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Influence of Leadership Style and Subordination on Internal Auditors' Judgment and Decision Making

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Abstract

Objective: To analyze the effect of leadership style and subordination on the judgment and decision-making of internal auditors.
Method: This is a methodological, descriptive, quantitative, and quasi-experimental study. The quasi-experiment was based on the decision-making processes of the participant internal auditors regarding whether to report irregularities committed by the financial department to which they are subordinated. The participant auditors were presented to a hypothetical situation where the CFO had one of two leadership styles (autocratic or democratic) and manifested different opinions regarding the recommendation report to characterize subordination.
Results: In line with the literature, the results indicate that the internal auditors were less likely to write a recommendation report when their superiors were autocratic leaders. Additionally, the auditors demanded different amounts of time to make their decisions, suggesting that the leadership style influenced their decision-making processes, i.e., the internal auditors took longer to reach a decision when their superior was an autocratic leader.
Contributions: This study presents empirical evidence regarding the loss of internal auditors' independence when subordinated to CFOs with leadership styles that do not support information transparency, which can guide guiding regulatory bodies, corporate governance, and other stakeholders. The loss of auditors' autonomy may compromise the quality of internal controls and financial statements.
Keywords: Internal Audit; Subordination; Autocratic and Democratic leadership styles; Decision-making; Recommendation report.

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1. Introduction

The literature focused on how individuals in the accounting field process and assess information and make decisions has considerably expanded in recent years (Braga, Sousa & Lima Filho, 2014; Hoos, Kochetova-Kozloski & D'Arcy, 2015; Eulerich, Henseler & Kohler, 2017; Gimbar, Jenkins, Saucedo & Wright, 2018; Mas & Barac, 2018; Suputra & Widhiyani, 2020). Studies addressing judgment and decision-making implement the same theories and applied methodologies, investigating the same central themes, i.e., verifying and establishing the factors that determine decision-making performance and testing theories concerning the cognitive processes that lead to decisions (Libby & Luft, 1993; Suputra & Widhiyani, 2020).

Assessing options and decision-making involves the process in which people combine desires and beliefs to choose a course of action amidst an array of options (Hastie, 2001; Hoos et al., 2015). In addition, this process involves comparing the strategies people adopt to make judgments and decisions based on specific parameters (Baron, 2004; Braga et al., 2014).

According to Cattrysse (2002), judgments and decision-making in the context of internal audit mitigate mistakes, prevent the violation of internal controls and financial statements, and support information transparency. Therefore, internal audit should remain independent to perform its tasks (Goodwin & Yeo, 2001), and make decisions according to ethical guidelines and standards (Instituto de Auditores Internos – IIA, 1999).

Considering the importance of internal audit for organizations, Peters (1993), Hoos et al. (2015), and Mas and Barac (2018) agree about the need to understand the internal auditors' work and its effect on these professionals' judgment. Internal audit integrates the organizations' accountability processes, and its general purpose is to ensure and promote a company's performance as determined by its management while remaining independent and objective (Hoos et al., 2015; Mas & Barac, 2018).

The factors present in an organization's routine, like leadership (Seol, Sarkis & Wang, 2017; Mas & Barac, 2018; Suputra & Widhiyani, 2020) and subordination, should be analyzed (Tamošiūnienė & Savčuk, 2007; Johnson, Lowe & Reckers, 2016; Hoos et al., 2015; Eulerich et al., 2017; Gimbar et al., 2018) because these factors integrate the complex work of auditing (Hoos et al., 2015; Eulerich et al., 2017; Gimbar et al., 2018; Mas & Barac, 2018; Suputra & Widhiyani, 2020) and may influence the internal auditors' judgment and decision making, and, as a consequence, its performance.

Pratt and Jiambalvo (1981), Apostolou, Pasewark and Strawser (1993), and Mas and Barac (2018) note that leadership styles influence the performance of internal auditors because they suffer the consequences of their leaders' styles. The reason is that democratic leaders tend to have a good relationship with subordinates. In contrast, autocratic leaders may have negative impacts due to their authoritative behavior and concentration of power (Goulart Júnior & Lipp, 2011), potentially influencing the workers' satisfaction, motivation, and interpersonal relationships (Pratt & Jiambalvo, 1981).

Subordination refers to the relationship established between a superior and his/her subordinates and involves a command relationship in which subordinates feel pressured to obey (Cattrysse, 2002; Hoos et al., 2015; Eulerich et al., 2017). Johnson et al. (2016) explain that any subordinate may feel pressure to obey, and according to Carpenter and Reimers (2013), this pressure experienced in the context of auditing may influence the workers' efficiency because it compromises their free will (Carpenter & Reimers, 2013; Hoos et al., 2015; Eulerich et al., 2017).

Given the previous discussion, this study's objective is to answer the following research question: **how do leadership style and subordination influence internal auditors' judgment and decision-making?** This study's primary objective is to analyze the influence of leadership style and subordination on internal auditors' judgment and decision-making.

A quasi-experiment was used to collect evidence and meet this study's objective. A 2x3 experimental design was implemented to assess the internal auditors' decision-making on whether to write a recommendation report addressing irregularities committed by the financial department, in which case the financial department was hierarchically and directly superior to the internal auditor. The participants (internal auditors) were asked to rate their intention to report the irregularities taking into account the chief financial officer's (CFO) leadership style (autocratic or democratic) and pressure to obey arising from subordination and the CFO's opinion on the recommendation report. The internal auditors were randomly assigned to the cases so that some participants answered the question considering an autocratic leader and others considered a democratic leader. Additionally, the cases included the CFOs' diverging opinions (agreeing or disagreeing) on the report. Thus, we assessed the participants' intention to write a recommendation report and how long they took to reach such a decision.

