# MOOD AND EMOTION EFFECT ON AUDITOR JUDGMENT AND DECISION-MAKING: A SYSTEMATIC LITERATURE REVIEW

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#### **ABSTRACT**

This study analyzes the trends, progress, and opportunities for future research on the relationship between emotions, moods, and auditors' judgment and decision-making (JDM). We included 24 articles from the Scopus database through a systematic review process using the framework of Hoque (2014) in our literature review. Bibliometric analysis shows interesting developments in the topics of mood, emotion, and auditors' JDM. In particular, the results highlight the evolution of publications in top accounting journals, theoretical development, research context and setting, methods used, and statistical analysis tools. The findings also map the study areas covering five main topics: risk and probability assessment, risk decisions, ethical assessment, conflict resolution, and commitment to professional decisions. In general, previous studies show that emotions and mood can influence auditor judgment when assessing the risk and probability task, affect conservatism, ethical judgment, conflict resolution strategies, and commitment to the profession. One limitation is that the number of articles is small because the related studies are underexplored. Nevertheless, this study contributes to mood and emotion research on auditor JDM by discussing research trends, highlighting current study progress, and identifying future research gaps. We highlight opportunities for further exploration in this field.

JEL Classification: M41, M42

Keywords: Auditor, Judgment and Decision-Making, Mood, Emotion, Systematic Literature Review

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### 1. INTRODUCTION

During the audit process, auditors may experience many things that can affect their mood and emotions. Meanwhile, psychological research shows that emotions and moods influence individual judgments (Finucane et al., 2000). Given that most of an auditor's work involves professional judgment, understanding the impact of moods and emotions on auditing is crucial (Bhattacharjee and Moreno, 2013). This topic is very important but underexplored, so much further research still needs to be done.

A previous study by Bhattacharjee and Moreno (2013) summarized six studies regarding mood, emotions, and auditing. They confirm that mood and emotions are very important in the audit process because they can influence the auditor. Their review, however, only focused on identifying the types of emotions associated with audit assignments, such as client liking, negative feelings, and mood, without examining the impact of these emotions on auditors' Judgment and Decision Making or JDM. Apart from that, another study by Geng and Kalargiros (2022) only focused on experimental studies and did not have a comprehensive literature review.

The preceding discussion shows that no systematic literature review specifically documents the relationship between mood, emotions and auditors' JDM. Our study aims at filling this gap by conducting a systematic literature review. Specifically, this research:

- a. Analyzed the trending topics, theories, research settings, methods, and data analysis techniques related to the relationship between mood, emotion, and the auditor's JDM.
- b. Analyzed the future research opportunities related to the relationship between mood, emotion, and auditor's JDM.

This study contributes to auditor JDM research in several ways.

First, we conducted a bibliographical analysis of previous studies related to mood, emotion, and auditors' JDM topics. This analysis will help us obtain an overview of the distribution of studies on this topic and identify still unexplored areas. The bibliographical analysis we conducted included journal and publication quality, topics, theories, research settings, methods, and data analysis techniques. Second, we synthesized the previous studies and grouped them into five main topics in the auditor's JDM area: risk and probability judgment, risk decision, ethical judgment, conflict

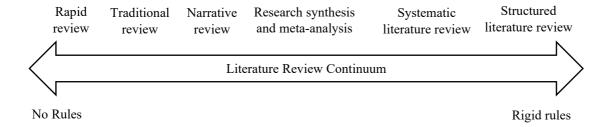
decision, and commitment to professional decision. Finally, we identified specific gaps and provided recommendations for future research questions on each of these topics.

The remainder of this paper is organized as follows. The next section discusses the methodology used in this systematic literature review. Section 3 shows the bibliometric analyses used in current studies, including the distribution of article frequency based on journal category, publication quality, topic, theory, research setting, research method, and data analysis techniques. Section 4 discusses the current progress of previous research in five auditors' JDM topics: risk and probability judgment, risk decision, ethical judgment, conflict decision, and commitment to professional decision. This section also provides suggestions for future research. The final section presents the conclusions of this literature review.

