussion

This section presents the hypothetical model, which was examined using SEM, and the model fit index.

5.1. Structural Equation Modeling (SEM)

The structural equation modeling method (SEM) was used to investigate the relationships, and the results are presented in Table 9 and Figure 3. The results show that the low registration component has a positive relationship with objectivity (with an intensity of 0.68), and sensation- seeking relates to objectivity (with an intensity of 0.26). These results confirm the first and second hypotheses of the research, indicating the positive (or increasing) effect of the low registration component and the negative or decreasing effect of sensation seeking on objectivity.

Table 9. Structural Model Relationships

Component	Non-standard estimation	Criterion error	t statistic	p-value	load Factor
Low registration (PHB1) → Auditor's objectivity	0.596	0.18	3.316	0.001	0.676
sensation seeking (PHB2) → Auditor's objectivity	-0.338	0.158	-2.138	0.033	-0.255
Sensory sensitivity (PHB3) → Auditor's objectivity	-.274	0.181	-1.509	0.131	-0.267
Sensation Avoiding (PHB4) → Auditor's objectivity	0.296	0.197	1.503	0.133	0.296

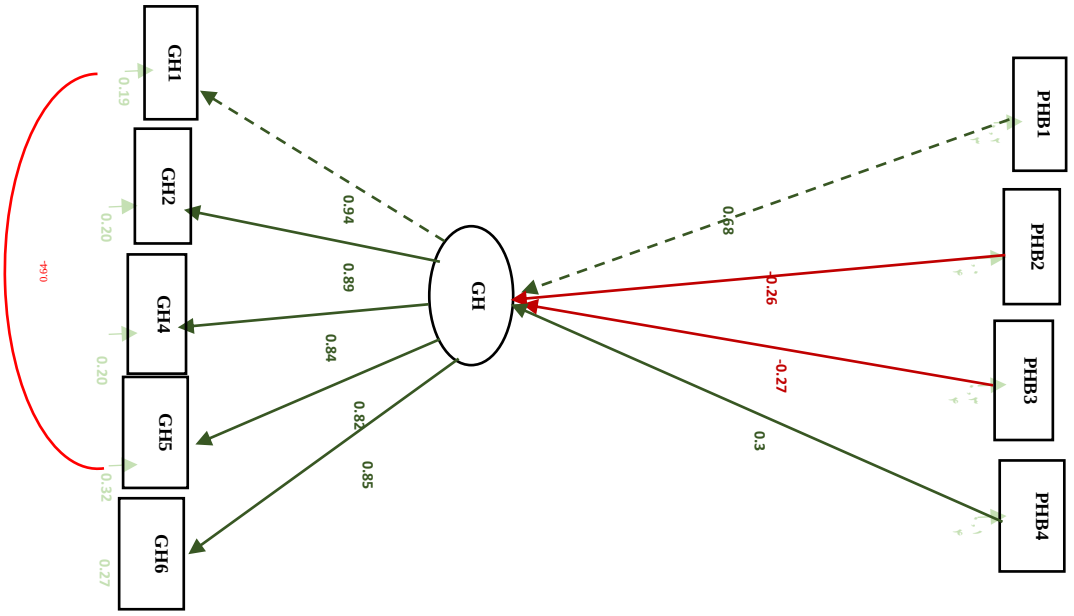

Fig. 3. The Conceptual Model

In addition, the relationship between sensory processing capability (at the entire level) and objectivity is assessed. Results show a positive relationship between sensory processing capability and objectivity, as presented in Table 10 and Figure 4.

Table 10. Structural Model Relationships – The Entire Level

Component	Non-standard estimation	Criterion error	t statistic	p-value	load Factor
Adult sensory processing capability → Auditor's objectivity	0.402	0.133	3.017	0.003	0.405

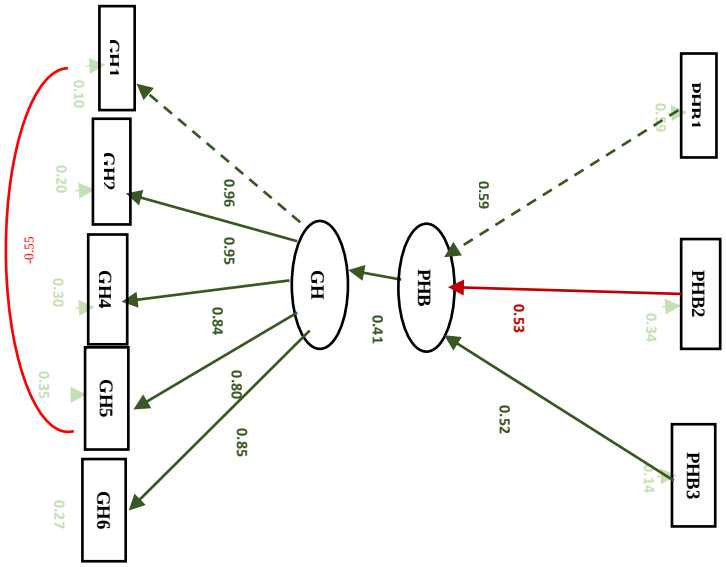

Fig. 4. Conceptual Models – The Entire Level

5.2. Model Fit

A wide range of fit indices can measure the model fit. The following tables reveal some important indicators. The fit index values indicate the 'Goof Fit Model' (major indicators are desirable). For example, the XGFI value in both models is higher than the minimum desired value (0.9).

