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# INFLUENCE OF LOCUS OF CONTROL AND RESILIENCE IN RELATING OCCUPATIONAL STRESS TO AUDIT QUALITY REDUCING PRACTICES

Alice Carolina Ames <sup>1</sup>  
Juçara Haveroth <sup>2</sup>  
Paulo Roberto da Cunha <sup>3</sup>  
Pinto Ié <sup>4</sup>

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## ABSTRACT

This article aimed to assess the influence of locus of control and resilience in the relationship between occupational stress and practices that reduce audit quality. For this, it carried out a survey with 124 auditors registered with the CNAI of the Federal Accounting Council, through an online questionnaire sent by the network of professional contacts LinkedIn®. The results indicated that it does not refer to stress when the Conflict of Roles is increased as Reduced Audit Practices (PRQA); that Role Ambiguity, although it reflects in greater Stress, does not reflect in greater reduction of PRQA. It is concluded that behavioral variables, such as stress and locus of control, affect audit quality and need to be further studied by researchers and considered by regulators from the perspective of what actions can be taken to understand and monitor them. them in the interest of preserving the quality of those issued by the auditors. This study contributes to the audit literature, especially

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<sup>1</sup> Doutoranda em Ciências Contábeis e Administração no Programa de Pós-Graduação em Ciências Contábeis da Universidade Regional de Blumenau (PPGCC/FURB)  
Endereço: Rua Antônio da Veiga, 140 – Sala D202 – Bairro Itoupava Seca, CEP: 89.030-903 Blumenau/SC – Brasil; Telefone: (47) 3321-0565; e-mail: aliceames@hotmail.com  
Lattes: <http://lattes.cnpq.br/0027513946536184>  
ORCID: <https://orcid.org/0000-0002-8287-8831>

<sup>2</sup> Doutora em Ciências Contábeis e Administração no Programa de Pós-Graduação em Ciências Contábeis da Universidade Regional de Blumenau (PPGCC/FURB)  
Endereço: Rua Antônio da Veiga, 140 – Sala D202 – Bairro Itoupava Seca, CEP: 89.030-903 Blumenau/SC – Brasil; Telefone: (47) 3321-0565; e-mail: jucara\_haveroth@hotmail.com  
Lattes: <http://lattes.cnpq.br/7711965074659371>  
ORCID: <https://orcid.org/0000-0001-7327-0667>

<sup>3</sup> Doutor em Ciências Contábeis no Programa de Pós-Graduação em Ciências Contábeis da Universidade Regional de Blumenau (PPGCC/FURB)  
Professor do Programa de Pós-Graduação em Ciências Contábeis da Universidade Regional de Blumenau (PPGCC/FURB)  
Endereço: Rua Antônio da Veiga, 140 – Sala D202 – Bairro Itoupava Seca, CEP: 89.030-903 Blumenau/SC – Brasil; Telefone: (47) 3321-0565; e-mail: pauloccsa@furb.br  
Lattes: <http://lattes.cnpq.br/6291962434969372>  
ORCID: <https://orcid.org/0000-0001-5805-9329>

<sup>4</sup> Mestre em Ciências Contábeis e Administração no Programa de Pós-Graduação em Ciências Contábeis da Universidade Regional de Blumenau (PPGCC/FURB)  
Endereço: Rua Antônio da Veiga, 140 – Sala D202 – Bairro Itoupava Seca, CEP: 89.030-903 Blumenau/SC – Brasil; Telefone: (47) 3321-0565; e-mail: pintoie@hotmail.com  
Lattes: <http://lattes.cnpq.br/8593351329372363>  
ORCID: <https://orcid.org/0000-0001-8510-9272>

by analyzing behavioral variables, which represent a research gap that still needs to be explored.

**Keywords:** Occupational Stress. Audit Quality. Locus of Control. Resilience.

## **INFLUÊNCIA DO LÓCUS DE CONTROLE E RESILIÊNCIA NA RELAÇÃO DO ESTRESSE OCUPACIONAL COM AS PRÁTICAS REDUTORAS DA QUALIDADE DA AUDITORIA**

### **RESUMO**

Este artigo teve por objetivo analisar a influência do locus de controle e da resiliência na relação entre o estresse ocupacional e as práticas redutoras da qualidade da auditoria. Para isso realizou uma *survey* com 124 auditores cadastrados no CNAI do Conselho Federal de Contabilidade, por meio de um questionário online enviado pela rede de contatos profissionais LinkedIn®. Os resultados indicaram que no que se refere ao estresse quando se aumenta o Conflito de Papéis aumenta-se as Práticas Reduzidas da Auditoria (PRQA); que a Ambiguidade de Papéis, embora reflita em maior Estresse não reflete em maior Redução das PRQA. Conclui-se que variáveis comportamentais, como o estresse e locus de controle, afetam a qualidade da auditoria e precisam ser mais estudadas por pesquisadores e consideradas por reguladores na perspectiva de que ações possam ser efetuadas no intuito de entendê-los e monitorá-los com o interesse de preservar a qualidade das opiniões emitidas pelos auditores. Este estudo contribui para a literatura de auditoria, especialmente pela análise de variáveis comportamentais, que representam uma lacuna de pesquisa que ainda precisa ser explorada.

**Palavras-Chave:** Estresse Ocupacional. Qualidade da Auditoria. Locus de Controle. Resiliência.

### **1 INTRODUCTION**

For almost twenty years, the audit has been the subject of research resulting from corporate scandals that exposed and raised questions about its weaknesses. According to the Brazilian Accounting Standards Auditor's Work - NBCTA 200 (2012), a consequence arising from this scenario was the emergence of SOX (Sarbaney Oxley) 2002, which raised several issues related to audit quality and the ability of auditors to ensure information. reliable financial statements free from material misstatement and fraud. As a result, year after year, the audit has undergone changes, especially in relation to the auditor and the auditor-client relationship (Defond & Zhang, 2014).

Issues such as the auditor-client relationship have implications for the behavior and practice of auditing (Caramanis, 1998); this is because the quality of auditing and financial reports are sensitive to the behavior of the individuals involved in the audit processes (Herrbach, 2001). Thus, in order to increase quality levels, recent perspectives have sought to understand how the auditor's personal

traits can impact the audit results, and how work standards can be improved by including more guidance on awareness and understanding of personal traits (International Federation of Accountants – IFAC, 2017).

Some traits such as trust, questioning nature, stress response, time pressure or conflict, knowledge, practical and cultural experiences and professional skepticism (Hurt, 2010; IFAC, 2017) were considered important variables that are directly related to the quality of processes and opinion of the auditors. Of these, stress gains potential attention since auditing has been considered the most stressful area of accounting specialties (Hasin & Omar, 2007).