# 2. METHODS

This research uses a systematic literature review approach, aiming to provide a comprehensive basis for future research and summarize existing problems (Khalique et al., 2020; Petticrew and Roberts, 2006). This approach is a suitable method for providing a critical review of the literature to identify, organize, and analyze existing research (Gholami et al., 2021). Various terminologies for literature reviews have been used in previous studies (example: traditional review, critical review, research synthesis and meta-analysis, systematic literature review, and structured literature review), but they share the core characteristics of collecting, evaluating, and presenting research evidence (Arksey and O'Malley, 2005). Massaro, Dumay, and Guthrie (2016) suggest that systematic reviews and structured literature reviews follow a more rigorous set of rules compared to other types of literature reviews. These reviews offer a thorough and comprehensive map of the research landscape (Denyer and Tranfield, 2006). They differ from rapid reviews, traditional literature reviews, or narrative reviews, which are more subjective and rely heavily on the researcher's expertise. Because of this reliance, these types of reviews are sometimes referred to as critical reviews. The differences between various literature review terms are illustrated in Figure 1. Our study follows a systematic literature review methodology to provide a comprehensive and unbiased picture of the relationship between mood, emotions, and auditors' JDM.

FIGURE 1
The Differences Between Literature Reviews



This literature review was carried out following the Hoque (2014) framework with modification. Each systematic step is shown in Figure 2. To do so, we first set the topic to be reviewed as the relationship between mood, emotion, and the auditor's JDM. Second, we determined the objectives and research questions of the study. This study analyzes trends, progress, and future research opportunities related to auditors' JDM topics. The research questions in this study were:

- a. What are the trending topics, theories, research settings, methods, and data analysis techniques related to the relationship between mood, emotion, and the auditor's JDM?
- b. What are the future research opportunities related to the relationship between mood, emotion, and auditor's JDM?

After determining the research questions, we entered the third stage by searching for related articles in the Scopus database. The Scopus database has been widely used for literature review studies (e.g., Anggraini and Sholihin, 2023; Casino, Dasaklis, and Patsakis, 2019). This database is considered reputable by regulators in several developing countries, such as Indonesia, Malaysia, and Taiwan. Thus, relying on the development of a study using the Scopus database is acceptable. The search was based on titles, abstracts, and keywords containing "mood" OR "emotion" OR "feeling" AND "auditor." The keywords were selected based on their frequent usage in article abstracts within this topic area. Additionally, these keywords have been used in previous review studies (e.g., Bhattacharjee and Moreno, 2002, 2013; Geng and Kalargiros, 2022) hence ensuring consistency and relevance in our literature review. The search period covers all years up to 2022, as this research was conducted in early 2023. The overall search code used in the database is as follows: (TITLE-ABS-KEY (mood) OR TITLE-ABS-KEY (emotion\*) OR TITLE-ABS-KEY (feeling) AND TITLE-ABS-KEY (auditor)) AND PUBYEAR < 2023. A search using these keywords yielded 146 articles. Searches were then filtered for management, accounting, economics, social, and decision science areas, and limited to journal articles. This search strategy resulted in a total of 86 articles.

The fourth stage involved selecting articles obtained in the previous search. Several criteria are applied in this process, namely, accessibility, universality, publication quality, and relevance. Accessibility refers to the ease with which an article can be accessed online. All 86 articles can be accessed by the authors. Universality is an article that uses the international language, English. Two articles

