Emotional Intelligence, Intelligence and Social Skills in Different Areas of Work and Leadership

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Abstract
The organizational environment has an ever-increasing need for psychological constructs such as Emotional Intelligence (EI), Social Skills (SS) and Intelligence (G), despite the lack of empirical scientific research on those variables with regard to the working environment, specially EI and SS. Thus, the goal of the present study was to measure such variables presented by professionals in different areas and leadership roles in the organizational context. There were 120 participants, from four major areas in the organization, both leaders and non-leaders. The main results showed no significant difference in EI between the different areas, lower EI scores for leaders when compared to those being led and no difference in G and in SS general score between leaders and non-leaders. This contributes to reflections on the conduction of current selection processes and promotion criteria in organizations.
Keywords: work; emotional intelligence; leadership

Inteligência Emocional, Inteligência e Habilidades Sociais em Diferentes Áreas de Trabalho e Liderança

Resumo
Os construtos psicológicos de Inteligência Emocional (IE), Habilidades Sociais (HS) e Inteligência (G) são cada vez mais demandados no ambiente organizacional, no entanto há escassez de pesquisas científicas empíricas sobre essas variáveis no contexto do trabalho, principalmente sobre IE e HS. Com isso, o presente estudo teve por objetivo verificar o nível de tais variáveis em profissionais de diferentes áreas e em cargos de liderança, que trabalham no contexto organizacional. Participaram desta pesquisa 120 pessoas de quatro grandes áreas de trabalho, incluindo líderes e não líderes. Os principais resultados indicaram não haver diferença entre as áreas para IE, os líderes apresentaram menores escores de IE do que os liderados, não há diferença entre líderes e não líderes para G e para o escore geral (EG) das SS. A partir dos resultados se discutiu a forma como os processos seletivos atualmente são realizados e quais os critérios de promoção nas organizações.
Palavras-chave: trabalho, inteligência emocional, liderança

Inteligencia Emocional, Inteligencia y Habilidades Sociales en Diferentes Áreas de Trabajo y Liderazgo

Resumen
Los constructos psicológicos de Inteligencia Emocional (IE), Habilidades Sociales (HS) e Inteligencia (G), son cada vez más demandados en el ambiente organizacional, a pesar de la escasez de investigaciones científicas empíricas sobre dichas variables en el contexto del trabajo, especialmente la IE y las HS. Por ende, el presente estudio tuvo como objetivo medir las variables mencionadas en profesionales de diferentes áreas y en cargos de liderazgo en el contexto organizacional. Participaron 120 personas de cuatro grandes áreas de la organización, incluyendo líderes y no líderes. Los principales resultados señalaron que no hay diferencia entre las áreas para la IE, con puntuaciones de la IE de los líderes menores que las de los liderados, y ninguna diferencia en la puntuación general para G y para las HS entre los líderes y los no líderes. A partir de los resultados, se discutió sobre la conducción de los actuales procesos de selección y los criterios de promoción en las organizaciones.
Palabras clave: trabajo; inteligencia emocional; liderazgo

Contemporary organizations have come to demand not only professionals who master the techniques and are skilled in their routine tasks, but also who deal appropriately with social (Del Prette & Del Prette, 2014; Yun & Lee, 2017) and emotional characteristics in the corporate environment (Latif, Majoka, & Khan, 2017; Lee & Chelladurai, 2018; Lopes, 2016). In addition, leaders able to handle the countless situations that emerge in this context, whether technical, emotional or social complications are also demanded.

Given this new scenario of demands arising from organizations, having a high capacity for Emotional Intelligence (IE), Intelligence (G) and having a well-developed Social Skills (SS) repertoire seem to tend to be characteristics demanded by today's professionals. In the course of this study, these three constructs (IE, SS and G) will be approached and analyzed as they have been presented to people who develop their activities in the organizational context.

The concept "Emotional Intelligence" (IE) was initially proposed by Salovey and Mayer (1990) and, after revisions, it is currently defined as: "the ability to perceive emotions, the ability to access and generate emotions in such a way as to help the processes

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of thinking, the ability to understand emotion and emotional knowledge and the ability to regulate emotions to promote emotional and intellectual growth" (Mayer, Salovey & Caruso, 2002, p. 17). Therefore, EI is composed of four facets (Mayer *et al.*, 2002*;* Mayer, Caruso, & Salovey, 2016): (a) *perception, evaluation and expression of emotions*, (b) *emotion as a facilitator of thought*, (c) *understanding and analyzing emotions* and (d) *reflective management of emotions*.