Job stress is rooted in the assumption that all individuals play roles (Rizzo; House & Lirtzman, 1970) and, as this role play is a potential source of stress in more complex environments such as auditing, the literature converges with the need to study it in organizations and groups of individuals. Despite its relevance, studies on stress applied to the audit field are scarce, especially in developing countries (Olasanmi, 2016). Haveroth (2017), when studying the relationship between occupational stress and the professional skepticism of Brazilian auditors, suggests that personal and behavioral characteristics of the auditor still need to be explored in audit research, so that this variable can reflect on the quality of the audit.

The relationship between occupational stress and audit quality may be influenced by other variables, such as the Locus of Control. The Locus of Control (LC) is the belief that the individual has in relation to the control he has of his destiny (Maciel & Camargo, 2010). The Locus of Control is divided into Internal Locus of Control and External Control. Individuals with the highest Internal Locus of Control (LCI) believe in the perspective that what can be achieved depends on themselves, on the efforts and skills expended. On the other hand, individuals with External Locus of Control (ECL) manifest more emotions, suffer more affective influence, do not assume direct responsibility for goals and are more susceptible to persuasive influence (Coleta, 1987; Rodrigues, 2007).

Another behavioral variable that can influence the relationship between occupational stress and audit quality is resilience. Resilience is the human capacity to face and overcome experiences of adversity (Yunes & Szymanski, 2001; Minello & Scherer, 2014) and is linked to the flexibility that individuals have to deal with situations (Cardoso, 2013). Resilience is an important characteristic for auditors, so that in situations of high stress, typical of the job, it is understood that it can inhibit negative consequences on the auditor's results.

Several factors can contribute to reducing the quality of the audit, in which there is acceptance of explanations without basis, lack of consultation with current standards, lack of in-depth comments on documentation and premature signing of audit procedures (Smith & Emerson, 2017). This reduction in audit quality may be related to the auditors' occupational stress.

However, the Locus of Control and Resilience can play a mitigating role in the relationship between occupational stress and the reduction of audit quality, since they can influence the individual's conditions arising from the performance of their duties, enabling the mitigation of potential damages caused by them.

Given that occupational stress influences audit quality-reducing practices and that personal variables can attenuate this effect, the following research question arises: **what influence does the locus of control and resilience have on the**

## **relationship between occupational stress and practices that reduce audit quality?**

Thus, the objective of the research is to analyze the influence of the locus of control and resilience in the relationship between occupational stress and practices that reduce audit quality.

Studying auditors represents an important contribution due to the functions performed and responsibilities assumed, which sometimes make them more vulnerable to stress at work (Nasir & Hasse, 1996) and consequently to all the damages resulting from it. In addition, this research is justified given the potential for personal and behavioral characteristics to affect the degree of confidence in the audited financial information, as highlighted by Christensen et al., (2016), which significantly depends on the quality of the audit.

Still, the contribution of this research is in discussing accounting and behavioral auditing, especially due to the advent of the theme in the area and the scarcity of research that seeks to clarify whether these effectively have any impact on the results in the work of auditors. The importance of the discussion is due to the possibilities of mitigating the potential damages generated by the lack of audit quality, reflected essentially in financial results and losses of the users of the audited information.

## **2 THEORETICAL REFERENCES**

### **2.1 PRACTICES THAT REDUCE AUDIT QUALITY**

Quality is an important concept in the field of auditing, but despite presenting an extensive literature in the most different discussions regarding practices and results, audit quality is still a delicate issue for professionals and researchers because of the difficulties regarding its measurement (Christensen et al., 2016, Broberg et al., 2017). It is often said that it is difficult to define and measure a high level of quality, instead the discussion turns to terms of reduction or practices that reduce quality and, more specifically, what behaviors imply this reduction (Broberg et al., 2017).

Coram et al. (2008) define audit quality reduction as actions that intentionally and inappropriately reduce the collection of evidence. The common denominator in quality definitions and discussions seems to be seen as the desired outcome of the process and that the auditor's behavior and actions are central inputs in this process. In this study, the focus is on practices that reduce quality, as described by Smith and Emerson (2017), which are those arising from the acceptance of unsubstantiated explanations, lack of consultation with current standards, lack of depth in their comments on documentation and premature signing of audit procedures.

According to Herrbach (2001), the difficulty in assessing the quality of the audit demonstrates its sensitivity to the behavior of individuals, and that the conflict of interest between partners and individuals of the audit firm can represent different consequences with regard to the motivation of auditors in the field. On the other hand, it is highlighted that its definition and measurement can be useful for interested parties as they can assess the quality of the audit in a period, verifying which firms present the lowest levels and provide incentives to invest in shares to such a reversal (Christensen et al., 2016).

When dealing with the factors that can impact the reduction of audit quality, in terms of behavior, it is understood, taking into account the auditors' work environment, it is almost natural to face conflicts, as in situations where they are required to perform work that is not in accordance with their real function, and because of that, they are guided by the code of ethics of behavior (Jaya, Sudarma & Roekhudin, 2018). In this sense, dysfunctional behavior is understood according to O'Bryan, Quirin and Donnelly (2005) as a concept used to describe behaviors that can potentiate the reduction of audit quality or even process failures.

Thus, dysfunctional behavior can be treated as a rational reaction that arises in response to controls and processes (Hartmann, 2000). This behavior can have different effects on the quality of the audit directly or indirectly, given that the behavior can also be affected by organizational commitment, turnover disposition and locus of control (Nehme, Michael & Kozah, 2020). In this sense, the credibility of the audit can be compromised by actions of dysfunctional behavior by any member of the audit, so the supervision of behavior according to Sweeney, Pierce and Arnold (2013) is seen as essential.

Studies such as Donnelly, Quirin and O'Bryan (2003a) have addressed reduced audit quality practices by analyzing the relationship between dysfunctional behavior and auditor turnover in different firm formats and sizes, including Big 5, international, national and regional. The findings showed that dysfunctional behavior leads to a reduction in audit quality. López and Peters (2012) investigated workload pressures, the results indicated that these variables lead individuals to dysfunctional behaviors and lower quality in the proposed audit.

Broberg et al. (2017) investigated how practices reduce audit quality with time pressure. The results showed that, in the Swedish context, not only budgetary pressure, but also endogenous factors such as gender, exposure, experience and firm influence the reduction of audit quality. Hutabarat (2018) analyzed the influence of audit experience, time pressure and auditor ethics on audit quality. The results showed that all variables were related, positively and negatively, highlighting, however, the pressure of time that negatively influenced the quality of the audit.

