Effects of Emotional Intelligence on the Relationship Between Individual and Contextual Factors on the Quality of Internal Auditing in Federal Educational Institutions in Brazil

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A B S T R A C T

This research investigated the effects of individual and contextual factors on the quality of internal audit moderated by emotional intelligence. The research was operationalized from a research instrument consisting of 39 questions, answered by 93 internal auditors from Federal Educational Institutions in Brazil. Descriptive statistics and Structural Equation Modeling were applied. Results showed that individual factors positively and significantly affect the quality of the audit. The work resources, although considered important, did not influence the quality of the audit, unlike the contextual factor of time budget pressure, which affects it positively and significantly. Regarding the moderation of emotional intelligence in individual factors and contextual factors, this was not supported. Thus, concerning the originality, research on the influence of emotional intelligence on the results of the work of the internal auditor is recent in the literatures, this study therefore, boosts the existing sources and also support the regulating bodies and practitioners. Finally, as a suggestion for future research, it is recommended that the studies reach the population not investigated in this study, being internal auditors from other sectors of the economy, external auditors or even auditors from the private sector.

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Introduction

The different roles and perspectives surrounding auditing in the recent years calls for a concomitant guidance and regulation. This not been enough, turns it quintessential to calibrate the necessary competencies such as technical skills, critical thinking, effective communication, professional skepticism, and relation with diversity, just to mention but few. Additionally, there is the need to understand that there are factors that can affect the quality of the audit, and the management of these factors is also very important. Observe that as a result of the said expanding perspectives, auditing is faced with the task of managing the factors that impact the quality of the audit in order to meet the stakeholders’ expectation. These aspects range from individual to contextual factors. So, identifying and understanding the unobservable factors that can impact the quality of the audit, such as the cognitive factor, may be necessary.

Different studies provide a view of factors that influence the auditing environment and consequently the auditor’s activities, as well as those that affect the results of the work. Among the factors vastly studied are new attributions; stress; time pressure; professional skepticism; experience, number of personnel and resources. Others are emotional reactions to the auditee; multiple responsibilities and influence of moods (Ando et al 2020). Among the factors that can impact the result of the audit to the auditee emotions. There are the emotions that are present in the work environment, as well as in other human environments (Strongman & Wright, 2008).
In this context, emotional intelligence (EI) is pointed out for the management of these emotions and as an actor in the relationship between the effects of factors and the results of the auditor's work. Emotional intelligence is defined by Salovey and Mayer (1990) as the ability to manage personal and other people's emotions, as well as make distinctions between them and use them to guide one's own thoughts and actions. In the same vein, Jordan and Lawrence (2009) observed that emotional intelligence is an important factor in the performance of teamwork.

Given the above context, the following research question is presented: what are the effects of emotional intelligence on the relationship between individual factors (professional skepticism and auditor experience) and contextual factors (work resources and time budget pressure) on quality of internal audit? Thus, we seek to investigate the effects of emotional intelligence as a moderating variable in the relationship between individual factors (professional skepticism and auditor experience) and contextual factors (work resources and time budget pressure) on internal audit quality.

The research gap has 5 pillars that sustains its means: (i) originality, since in Brazil there were no studies on emotional intelligence in the internal audit environment; (ii) non-triviality, the approach to the concept of emotional intelligence in the internal audit environment, as it is a recent field of study that is still open to new explorations and propositions; (iii) scientific contribution, as the study collaborates with the research in the sense that, given the different factors pointed out in the literature, capable of influencing the quality of the audit, this research can corroborate the importance of taking a look at the influence of EI, specifically in this work, on internal auditing that also embrace aspects of control culture Imoniana et al (2011) and; (iv) to the practitioners, the importance of discussing the influence, relevance or effect of EI on audit quality, as well as on the auditing environment at large.

In this article, after this introduction, we first describe the theoretical background consisting of the individual and contextual factors and audit quality, and the Emotional Intelligence. Afterwards, we explicate our methodological procedures. Following this, we present the analysis and latter roundup with the presentation of a reflexive discussion. At the end we give a concluding remark.