Table 11. Model Fit Indices-First Structural Model

Index	χ^2 / df	GFI	AGFI	CFI	TLI	SRMR	RMSEA
Desirable value	1-3	>0.9	>0.9	>0.95	>0.95	Close to 0	>0.06
Acceptable value	1-5	>0.8	>0.8	>0.9	>0.9	Close to 0	>0.1
Structural model	2.00	0.998	0.987	0.942	0.684	0.031	0.120

Table 12. Model Fit Indices -Second Structural Model

Index	χ^2 / df	GFI	AGFI	CFI	TLI	SRMR	RMSEA
Desirable value	1-3	>0.9	>0.9	>0.95	>0.9	Close to 0	>0.06
Acceptable value	1-5	>0.8	>0.8	>0.9	>0.9	Close to 0	>0.1
adults sensory processing	<0.001	1.000	1.000	1.000	1.000	<0.001	<0.001
Auditor's objectivity	0.792	0.998	0.988	1.000	1.000	0.013	<0.001

6. Conclusion and Limitation

Sensory processing capability is an individual difference that affects people's thinking and behavior. People who are high in sensory processing are more sensitive to stimuli and prefer to think through problems (Stenmark & Redfearn, 2022).

This study investigated the relationship between auditors' sensory processing capability and objectivity. The results show a positive relationship between the auditor's sensory processing capability and objectivity. How auditors react to stimuli can affect their objectivity.

This result supports the theory of planned behavior argument, indicating that personal behavior is affected by internal factors such as sensory processing. The findings also extend this theory to the audit literature and provide more opportunities for behavioral research in audit and accounting. Research should be expanded to include earnings management, audit quality, audit judgment, audit team working, audit conservatism, and audit data analysis.

Moreover, at the level of sensory processing components, 'low registration' positively and 'sensation seeking' negatively affected objectivity. Auditors with low registration characteristics can 'concentrate more' (Kamath et al., 2020), 'investigate carefully' and, therefore, are less affected by external and internal stimuli than others with higher characteristics, leading to increased objectivity. The results also show that auditors with sensation-seeking characteristics cannot act objectively in some situations. This lack of objectivity comes from their bias toward negative stimuli.

This finding is indirectly consistent with the research of Bhattacharjee and Moreno (2002) and Anderson et al. (1997), showing that feelings could be one of the influential factors in the auditor's objective decision. Also, a review of behavioral research (Finucane et al., 2000; Mellers, 2000) reveals how individuals' response to environmental stimuli affects their ability to make professional judgments and decisions.

According to the research results, it can be concluded that auditors in some situations are not objective in practice and do not react objectively, which can negatively affect the audit process and its quality. Regulators, policymakers and standard setters should consider this. Audit firms can also use this finding to hire and employ by using some related tools to evaluate and assess the level of their sensory processing component.

It should be noted that the existence of COVID-19 pandemic reduced the number of responses received and used, with both being less than the required number. The sample size may have affected the results obtained. Also, generalizability is one of the biggest limitations of experimental studies. Furthermore, since we developed a surveying study based on a questionnaire, some respondents may answer with little consideration, which is out of the researcher's control. The final limitation of the research is that, in addition to present variables, there could be several more effective personal traits and threats (such as self-interest threat, self-review, advocacy threat, familiarity threat, intimidation threat) and their interactions could affect audit objectivity, which is not considered in this paper.

Sensory processing capability is a relatively new construct to describe individual differences in terms of sensitivity to internal and external stimuli (Aron, 2005), and its outcomes have only recently begunto be examined in organizational settings (Cooper, 2014; Stefan Lindsay, 2017). Thus, examining SPS in other contexts and with other outcomes is an important step in filling out the nomological network of this construct.

Future suggestions for this line of literature include (1) investigating the moderating role of sensory processing capability, salary, and budget on the auditors' judgment efficiency, (2) investigating the role of sensory processing capability on audit attention level, and (3) investigating the moderating role of sensory processing capability, emotional intelligence, and executive functions on the auditors' judgment.

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8. Declaration of Interest Statement

The authors report there are no competing interests to declare.

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