Unlike these studies that portray the reduction in audit quality, the research by Cristensen et al. (2016) studied the perception of auditors and investors about the definition of audit quality. Being that auditors reported being related mainly in terms of compliance with professional auditing standards, while investors trust, pointed to be related more to the individual characteristics of the work team of the audit execution. Consistent with the investors' preliminary definition of audit quality, it is suggested that there is almost unanimous agreement between them and auditors that the individual characteristics of the auditor influence the quality of the audit.

Considering that the behavior and characteristics of auditors can influence the quality of the work, practices that reduce audit quality can be indicative that increase the risks for an inadequate opinion on the financial statements (Coram et al., 2008). It is noteworthy, therefore, that there are several factors, both endogenous and exogenous, which can affect the practices that reduce audit quality, but individual characteristics stand out in this study, especially because the

auditor's competence is closely linked with the proportionality of quality. of the audit (Defond & Zhang, 2014).

## **2.2 Stress, Locus of Control and Auditor Resilience**

The audit environment is complex and non-routine, representing a scenario conducive to configurations of situations in which the goals are multiple or uncertain (Abdolmohammadi & Wright, 1987). The Public Company Accounting Oversight Board - PCAOB (2012) has shown some concern about the quality of the audit and how it can be compromised with the workload and time pressure in carrying out the tasks. In this scenario, it can be inferred that research on stress is important and necessary, so that it is possible to identify what causes it and how to manage it for more effective results for the auditor and the audit firm (Haveroth, 2017).

One of the most frequent experiences of stress at work is the one that originates from the performance of roles in the organization. Role theory has been proposed as a framework for examining the behavior of individuals in organizations (Lichtman & Hunt, 1971). Kahn et al. (1964) suggest that role concepts are the main means of linking the individual and organizational levels of research. The stress developed by the role in the organization, in this context, corresponds to the stress in the development of the function in the organization or work environment. Role theory scholars (Kahn et al., 1964; Rizzo et al., 1970; Nasir & Hasse, 1996; Örtqvist & Wincent, 2006; Faucett et al., 2013) assess stress through two components: conflict role and role ambiguity, and consider some characteristics of the social and organizational context as stress-inducing situations.

Role Theory determines that when an individual's expected behaviors are inconsistent in performing his/her job function, he/she will experience stress, and that when stressed the individual is dissatisfied and performs less efficiently than expected (Rizzo et al. al., 1970). Role conflict can be defined as the incompatibility of the function that develops in the work environment (Tracy & Johnson, 1981). Role ambiguity is defined by Kahn et al. (1964) as the lack of clarity and predictability of an individual's expected behavior. The environment and context of the auditors' work are conducive to the configuration of conflict and ambiguity of roles, given the different clients, in different sectors of the economy, in the different complexities of business, in addition to the different configurations of the audit firm, such as the composition of work teams, feedback from superiors, work structure and resources.

Nor (2011) investigated work stress and environmental stressors that affect reduced audit practices in the Malaysian context. The results showed that workload, role ambiguity, role conflict and leadership are related to work stress, and work performance is associated only by role ambiguity.

The importance of discussing this topic in the audit is given in view of the behavioral, individual and organizational impacts of stress and reduced audit quality (Haveroth, 2017). In view of what has been presented on the theory of roles and how it is assumed to be responsible for the presence of occupational stress in the auditor's profession, hypotheses related to occupational stress and reduced audit quality practices are formulated:

### **H1 - Auditors' stress influences the reduction of audit quality.**

In order to test the assumptions of Rizzo et al.'s (1970) theory, which is the most used theory in the occupational stress literature, the following hypotheses were created:

**H1<sub>a</sub> – The role ambiguity positively influences the reduction of audit quality.**

**H1<sub>b</sub> – Role conflict positively influences the reduction of audit quality.**

Chen and Silverthorne (2008) investigated the relationships between locus of control and individual behavioral measures in relation to work, such as job satisfaction, stress and performance. The results showed that personality, measured through the locus of control, influences the prediction of the level of satisfaction, stress and performance, and that individuals with internal locus of control tend to have lower levels of stress and higher performance and satisfaction. Thus, individuals with an internal locus of control can be described as those who believe that achievements depend on themselves, on the efforts and skills expended (Rodrigues, 2007). In addition to individuals with an internal locus of control, there are those with an external locus of control, who assume that achievements depend on or can be controlled by an external agent or factor (Rodrigues, 2007). Indeed, in relation to control, Noriega et al., (2003) state that the concept of control is conditioned to the ability to significantly change events, individuals are not obliged to exercise control over events, but they must realize that there is control.

Furthermore, it is observed that the locus of control is linked to the individual and the environment in which he performs his functions, which is internally influenced by the external environment. From this, according to Maciel and Camargo (2010), it is highlighted that the locus of control can be understood as a belief that the individual has in relation to how much control he has of his destiny. Muawanah (2000) examined the role of locus of control, professional commitment, and ethical awareness on auditor behavior in audit conflict situations. The results affirmed that the interaction between internal and external locus of control and ethical conscience influences the auditor's behavior in conflict situations.

Efforts to gain a perspective on personality are carried out by researchers through locus of control and creativity (Spector, 1988). Some researchers have tried to use locus of control as predictors in determining a person's behavior. For Trevino (1986), personality variables, such as locus of control, can influence individual behavior to perform ethical actions or not. In view of the above, it is understood that the locus of control can be a potentiator in the relationship between occupational stress and reduced audit quality practices, in which the following hypotheses are proposed:

**H2 – The locus of control influences the relationship between stress and reduced audit quality.**

In addition, it is suggested that depending on the type of locus of control identified in the auditors, whether internal or external, they will have different influences on the established relationship. From this, the following research hypotheses were elaborated:

**H2<sub>a</sub> – The internal locus of control negatively influences the relationship between stress and reduced audit quality.**

## **H2b - The external locus of control positively influences the relationship between stress and reduced audit quality.**

It is also considered that depending on the experiences of stress conditions, these can be minimized by the effects of resilience identified in each individual (Silveira & Mahfoud, 2008). Resilience is linked to the flexibility with which individuals deal with adverse situations, which highlights the human development of individuals in situations of risk, which enable problems related to their behavior (Cardoso, 2013).

Resilience, unlike the locus of control, is a recent topic, and has been pointed out in the literature as a set of social processes that enable the healthy development of the individual, even when experiencing unfavorable experiences (Pesce et al., 2004). In recent years, resilience has appeared more frequently in the literature, and the interest in the social and human sciences is a reflection of the need to invest in problem prevention and the promotion of human mental health (Pesce et al., 2004).