The study's results provide important evidence regarding the loss of internal auditors' autonomy when subordinated to CFOs with leadership styles that do not support information transparency and pressure subordinates to comply. The findings are a warning for regulatory bodies, corporative governance mechanisms, and human resource departments, among others, indicating the risks of internal auditors losing their independence, which may compromise the quality of internal controls and financial statements. Hence, the internal audit department must be positioned in the organizations' hierarchy in such a way that it is not compromised by the subordination effect and is free to perform activities with professional skepticism. These results can guide training programs designed to develop leadership, appointment practices, and the retention and succession of senior executives (Mas & Barac, 2018).

Mas and Barac (2018) and Suputra and Widhiyani (2020) analyzed the effect of the leadership styles of chief executives of the audit committee and/or independent auditors on the effectiveness of internal auditors (Mas & Barac, 2018) and independent auditors (Suputra & Widhiyani, 2020). Hoos et al. (2015) and Eulerich et al. (2017) analyzed the internal audit's level of subordination not only toward the audit committee but also toward the administration, and its effect on the auditors' assessments, while Gimbar et al. (2018) investigated the impact of the subordination effect on the work of independent auditors.

This study differs from the remaining and contributes to the literature because it analyzes internal audit in a context of subordination and pressure to comply (Hoos et al., 2015; Eulerich et al., 2017), considering independence to be essential within organizations (Goodwin & Yeo, 2001), and also analyzes the impact of leadership styles in the context of internal audit (Mas & Barac, 2018). Mas and Barac (2018) note that leadership and internal audit and the remaining behavior dimensions are seldom addressed. Thus, despite limitations, this study presents evidence that the decisions of Brazilian internal auditors are potentially compromised due to leadership factors and the subordination effect, supporting future studies in the field.

Auditors' responsibilities include ensuring the organizations' reliable patrimonial information and establishing credibility among external users. For this reason, internal auditors must remain autonomous to make judgments according to ethical guidelines and standards and meet their organization's objectives (Instituto de Auditores Internos – IIA, 1999). Therefore, internal audit must prioritize independence and objectiveness in its activities and decision-making (Tamošiūnienė & Savčuk, 2007; Hoos et al., 2015; Eulerich et al., 2017), without relinquishing its independence due to subordination, considering that such pressure may bias the reporting of evidence.

The quality of internal auditors' work is essential for organizations. Corporate scandals such as Enron and WorldCom and the enactment of the Sarbanes-Oxley Act in 2002 stress the importance of these professionals' critical judgment and responsibility for adequate controls (Seol et al., 2017); thus, any factors impacting or inhibiting their activities are undesirable.

2. Literature Review and Hypotheses Development

2.1 Leadership Style, Assessment, and Decision Making in Internal Auditing

Cognitive skills are essential for accurate decision-making. However, individuals sometimes lack these skills or do not fully apply them to ensure accurate judgment (Libby & Luft, 1993). Research in cognitive accounting is intended to improve the quality of accounting and auditing decisions and address decision-making processes in the accounting field involving accountants, auditors, and accounting information users, analyzing the factors contributing to the quality of decisions. Because decision-making processes depend on the tasks' characteristics, the decision makers' characteristics and the interaction between them, studies addressing decision making in the accounting field should include both decision-makers and the decisions to be made (Peters, 1993).

According to Zohar (2002), an organization's leadership style may influence work climate because of the interaction between leaders and employees. According to Goulart Júnior and Lipp (2011), leaders have behavior styles, such as democratic or autocratic. On the one hand, an autocratic leader has authoritative behavior, centralizes power, and determines policies without consulting others. Hence, this leadership style may negatively affect team members, causing tension, frustration, and dissatisfaction.

In turn, a democratic leader does not centralize power and involves employees in the decision-making process, promoting harmonious and friendly relationships. In addition, this style encourages employees to provide feedback and seek organizational success (Goulart Júnior & Lipp, 2011). In the auditing context, Pratt and Jiambalvo (1981) and Apostolou et al. (1993) describe that the different behaviors arising from leadership styles might directly or indirectly influence the audit team's performance. In this context, an internal auditor may experience different consequences depending on the leader's profile, which influence his/her judgment and decision-making.

A leader's behaviors may have different effects on auditors' performance due to his/her ability to influence the team's satisfaction, motivation, and interpersonal relationships, which in turn affect performance. Identifying how a leader can influence the auditing team's performance supports the development of audit training programs (Pratt & Jiambalvo, 1981). In this sense, we emphasize the potential of leaders to influence the judgment and decision-making of subordinates.

A leader can influence the attainment of goals, motivate people to perform better, inspire followers, and impact the effectiveness of internal auditing (Mas & Barac, 2018). In addition, Suputra and Widhiyani (2020) consider that the influence of leadership on auditing impacts the quality of work, coordination, and cooperation.

Mas and Barac (2018) analyzed the effect of leadership styles among Chief Audit Executives (CAE) and verified that neither a transformational nor a transactional leadership style is appropriate/compatible with leaders of professionals working in a regulated environment. Suputra and Widhiyani (2020) analyzed, among other factors, the leadership styles of independent auditors and the effect of these styles on the team's engagement and performance. They verified that a transformational leadership style reinforces the positive effect of organizational commitment on the auditors' performance.

Hence, in the context of leadership styles, internal audit leaders may be an important factor to observe due to their role in the auditors' decision-making processes. Therefore, we propose hypothesis 1:

H_1: A CFO's autocratic leadership style significantly influences internal auditors' judgment and decision-making.

Hypothesis 1 was postulated to verify the possibility of internal auditors compromising a more appropriate and correct decision concerning an adverse situation when dealing with an autocratic leader out of fear of negative consequences or retaliation.

2.2 Subordination, Judgment, and Decision Making in Internal Audit

Subordination in the occupational context may be associated with the organizational structure and culture. Organizational control can be divided into bureaucratic and clan structures. A company's bureaucratic structures consist of rules, policies, and supervision to guide tasks, while clan control emphasizes informal socialization processes, occupational experience, and organizational processes. Bureaucratic control is imposed by managers, while clan control is applied by same-level co-workers and may lead to subordination among them (Johnson et al., 2016).