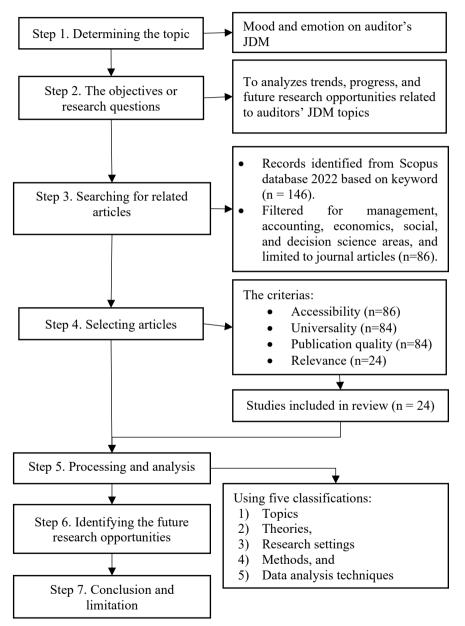
were not in English, so they were excluded. Publication quality refers to articles published in journals indexed globally and registered in the Scimago Journal Ranking. The articles included in the review fell into quartiles one to four, and all articles met these criteria. The relevance category indicates that the article contains at least one of the keywords in the title, abstract, or keywords. This stage resulted in 40 articles. Finally, we ensured that the article content appropriately discussed the relationship between one of the keywords-mood, emotion, or feeling—and auditors' JDM by examining the full text of each article. Sixteen articles were excluded, resulting in 24 articles being included in the review stage. The number of articles may seem small; however, efforts to add more articles can be challenging. This indicates that this topic is less explored. Therefore, despite the seemingly small number (24), it is expected to be accepted. Indeed, from this systematic literature review, it is hoped that the interest of auditing researchers can be focused on the topics discussed in this paper so that future publications on related issues will increase.

Following Hoque (2014), we classified the articles into five categories: (1) Topic, (2) Theory, (3) Research Setting, (4) Method, and (5) Data Analysis Techniques. This classification aligns with the Theory-Context-Characteristics-Methodology (TCCM) framework, which ensures a thorough understanding of a specific research field (Sharma, Aswal, and Paul 2023). TCCM analysis helps address gaps in prior literature and provides avenues for future research (Paul and Rosado-Serrano, 2019). Our study offers an indepth understanding of prevalent theories, contexts (research setting), characteristics (topics and related variables), and methods (research approaches and data analysis techniques). For this study, TCCM is integrated into Hoque's (2014) basic framework, which we use as the main reference. We then discuss the results of the review, highlighting current research developments and identifying future research opportunities.

Moods and emotions play an important role in accounting decision-making, particularly for auditors. The auditor's responsibilities need professional judgment, which might be subjective at times. According to mood congruency theory, people tend to make decisions that are consistent with their moods. A happy mood results in a favorable evaluation, whereas a bad mood results in a negative evaluation (Bower, 1981). Furthermore, the feelings-as-information hypothesis proposes that decision makers employ their emotions as information inputs to decision-making processes,

especially when they lack knowledge or experience in a choice context (Schwarz, 2012). According to these beliefs, auditors' decision-making processes are inextricably linked to the effects of their moods and emotions. While studies exist on this topic, they are still relatively limited in number and development. The topic has not been comprehensively explored through a systematic literature review. Therefore, our study aims at consolidating and advancing the understanding of studies on this topic, providing a more structured and comprehensive overview that will facilitate further research and development in this area. This study will describe mood and emotion studies, then do a bibliographical analysis, discuss current research, and provide recommendations for future research.

FIGURE 2
Literature Review Processes of Mood and Emotion on Auditor's Judgment and Decision-making (JDM) (Adopted from Hoque, 2014)



#### 3. RESULTS

We conducted a bibliographic analysis that included the distribution of article frequency based on journal category, publication quality, topic, theory, research setting, research method, and data analysis techniques. Bibliographic analysis has been widely used in systematic literature reviews in business and accounting (e.g., Anggraini and Sholihin, 2023; Bahri, Ali, and Mohammad Aslam, 2022; Yusuf, Junurham, and Adam, 2021; Hoque, 2014). Specifically, our bibliographic analysis follows the approaches used by Hoque (2014) and Anggraini and Sholihin (2023). This method is a well-accepted approach in the field of accounting (Massaro et al., 2016).

# 3.1 JOURNAL AND PUBLICATION QUALITY

Table 1 documents the distribution of articles published on the research theme. Two journals, Auditing: A Journal of Practice & Theory and Contemporary Accounting Research. Each published four articles related to the relationship between mood, emotion, and the auditor's JDM, and the most published on this theme. The Journal of Business Ethics published two articles. These three journals are known to be very interested in issues of auditor behavior and have published many articles related to this theme.

Besides that, Table 1 shows that 18 (75%) of the 24 articles related to mood and emotion in the auditor's JDM were published after 2013, following the summary by Bhattacharjee and Moreno (2013). Twelve (50%) articles were published recently in 2018-2022. This suggests that this research theme has become attractive to academics in recent years.