Therefore, an auditor with a high level of resilience minimizes the effects of stress on the auditor's work and, in case a relationship is confirmed, reduces problems arising from practices that reduce audit quality. In view of the above, the following research hypothesis has been elaborated:

## **H3 – Resilience negatively influences the relationship between stress and reduced audit quality.**

### **3 METHODOLOGICAL PROCEDURES**

#### **3.1 Research participants**

The research is characterized as quantitative, descriptive and survey. In order to carry out the survey, 1036 independent auditors were identified in the professional network LinkedIn®. The name of the auditor for the consultation was obtained from the list of auditors registered by the National Registry of Independent Auditors (CNAI), which is composed of a total set of 3878 auditors. In this way, 26.71% of the population were located and, at the end of the period, 130 (one hundred and thirty) answered questionnaires were obtained, of which 124 (one hundred and twenty-four) were considered valid, that is, a total of 12% return of population reached.

#### **3.2 Construct and research instrument**

Initially, the variables related to reduced audit practices, occupational stress, locus of control and resilience are presented, as shown in Table 1.

**Table 1**  
Research construct

| Variable                  | Question | Type        | Author          |
|---------------------------|----------|-------------|-----------------|
| <b>Dependent variable</b> |          |             |                 |
|                           | Personal | 7 questions | Likert 5 points |



|                                   |                |              |                 |                                   |
|-----------------------------------|----------------|--------------|-----------------|-----------------------------------|
| Reduced Auditing Practices (PRQA) | Colleagues     | 7 questions  |                 | Adapted from Coram et al., (2008) |
| <b>Independent variables</b>      |                |              |                 |                                   |
| Stress (ESTR)                     | Conflict       | 8 questions  | Likert 5 points | Rizzo et al., (1970)              |
|                                   | Ambiguity      | 8 questions  |                 |                                   |
| Locus of Control (LC)             | Internal (LCI) | 8 questions  | Likert 5 points | Spector, (1988)                   |
|                                   | External (LCE) | 8 questions  |                 |                                   |
| Resilience (RESL)                 | General        | 25 questions | Likert 5 points | Pesce et al (2005)                |

Source: Research data.

The Audit Quality Reducing Practices (PRQA) variable is composed of 7 questions adapted from Coram et al., (2008) related to not investigating questionable items in a large volume of transactions, not testing all items in a defined sample, not researching technical standards or procedures when necessary, accepting weak explanations from the auditee, superficial documentation reviews, and rejecting the inclusion of questionable-looking items in the sample.

It is noteworthy that the 7 questions of Practices Reducing Audit Quality (PRQA) were performed in two moments in the questionnaire. At first, the auditor answered the questions considering how often the practices happened to him. In the second moment, the auditor answered how often he saw the practices happening with colleagues from the audit firm. The first moment we called in the research PRQA – Personal and the second moment PRQA – Colleagues. Basically, the shift from a staff position to a peer view inhibits the accountability effect and makes the respondent more truthful.

The Occupational Stress construct (ESTR) was divided into Role Conflict and Role Ambiguity, according to the construct proposed by Rizzo et al., (1970). The Locus of Control (LC) was also divided into Internal Locus of Control (LCI) and External Locus of Control (LCE) according to Spector's construct (1988). Finally, for the discussion of resilience, the construct by Pesce et al. (2005) was chosen. All these constructs have already been used and validated in the Brazilian scenario. Other auditor characterization questions were asked, such as age, gender, education, position held in the audit firm.

The data collection instrument then consisted of a questionnaire consisting of 78 closed questions and forwarded to the auditors through LinkedIn® through the link <<https://goo.gl/forms/7QvRlvoZkr0JVQg32>>.

### 3.3 Data analysis procedure

Descriptive statistics and multiple linear regression were used for data analysis using SPSS® Statistics software. In relation to the Reduced Practices of

Auditing Quality (PRQA), a factor analysis was carried out to create a single indicator for this variable. With the weight identified through factor analysis, the answer given by each auditor was multiplied with the weight of each question, which were then added to create the general PRQA indicator.

To perform the multiple linear regression, some assumptions were previously analyzed. The normality test was developed using the Kolmogorov-Smirnov test, the homoscedasticity test by the Pesarán-Pesarán method and the multicollinearity test based on the VIF, all tests met the normality assumptions and were within acceptable limits, according to Corrar, Paulo and Dias Filho (2007). A reliability test was also carried out, using Cronbach's Alpha, for each of the constructs presented in Table 1, attesting to their suitability in the research.

**Table 2**  
Cronbach's Alpha Coefficients of the constructs

|  |       |
|--|-------|
| Reduced Auditing Practices (PRQA) – Personal   | 0.757 |
| Reduced Auditing Practices (PRQA) – Colleagues | 0.922 |
| Stress – Conflict (CONF)                       | 0.833 |
| Stress – Ambiguity (AMBIG)                     | 0.850 |
| Internal Locus of Control (LCI)                | 0.629 |
| External Locus of Control (LCE)                | 0.838 |
| Resilience(RES)                                | 0.836 |

Source: Research data.

The ANOVA and T test of means were also used to compare the mean of the Reduced Practices of Personal and Colleagues Audit Quality (PRQA).

In addition, multiple linear regression was used to test the research hypotheses, represented by the following equations:

(Equation 1)

$$PRQA = \beta_0 + \beta_1CONF + \beta_2AMBIG + \varepsilon$$

(Equation 2)

$$PRQA = \beta_0 + \beta_1CONF * RES + \beta_2AMB * RES + \beta_3CONF * LCI + \beta_4CONF * LCE + \beta_5AMB * LCE + \beta_6SEX + \beta_7CARG + \varepsilon$$

On what:

CONF - Refers to the Role Conflict variable;

AMBIG - Refers to the Role Ambiguity variable;

RES - Refers to the Resilience variable;

LCE - Refers to the External Locus of Control variable;

LCI - Refers to the Internal Locus of Control variable;

CONF\*RES - Refers to the moderation variables of Role Conflict with Resilience;

AMBIG\*RES - Refers to the moderation variables of Role Ambiguity with Resilience;

CONF\*LCI - Refers to Conflict moderation variable

CONF\*LCE - Refers to Conflict moderation

AMBIG\*LCI - Refers to Conflict moderation

AMBIG\*LCE - Refers to moderation of Conflict and Ambiguity of roles with the Internal Locus of Control and the External Locus of Control, respectively;

SEX – Refers to the sex of the responding auditor;

CARG - Refers to the position of auditor in the Auditing Firm.