Carpenter and Reimers (2013) argue that, in addition to leading to subordination, bureaucratic and clan controls might exert pressure to comply. As a result, a subordinate's behavior may be affected in a context of subordination and potentially compromise the effectiveness of tasks and the quality of communication between leader and subordinate.

Hall and Halberstadt (1994) note that subordination in the work context is complex because there are ways to cause subordination other than one person having control over another due to the organization's structure. The authors note that an individual's level of subordination may vary according to his/her antecedents, expectations, and culture, among other factors, in addition to the characteristics of the reference group exerting control. Therefore, a way to identify subordination is by analyzing an individual's feelings toward the subjective and objective structures to which s/he is subject.

Additionally, pressure to comply indicates subordination because it is a form of coercive power leaders exert on subordinates, making them change their behaviors through implicit or explicit punishment threats, such as withdrawing career benefits (Johnson et al., 2016). Johnson et al. (2016) note that any subordinate may experience pressure to obey; even internal auditors may feel pressured to comply with anti-ethical directives out of fear that their careers will be compromised if they do not give in to their superiors' pressure.

Therefore, to identify potential pressure in the context of internal audit, one should first verify to whom the auditor is subordinated and his/her superior's profile. According to Tamošiūnienė and Savčuk (2007), the internal audit department may be functionally subordinated to the Audit Committee or an independent board such as the fiscal board. Alternatively, from the perspective of ownership structure, it may be subordinated to other management departments, such as the CFO. Even though the internal audit may be subordinated to one of the company's bodies, working as a staff or executive body, its autonomy to make judgments and decisions must not be compromised.

Internal audit improves governance systems, safeguards the company's assets for external users, ensures reports' credibility, and supports external auditing (Cattrysse, 2002). Therefore, even though the internal audit is a subordinated department within organizations, it must be independent to make judgments and decisions without giving in to pressure (Tamošiūnienė & Savčuk, 2007).

According to the Agency Theory, sometimes agents armed with opportunism demand unethical actions within organizations (Eisenhardt, 1989). When these agents are hierarchically superior to the internal audit department and make such demands, they may cause the internal audit to lose its essence. Cattrysse (2002) notes that this essence refers to conferring credibility through rigid and ethical work, fighting errors and fraud in internal controls and reports, being diligent, prudent, and dedicated when performing tasks to provide the assurance users expect.

Hence, for the internal audit to play its role, it must keep its independence and objectivity, not submitting to pressure to comply because it is a subordinate body (Goodwin & Yeo, 2001), always making judgments and decisions according to ethical guidelines and standards. Furthermore, internal auditing is supposed to ensure that the organization's objectives are met through a systematic and disciplined approach, assessing and improving the effectiveness of controls, risk management, and governance, adding value to the company (Instituto De Auditores Internos – IIA, 1999).

Hoos et al. (2015) investigated internal auditors subordinated to "two masters," the management and the audit committee, verifying the tension this situation generates. The authors modeled low, medium, and high levels of task ambiguity and verified that being subordinated to a CAE may influence internal auditors' judgment, especially when task ambiguity is high.

Eulerich et al. (2017) analyzed how the tasks of internal auditors differ depending on the impact of executive councils and audit committees, reporting the influence of the subordination effect on tasks. Gimbar et al. (2018) analyzed communications (in person and otherwise) among subordinates when reviewing tasks in the context of independent audit and verified that an in-person conversation takes place when a subordinate is considered to be "below the mean."

Therefore, based on the previous discussion regarding pressure to comply, which internal auditors may face for being subordinated to the company's administrative body, hypothesis 2 is proposed:

H_2: Pressure to comply in a context of subordination significantly influences internal auditors' judgment and decision-making.

3. Methodological Procedures

This descriptive and quantitative study implemented quasi-experimental procedures. Descriptive research details the characteristics of a study population to identify potential relationships between variables (Gil, 2010; Gray, 2012; Coope & Schindler, 2013), while quantitative research is characterized by the adoption of statistical tools both to collect and treat data (Gil, 2002; Raupp & Beuren, 2006; Gil, 2010; Gray, 2012; Coope & Schindler, 2013). Finally, quasi-experimental research essentially has the same objectives as experimental research, including identifying the study object, selecting the variables that influence it, and establishing control measures and observational strategies to identify the effects a given variable produces in the study object (Gil, 2002; Gray, 2012; Coope & Schindler, 2013). The difference between the experimental groups is presented in a complementary document in item (i).

3.1 Participants

A total of 167 auditors participated in the quasi-experiment; 13 were excluded for not being considered valid; hence, the sample comprised 154 internal auditors working in companies from different sectors. The internal auditors were contacted via LinkedIn; a filter from the *Instituto dos Auditores Internos do Brasil (Audibra)* helped identify the professionals. Next, the potential participants were invited and received a text and a link granting access to one of the cases. The participants were asked to consider a hypothetical case exclusively developed for this study; hence they did not have to provide any information regarding the company where they worked.

3.2 Experimental Design

The experimental design comprises two independent variables: Leadership Style (EL) and Subordination of internal auditors to the CFO (SUB). Hence, a 2x3 factorial design was developed to present the variables' levels. Leadership study has two levels: democratic and autocratic, and subordination presents three levels: irregularities are recognized, irregularities are questioned, and irregularities are rejected. Therefore, six groups were composed and the group with the democratic leadership and a CFO who recognized the irregularities was the control group. The five remaining groups were considered experimental groups.

3.3 Instrument and Data Collection

An instrument was developed based on Dezoort, Hermanson, and Houston (2003). Some of the questions included in the instrument proposed by Dezoort et al. (2003) were adapted, and new questions were added, tested, and considered valid for this study. The questions' validity was verified through a pretest implemented among six experts, all of whom were professors and researchers in the management field. The final instrument was available to the participant auditors through a Google Docs link.