In this research, EI will be analyzed through the facet of perception, related to the experiential and emotional understanding aspects, associated with the strategic characteristics of the construct. In general, EI proposed by Mayer and collaborators (2002; 2016) is investigated through tests that assess the individual's performance in relation to the EI. The foundation in the construction of these tests comprises EI as a cognitive capacity in which there are right and wrong answers in the instruments, different from EI self-report tests that understand it as a trait and there are no right or wrong answers.

To scientifically check the demand for EI in the context of work and in the leadership role, a literature review was carried out, from 2010 to 2020, in the APA Psycnet database, for international research, and in the BVS-Psi, PEPSIC and Scielo for research in Brazil, with the following descriptors in the title: *emotional intelligence"* and "*job"*; "*emotional intelligence*" and "*work*"; "*emotional intelligence*" and "*leadership*"; "inteligência emocional" e "trabalho"; e "inteligência emocional" and "liderança" (terms in Portuguese). Fifty-five articles were found on the relationship between EI and leadership, of which only one investigated whether there was a difference between leaders and non-leaders for Trait EI and found no significant differences (Siegling, Nielson, Petrides, 2014).

Another 115 articles investigating the relation between EI and several variables at work were found, among which only Adil and Kamal (2016) and Jung and Yoon (2014) sought to investigate whether there was a difference between professionals in different areas. In the research by Adil and Kamal (2016), however, the main objective was to assess whether the EI predicted job satisfaction for bank and industrial workers in Pakistan and there was no difference in EI for the areas. In the research by Jung and Yoon (2014), using a self-report instrument with facets different from those proposed by Mayer and collaborators (2002; 2016), there was a significant difference in EI between professionals at a luxury hotel who worked at the reception and served customers directly compared to those who worked in other areas and did not serve customers. Moreover, professionals who worked at reception had better results in using emotions to facilitate performance and those who did not work at reception, better results in regulating emotions in themselves (Jung and Yoon, 2014).

Although there is a growth in EI research related to the organizational context (Lopes, 2016), there is a lack of studies investigating this construct in the organizational environment (Siegling *et al.*, 2014), data corroborated with the aforementioned review. In addition to the studies by Adil and Kamal (2016) and Jung and Yaoon (2014) found in the review, another, older one, carried out by Côté, Lopes, Salovey and Miners (2010) indicated that general EI and the skills to perceive and understand emotions, when measured with performance tests were significant and positively correlated with leadership, the facet of emotional understanding being most consistently associated with leadership.

Another factor often linked to the work context is intelligence (G) (e.g., Anglim, Sojo, Ashford, Newman, & Marty, 2019; Baumgartl & Nascimento, 2004; Kulikowski & Orzechowski, 2018; Nguyen, Nham, & Takahashi, 2019; Van Iddekinge, Aguinis, Mackey, & DeOrtentiis, 2017), understood as the "ability to learn from experience, using metacognitive processes to improve learning and the ability to adapt to the environment" (Sternberg, 2008, p. 450). In a psychometric perspective, G is studied based on capabilities and the most current model is that of Cattell-Horn-Carroll or CHC Cognitive abilities (Schneider & McGrew, 2012), which approaches intelligence as multidimensional and with three hierarchical levels.

Schneider and McGrew (2012) point out that, at level three of the CHC model, which is the top of the hierarchy, there is the so-called general intelligence, which is related to the sixteen abilities of level two. Among them are the two main abilities, fluid and crystallized intelligence. Fluid intelligence, the one that most relates to general intelligence (Flanagan & Ortiz, 2001), is the ability to deliberately control attention to solve new problems that require little previous learning, and crystallized intelligence is related to learned knowledge, cultural and family investment of the person (Schneider & McGrew, 2012). This variable has become important in the work environment throughout history, through psychological tests used in selection processes and in the recruitment of companies since the beginning of the 20th century (Sampaio, 1998).