Theoretical Background

Individual and contextual factors and audit quality

Prior studies describe several factors in the audit environment that can affect the auditor's activities and the result of the work, such as: new assignments (Alzeban & Gwilliam, 2014); stress (Nelson & Tan, 2005); time budget pressure (Coram, Ng, & Woodliff, 2003, 2004; Liu & Zhang, 2008; Paino, Ismail, & Smith, 2010); professional skepticism (Carpenter, Durtschi, & Gaynor, 2002; Hurtt, 2010; Nelson, 2009; Westermann, Cohen, & Trompeter, 2014); experience (Choo, Trotman, 1991; Tubbs, 1992; Libby & Luft 1993; Aisyah & Sukirman, 2015; Cahan & Sun, 2015); number of staff (Ahmad, Othman, & Jusoff, 2009); resources (Lee & Ashforth, 1996; Crawford, Lepine, & Rich, 2010; Nahrgang, Morgeson, & Hofmann, 2011); emotional reactions to the auditee (Bhattacharjee & Moreno, 2002; Bhattacharjee, Moreno, & Riley, 2012; Bhattacharjee & Moreno, 2013); Ando et al (2020) multiple responsibilities (Bagley, 2010); influence of humor (Strongman & Wright, 2008).

Other studies have investigated the relationship of some factors, individual and contextual, with audit quality (Carpenter, Durtschi & Gaynor, 2002; Hurtt, 2010; Nelson, 2011). Regarding professional skepticism, Hurtt (2010) highlights that it is a multidimensional individual characteristic, and as such, it can be both a trait and a state. Nelson (2009) argues that it is presented when the auditor uses the knowledge, skill and ability to diligently, with integrity, choose and objectively assess evidence. To test it, Carpenter, Durtschi and Gaynor (2002) investigated the importance of professional skepticism in the team and the level of fraud indicators. They evidenced that an emphasis on professional skepticism is critical for effectively and efficiently identifying relevant fraud risk factors and choosing audit procedures to improve audit quality.

Auditor experience, defined by Libby and Luft (1993) as an important factor in auditor performance and audit quality, together with instruction allows auditors to achieve knowledge. In this regard, Choo and Trotman (1991) recalls that atypical and typical items are significantly higher in experienced auditors than in inexperienced auditors. As observed by Tubbs (1992), an experienced auditor has advantages in terms of detecting errors, understanding failures accurately and finding the cause.

On the effects of experience on audit quality, Aisyah and Sukirman (2015) identified that experience and financial compensation have a positive effect on audit quality. Likewise, Cahan and Sun (2015) observed that audit quality increases with experience, as it brings engagement with the work, improving the quality of audit results. Finally, Zahmatkesh and Rezazadeh (2017) and Kusuma and Sukirman (2017) pointed out that auditors with more experience provide better audit quality. Based on the aforementioned, the first hypothesis is presented:

H1a: Individual factors (professional skepticism and experience) positively affect audit quality.

The job resources factor includes aspects such as job control, development opportunities, participation in decision-making, task variety, feedback and work with social support (Crawford, Lepine & Rich, 2010). For Nahrgang, Morgeson and Hofmann (2011) they trigger a motivational process, as they help people achieve their goals; stimulate their personal development and reduce the demand for work, thus leading to positive results, such as better interactions and satisfaction. Furthermore, individuals who have more resources are able to meet demands (Lee & Ashforth, 1996).
With this, it is proposed that work resources such as: influence on the work performed, support and support from the superior, information flow, organizational climate, encouragement and support for new ideas, improvements in work, recognition from colleagues and size of the team (Bakker et al., 2007; Alzeban & Gwilliam, 2014) positively affect audit quality. Based on the considerations presented, the following hypothesis is formulated:

**H1b:** The contextual factor (work resources) positively affects the quality of the audit.

Another factor evidenced in the literature that can affect the quality of the audit is the pressure of the time budget, which can lead to less conservative judgments (Coram, Ng, & Woodliff, 2003, 2004). The decrease in time allocated to the auditor to complete the audit procedures can affect their behavior and consequently the quality of their work. Therefore, Paimo, Ismail and Smith (2010) found that time budget pressures led auditors to develop negative deviant behavior. Aisyah and Sukirman (2015) revealed that time budget pressure negatively affects audit quality, and added that when facing time budget pressure, the auditor can respond in two ways, functional (the auditor manages his time better) or dysfunctional (audit quality is lost).