The complete instrument was composed of two parts: the first part consisted of questions addressing demographic data, including age, sex, and years of experience with internal audit. The second part provided information concerning a hypothetical company where the participants were asked to imagine themselves working and information regarding a case of irregularity they were asked to analyze. As previously described, the second part of the instrument addressed six different cases. The following section specifies the cases and presents their respective conditions.

The potential participants were initially searched on LinkedIn, and data collection was initiated after the list of professionals was obtained. Next, the participants were homogeneously assigned into the six groups. The participants and new submissions of the instrument were manually controlled until a sufficient number of participants was obtained. This quasi-experiment was approved by the Brazil Platform's Institutional Review Board (CAAE: 67870317.6.0000.5370) and later applied to the auditors. Data were collected from June to September 2017.

3.4 The cases

Internal auditors were asked to consider the case of a hypothetical company and imagine themselves working in this company. They received information regarding irregularities committed by their immediate superior. This immediate superior was the company's CFO, who had influence and power of decision within the company (leader). The hypothetical scenario included an internal auditor responsible for revising the CFO's actions, who was also his/her immediate superior. Therefore, when the internal auditor analyzes the CFO's actions, s/he finds a situation of irregularity, which s/he is supposed to judge and decide, writing a report to describe these irregularities to the fiscal council.

The participants were assigned to the groups in the experimental design: two CFO's leadership styles (democratic leadership and autocratic leadership). After being assigned to one of the leadership styles, the participants were informed that their recommendation report would be initially sent to their immediate superior and only later forwarded to the fiscal council, which supervises the company's controls and approves accounts. The CFO analyzes the auditor's report and has one of the three opinions: agrees with the report, questions the report, or rejects the recommendation report presenting irregularities. The CFO's opinion (agrees, questions, or rejects) is provided to assess pressure to comply on the part of the internal auditors in this subordination context.

As previously described, the participant auditors were assigned to one of the six cases, and each case differed regarding the leadership style and CFO's opinion, as shown in Table 1.

Table 1
Cases distributed to the internal auditors

Case	Leadership style	CFO's attitude
1	Internal auditors prepare a report to describe the CFO's irregularities, under a **democratic leadership**...	... the CFO **agrees** with the report
2	Internal auditors prepare a report to describe the CFO's irregularities, under a **democratic leadership**...	... the CFO **questions** the report
3	Internal auditors prepare a report to describe the CFO's irregularities, under a **democratic leadership**...	... the CFO **rejects** the report
4	Internal auditors prepare a report to describe the CFO's irregularities, under **autocratic leadership**...	... the CFO **agrees** with the report
5	Internal auditors prepare a report to describe the CFO's irregularities, under **autocratic leadership**...	... the CFO **questions** the report
6	Internal auditors prepare a report to describe the CFO's irregularities, under **autocratic leadership**...	... the CFO **rejects** the report

Source: study's data.

The first group, "(1) Auditors reporting the CFO's irregularities under a democratic leadership whose CFO agreed with the recommendation report," was the control group because of the intersection between the control variables: democratic leadership and CFO's agreement. Therefore, the five remaining groups were considered experimental groups.

After considering one of the cases, the auditors were asked to rate, on a 0 to 10 scale, how likely they were to report the irregularities to the fiscal council. The lower they rated it (close to 0), the less likely they were to report irregularities to the fiscal council, while the higher they rated it (close to 10), the more likely the auditors were to write a report to the fiscal council. How long the auditors took to make this decision was considered a variable that could capture their intention to report irregularities, which demanded thoughtful consideration.

Table 2 presents an example of the cases applied to the participants to clarify details.

Table 2
Example of cases presented to the participants.

THE WAREHAM MANUFACTURING S.A. CASE
You are a member of the internal audit department at Wareham Manufacturing. You are satisfied with your job, salary and perks, organizational climate, especially with your co-workers, and have good prospects to grow in the company. Wareham is a publicly-traded company that manufactures and distributes mobile phones to retailers throughout most of Brazil. In the last 5 years, the company was audited by the same Big 4 firms, which always issued unmodified audit reports. Wareham has just finished its fiscal year, and when analyzing the internal controls, you verified irregularities in the CFO's department. Hierarchically, the CFO is your immediate superior and is known by his/her leadership style: DEMOCRATIC style, that is, s/he is a leader that encourages good relationships, decentralizes power, and supports feedback to achieve organizational success. AUTOCRATIC, that is, s/he has an authoritative behavior, centralizes power, and inhibits the participation of employers in decision-making. (Authors' Note: each participant received just one leadership style). Hence, you prepared a report describing the irregularities committed by the CFO's department. Because the CFO is hierarchically superior to you, this report will be initially presented to the CFO and later to the fiscal council, whose role is to supervise the company's controls and approve its accounts to shareholders. Keep in mind that you are an internal auditor and are responsible for revising the CFO's actions and those of the accounting and treasury departments. Following is a summary of the recommendation report you prepared: "The CFO approved without written declaration (which violates the company's policies) the purchase of a property for R$1,500,000.00, exceeding the budget by 40%". You sent this report to the CFO, your immediate superior, while the CFO's department was responsible for the irregularities. Consequently, the CFO analyzed your report and gave you the following answer: (Authors' note: each participant received only one of the responses below, according to the leadership style). "I agree with the report concerning the irregularity you found in my department"; "I question the report concerning the irregularity you found in my department. On what assumptions did you base this irregularity?" "I reject the report concerning the irregularity you found in my department. It is not valid." Therefore, given the irregular situation you found and your CFO's response, please rate on a 0 to 10 scale the possibility of reporting the irregularities to the fiscal council. Zero means you will not report, and 10 means you will report the irregularity. Additionally, keep in mind that this is your decision and you cannot exchange information with other employees in the company. Rate from 0 to 10 the likelihood of reporting the irregularities: Explain with your words the reason behind your score (from 0 to 10) regarding whether to write a recommendation report to the fiscal council.