For a better understanding of how G is being studied in the context of work, a review of the literature on G and the work environment and leadership was carried out. The research was conducted in the APA Psycnet database, for articles from other countries, and in the BVS-Psi, PEPSIC and Scielo databases, for Brazilian articles. There was no restriction of dates, because when doing the research, a reasonable number of articles was not retrieved to be restricted to the period of 10 years as used in the research on EI. The following descriptors were used in the title: "*intelligence"* and "*job*" and not "*emotional intelligence*"; "*intelligence"* and "*work*" and not "*emotional intelligence*"; "*intelligence*" and "*leadership*" and not "*emotional intelligence*"; "*cognitive ability*" and "*job*"; "*cognitive ability*" and "*work*"; "*cognitive ability*" and "*leadership*"; "inteligência" and "trabalho"; and "inteligência" and "liderança" (terms in Portuguese). Twenty-nine articles addressed the relationship between G and leadership with different aspects of the organizational environment and 136 about the relationship between G and general characteristics of the work, but none sought to investigate differences between leaders and non-leaders or between areas in relation to G.

In Brazil, Baumgartl and Nascimento (2004) developed a study, which is still unique in the country, on the G difference between leaders and non-leaders, which indicated that there was no significant average difference between these two groups. Starting from this point, the authors argued that this performance could be explained by the sample's own characteristic, composed of professionals in the same area, showing little variability in the nature of the work performed. Consequently, investigations into other areas and a larger sample of leaders and non-leaders could contribute to a better understanding of the structure and nature of intelligence related to the world of work.

In addition to these characteristics, EI and G, Del Prette and Del Prette (2014) state that the organizational environment also encompasses the social environment and, through the new paradigms of valuing the human being, SS have been gaining breadth in organizations, being, at times, disseminated through EI, which, according to the authors, is also an area of scientific investigation focused on interpersonal relationships. The term "Social Skills" applies to different classes and subclasses of social behaviors in an individual's repertoire, which are valued by culture and which contribute to the promotion of a healthy and productive interpersonal relationship, being situational and can be learned throughout life (Del Prette & Del Prette, 2017).

In addition, many scientific references are found in the scientific literature on the work environment and interpersonal relationships, as well as, how such relationships are demanded in this context (Del Prette & Del Prette, 2014; Lopes, Dascanio, Ferreira, Del Prette, & Del Prette, 2017; Lopes, Gerolamo, Del Prette, Musetti, & Del Prette, 2015). For a more in-depth investigation, a review of the literature on how SS has been investigated in the workplace and its relationship with leadership was carried out in the BVS-Psi, PEPSIC and Scielo databases, to investigate research conducted in Brazil, and in the database APA Psycnet, for research from other countries, with the following descriptors in the title: "*social skills*" and "*job*"; "*social skills*" and "*work*"; "*social skills"* and "*leadership*"; "habilidades sociais" e "trabalho"; e "habilidades sociais" e "liderança" (terms in Portuguese). There was no restriction of dates in this research, as the number of articles found from 2010 to 2020 was not significant for investigation. In all, 47 articles were found, but none investigated whether there was a difference in SS for workers from different areas of work.

Two studies investigated whether there was any difference between leaders and non-leaders for SS and the results found indicated that there was no such difference (Payne, 2005; Yang-Joong & Kyoung-Joo, 2017). In this sense, even if there is an indication that SS are important personal characteristics for success at work (Hochwarter, Witt, Treadway, & Ferris, 2006), there is a lack of studies that examine to what extent the characteristics of the environment in which the person is inserted affect the repertoire of SS (Hochwarter *et al.*, 2006) or how SS present themselves as leaders or non-leaders.

Thus, although the corporate world demands the variables EI, G and SS (Del Prette & Del Prette, 2014; Sampaio, 1998; Salovey & Mayer, 1990), little has been researched about SS and G in the work environment and there is a lack of research that investigates the difference between leaders and non-leaders or between areas for EI, SS and G. With this, the present study aimed to check the level of such variables (EI, G and SS) in professionals from different areas (Administrative, Commercial, Technical/Engineering and Production) and in leadership positions, working in the organizational context of private companies.

In relation to the work areas, this research will consider the Administrative, Commercial, Production and Technical/Engineering areas. Regarding these areas, for a better understanding of the data to be

obtained, it is important to highlight that professionals in the Administrative area generally work in the process of document organization, payment processing, charging customers and financial management. In the Commercial area, most of the time people have direct or telephone contact with customers and can also manage information and documents. In the Production area, work tends to be more methodical and with greater process rigor, and due to the need to assemble the equipment, it has a greater application of physical strength than other areas. In the Technical/Engineering area, the effort is generally more intellectual and has a greater search for creativity and technical development of new products.