Equation 1 is used to analyze the relationship between role conflict and ambiguity with practices that reduce the quality of the audit used to answer hypotheses 1, 1a and 1b. Equation 2 considers the moderation of the locus of control and resilience in the relationship between occupational stress and practices that reduce audit quality, used to answer hypotheses 2, 2a, 2b and 3.

## 4 DATA ANALYSIS

### 4.1 Profile of Respondents and Descriptive Statistics

Table 3 presents the results regarding the profile of the survey respondents.

**Table 3**

Profile of the auditors participating in the survey

| VARIABLES   | PARTNER |      | SUPERVISOR |      | SENIOR |      | ASSISTANT |     | TOTAL |     |
|-------------|---------|------|------------|------|--------|------|-----------|-----|-------|-----|
|             | N       | %    | N          | %    | N      | %    | N         | %   | N     | %   |
| Male        | 33      | 33.0 | 41         | 41.0 | 22     | 22.0 | 4         | 4.0 | 100   | 81  |
| Female      | 7       | 29.2 | 10         | 41.7 | 6      | 25.0 | 1         | 4.1 | 24    | 19  |
| Total       | 40      | 32.3 | 51         | 41.1 | 28     | 22.5 | 5         | 4.0 | 124   | 100 |
| Average age | 42      |      | 34         |      | 29     |      | 26        |     | 33    |     |

Source: Research data

It is identified in Table 3 that of the 124 auditors participating in the research, 100 are men and 24 are women. This result follows the pattern generally found in research involving auditors, according to Bamber, Snowball and Tubbs (1989), Haskins, Baglioni and Cooper (1990), Lord and Dezoort (2001), Psycheva (2014).

Considering the proportion of men and women participating in the research, it is observed that there is homogeneity between men and women in the

different functions in the audit firm. It is noteworthy that 91 participants are partners and supervisors, giving greater strength to the answers given the experience and experience acquired in the audit area. An element that proved to be quite distinct between the different functions refers to age, except for assistants and seniors.

Then, in Table 4, the descriptive statistics of the occupational stress variables, locus of control, resilience and reduced audit practice are presented.

**Table 4**  
Descriptive statistics of behavioral variables

| VARIABLE  | MINIMUM | MAXIMUM | AVERAGE | STANDARD DEVIATION |
|---|---------|---------|---------|--------------------|
| Internal Locus of Control (LCI)                     | 2.625   | 4.875   | 3.863   | 0.471              |
| External Locus of Control (LCE)                     | 1.000   | 3.875   | 2.081   | 0.719              |
| Resilience (RES)                                    | 2.880   | 5.000   | 3.991   | 0.384              |
| Role conflict (CONF)                                | 1.000   | 4.750   | 2.795   | 0.874              |
| Role ambiguity (AMBIG)                              | 2.167   | 5.000   | 4.212   | 0.628              |
| Stress (ESTR)                                       | 2.643   | 4.571   | 3.402   | 0.455              |
| Reduced Audit Quality Practices – Personal PRQA *   | 4.463   | 14.254  | 6.732   | 2.342              |
| Reduced Audit Quality Practices – Colleagues PRQA * | 5.835   | 20.835  | 8.308   | 3.682              |

Note: \* based on the indicator calculated using the weights found in the factor analysis.  
Source: Research data.

In general, it was identified that the sample auditors have high levels of Internal Locus of Control (LCI), which determines that they feel personally responsible for what they develop (Rodrigues, 2007). On average, the LCI of 3.863 was higher than the LCE of 2.081, however, in the LCE some individuals also presented high levels compared to the average, in which this observation can be confirmed by the maximum of 3.875. Still, it appears that the standard deviation of the LCE indicates a greater variation between individuals in comparison with this same indicator of the LCI. This observation is important, as it points to conditions in which the individual may not feel responsible for their attributions, since what predominates in their actions are other agents and not themselves (Rodrigues, 2007). In a perspective in which the ECL predominates, there is a greater possibility of practices that reduce the quality of audit work.

As for the Resilience indicator (RES), a profile of auditors with tendencies of high resilience power is identified, with an average of 3.991 and a low standard deviation of 0.384, predicting small variability among auditors in terms of the ability to face and overcome experiences of adversity (Yunes, Szymanski, 2001; Minello & Scherer, 2014). Resilience is an important indicator because it is the ability to face various problems, whether in the personal or professional sphere, demonstrating flexibility to deal with situations (Cardoso, 2013). In an audit scenario, these events are intensified especially by the responsibility assigned to the auditor's role and the demands arising from the profession, so they must be resilient to deal with everyday

situations such as time pressure and work overload, and thus, in moments of conflict, they know how to best deal with adversities.

As for the stress indicators, these were calculated in two ways. The first by creating a single indicator considering role conflict and ambiguity. Stress was also verified from the perspective of role conflict and role ambiguity. As for the general indicator, a relatively high average of stress can be seen, indicating that auditors perceive themselves as stressed. Regarding role conflict and ambiguity, there is a higher average for role conflict, in addition to a lower standard deviation. It is observed that the ambiguity of roles had a greater contribution to the increase in the general stress indicator. The result found indicates that, among the auditors participating in the research, there is a lack of clarity and predictability of the behavior expected of them. Such role ambiguity perceived by the auditor can cause anxiety, distortion of reality and, thus, contribute to a less effective performance.

Finally, the last variables refer to practices that reduce audit quality that, as described above, represent situations commonly identified in the audit (Coram et al., 2008) and that have substantial power to reduce audit quality. Therefore, two indicators of practices that reduce the quality of the audit were calculated, Personal and Colleagues, as already presented.

Based on the indicators calculated through the weights found in the factor analysis, it is observed that the Practices that Reduce Audit Quality – Colleagues showed a higher level than Personal. This result denotes that the auditors perceive that such PRQA occur in the audit work and are more noticed in work performed by their colleagues (8.308) than by themselves (6.732). These results indicate that the quality of audit work is affected by various practices such as the acceptance of explanations without foundation, lack of consultation with current standards, lack of in-depth comments on the documentation, premature signature in stages of the process (Coram et al., 2008).

#### 4.2 Relationship between Stress, Locus of Control and Resilience with Practices that Reduce Audit Quality

This section proposes to answer the research hypotheses developed during this work, covering several stages. Initially, we sought to verify if there are differences between the averages found for the Practices that Reduce Auditing Quality perceived about oneself and the audit firm's colleagues, as shown in Table 5 through the T-Test of averages.

**Table 5**  
Average T-Test for Practices that Reduce Audit Quality (PRQA)

|                   |    | <b>Average Difference</b> | <b>Standard Deviation</b> | <b>Sig.</b> |
|-------------------|----|---------------------------|---------------------------|-------------|
| PRQA – Personal   | 24 | 6.73281                   | 2.342384                  | 0.000       |
| PRQA – Colleagues | 24 | 8.30875                   | 3.682856                  |             |

Note: Sig – Statistical significance.  
Source: Research data.