Likewise, Broberg et al. (2017) suggested that time budget pressure negatively affected audit quality, but added that the relationship is correlated with other factors such as gender, position, experience, workplace, etc. Based on these arguments, further hypothesis is presented:

**H1c:** The time budget pressure contextual factor affects audit quality.

**Emotional Intelligence**

The concept of emotional intelligence was presented in 1990 by Peter Salovey and John Mayer, who defined it as the ability to manage personal and other people's emotions, as well as make distinctions between them and use them to guide one's own thoughts and actions. In these terms, Salovey and Mayer (1990) describe mental processes related to emotional information, which include evaluating and expressing one's own and others' emotions; regulate one's own and others' emotions; and use emotions adaptively.

Jordan and Lawrence (2009) reveal that emotional intelligence is an important factor in teamwork and consequently in its quality. To this end, the authors developed and tested a 16-item model, based on the individual's ability to deal with their own emotions and abilities related to the emotions of others. The model is useful for examining the impact of emotional intelligence on team attitudes, behaviours, and performance, and it measures four distinct components being awareness of own emotions; management of own emotions; awareness of the emotions of others; and managing the emotions of others.

In the literature, there are studies that investigated the relationship between emotional intelligence and audit results, identifying positive effects (Hanafi, 2010; Swari & Ramantha, 2013; Boyle; Schwarzbach & Cooper, 2016; Yuliana & Latrini, 2016; Kusuma & Sukirman, 2017; Yang; Brink & Wier, 2018; Hogianto & Sebastian, 2019); neither positive nor negative (Hakim & Esfandari, 2015; Amarin & Sukirman, 2016; Akimas & Bachri, 2017; Salehi & Dastanpoor, 2018; Muslim, Ahmad, & Rahim, 2019) or negative effects (Jaya, Yuniarta, & Wahyuni, 2016).

Hanafi (2010) investigated the influence of spiritual intelligence on audit performance with emotional intelligence as a mediating variable. The results showed that spiritual intelligence has an indirect and positive influence on auditor performance with EI as the mediating variable. In the same vein, Swari and Ramantha (2013) investigated the effect of independence, and of intellectual, emotional and spiritual intelligences on auditor judgment. The results showed that such constructs have a positive and significant effect on the auditor's judgment.

Boyle, Schwarzbach and Cooper (2016) explored the importance of emotional intelligence characteristics for auditors and concluded that all characteristics have some relevance for auditors. Yuliana and Latrini (2016) investigated the effect of emotional intelligence, spiritual intelligence, and intellectual intelligence and independence on auditors’ performance. The results showed that such constructs have a positive impact on auditors' performance.

Kusuma and Sukirman (2017) examined the role of independence in moderating the influence of emotional intelligence and auditor experience on audit quality. Results show that EI and auditors' experience have a significantly positive effect on audit quality. Independence is able to moderate the influence of emotional intelligence and auditor experience on audit quality.

Subsequently, Yang, Brink and Wier (2018) identified emotional intelligence as a key factor in dealing with emotions and pressures in an audit context. The results suggest that the moderating influence of emotional intelligence can effectively reduce auditors' tendency to engage in dysfunctional behavior and improve audit quality.

Hogianto and Sebastian (2019) analyzed the effect of implementing professional ethics and emotional intelligence on auditor decisions. Results showed that EI as a measure of self-regulation, motivation and social skills has a significant effect on the auditor in decision making, while self-awareness and empathy have no significant effect.

Hakim and Esfandari (2015) investigated the influence of emotional intelligence quotient, auditors' experience and professional zeal on audit quality. The results showed that emotional intelligence had no significant effect on audit quality. Likewise, Amarin and Sukirman (2016), when analyzing the effect of independence, and emotional and spiritual intelligence on auditors' performance,
showed positive and significant effects of relationships with the exception of emotional intelligence, which had no significant effect on auditors' performance.

Akimas and Bachri (2017) investigated the effect of emotional intelligence, intellectual intelligence, and spiritual intelligence on auditor performance. The survey results showed that emotional intelligence does not significantly influence the performance of auditors, unlike the other factors investigated. Similar results were found by Salehi and Dastanpoor (2018), when evaluating the effect of psychological factors such as self-esteem, accountability pressure, self-efficacy, spiritual intelligence and emotional intelligence on Iranian independent auditors. The results indicated that EI does not influence the efficiency of auditors while the other factors contribute to increase their efficiency. Likewise, Muslim, Ahmad and Rahim (2019) when investigating the effect of emotional intelligence, spiritual intelligence and intellectual intelligence on the professionalism of auditors in Indonesia, showed that EI has no significant effect on auditor professionalism while spiritual intelligence and intellectual have a significant effect.