We also documented the distribution of articles based on journal quality using the SCIMAGO Journal Rank to classify journals based on quality, Table 2 shows that 18 articles (75%) were published under Q1 and three (12.50%) under Q2. This means that 87.5% of the articles related to this topic were published in top-tier journals.

TABLE 1
Frequency Distribution of Articles Published Related to the Mood and Emotion of Auditors' Judgment and Decision-making (JDM) by Journals

Journal	<2008	2008-	2013-	2018-	Total	Total
Journal	\2000	2012	2017	2022	Total	(%)
Auditing: A	0	3	1	0	4	16.67
Journal of	V	3		V	•	10.07
Practice & Theory						
Contemporary	1	0	2	1	4	16.67
Accounting		Ü	_	•	•	10.07
Research						
Accounting,	0	0	0	1	1	4.17
Auditing and		Ŭ	· ·	-	-	,
Accountability						
Journal						
Accounting,	0	0	1	0	1	4.17
Organizations,	•		_	Ť	_	,
and Society						
Asian Journal of	0	0	0	1	1	4.17
Accounting						
Research						
China Journal of	0	0	0	1	1	4.17
Accounting						
Studies						
Critical	0	0	0	1	1	4.17
Perspectives on						
Accounting						
Current Issues in	0	0	0	1	1	4.17
Auditing						
Gadjah Mada	0	0	0	1	1	4.17
International						
Journal of						
Business						
International	0	0	0	1	1	4.17
Journal of						
Auditing						
Journal of Asia	0	0	0	1	1	4.17
<b>Business Studies</b>						
Journal of	1	0	0	0	1	4.17
Behavioral						
Decision Making						
Journal of	0	0	1	1	2	8.33
Business Ethics						

TABLE 1 (continued)

(%) 4.17
4.17
4.17
4.17
4.17

TABLE 2
Frequency Distribution of Articles Published Related to the Mood and Emotion of Auditors' Judgment and Decision-making (JDM) by Quality

Journal	<2008	2008-	2013-	2018-	Total	Total (%)
Quality		2012	2017	2022		
Scimago						
rank:						
Q1	2	3	6	7	18	75.00
Q2	0	1	0	2	3	12.50
Q3	0	0	0	2	2	8.33
Q4	0	0	0	1	1	4.17

#### 3.2 THE TOPICS

We classify the topics in the auditor's JDM, which are the focus of academics, based on the articles reviewed. We then label the five issues discussed in this area (Table 3): risk and probability judgment (9), risk decision (4), ethical judgment (3), conflict decision (2), and commitment to professional decision (6). Risk and probability judgment is the most widely discussed topic in auditors' JDM. This is reasonable because, in the field, the auditor faces many conditions of risk and probability judgment, such as inventory assessment and assessment of the audit evidence sufficiency. One interesting finding is that 24% (6) of the articles discussed the issue of auditors' decision to commit to their profession. This shows that mood and emotion affect auditors' working conditions and are closely related to their willingness to survive in this profession.

TABLE 3
Frequency Distribution of Articles Published Related to the Mood and Emotion on Auditors' JDM by Topic

Topic	<2008	2008- 2012	2013- 2017	2018-	Total	Total (%)
Risk and probability judgment	2	1	3	3	9	36.00
Risk decision	0	1	0	3	4	16.00
Ethical judgment	0	1	1	1	3	12.00
Conflict decision	0	0	1	1	2	8.00
Commit to the professional decision	0	1	1	4	6	24.00

#### 3.3 THE THEORIES

No specific theory has been widely used in research on mood, emotion, or the auditor's JDM. Table 4 shows that mood maintenance theory is the most commonly used (three articles), explaining that individuals with a positive mood are interested in maintaining their positive mood. Other theories related to mood and emotion are affected by information theory and affective event theory. Affect-as-information theory states that individuals may use their perceived affective reactions as relevant information in their judgments. The effect's impact on judgment is a function of its perceived informational value (Schwarz, 2012).