The T Test aims to compare the differences between the means of a set of information. Table 5 shows that there is a difference in the perception of practices that reduce audit quality between their own actions and those of their colleagues. The results indicate that such reductive practices are perceived more in co-workers than those committed by oneself.

This test was the first to be carried out with the objective of developing different possibilities of analysis as shown in Table 6, in which the possible relationships between stress (general indicator), conflict of roles, ambiguity with practices that reduce the quality of the audit are verified.

**Table 6**

Relationship between Stress, Conflict and Ambiguity of Roles with Practices that Reduce Audit Quality

| VARIABLES                | General Stress with PRQA - Personal |       | Stress, Conflict and Ambiguity with PRQA - Personal |                | General Stress with PRQA - Colleagues |                | Stress, Conflict and Ambiguity with PRQA - Colleagues |               |
|--------------------------|-------------------------------------|-------|---|----------------|---------------------------------------|----------------|---|---------------|
|                          | Coef.                               | Sig.  | Coef.   | Sig.           | Coef.                                 | Sig.           | Coef.   | Sig.          |
| (Constant)               | 4.347                               | 0.007 | 8.912   | 0.000          | 3.539                                 | 0.155          | 12.850  | 0.000         |
| Stress                   | 0.701                               | 0.131 | -   | -              | 1.402                                 | <b>0.054**</b> | -   | -             |
| Conflict                 | -                                   | -     | 0.523   | <b>0.039**</b> |                                       |                | 1.051   | <b>0.006*</b> |
| Ambiguity                | -                                   | -     | 0.865   | <b>0.015**</b> |                                       |                | -1.776  | <b>0.001*</b> |
| Durbin Watson            | 2.285                               |       | 2.217   |                | 2.048                                 |                | 1.906   |               |
| R <sup>2</sup> equation: | 0.019                               |       | 0.131   |                | 0.030                                 |                | 0.219   |               |
| Sig equation:            | 0.131                               |       | <b>0.000</b>  |                | <b>0.054</b>                          |                | <b>0.000</b>  |               |

Note: Coef - coefficient; Sig – Statistical significance; \*. The relationship is significant at the 0.01 level (2 ends); \*\*The relationship is significant at the 0.05 level (2 ends); \*\*\*. The relationship is significant at the 0.10 level (2 ends).

Source: Research data.

Table 6 presents the results for the four regression possibilities performed. In addition to a significant and positive relationship being found for General stress with Audit Quality Reducing practices, the results point to significant relationships for the regressions carried out between Role Conflict and Ambiguity with PRQA – Personal and Colleagues. However, the relationships showed up in opposite directions, demonstrating that when the Role Conflict increases, the PRQA – Personal and Colleagues increases. This result can be explained by the fact that Role Conflict is defined as the degree of incompatibility of the role that develops in the work environment (Tracy; Johnson, 1981). It is observed that Role Conflict enhances Stress, as well as Practices that Reduce Audit Quality. These results allow us to accept the hypothesis H1b that the role conflict influences the practices that reduce the quality of the audit.

On the other hand, it was observed that the Ambiguity of Roles, although it reflects in greater Stress when compared to Conflict of Roles, does not reflect in a greater Reduction of Practices that Reduce Audit Quality. This result, different from the expected, does not accept hypothesis 1a that role ambiguity influences the reduction of practices that reduce audit quality. This result can be interpreted by the fact that role ambiguity occurs when job responsibilities and tasks are not clearly defined. Given the auditor's responsibilities, in a situation of this nature, a sense of professional skepticism is perhaps more required, because in tasks that are not clearly defined by the auditor, the auditor tries to take additional care not to make an error in the analysis of audit evidence.

In the same way, there is ambiguity, that, although most research assumes it as a negative process, can facilitate adaptation to new circumstances and can contribute to administrative flexibility (Örtqvist; Wincent, 2006), even if it induces greater stress levels compared to Role Conflict.

Then, in Table 7, the result of the regressions of the explanatory variables with PRQA without and with moderation of the locus of control and resilience in the relationship between conflict and ambiguity of roles with the PRQA is presented.

**Table 7**

Influence of locus of control and resilience on the relationship between stress (conflict and ambiguity of roles) with practices that reduce audit quality

| VARIABLES  | All variables with PRQA – Personal without moderation |                     | All variables with PRQA – Colleague Without moderation |               | Conflict and Ambiguity with PRQA – Personal in moderation |       | Conflict and Ambiguity with PRQA – Colleague in moderation |                    |
|------------|---|---------------------|--|---------------|---|-------|--|--------------------|
|            | Coef.   | Sig.                | Coef.  | Sig.          | Coef.   | Sig.  | Coef.  | Sig.               |
| (Constant) | 7.785   | 0.001               | 12.117   | 0.001         | 7.547   | 0.000 | 10.915   | 0.000              |
| Conflict   | 0.422   | 0.110               | 1.021  | <b>0.009*</b> |   |       | -  | -                  |
| Ambiguity  | -0.756  | <b>0.043**</b>      | -1.804   | <b>0.003*</b> |   |       | -  | -                  |
| LCI        | -0.134  | 0.764               | 0.765  | 0.286         |   |       | -  | -                  |
| LCE        | 0.532   | <b>0.076**</b><br>* | 0.216  | 0.629         |   |       | -  | -                  |
| Resilience | -   | -                   | -0.546   | 0.573         |   |       | -  | -                  |
| CONF*RES   | -   | -                   | -  | -             | -0.072  | 0.863 | -0.688   | 0.258              |
| AMB*RES    | -   | -                   | -  | -             | -0.067  | 0.811 | 0.150  | 0.712              |
| CONF*LCI   | -   | -                   | -  | -             | 0.269   | 0.523 | 1.214  | <b>0.049*</b><br>* |
| AMB*LCI    | -   | -                   | -  | -             | -0.197  | 0.480 | -0.648   | 0.112              |
| CONF*LCE   | -   | -                   | -  | -             | -0.138  | 0.595 | -0.364   | 0.335              |
| AMB*LCE    | -   | -                   | -  | -             | 0.226   | 0.236 | 0.307  | 0.267              |
| Sex        | 0.450   | 0.377               | 2.032  | <b>0.008*</b> | 0.489   | 0.343 | 2.060  | <b>0.007*</b>      |
| Role       | 0.138   | 0.565               | -0.350   | 0.322         | 0.104   | 0.672 | -0.457   | 0.203              |

|                          |              |              |              |              |
|--------------------------|--------------|--------------|--------------|--------------|
| Durbin Watson            | 2.177        | 1.943        | 2.193        | 1.869        |
| R <sup>2</sup> equation: | 0.162        | 0.277        | 0.166        | 0.286        |
| Sig. equation:           | <b>0.002</b> | <b>0.000</b> | <b>0.006</b> | <b>0.000</b> |
| <b>No. Obs.</b>          | <b>124</b>   |              |              |              |