Regarding the negative and significant influence of emotional intelligence on audit quality, it was identified by Jaya, Yuniarta and Wahyuni (2016). Their findings suggested that there is a negative and significant influence of emotional intelligence on audit quality, while there is a positive and significant influence of work culture on audit quality and emotional intelligence together with work culture on audit quality. Based on these studies, the following hypotheses are formulated:

\[ H2a: \text{Individual factors (professional skepticism and experience) positively affect audit quality, moderated by emotional intelligence.} \]

\[ H2b: \text{The work resources factor positively affects audit quality, moderated by emotional intelligence.} \]

\[ H2c: \text{The time budget pressure contextual factor affects audit quality, moderated by emotional intelligence.} \]

Based on the above, the research design is presented with the respective hypotheses:

![Research Design Diagram](image)

Figure 1: Research design

Therefore, according to the theoretical model and the hypotheses, it is argued that individual and contextual factors are the factors that influence the quality of the audit performed by professionals from the Internal Audit Units of Federal Education Institutions in Brazil. Thus, it is conjectured that emotional intelligence acts positively in this relationship.

**Methodological Procedures**

This research is characterized as descriptive, quantitative, and operationalised through a survey. The research population is made up of auditors from the Internal Audit Units of Federal Education Institutions in Brazil, linked to the Ministry of Education. The research instrument was sent by email to 124 internal auditors, with the return of 93 valid questionnaires.

Data were collected from April 14 to May 18, 2020. Noteworthy, that data collection was continuous, with only two emails being sent. Therefore, the potential of non-response bias was not evidenced, but it was calculated. To this end, early and late respondents were compared in terms of the averages of the constructs. Initial respondents were considered to be those who responded to the instrument within the first 15 days (ie, in the first e-mail) and late respondents were those who responded in the second period, after the second e-mail was sent. A comparison of the construct means revealed no difference between early and late respondents (p>0.05).

**The demography of the respondents**

As shown Table 1, there is a greater participation of males, which represented 54% of respondents, while females 42%. Regarding the age group, the predominance was between the ages of 29 to 39 years, representing 66.67% of the total number of respondents. With regard to auditing, 4.30% of professionals have worked for at least 1 year, while 20.43% perform activities between 1 and 5 years, ending with 75.27% of internal auditors, who have more than 5 years working experience.

With regard to academic training, there is a predominance of courses in Accounting Sciences (45.16%) and Law (43.01%). As for the professional training programmes in addition to graduation, the results showed that 52.69% of the sample has a postgraduate degree (Lato Sensu) while 43.01% has a master's degree, followed by 2.15% of professionals who have a doctorate.
Table 1: Demography of the respondents

<table>
<thead>
<tr>
<th>Gender</th>
<th>N</th>
<th>%</th>
<th>Academic background</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>50</td>
<td>54%</td>
<td>Economics</td>
<td>11</td>
<td>11.83%</td>
</tr>
<tr>
<td>Female</td>
<td>39</td>
<td>42%</td>
<td>Law</td>
<td>40</td>
<td>43.01%</td>
</tr>
<tr>
<td>Prefer not to indicate</td>
<td>4</td>
<td>4%</td>
<td>Accounting</td>
<td>42</td>
<td>45.16%</td>
</tr>
<tr>
<td>Total</td>
<td>93</td>
<td>100%</td>
<td>Total</td>
<td>93</td>
<td>100%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Age</th>
<th>N</th>
<th>%</th>
<th>Experience</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prefer not to indicate</td>
<td>1</td>
<td>1.08%</td>
<td>Till 1 year</td>
<td>4</td>
<td>4.30%</td>
</tr>
<tr>
<td>29 - 39 years</td>
<td>62</td>
<td>66.67%</td>
<td>1 - 5 years</td>
<td>19</td>
<td>20.43%</td>
</tr>
<tr>
<td>40 - 49 years</td>
<td>23</td>
<td>24.73%</td>
<td>6 - 10 years</td>
<td>54</td>
<td>58.07%</td>
</tr>
<tr>
<td>50 - 59 years</td>
<td>7</td>
<td>7.53%</td>
<td>11 - 15 years</td>
<td>16</td>
<td>17.20%</td>
</tr>
<tr>
<td>Total</td>
<td>93</td>
<td>100%</td>
<td>Total</td>
<td>93</td>
<td>100%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Postgraduate</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non</td>
<td>2</td>
<td>2.15%</td>
</tr>
<tr>
<td>Doctorate</td>
<td>2</td>
<td>2.15%</td>
</tr>
<tr>
<td>Masters</td>
<td>40</td>
<td>43.01%</td>
</tr>
<tr>
<td>Postgraduate (Lato Sensu)</td>
<td>49</td>
<td>52.69%</td>
</tr>
<tr>
<td>Total</td>
<td>93</td>
<td>100%</td>
</tr>
</tbody>
</table>