Source: adapted from Dezoort et al. (2003).

3.5 Study's variables

Based on the cases presented to the participants, Table 3 presents information necessary for this study.

Table 3
Study's variables

Variables	Description	Authors
	Dependent Variables	
Recommendation Report (REP)	Variable rated on a 0 to 10 scale and represents the participant's likelihood to report the irregularities to the fiscal council after assessing the situation and reaching a decision: 0 means the participant will not report the irregularities and 10 means the participant will report the irregularities to the fiscal council.	Dezoort et al. (2003).
Amount of Time (TTD)	It concerns how long the participants took to analyze the case (without considering the demographic questions), that is, to reflect, judge, reach a decision, and justify their decisions.	Developed by the authors
	Independent Variables	
Leadership Style (EL)	Categorical variable concerning the CFO's leadership style: 0 represents democratic leadership and 1 represents autocratic leadership.	Apostolou et al. (1993) Zohar (2002) Goulart Júnior and Lipp (2011)
Subordination of internal auditors to the CFO (SUB)	Categorical variable to discriminate the CFO's opinion toward the recommendation report in which 1 shows that the CFO agrees with the recommendation report; 2 shows that the CFO questions the report; and 3 that the CFO rejects the report.	Adapted from Dezoort et al. (2003).
	Control Variable	
Age (Id)	This categorical variable represents the participant's age: 1 represents 18 to 22-year-old individuals; 2 represents 23 to 29-year-old individuals; 3 represents the 30 to 39-year-old individuals; 4 represents 40 to 49-year-old individuals; 5 represents 50 to 59-year-old individuals, and 6 represents people 60+ years old.	
Gender (Gn)	This categorical variable represents the participant's gender: 0 represents non-identification of gender; 1 represents the female gender, and 2 represents the male gender.	
Experience (Ex)	This categorical variable represents the participant's experience with internal audit: 1 represents up to 1 year of experience, 2 represents from 2 to 5 years, 3 represents from 6 to 10 years of experience, 4 represents from 11 to 15 years, 5 represents from 16 to 20 years, 6 represents more than 20 years of experience, and 7 represents the participant is not currently employed.	
Education (Es)	This categorical variable represents education: 1 corresponds to undergraduate studies, 2 corresponds to College degree, 3 represents specialization studies, 4 indicates the participant concluded a specialization, 5 represents a Master's degree, 6 represents Doctoral degree, 7 represents post-doctoral research, and Other was an open-ended question for the participants to report in case none of the previous alternatives applied.	

Source: study's data

3.6 Data Analysis

Data were analyzed using statistical techniques such as analysis of frequencies, ANOVA, means t-test, and multiple linear regression. The frequency analysis enabled presenting the tendency of the participants' information and answers. ANOVA and the means t-test enabled comparing the means concerning whether the internal auditors would submit their reports to the fiscal council depending on the different leadership styles and CFOs' opinions (agrees, questions, or rejects), which represented a context of subordination. These tests were the primary method used to obtain the results. Additionally, multiple linear regression was used to perform complementary analyses.

4. Description and Analysis of Results

This section presents the description and analysis of the data. First, the frequency of variables is presented, followed by the ANOVA and means t-test to compare the means obtained by leadership groups and subordination when deciding whether to report or not the irregularities, and the time required to reach a decision. Finally, a summary of the multiple linear regression is presented. Table 4 shows the frequency of variables.

Table 4
Frequency of variables

REP	Frequency	Perceptual	TTD	Frequencies	Perceptual
1	2	1.30	Up to 5	71	46.10
3	2	1.30	From 6 to 10	58	37.66
5	10	6.49	From 11 to 15	16	10.4
6	1	0.65	From 16 to 20	5	3.25
7	10	6.49	From 21 to 30	2	1.3
8	11	7.14	From 31 to 40	1	0.65
9	5	3.25	From 41 to 50	0	0
10	113	73.38	From 51 to 60	1	0.65
Total	**154**	**100**	**Total**	**154**	**100**
ID	**Frequency**	**Perceptual**	**GN**	**Frequency**	**Perceptual**
2	55	35.71	0	2	1.3
3	74	48.05	1	26	16.88
4	19	12.34	2	126	81.82
5	6	3.90	**Total**	**154**	**100**
Total	**154**	**100**	**ES**	**Frequency**	**Perceptual**
EX	**Frequency**	**Perceptual**	1	2	1.30
1	13	8.44	2	45	29.22
2	58	37.66	3	26	16.88
3	61	39.61	4	67	43.51
4	17	11.04	5	13	8.44
5	5	3.25	6	1	0.65
Total	**154**	**100**	**Total**	**154**	**100**

Source: study's data.

Table 4 shows that the REP variable (concerning the likelihood of reporting irregularities) most frequently (113) was rated with the maximum score of 10. Most of the participant internal auditors decided to report the irregularities to the fiscal council. The frequency of the categories that represented the participants less likely to report (from 1 to 5) shows that 6.49% of the internal auditors were not very likely to report the irregularities committed by their immediate superior.

Regarding the amount of time (TTD) the internal auditors needed to decide whether to report the irregularities, most participants took up to 5 minutes. On the other hand, some auditors reflected up to 60 minutes to reach a decision. Regarding age (Id), category 3, which refers to people between 30 and 39, was the most frequent. Additionally, regarding gender (Gn), category 2 (male) was the most frequent. Note that most participants were men.

Regarding experience (Ex), category 3 was the most frequent, showing that most internal auditors had from 6 to 10 years of experience in the internal audit field. Regarding education (Es), the most frequent was category 4, revealing that most internal auditors had concluded a specialization program. Hence, given the participants' characteristics, the following tables present the difference of mean scores concerning whether to report irregularities and the time required to reach this decision.