Note: Coef - coefficient; Sig – Statistical significance; CONF\*RES - moderation of Role Conflict with Resilience; AMBIG\*RES - Moderation of Ambiguity of Roles with Resilience; CONF\*LCI - Conflict Moderation with Internal Locus of Control; CONF\*LCE - Conflict moderation with External Locus of Control; AMBIG\*LCI - Ambiguity Moderation with Internal Locus of Control; AMBIG\*LCE - Ambiguity moderation with External Locus of Control; \*. The relationship is significant at the 0.01 level (2 ends); \*\*The relationship is significant at the 0.05 level (2 ends); \*\*\*. The relationship is significant at the 0.10 level (2 ends).

Source: Research data.

Initially, the influence of all explanatory variables on Reducing Audit Quality Practices (PRQA) was verified. The results presented in Table 7 demonstrate that Role Conflict positively influences the PRQA observed in Colleagues. Such influence was also shown between the Role Ambiguity and the PRQA observed in Colleagues and in oneself (Personnel), however negatively, as already analyzed through the analysis of Table 6.

Still, it was observed that the External Locus of Control (LCE) has a positive influence with the PRQA – Personal. This result shows that when auditors have a tendency to attribute their success to external events (LCE), the audit practices performed by them are negatively affected, in line with what is recommended in the literature.

Still observing the influence of the explanatory variables directly on the PRQA, it appears that sex positively influences the PRQA Colleagues. This result corroborates previous research such as Haskins, Baglioni and Cooper (1990), Lipp and Tanganelli (2002), Calais, Andrade and Lipp (2003) that detected that stress presents itself at different levels between men and women, and thus as described by Babin (1998) stress through Role Conflict negatively affects women's work performance more than men.

When analyzing the moderating effect of the Locus of Control and Resilience variables, the results show that the Internal Locus of Control (LCI) positively influences the relationship between Role Conflict and Colleague PRQA. This was the only significant relationship found and in the expected sense, that is, the relationship between auditors with stress caused by role conflict and PRQA is positively influenced with auditors with predominance of LCI. Therefore, auditors with LCI tend to minimize the effect of stress on PRQA. This result makes it possible to accept hypothesis 2a in which the locus of internal control positively influences the relationship between stress (through role conflict) and audit quality reduction practices.

In contrast, Hypothesis 2b in which external locus of control positively influences the relationship between stress and reduced audit quality was not accepted, differing from the expected result.

When analyzing the effect of Resilience on the relationship between Stress and PRQA, it was observed that, for the researched sample, it has no effect on the relationship investigated. These results indicate the non-acceptance of H3 in which



resilience negatively influences the relationship between stress and reduced audit quality. After carrying out these analyses, we sought to verify the stress and the PRQA with the respective positions identified of the respondents in a complementary way.

### 4.3 Complementary Analysis of Stress, Reduced Audit Quality Practices and Positions of Auditors

Some tests were developed in order to complement the main variables of this research. The first complementary test refers to an analysis of the level of stress identified in the auditors based on the positions held (Partner, Supervisor, Senior and Assistant). The ANOVA test was thus performed and presented in Table 8.

**Table 8**  
ANOVA Stress Test and Auditors' Position

| Test       | POSITIONS    |
|------------|--------------|
| ANOVA Test | 2.851        |
| Sig.       | <b>0.040</b> |

Note: Sig – Statistical significance; \*. The correlation is significant at the 0.05 level (2 ends); \*\*. The correlation is significant at the 0.01 level (2 ends).

Source: Research data.

With the presence of statistical significance (0.040) it can be said that, among the positions, some have higher levels of stress. To identify which position has such levels of stress, the Scheffe Test was performed, which compares the average between the groups, which are shown in Table 9.

**Table 9**  
Scheffe Test - Comparison of means between Stress and Auditors' Position

| (I) Selection | (J) Selection | Average difference (I-J) | Sig.         |
|---------------|---------------|--------------------------|--------------|
| 1 Partner     | 2 Supervisor  | -.255357                 | <b>0.069</b> |
|               | 3 Senior      | -.157574                 | 0.554        |
|               | 4 Assistant   | .080357                  | 0.986        |

Note: Sig - Statistical significance; \*\*. The correlation is significant at the 0.01 level (2 ends).

Source: Research data.

The results show a significant relationship between the positions of Partner (1) and Supervisor (2). This means that there is a significant difference in Stress only between groups 1 (Partner) and Supervisor (2) and that the Supervisor has a higher level of stress than the Partners.

The same analysis was developed considering the relationship of the Personal and Colleagues PRQA with the positions of the auditors. However, no significant relationship was identified by the ANOVA test, both for Personal and Colleagues PRQA, as shown in Table 10, thus dispensing with the Scheffe Test due to the non-difference of identified means.

**Table 10**

ANOVA Test PRQA Personal and Colleagues and Position of Auditors

| Test            | POSITIONS | Test              | POSITIONS |
|-----------------|-----------|-------------------|-----------|
| <b>Personal</b> |           | <b>Colleagues</b> |           |
| ANOVA Test      | 0.839     | ANOVA Test        | 0.274     |
| Sig.            | 0.475     | Sig.              | 0.844     |

Note: Sig – Statistical significance; \*. The correlation is significant at the 0.05 level (2 ends); \*\*. The correlation is significant at the 0.01 level (2 ends).

Source: Research data.

With these results, it is suggested that the position that the auditor occupies interferes with the level of perceived Stress, but does not stop at the PRQA. Based on all the analyses carried out, Table 11 finally presents a summary of the results found for the hypotheses established in the study.

**Table 11**

Summary of the results of the research hypotheses

| HYPOTHESIS   | Signal   |          | Result              |
|--|----------|----------|---------------------|
|  | expected | found    |                     |
| <b>H1</b> – Auditors' stress influences the reduction of audit quality.  |          |          |                     |
| <b>H1<sub>a</sub></b> – The role ambiguity positively influences the reduction of audit quality.                                       | +        | -        | <b>Not accepted</b> |
| <b>H1<sub>b</sub></b> – Role conflict positively influences the reduction of audit quality.  | +        | +        | <b>Accepted</b>     |
| <b>H2</b> – The locus of control influences the relationship between stress and reduced audit quality                                  |          |          |                     |
| <b>H2<sub>a</sub></b> – The internal locus of control negatively influences the relationship between stress and reduced audit quality. | -        | Not sig  | <b>Not accepted</b> |
| <b>H2<sub>b</sub></b> – The external locus of control positively influences the relationship between stress and reduced audit quality. | +        | +        | <b>Accepted</b>     |
| <b>H3</b> – Resilience negatively influences the relationship between stress and reduced audit quality.                                | -        | Not sig. | <b>Not accepted</b> |

Note: Not sig. = not significant.