Research instrument

The research instrument was designed based on 3 constructs measured using a 7-point Likert scale (1 totally disagree and 7 totally agree), totaling 39 questions. The individual factors construct comprised the professional skepticism variables composed of 5 items based on Yang, Brink and Wier (2018) and auditor experience with 3 items supported on Libby and Frederick (1990); Tubbs (1992) and Aisyah and Sukirman (2015). The contextual factors construct was composed of work resource variables with 8 items and based on Bakker et al. (2007); Alzeban and Gwilliam (2014), and time budget pressure with 3 items (Coram, Ng & Woodliff, 2003, 2004; Broberg et al., 2017). Finally, the emotional intelligence construct was composed of 4 variables with 4 items each based on Jordan and Lawrence (2009), namely: awareness of one’s own emotions; managing one’s own emotions; awareness of the emotions of others; managing the emotions of others. In addition, 4 questions were also asked to survey the demographics of the respondents.

Before applying the test, the following procedures were performed: These procedures were essential for carrying out the research and to provide more clarity to the interpretation of the questions. It is worth mentioning that the research instrument was presented to the Research Ethics Committee of the Federal University of Mato Grosso do Sul for approval under Certificate of Ethical Appreciation nº 28449320.5.0000.0021.

Another method worth mentioning is the aspect of the test for the common bias problem (Common Method Bias), since the dependent and independent variables were answered by the same respondents (Podsakoff, Mackenzie, Lee & Podsakoff, 2003). It is also, noteworthy that the anonymity and identity of the respondents were guaranteed, in addition to the presentation of the dependent and independent variables. In addition, the common method factor test (1999) was used as a set of statistical methods to determine if there was any single dataset of common methods, as a common method, which did not present any impact study (Podsoff) et al, 2003).

Data treatment procedures

For the treatment of data initially, the characterization of the respondents was carried out, using the descriptive statistics. Subsequently, to test the hypotheses, the Structural Equation Modeling (SEM) technique was used, through the Partial Least Square (PLS) modeling, using the SmartPLS software. For the application of the PLS-SEM, the following tests were followed, according to Hair Jr., Hult, Ringle and Sarstedt (2016), for the validation of the theoretical model, being the confidence tests (individual and composite indicator of the model) and the validity (convergent and discriminant).

Subsequently, the structural model was tested to verify the relationship between the constructs (latent variables) and the effects of the moderating variable. For this, the bootstrapping test is used to determine whether the regression coefficients of the structural model are statistically significant, which allows for several sampling observations, in addition to estimating the significance of the effect on each regression coefficient between the variables. A moderator is a variable that strengthens or weakens the relationship between an independent variable and a dependent variable, which can be continuous (at least, interval or considered as such) or categorical. The relationship between the independent variable and the dependent variable can be positive or negative and the moderating variable can weaken or strengthen this relationship (Hair Jr et al., 2016).
Analysis

Data analysis was carried out with the support of Structural Equation Modeling, following these steps: (i) evaluation of measurement models (Convergent Validities through the Average Variance Extracted – AVE); (ii) observation of Composite Reliability values; (iii) evaluation of discriminant validity by the criterion of Fornell and Larcker (1981); (iv) evaluation of Pearson's coefficients of determination (R2); and (v) the significance of relationships through Bootstrapping (Hair Jr. et al., 2016).