Table 5

ANOVA concerning the leadership and subordination groups regarding whether to report irregularities

Test	Experience
ANOVA	1.040
Sig.	0.396

*. Correlation is significant at a 0.05 level (2 extremities).
**. Correlation is significant at a 0.01 level (2 extremities).

Source: study's data.

Table 5 shows that the ANOVA test performed for the difference of mean scores obtained by the 6 groups (leadership and subordination) about whether to report irregularities showed no statistically significant differences. This result suggests no statistically significant differences between the groups regarding the participants' intention to report the irregularities regardless of the CFO's opinion (agrees, questions, or rejects the report).

Therefore, there is no need to perform the Scheffe test, which shows the differences between the groups to identify which group would be more strongly impacted by the leadership style. Table 6 presents the ANOVA test performed for the leadership and subordination groups, including an analysis of how long the participants took to decide whether to report the irregularities.

Table 6

ANOVA for the leadership and subordination groups regarding the amount of time required to make a decision.

Test	Experience
ANOVA Test	37.973
Sig.	0.000*

*. Correlation is significant at a 0.05 level (2 extremities).
**. Correlation is significant at a 0.01 level (2 extremities).

Source: study's data.

Table 6 shows that the ANOVA test presented statistical significance, revealing differences regarding the amount of time required by the auditors to decide whether to report the irregularities or not. Hence, the Scheffe test was performed and is presented in Table 7 to verify which groups presented differences in the means concerning the amount of time required to reach a decision.

Table 7

Differences of means between the groups (leadership and subordination) regarding the time required to make a decision

(I) Selection	(J) Selection	Mean difference (I-J)	Sig.
1 (democratic and CFO agrees with the report)	2 (democratic and CFO questions the report)	-1.3403	0.9360
	3 (democratic and CFO rejects the report)	-2.2770	0.5799
	4(autocratic and CFO agrees with the report)	-3.8857	**0.0456***
	5(autocratic and CFO questions the report)	-6.4849	**0.0000***
	6(autocratic and CFO rejects the report)	-14.5924	**0.0000***

**. Correlation is significant at a 0.01 level (2 extremities).

Source: study's data.

Table 7 shows that the leadership style determined the differences in how long auditors took to decide whether to report irregularities. Differences were found between group 1 (control: democratic leadership with CFO's agreement) and groups 4, 5, and 6, all of which dealt with autocratic leadership. After identifying the difference in the time required by the individuals in the groups (Table 5), an ANOVA test (Table 8) was performed to identify whether the groups differed concerning the CFOs' opinions (three different opinions) in which the test variable was whether to report the irregularities.

Table 8

ANOVA considering the groups' subordination and the decision to whether to report the irregularities

Test	Experience
ANOVA	0.448
Sig.	0.640

*. Correlation is significant at a 0.05 level (2 extremities).
**. Correlation is significant at a 0.01 level (2 extremities).

Source: study's data

Table 8 shows that the ANOVA test did not reveal statistically significant differences; that is, the scale concerning how likely the auditors were to report the irregularities did not vary depending on subordination to the immediate superior and the internal audit department. Hence, these findings indicate that the CFO's response (question or denial, which would reveal subordination) did not influence the auditors' judgment and decision-making regarding whether to report the irregularities to the council. The auditors did not consider these criteria to the point that they influenced their judgment and decision-making. Therefore, the Scheffe test was not performed.

Next, Table 9 presents an ANOVA performed for the three subordination groups. The analysis considered the time required by the internal auditors to reach a decision.

Table 9
ANOVA for the subordination groups considering the time required by the participants to reach a decision.

Test	Experience
ANOVA	18.949
Sig.	0.000*

*. Correlation is significant at a 0.05 level (2 extremities).
**. Correlation is significant at a 0.01 level (2 extremities).

Source: study's data.

Table 9 shows the significance of the ANOVA test regarding its parameters. The model's significance determines whether there were differences in the time required by the groups to decide due to subordination. Hence, the Scheffe test was performed to identify which groups presented differences in terms of time (See Table 10).

Table 10
Differences of means between the subordination groups concerning the time the participants took to reach a decision

(I) Selection	(J) Selection	Mean difference (I-J)	Sig.
1 (democratic and CFO agrees with the report)	2	-2.458	0.099
	3	-6.947	**0.000***
2(democratic and CFO questions the report)	1	2.458	0.099
	3	-4.489	**0.001***
3(democratic and CFO rejects the report)	1	6.947	**0.000***
	2	4.489	**0.001***

*. Correlation is significant at a 0.05 level (2 extremities).
**. Correlation is significant at a 0.01 level (2 extremities).

Source: study's data.

Note that the control group (the CFO agreed with the report) showed a significant difference compared to the groups in which the CFO rejected or questioned the report; the leadership style was not taken into account in this analysis. Additionally, group 2 (CFO questioned the report) presented a significant difference regarding the group in which the CFO rejected the report, regardless of the leadership style.

These results suggest that the internal auditors took longer to reflect upon whether they should report to the fiscal council when the CFO rejected the report compared to when the CFO agreed or questioned the report, suggesting that the subordination effect influenced the internal auditors' decision-making process.

Table 11 presents the differences in the mean scores concerning the auditors' likelihood of reporting the irregularities considering the leadership style (democratic or autocratic).

Table 11
Mean differences between leadership groups regarding the likelihood of reporting irregularities

t-test					
Data	**Groups**	**Number**	**Mean**	**T**	**Sig.**
REP	Democratic	80	9.3625	2.0200	**0.0453***
	Autocratic	74	8.7568		

*. The correlation is significant at 0.05 (-tailed).

**. The correlation is significant at 0.01 (2-tailed).

Source: study's data.