Source: Research data.

In view of the above, it is understood that the research fulfilled its objectives and presented new evidence on the behavioral variables that influence the quality of the audit. In this sense, it is understood that dysfunctional behavior can impact on the reduction of audit quality, which according to Jaya, Sudarma and Roekhudin (2018) conflicts in the work environment due to the demand for performing work that is not in accordance with the real auditors' role, can explain

this negative impact. Furthermore, dysfunctional behavior can contribute to a reduction in audit quality by representing behaviors that can also represent process failures (O'Bryan; Quirin & Donnelly, 2005).

Thus, as it represents a response to controls and processes, as highlighted by Hartmann (2000), it is understood that the behavior can affect the quality of the audit both directly and indirectly, especially with regard to organizational commitment and the locus of control (Nehme, Michael & Kozah, 2020). It can be seen in this way that there is an influence of behavioral factors, as well as the locus of control, which according to Maciel and Camargo (2010) is seen as a belief that the individual has in relation to the control he has over his destiny. In addition, for Donnelly, Quirin and O'Bryan (2003b) the locus of control has been used in great demand in behavioral research in order to explain how human beings behave in organizational environments.

## 5 CONCLUSION

As described by Herrbach (2001), the quality of auditing and financial reports are sensitive to the behavior of individuals involved in auditing processes and, despite the relevance of this information, few studies have focused on understanding the performance and how the standards can be improved by including more guidance on awareness and understanding of personal traits and prejudices that cause such an influence (IFAC, 2017). This research sought to contribute to this discussion with the objective of analyzing the influence of the locus of control and resilience in the relationship between occupational stress and practices that reduce audit quality.

Therefore, a descriptive research was carried out, through a survey, with a quantitative approach, with 124 independent auditors registered in the CNAI of the Federal Accounting Council, who were contacted through the network of professional contacts LinkedIn®. The results showed that, for the researched sample, there are significant relationships between the Conflict and Ambiguity of Roles with the PRQA – Personal and Colleagues. The results indicate that when the Role Conflict increases, the PRQA – Personal and Colleagues increases, which allows us to accept the H1b hypothesis of the study.

In contrast to what is proposed in hypothesis H1a, Role Ambiguity, although it reflects in greater Stress when compared to Role Conflict, does not reflect in a greater Reduction of Practices that Reduce Audit Quality. With this result, hypothesis 1a, that role ambiguity influences the reduction of practices that reduce audit quality, is not accepted. This result can be interpreted as a possible effect of the responsibility perceived by the auditor in a task that is not clearly defined, which may reinforce the sense of professional skepticism required of the auditor in the face of care that is required in the audit process.

Regarding the moderating influences of the locus of control (internal and external) and resilience, the results, in general, were not in line with what was expected in the research. It was concluded that the Locus of Internal Control (LCI) positively influences the relationship between Role Conflict and Colleague PRQA, being the only significant relationship found and in the expected sense, that is, the relationship between auditors with stress caused by conflict of roles and PRQA are positively influenced by auditors with a predominance of LCI, which allowed us to

accept hypothesis 2a. With the opposite result, Hypothesis 2b, that external locus of control positively influences the relationship between stress and reduced audit quality, was not accepted.

The influence of the Resilience effect on the relationship between Stress and PRQA in the investigated sample was also not identified, indicating the non-acceptance of H3 in which resilience negatively influences the relationship between stress and reduced audit quality. The sex of the auditors proved to be a variable that influences the Practices that Reduce Audit Quality observed in colleagues, with and without the variables of moderation locus of control and resilience. It was also possible to verify that among the audit positions analyzed, the supervisor position was more stressed.

It is concluded that behavioral variables, such as stress and locus of control, affect the quality of the audit and need to be further studied by researchers and considered by regulators in the perspective that actions can be taken in order to understand and monitor them with the interest of preserving the quality of the opinions issued by the auditors.

As a contribution, this research uses a metric that differs the auditors' view regarding situations that occurred with them or with colleagues, which inhibits the effect of responsibility of responses for acts that affect them morally, such as assuming practices that can harm users of information by these audited. A limitation that deserves to be highlighted refers to the time and period of collection, in which there was a phase of intense work in the profession, thus, stress can present higher levels resulting from this period. Additionally, there was no control over the types of audits, such as whether the respondent belongs to a Big 4 company, which could suggest new perceptions regarding the actions of the auditors.

As a suggestion for further research, it is suggested that qualitative methods, or possibly a combination with quantitative ones, might be a more fruitful approach to research in such contexts. In addition, the possibility of investigating other factors such as the structure of the auditing firm (Big N) and recurrent behavioral variables in the literature such as personality, mood, previous experiences, performance, risk exposure, time pressure and others becomes opportune.

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## AUTHORS' CONTRIBUTIONS

| <b>Contributions</b>   | <b>Alice<br/>Carolina<br/>Ames</b> | <b>Juçara<br/>Haveroth</b> | <b>Paulo<br/>Roberto<br/>da Cunha</b> | <b>Pinto<br/>Ié</b> |
|--|------------------------------------|----------------------------|---------------------------------------|---------------------|
| 1. Idealization and conception of the research subject and theme                       | ✓                                  | ✓                          | ✓                                     | ✓                   |
| 2. Definition of the research problem  | ✓                                  | ✓                          | ✓                                     | ✓                   |
| 3. Development of Theoretical Platform   | ✓                                  |                            |                                       | ✓                   |
| 4. Design of the research methodological approach                                      | ✓                                  | ✓                          | ✓                                     | ✓                   |
| 5. Data collection   | ✓                                  |                            |                                       | ✓                   |
| 6. Analyses and interpretations of collected data                                      | ✓                                  | ✓                          |                                       |                     |
| 7. Research conclusions  | ✓                                  | ✓                          |                                       |                     |
| 8. Critical review of the manuscript   |                                    |                            | ✓                                     |                     |
| 9. Final writing of the manuscript, according to the rules established by the Journal. | ✓                                  |                            |                                       |                     |
| 10. Research supervision   |                                    |                            | ✓                                     |                     |