Regarding Composite Reliability, values from 0.60 to 0.70 are acceptable in exploratory research, while in more advanced stages of research, values between 0.70 and 0.90 can be considered satisfactory (Hair Jr. et al., 2016). In turn, the AVE is the average of the factor loadings squared, representing how much the variables are positively related to their respective constructs (Ringle, Silva, & Bido, 2014). Finally, the discriminant validity was carried out by the criterion of Fornell and Larcker (1981), which compares the square roots of the AVEs of each construct with the correlations between each other.

Table 2: Discriminant validity, Convergent validity and Composite reliability

<table>
<thead>
<tr>
<th>Constructs</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1- Individual Factors</td>
<td>0.788</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2- Emotional Intelligence</td>
<td>0.179</td>
<td>0.742</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3- Pressure on Budget time</td>
<td>0.275</td>
<td>-0.117</td>
<td>0.697</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4- Audit Quality</td>
<td>0.378</td>
<td>0.014</td>
<td>0.373</td>
<td>0.703</td>
<td></td>
</tr>
<tr>
<td>5- Work Resources</td>
<td>0.274</td>
<td>0.546</td>
<td>0.248</td>
<td>0.243</td>
<td>0.732</td>
</tr>
</tbody>
</table>

Discriminant validity. Convergent validity

Composite reliability | 0.756 | 0.827 | 0.625 | 0.790 | 0.889 |
AVE                   | 0.620 | 0.551 | 0.485 | 0.494 | 0.536 |

Regarding the analysis of Composite Reliability, no value lower than 0.60 was identified, thus confirming the acceptance of the model. As for the adequacy of the model for convergent validity, the AVE presented values above 0.50. It is also worth noting that there is discriminant validity in the data, therefore, meeting the criteria established by Fornell and Larcker (1981).

In order to test the determination of path coefficients, the Bootstrapping technique was used, with a parameter of 5000 simulations, with a confidence interval with corrected bias and a two-tailed test at a significance level of 5% (Table 3).

Table 3: Structural Path

<table>
<thead>
<tr>
<th>Structural Paths</th>
<th>β</th>
<th>Value t</th>
<th>Value p</th>
<th>Hipothesis</th>
</tr>
</thead>
<tbody>
<tr>
<td>IF → AQ</td>
<td>0.263</td>
<td>2.313</td>
<td>0.021**</td>
<td>H1a</td>
</tr>
<tr>
<td>WR → AQ</td>
<td>0.077</td>
<td>0.605</td>
<td>0.545</td>
<td></td>
</tr>
<tr>
<td>TBP → AQ</td>
<td>0.305</td>
<td>2.662</td>
<td>0.008***</td>
<td>H1c</td>
</tr>
<tr>
<td>EI → AQ</td>
<td>0.012</td>
<td>0.086</td>
<td>0.931</td>
<td></td>
</tr>
<tr>
<td>Moderating effect 1 → AQ</td>
<td>-0.173</td>
<td>1.584</td>
<td>0.113</td>
<td>H2a</td>
</tr>
<tr>
<td>Moderating effect 2 → AQ</td>
<td>-0.087</td>
<td>0.861</td>
<td>0.389</td>
<td>H2b</td>
</tr>
<tr>
<td>Moderating effect 3 → AQ</td>
<td>-0.030</td>
<td>0.257</td>
<td>0.797</td>
<td>H2c</td>
</tr>
</tbody>
</table>

Panel A- Additional analysis on Individual Factors

| CP → AQ         | 0.129| 1.475   | 0.070*   | H1a        |
| AE → AQ         | 0.532| 6.183   | 0.000*** |            |

Note: IF: Individual Factors; AQ: Audit Quality; WR: Work Resources; TBP: Time Budget Pressure; EI: Emotional Intelligence; PS: Professional Skepticism; AE: Auditor Experience.

Note: *p<0.10; **p<0.05; ***p<0.01 two-tailed.

Note: *p<0.10; **p<0.05; ***p<0.01 One-tailed Panel A.

According to the results, H1a was corroborated (β = 0.263, p < 0.05). Additionally, each individual factor was separately verified, and it was noticed that both exert a positive and significant influence on the quality of the audit (professional skepticism, β = 0.129, p < 0.10; and auditor experience, β = 0.532, p < 0.01). Therefore, in the respondents' perception, both factors positively and significantly affect the quality of the audit, with professional experience showing greater statistical significance.