Meanwhile, affective events describe how one's work environment, directly and indirectly, contributes to forming workplace attitudes and emotions through "affective events." (Weiss and Cropanzano, 1996). Social identity is another interesting psychological theory used in this research area. This theory states that individuals identify as members of a particular group and view others in the same group more favorably than those outside the group (Turner, Brown, and Tajfel 1979). Previous researchers used this theory to explain topics related to committing to professional decisions (Garcia-Falières and Herrbach, 2015; Reffett, Brewster, and Ballou, 2012).

TABLE 4
Frequency Distribution of Articles Published Related to the Mood and Emotion of Auditors' JDM by Theory

Theories	<2008	2008-	2013-	2018-	Total	Total
		2012	2017	2022		(%)
Mood	0	2	0	1	3	12.00
maintenance						
Affect as	1	0	1	0	2	8.00
information						
Mood congruent	0	1	0	0	1	4.00
retrieval of						
information						
explanation						
Affective events	0	1	1	0	2	8.00
Social identity	0	0	2	0	2	8.00
Mood as	0	1	0	0	1	4.00
information						
Cognitive	0	1	0	0	1	4.00
capacity						
Psychodynamics	0	0	1	0	1	4.00
of work						
Theory of work	0	0	1	0	1	4.00
Theory of the	0	0	1	0	1	4.00
subject						
Self-	0	0	1	0	1	4.00
categorization						
Conservation of	0	0	0	1	1	4.00
Resources						
Role theory	0	0	0	1	1	4.00
Triandis's theory	0	0	0	1	1	4.00

Theories	< 2008	2008-	2013-	2018-	Total	Total
		2012	2017	2022		(%)
Theory of	0	0	0	1	1	4.00
interpersonal						
behavior						
The general	0	0	0	1	1	4.00
theory of ethics						
The classical	0	0	0	1	1	4.00
theory of EDM						
Theological/	0	0	0	1	1	4.00
moral						
perspectives						
Emotional	0	0	0	1	1	4.00
intelligence						
Limperg's theory	0	0	0	1	1	4.00
of inspired						
confidence						

TABLE 4 (continued)

### 3.4 THE RESEARCH SETTINGS

Table 5 shows that, generally, research in this area is conducted in the United States (10), state settings, and Western countries such as France (3) and the Netherlands (1). Western locations contribute most of the studies related to the behavior and auditor's JDM. One study was conducted in the Middle East, namely, Lebanon, and one in Australia. Only eight articles (33.33%) cover studies conducted in Eastern countries such as China, Indonesia, and Vietnam.

TABLE 5
Frequency Distribution of Articles Published Related to the Mood and Emotion on Auditors' JDM by Settings

Settings	< 2008	2008-	2013-	2018-	Total	Total
		2012	2017	2022		(%)
United States	2	2	4	2	10	41.67
Indonesia	0	0	0	4	4	16.67
France	0	1	2	0	3	12.50
China	0	0	0	3	3	12.50
Vietnam	0	0	0	1	1	4.17
Lebanon	0	0	0	1	1	4.17
Netherlands	0	0	0	1	1	4.17
Australia	0	1	0	0	1	4.17

Owing to the limited distribution of setting research, future research opportunities are open to exploring this theme in various other country settings. Future research can also use cross-country analysis to compare auditors' JDM related to mood and emotion. Given that there may be differences in the way judgment works across cultural contexts, future research could examine different cultural values, such as those in Asia, America, and Europe.

## 3.5 THE METHODS

Table 6 shows that most research on the relationship between mood, emotion, and auditor's JDM was conducted using experimental methods (10) and surveys (7). This is because mood, emotion, and JDM can be observed by providing participants with a series of scenarios. The researchers also used the interview method (4) to obtain a more in-depth analysis of the relationship between these variables. In particular, individual mood and emotional variables can be better captured through a series of interview approaches. In addition, some studies have used archival data (2) and mixed methods (1).