Table 11 shows a statistically significant difference in the score assigned by the auditors to express the likelihood of reporting irregularities. The score was higher when the participants dealt with democratic leadership instead of autocratic leadership. This finding reveals that an autocratic leader may prevent internal auditors from expressing their opinions regarding irregularities. In any case, note that even when dealing with an autocratic leader, the internal auditors decided to report the irregularities, though less frequently than when dealing with a democratic leader. Thus, the results show that autocratic leaders negatively interfere in the transparency and solutions of irregularities.

Table 12 presents the differences in the time required by the auditors to decide whether to report irregularities comparing the two leadership styles (democratic and autocratic).

Table 12
Difference of means between leadership groups concerning the time required to reach a decision

t-test					
Data	**Group**	**Number**	**Mean**	**T**	**Sig.**
TTD	Democratic	80	4.138	-8.0087	**0.0000***
	Autocratic	74	11.351		

*. Correlation is significant at a 0.05 level (2 extremities).
**. Correlation is significant at a 0.01 level (2 extremities).

Source: study's data.

Table 12 presents a significant difference in the time required by the participants to decide depending on the leadership style. Hence, internal auditors with an autocratic leader took longer to decide and reflect on the consequences of reporting the irregularities. The reason is that autocratic leaders tend to negatively impact an organization because of their way of managing problems. Therefore, internal auditors were possibly pondering the pros and cons of their decision and how it would impact their careers within the company.

Differences were found between the groups (leadership and subordination) in the mean scores concerning judgment and decision making regarding whether to report irregularities and the time necessary to decide. Table 13 presents the influence of the test variables and control variables on whether to report irregularities.

Table 13

Summary of the multiple linear regression, equation 1 – influence of the test variables and control variables on the report of irregularities.

Variables	Coefficient	Sig.	VIF
(Constant)	7.500	0.000	-
Leadership style (EL)	-0.079	0.797	1.017
Subordination (SUB)	-0.023	0.901	1.048
Age (Id)	0.185	0.395	1.264
Gender (Gn)	0.318	0.387	1.071
Experience (Ex)	-0.031	0.870	1.249
Education (Es)	0.192	0.209	1.094
Durbin Watson		1.872	
R^2 equation:		0.029	
Sig equation:		**0.634**	
No. of observations		154	

Source: study's data.

Table 3 shows that the model was not significant (0.634), i.e., neither the leadership style (EL), subordination (SUB), age (Id), gender (Gn), experience (Ex), or the internal auditor's education (Es) significantly influenced the participants' judgment and decision regarding whether to report the irregularities to the fiscal council. In any case, even though the relationships were not significant, they behaved as expected, meaning that the higher the level of subordination (-0.023), together with an autocratic style (-0.079), the less likely the auditors will report irregularities to the fiscal council. Table 14 presents the influence of the test and control variables on the time required to decide whether to report.

Table 14
Summary of the multiple linear regression, equation 2 – influence of test variables and control variables on the time needed to decide whether to report the irregularities

Variables	Coefficient	Sig.	VIF
(Constant)	8.8904	0.0042	
Leadership style (EL)	**1.7721**	**0.0846*** **	**1.0170**
Subordination (SUB)	-0.5053	0.4196	1.0479
Age (Id)	0.8087	0.2676	1.2640
Gender (Gn)	1.6797	0.1720	1.0708
Experience (Ex)	**-1.9116**	**0.0026***	**1.2486**
Education (Es)	-0.4464	0.3814	1.0941
Durbin Watson		1.937	
R^2 equation:		0.095	
Sig equation:		**0.021****	
No. of observations		154	

* Significant at 1%; ** Significant at 5%; *** Significant at 10%.

Source: study's data.

Table 14 shows that the model was statistically significant and explained 9% of the dependent variable concerning the time needed to make a decision. As for the significant variables, leadership style (EL) influenced how long auditors took to make a decision. Hence, the auditors in the context of autocratic leadership took longer to decide whether to report the irregularities. Additionally, years of experience (Ex) significantly influenced the time required for decision making, i.e., the more years of experience, the more rapidly auditors decided about the report.

Regarding the remaining variables, subordination (SUB), age (Id), gender (Gn), and education (Es) did not significantly influence how long auditors took to decide whether to submit the recommendation report.

In general, the mean tests (ANOVA) results indicated that autocratic leaders interfered in the time needed for decision-making. Additionally, subordination represented by the CFO rejecting the report also interfered with the time auditors needed to make decisions; the auditors took longer to ponder their decisions than the groups whose CFO agreed or questioned the report. The democratic leadership group assigned the highest score for the likelihood of submitting the recommendation report and needed less time to reach this decision than the groups dealing with an autocratic leader. Additionally, when the auditors were under an autocratic leader, they took significantly longer to make their decisions, while the more experienced the auditors, the more rapidly they decided about whether to report the irregularities.

Complementarily, we analyzed the relationships using a regression test, and no significant influence was found neither from the leadership style or subordination level on the report of irregularities (internal auditors' judgment and decision making), though the leadership style influenced the auditors' time to reach a decision.

The results of the main tests (ANOVA) indicate that this study's first hypothesis ": A CFO's autocratic leadership style significantly influences internal auditors' judgment and decision-making" failed to be rejected, while ": Pressure to obey in a context of subordination significantly influences internal auditors' judgment and decision-making" was rejected.

The result concerning hypothesis 1 is in line with Goulart Júnior and Lipp (2011). They mentioned that autocratic leaders might cause tension among a work team because they adopt an authoritarian behavior and centralize power, possibly inhibiting the subordinates' decision-making. The results also corroborate the findings reported by Mas and Barac (2018) and Suputra and Widhiyani (2020), who noted that auditors might be influenced by the leadership styles of their teams and leaders.

Therefore, internal auditors may change their attitude toward a given decision out of fear of being punished or suffering negative consequences due to their superiors' autocratic leadership and pressure to comply, which configures a context of subordination. According to Johnson et al. (2016), the coercive power of superiors may induce subordinates to change their behavior through implicit or explicit threats of punishment, such as removing career benefits, for instance.