H1b has not been confirmed. Nevertheless, work resources being considered important, as an influence on the work, and support from the superior, the flow of information, encouragement of new ideas and the organizational climate, do not significantly affect the quality of the audit. The H1c result confirmed that the contextual factor time budget pressure affects the quality of the audit, being positive and statically significant (β = 0.305, p < 0.008).
Regarding the moderating effect of emotional intelligence on individual and contextual factors, the hypotheses were not confirmed, all does present negative and statistically insignificant effects.

**Discussion and Conclusions**

The H1a confirmed that individual factors positively affect audit quality. It is noteworthy that the importance of skepticism in auditing is recognized by several authors such as Durtschi and Gaynor (2002); Hurtt (2010) and Nelson (2009). In the same vein, experience is seen as an important factor in audit quality, and the results of this research are in line with existing literature such as Tubbs (1992).

An experienced auditor has advantages in detecting errors, understanding failures accurately and finding the cause of inconsistencies, in addition to being aligned with Libby and Luft (1993); Hanjani (2014); Cahan and Sun (2015) and Aisyah and Sukirman (2015). H1b did not confirm the relationship of work resources and audit quality. The results show that, despite being considered important, resources such as influence over the work performed, superior support and, information flow, organizational climate and peer recognition do not affect the quality of the audit. These findings were inconsistent with other studies (Lee & Ashforth, 1996; Crawford, Lepine & Rich, 2010; Nahrgang, Morgeson & Hofmann, 2011).

H1c confirmed significant effect of time budget pressure on audit quality. This finding is in line with research by Aisyah and Sukirman (2015) and Broberg et al. (2017), in the sense that the pressure of the time budget, individually, does not negatively affect the quality of the audit, and this factor may lead to better management of the available time. As appropriate, mention should be made of the regulatory environment, which guides the internal audit function and the prior planning of audit actions particularly considering the suggestions of IIA of IPPFs (The IIA's International Standards for the Professional Practice of Internal Auditing). When considering the Annual Audit Plan, as it was previously prepared in the previous year, it refers to the prior definition of the audit actions, to the knowledge of the available team and to the delimitation of the time for performance. These factors can be considered in the management of time between actions, which converges with the result found of the effect of time budget pressure on audit quality.

As for the moderating effect of emotional intelligence on the relationships between contextual and individual factors and the quality of the audit, tested through hypotheses (H2a, b and c), the results show that they were not supported and that no effect was significant.

Regarding the multiple responsibilities in the audit, Bagley (2010) argues that when auditors respond to several superiors, they experience significantly more anxiety than when they are responsible to only one superior. This happens when auditors respond to various superiors in several engagements simultaneously. Bagley (2010) also suggested that several responsibilities, widespread in the audit area, can cause negative emotions, and that the resulting negative reactions can harm audit performance. In addition, Alzeban and Gwilliam (2014) state that, progressively, auditing has been required in various functions. Particularly when there is a culture of job rotation, auditors could be transferred to other units to man the operations.

Overall, the results found in this research show differences in relation to the findings of Bagley (2010). Despite its varied functions (Alzeban & Gwilliam, 2014), the internal audit of the institutions surveyed are linked to the Board of Directors or to a body with equivalent roles. This link allows the Internal Audit Unit to fulfill its responsibilities, free from interference in the determination of scope, in the execution of procedures, in professional judgment and in the communication of results (CGU, 2017a), thus mitigating the prospects of emotions or negative reactions affecting performance of the audit.

This research aimed to analyze the effects of individual factors (professional skepticism and auditor experience) and contextual factors (work resources and time budget pressure) on the quality of internal audit moderated by the EI. For this purpose, a questionnaire was applied to a sample of 93 internal auditors from Federal Educational Institutions geographically distributed throughout Brazil and based on the technique of structural equation modeling, the research hypotheses were tested.

The results showed that individual factors (professional skepticism and experience) positively and significantly affect the quality of the audit. In hypothesis (H1a) the individual factors auditor experience and skepticism positively and significantly affect the quality of the audit. Through an additional analysis of the Individual Factors of (H1a), it was observed that individually or individually the relationship is significant. Skepticism significantly affects the quality of the audit analyzed individually (β = 0.532, p = 0.000***). These results dialogue with Carpenter, Durtschi and Gaynor (2002); Nelson (2009); Hurtt (2010); and Westermann, Cohen and Trompeter (2014).