TABLE 6
Frequency Distribution of Articles Published Related to the Mood and Emotion of Auditors' JDM by Method

Methods	< 2008	2008-	2013-	2018-	Total	Total
		2012	2017	2022		(%)
Experiment	2	3	4	1	10	41.67
Survey	0	1	1	5	7	29.17
Interview	0	0	1	3	4	16.67
Archival	0	0	0	2	2	8.33
Mixed methods	0	0	0	1	1	4.17

## 3.6 THE DATA ANALYSIS TECHNIQUES

Table 7 documents the data analysis techniques used in previous studies. In line with these research methods, most studies used the analysis techniques of ANOVA/MANOVA/ANCOVA (9) and regression (6). Several studies have tested the mood, emotion, and auditor's JDM models using SEM/PLS/path analysis (4). One study used the mixed method with descriptive analysis techniques, and the other four articles used a qualitative approach.

TABLE 7
Frequency Distribution of Articles Published Related to the Mood
and Emotion of Auditors' JDM by Data Analysis Techniques

Data analysis techniques	<2008	2008-	2013-	2018-	Total	Total
		2012	2017	2022		(%)
ANOVA/ MANOVA/						
ANCOVA	2	3	4	0	9	37.50
Regression	0	1	1	4	6	25.00
SEM/ PLS/ Path analysis	0	0	0	4	4	16.67
Descriptive statistics	0	0	0	1	1	4.17
Others	0	0	1	3	4	16.67

## 4. DISCUSSION

#### 4.1 CURRENT PROGRESS OF PREVIOUS RESEARCH

#### 4.1.1 RISK AND PROBABILITY JUDGMENT

We found two articles that discussed the auditor's risk and probability judgment in the context of elements or task complexity. The first study by Kadous (2001) shows how emotions toward specific task components in an audit can affect judgment. The results of this study were confirmed by Bagley (2010), who found that negative emotion is related to task complexity, so the combination of these two things will affect auditor performance. The results of these studies show that emotion and mood are closely related to an auditor's tasks. Certain task elements and their level of complexity can affect emotions and mood, thereby reducing auditor performance.

Emotion and mood are also closely related to inventory valuation decisions during the audit process, and this influence also interacts with the auditor's experience. Bhattacharjee and Moreno (2002) tested the interaction of emotion and the auditor's experience on obsolescence risk judgment. The results of their research show that auditors with less experience and who receive negative emotion information assess inventory obsolescence risk as higher than experienced auditors who receive the same information. Bhattacharjee, Moreno, and Riley (2012) then expanded previous research by looking at the effect of reactions to client competence on inventory obsolescence ratings. Their study found that a negative emotional response toward lower client competence encourages auditors to provide higher obsolescence ratings. The results of these

studies indicate that when carrying out technical tasks in the field, the auditor's judgment is greatly influenced by their emotions and moods while carrying out these tasks.

Yang, Brink, and Wier (2018) examine the role of emotion on dysfunctional judgment. They found that the auditor's emotional intelligence mechanisms can reduce the dysfunctional behavior experienced by auditors due to pressure. The importance of an auditor's emotional intelligence is also confirmed by Phan, Mai, and Nguyen (2021) who found that this emotional mechanism influences the auditor's judgment and will affect audit sustainability.

Another study by Abdo, Feghali, and Zgheib (2022) confirmed the role of emotions and moods in judging the effectiveness of internal controls. The auditor's emotions will affect the auditor's view of the client's internal control. This will affect their professional skepticism and caution in auditing. This is confirmed by Guénin-Paracini, Malsch, and Paillé (2014), that studying the emotional mechanisms of auditors will help us understand audit risk and auditor skepticism.

We also found one study examining the effect of emotions on auditor liability judgment. Reffett et al. (2012) found that auditors who have experience of empathy with auditor defendants will assess lower auditor liability. These results confirm that emotional reactions predict auditors' negligence verdicts. Auditor evaluators become even less dependent on plaintiff losses as evidence, and are more likely to be swayed by their emotions when making judgments.

## 4.1.2 RISK DECISION

Risk decisions are different from risk and probability judgments. Judgments may not come to a decision. The first study by Chung, Cohen, and Monroe (2008) tested the effect of mood on inventory valuation decisions. Their experimental results found that mood leads to consensus on inventory valuation. Participants in a positive mood signed off the inventory value more conservatively than participants in a negative mood.