Regarding hypothesis 2, the influence of subordination on whether to report irregularities was not significant; however, it significantly influenced the time auditors took to make their decisions. Hoos et al. note that subordination may influence the judgment of internal auditors, especially when task ambiguity is high. Furthermore, Eulerich et al. (2017) consider that subordination influences one's work, and Gimbar et al. (2018) note that the communication among subordinates may be compromised when it refers to discussing tasks and reviews. Hence, based on previous studies, subordination may influence the work of internal auditors, and based on this study's results, subordination did not influence the auditors' intention to report irregularities but did influence the time they took to ponder the situation, that is, they took significantly longer to assess the situation and make a choice.

According to Carpenter and Reimers (2013), the pressure auditors experience within organizations from different sources can compromise the quality of their work, as they may feel compelled to act accordingly, not complying with ethical standards. Cattrysse (2002) stresses that the work performed by internal auditors is essential for companies because it improves governance systems, confers credibility to accounting reports, and gives assurance to external users, also supporting external auditing.

The participant internal auditors listed the importance of their work for the organizations and the notion that internal auditors must remain ethical as explanations for their higher likelihood to report the irregularities. The respondents reported that the cases simulated a real-world situation many of them had already experienced and that the organizational structure and the internal audit's position in the hierarchy may interfere in their behaviors, judgments, and decisions.

The time required to analyze the case, i.e., make an assessment and decide whether to report the irregularities, was addressed in this study but not investigated in depth because it was not the primary variable of interest. However, it provided an important explanation for the cases. Hence, we suggest that the time auditors take for judgment and decision-making be incorporated in future studies to support better understanding and provide new evidence.

5. Conclusion

This study analyzed the effect of leadership style and subordination in internal auditors' assessment and decision-making process. In addition, an experimental case testing the decision-making of auditors was used to show how likely they were to report irregularities committed by their immediate superior (CFO) to the fiscal council.

The participant internal auditors were predominantly male, aged 30 to 39 years old on average, had from 6 to 10 years of experience, and had concluded a specialization. Regarding how likely they were to report irregularities to the fiscal council, most internal auditors were willing to submit the report to the fiscal council, regardless of the leader's style or level of subordination. Additionally, in general, the auditors took five minutes to decide; however, these results differ when analyzed from the perspective of leadership styles. For example, auditors under an autocratic leader took significantly longer to reach a decision.

The control group (with a democratic leader who agreed with the auditor's report) took the shortest time to decide, compared to groups 4, 5, and 6, suggesting that the autocratic leadership interfered in the time the groups required. The autocratic leadership and subordination effect required the participants to take longer to judge and decide whether to report the irregularities to the fiscal council. Additionally, the participants were less likely to submit their reports depending on their leader's style. The complementary linear regression analysis revealed that the more experienced the internal auditors, the faster they decided on whether to submit their report and confirmed that the autocratic leadership influenced how long the participants took to decide on whether to submit the report.

There is evidence that even though the internal auditors intended to submit their reports, they were less likely to submit their reports when subordinated to an autocratic leader. Additionally, the participants subordinated to a leader who rejected the report (and was responsible for the irregularities) took longer than the remaining groups (CFO agreed or questioned the report) to decide whether to submit the recommendation report to the fiscal council.

These findings corroborated the results reported by Goulart Júnior and Lipp (2011), Mas and Barac (2018), and Suputra e Widhiyani (2020) regarding the effect of leadership on auditing. Likewise, these findings align with Carpenter and Reimers (2013), i.e., pressure may compromise the subordinates' effectiveness as the quality of communication between superiors and subordinates may be harmed. In addition, as noted by Johnson et al. (2016), internal auditors subject to pressure to obey may give in to anti-ethical practices out of fear their careers in the company may be compromised if they do not comply with their leaders' ideals.

This study contributes to the Brazilian and international literature because, as noted by Mas and Barac (2018), the effect of leadership on internal audits and the remaining behavioral dimensions are seldom addressed. The results are limited because of the modeling and the relatively small number of participants. Nevertheless, the results indicate that internal auditors' decisions may be compromised in the Brazilian context due to leadership factors and subordination, indicating a need for future research to address these aspects in the field.

These results support regulatory agencies, corporate governance mechanisms, and human resource departments, presenting evidence regarding the risk of submitting internal auditors to autocratic leaders and pressure to obey. These factors may compromise the quality of internal controls and financial statements. Furthermore, these findings can support training programs intended to promote leadership and appointment practices and the retention and succession of senior managers to prevent situations similar to those presented in this study.

This study's practical relevance lies in discussing the ethical implication of decisions imposed on professionals, which presents a possibility for future studies. Also, the hierarchical position of the internal audit within an organization is important for internal auditors to keep their professional skepticism, not being subject to the subordination effect or leadership styles, which can compromise the effectiveness of their work.

This study presents some limitations. First, a quasi-experiment was conducted because an experiment would require the participants' presence, which entails considerable cost. After all, the participants are auditing professionals currently in the market. Hence, future studies are suggested to enable the professionals' presence to validate an experiment and verify whether the results behave similarly. Another limitation concerns the control group and experimental designs, which considered the participants' experience. Future studies might reduce these limitations by changing the scenarios, controlling the leadership style in one scenario, and subordination in the other. Likewise, two leadership styles were addressed in this study (democratic and autocratic). The literature also reports other constructs such as transformational leadership, which would show how the results would behave if the leadership style changed.

Suggestions for future studies include analyzing reporting channels in organizations to see whether internal audit can more successfully perform its role in the presence of this mechanism, even when dealing with a "toxic" leader. Additionally, we advise discussing the factors that influence longer decision-making processes, as this was a very relevant finding in this study when the participants were faced with subordination and leadership. Additionally, we suggest analyzing the relationship between internal audit and independence and other behavioral factors, such as the individuals' dark personalities, which may affect decisions and job performance.

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