In turn, experience, individually, also affects audit quality with a significance of p<0.01 (β = 0.532, p = 0.000***), converging with the findings of Tubbs, 1992; Libby and Luft, 1993; Hanjani, 2014; Cahan and Sun, 2015; Aisyah and Sukirman 2015; Zahmatkesh and Rezazadeh 2017 and Kusuma and Sukiman 2017.

The effect of the work resources factor on audit quality (H1b) was evaluated, this hypothesis was not confirmed. The results found indicate that the resources investigated in this research, such as: influence on the work performed, the support and support of the
superior, the flow of information, organizational climate, recognition from colleagues were considered important work resources by the investigated population, which corroborates with the study by Bakker et al. (2007). Therefore, the work resources, although considered important, do not significantly influence the audit quality, it was not statistically significant in the audit quality ($\beta = 0.077, p = 0.545$).

In (H1c), whether the time budget pressure factor affects the quality of the audit. The hypothesis was confirmed, the effect of time budget pressure affects in a statically significant way the audit quality, but its effect is positive ($\beta = 0.305, p < 0.008***$). It is concluded that the findings of this research suggest that the pressure of the time budget individually does not affect the quality of the audit, and this factor may lead to better management of the available time.

Overall, there was also no evidence of a moderating effect of emotional intelligence in the relationships investigated (Table 3, Structural Path). Research on the effect of EI on the results of the auditor's work is recent, and in this perspective, this research advances the literature. Our results, provide evidence that EI has no significant effect on the result of internal auditing in federal educational institutions. It partly aligns with other studies (Hakim & Esfandari, 2015; Amarin & Sukirman, 2016; Akimas & Bachri, 2017; Salehi & Dastanpour, 2018; Muslim, Ahmad & Rahim, 2019).

In terms of implications for professional practice, the findings of this study contribute to the understanding of the profile of the professional internal auditor of Public Educational Institutions. The internal auditors of the institutions surveyed highlighted the importance of skepticism and professional experience in the quality of the audit. The skepticism characterized by Nelson (2009) occurs when the auditor uses the knowledge, skill and ability to diligently, with integrity, choose and objectively evaluate evidence.

The findings of this research also contribute to the validation of the importance of experience for the audit activity. The results suggest that, as in the recurrent literature, an experienced auditor has advantages in terms of detecting errors, accurately understanding failures and finding the cause, thus positively and significantly affecting audit quality. In the same way that carrying out different audit actions is important in view of quality of the audit.

Another highlight was that time budget pressure positively and significantly affects audit quality. That said, it appears that the auditor's functional behavior, with better management of the available time, can be correlated to the effectiveness of the Annual Audit Plan, and to the regulations that guide the governmental internal audit activity.

Furthermore, the findings of this research refer to the relevance of the link between the Internal Audit Unit to the Board of Directors or to a body with equivalent attributions. This link allows the audit to fulfill its responsibilities, free from interference in the determination of the scope, in the execution of the procedures, in the professional judgment and in the communication of the results.

In carrying out this research, the authors encountered some limitations. Data were gathered from Federal Educational Institutions in Brazil, therefore results cannot be generalized. Also, this study was carried out during the quarantine period due to the Covid-19 Pandemic in Brazil. That said, the invitation to the target audience to participate in the research was made during the said period when the sample was at home office, which hindered the contact to raise awareness of the response to the surveyed questionnaire. The second limitation is that the research covers the perception of internal auditors of federal public educational institutions. Thus, the results presented cannot be generalized to internal auditors inasmuch as (state, municipal and even other federal agencies) that were not included in the population should be counted out.

Finally, as a suggestion for future research, it is recommended that the studies reach the population not investigated in this study, internal auditors from other sectors of the economy, external auditors or even auditors from the private sector. As for the variables, it is indicated that other factors (individual and contextual) such as stress, influence of moods, new assignments, multiple responsibilities, auditor's judgment, etc. are analyzed. Furthermore, in the perspective of future research, new scales may be tested in constructs that did not present a good level of significance.

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