Another study by Gold et al. (2022) confirmed the relationship between negative emotions and a defensive strategy for fear of repercussions. In their research, communicating audit errors will stimulate auditors' negative emotions and cause them to become defensive. They became embarrassed, shocked, anxious, and fearful and decided to carry out defensive strategies to cover up.

We found two studies that investigated the effects of mood on auditor decisions using archival data. Song and Song (2018) and Chen, Tan and Cao (2021) found that mood will impact how the auditor communicates with the auditee and ultimately affect audit decisions. Auditor emotions influenced decisions related to audit efforts and discretionary accruals.

#### 4.1.3 ETHICAL JUDGMENT

Several previous studies have found that mood and emotion affect the auditor's ethical judgment. Cianci and Bierstaker (2009) showed through experiments that auditors in a negative mood leads to correct explanations for fluctuations in financial ratios but make the least ethical judgments. This study provides evidence that moods differently influence auditor judgments, and this influence depends on the nature of the task (hypothesis generation, ethical). Then Blader et al. (2013) explored to what extent emotions reflecting subjective feelings of congruence with target emotions can influence auditors' evaluations of recipients' ethical decisions outcomes. They found that social emotions are significant in auditor subjective justice judgments. Finally, Latan, Jabbour, and Jabbour (2019) examine non-rational (emotional) factors and aspects that influence an auditor's ethical judgment when blowing the whistle. The results confirmed that emotions are related to ethical judgment and whistleblowing intentions.

## 4.1.4 CONFLICT DECISION

Little research has examined the relationship between emotions and conflict decisions. Johnson, Lowe, and Reckers (2016) argued that conflict situations generate negative emotions and interact with fear. These negative emotions will lead the auditor to follow superiors' unethical directives. Their research results confirm this. The second study by Carlisle and Hamilton (2021) examines the emotional relationship between auditors and clients. They found that face-to-face or e-mail communication will affect emotions and ultimately impact audit results

## 4.1.5 COMMIT TO THE PROFESSIONAL DECISION

Many previous studies have linked emotions and moods with a commitment to the profession. The argument is that the negative

emotions and moods that auditors experience at work will affect their intention to stay in the profession. Garcia and Herrbach (2010) found that emotions are related to organizational commitment. Furthermore, Garcia-Falières and Herrbach (2015) state that positive and negative emotions impact on auditor professional identification. This professional identification will later affect their organizational identification, namely the ability to identify themselves as part of an auditing organization. Other research confirms that emotion and experience will affect auditor professionalism (Suyono and Farooque, 2019).

The influence of emotions on the auditor is significant and must be considered by the audit firm. Efferin and Hutomo (2021) show that managing the auditor's emotions will increase individual commitment and satisfaction. Good emotional quality will increase long-term commitment to audit firms (Beau and Jerman, 2022). These two studies strengthen that audit firms should maintain their staff's emotional work condition.

#### 4.2 FUTURE RESEARCH OPPORTUNITIES

## 4.2.1 RISK AND PROBABILITY JUDGMENT

Previous studies have focused only on examining the influence of emotions and mood on several forms of risk and probability judgments. Many forms of risk and probability judgment faced by auditors in the field have not been tested in previous research, such as the risk of material misstatements, control risks, inherent risks, audit risks, business risks, engagement risks, and fraud risks. In particular, these risks are associated with engagement risk and fraud risk. These two forms of risk and probability judgment may be closely related to the auditor's emotions. Future research should also consider the role of pressure when examining the effects of emotions on these two risks. The pressure issue can also be divided into public accounting firms and auditors in the public sector, especially concerning investigative audit scenarios of certain corruption cases.

Risk and probability may also not be an individual judgment, because the audit process is usually performed as a team. Future research could focus on a judgment involving group judgments. Group audits may affect certain emotions and moods. Future research should also examine how to reduce the negative effects of mood and emotions. Individual emotions and moods cannot be eliminated;

however, some efforts may be able to control and reduce their negative impacts.

### 4.2.2 RISK DECISION

Several studies included in this review did not consider the knowledge and skills required to manage auditor emotions. Chung et al. (2008) suggest that knowledge of emotions and tasks will help auditors manage them well. Experience in dealing with specific tasks and problems plays a significant role in an auditor's success in making the best decisions in negative emotional and mood situations. Expertise helps stabilize emotions quickly, so that the auditor can return to making decisions objectively.

Additionally, future research is essential to investigate the role of audit time pressure. Does the busy audit season affect the auditor's mood and emotions and will this impact decision-making? In practice, auditors sometimes face many audit engagements within a short period. This undoubtedly affects the auditor's psychological condition, especially emotions and moods. In future, researchers will need to test this, and an experimental approach seems particularly suitable for this purpose.

## 4.2.3 ETHICAL JUDGMENT

The relationship between mood, emotion, and ethical judgment has not been extensively studied. For this reason, future research can further investigate the effect of these two variables on various kinds of ethical judgment, such as approval of earnings management, violations of environmental ethics, or other unethical behavior. This adds to our insight into the role of mood and emotion in explaining unethical auditor behavior.

Then, future research also needs to consider the experience and level of auditors' moral development. For example, in Kohlberg's (1981) ethical development model, at which stage are emotions and moods most influential when facing ethical judgment? Or could future research test whether an auditor's experience with negative mood situations in the past also influences current ethical judgment?

One interesting issue is examining the effect of the auditor's social environment, mood, or emotions on ethical judgment. For example, does the level of exposure to social media affect auditors' emotional stability and, in turn, affect ethical judgment? Social media presents various cases of ethical violations, which are updated

continuously so that they can affect auditor emotions and ethical preferences.

Another issue that might be of interest to future research is the role of personal culture in emotions and moods. For example, are auditors with an interdependent culture better at dealing with negative moods to make better decisions than are independent individuals? In addition to culture, future researchers can also consider other moderating variables, such as intrinsic religion, personal spirituality, moral obligation, retaliation, and intelligence.

## 4.2.4 CONFLICT DECISION

Previous studies have shown that mood and emotion are essential in conflict situations. This opens up many opportunities for future research, such as how the negative emotions and moods experienced by the auditor in the previous client affect the auditor in the next client. Do the moods and emotions experienced during the previous year's engagement affect mood and emotions in the current engagement, and will this affect the auditor's judgment and audit risk decisions? Does seniors' mood change from interacting with clients carry over to the team?

#### 4.2.5 COMMITMENT TO THE PROFESSIONAL DECISION

Previous studies have shown that negative emotions in the workplace can make auditors uncomfortable and result in low organizational commitment. Therefore, future research can test whether emotional experiences in the previous office affect the mood and emotions of auditors in the current office. What are the company factors that can mitigate their staff's negative mood and emotions? Does the physical environment, such as office air quality, communication styles in the office, and health of the office environment affect the emotions and mood of the auditor and make them more committed to the organization?

## 5. CONCLUSIONS

Our study analyzes the trends, progress, and opportunities for future research on the relationship between mood and emotion on auditors' JDM. We identify five JDM auditor topics based on a literature review. This research contributes to auditor JDM research by conducting a bibliographic analysis of previous research on auditors'

mood, emotions, and JDM. We identified the quality of journals and publications, topics, theories, research settings, methods and data analysis techniques. We then analyze current research developments according to five main topics: risk and probability assessment, risk judgment, ethical judgment, conflict judgment, and commitment to professional judgment. Then, we identify specific gaps in the current literature regarding the topics of mood, emotion and auditor's JDM and provide recommendations for future research.

This literature review also provides several practical insights for auditors and firms. Our findings can help firms develop training programs that enhance emotional awareness and management among auditors. Audit firms can also use these insights to create more supportive work environments that mitigate negative emotional impacts and promote positive moods, potentially improving audit quality. Policymakers and standard-setters can also consider these findings when developing guidelines and standards that account for the psychological aspects of auditing, thereby enhancing the overall reliability and integrity of the auditing process.

This study had several limitations. The selection of keywords in search engines may be subjective, although we have attempted to include all articles related to this topic in business, management, and accounting. This study focuses on articles published online in the Scopus database that are accessible to me; therefore, there is a possibility that other articles on this topic are not included. Despite these limitations, this study provides a foundation for future research investigating the relationship between mood, emotion, and auditor JDM.

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