From what was covered in this introduction, it is expected: that the scores of the present sample in the instruments of EI, G and SS are significantly higher than the result achieved by the normative samples of the tests used in the present research to evaluate such constructs (hypothesis 1 (H1)), as it seems that these constructs have been more valued in organizations today; that there is no significant difference between the areas in relation to the EI, G and SS constructs (hypothesis 2 (H2)), as, apparently, companies expect that professionals, regardless of their work areas, present such characteristics well developed; and that leaders have better results than non-leaders in EI, G and SS (hypothesis 3 (H3)), because, depending on the position, it is understood that leaders would have such abilities even more developed.

Method

Participants

Participants were 120 workers from fourteen private companies from inland cities of the state of São Paulo. The mean age was 32.16 years (SD = 8.82) with a minimum of 18 and a maximum of 61 years, with 84 (70%) male participants. With regard to sample distribution, 30% participants worked in the Administrative area, 30% in the Technical/Engineering area, 20% in the Commercial area and 20% in Production. Of these, 36.7% were leaders and 63.3% were never leaders.

Instruments

Sociodemographic and Professional Career Questionnaire (SPCQ)

Researchers of this work developed the Sociodemographic and Professional Career Questionnaire (SPCQ), considering the variables that would be studied in order to better standardize professional and sociodemographic data. The SPCQ is composed of multiple-choice questions about age, biological sex, company, work area and the role of leader or not.

Computerized Test of Primary Emotions Perception - Teste Informatizado de Percepção das Emoções Primárias (PEP)

PEP (Miguel & Primi, 2014) is answered by means of an online software where 38 videos of 3 to 8 seconds in length are presented, in which a person expresses one or more emotions, the first three videos are examples of how to respond to test. The participant has to point out which emotions the person in the video is expressing and whether it is authentic or falsified. Altogether there are eight emotional expressions (joy, love, fear, surprise, sadness, disgust, anger and curiosity). The precision of the PEP for the sample of the present study indicated a result of 0.64, by Cronbach's Alpha.

Computerized Test of Emotional Understanding - Teste Informatizado de Compreensão Emocional (TCE)

TCE (Oliveira & Bueno, 2013) is divided into two blocks, Block A with 18 questions regarding the transition of emotions and Block B with 12 questions about the mixture of emotions, totaling 30 items with five alternatives each and only an answer considered correct. The respondent should indicate among five alternatives which best corresponds to the transition or emotional mixture present in the statement of each item. In this research, we used the computerized version of this instrument and the TCE precision, by Cronbach's Alpha, was 0.74.

Reasoning Test Battery - Bateria de Provas de Raciocínio (BPR-5)

The Reasoning Test Battery (BPR-5) (Primi & Almeida, 2000), based on the three-stratum theory of cognitive abilities (Carroll, 1997), which has been updated over time and is also called the Cattell-Horn-Carroll (CHC) theory of cognitive abilities (Schneider & McGrew, 2012), is composed of five tests: Spatial Reasoning – Raciocínio Espacial – (RE test), Numerical Reasoning – Raciocínio Numérico – (RN test), Mechanical Reasoning – Raciocínio Mecânico – (RM test), Verbal Reasoning – Raciocínio Verbal – (RV test) and Abstract Reasoning – Raciocínio Abstrato – (RA test). The computerized versions of the RV Tests were used, in which the respondent should find out what is

the analogical relationship between a pair of words to identify a fourth word among five alternative answers, and RA, also involves analogy, but with abstract content. Both tests contain 25 items and the test precision was 0.79 for the RA test and 0.73 for the RV test, using Cronbach's Alpha analysis.

Social Skills Inventory 2 - Inventário de Habilidades Sociais 2 – IHS2

IHS2 (Del Prette & Del Prette, 2018) consists of a psychological test consisting of 30 items, which describe a social situation and the response to it. The participant should choose the frequency with which he/she behaves in that way, marking on a five-point Likert scale. The General Score (EG) and the Factorial Scores (from F1 to F5) are determined by the position, in relation to the reference subgroup of biological sex and age group. The test precision for the sample of this study was 0.82, obtained through the analysis of Cronbach's alpha.

In 2018, the IHS2 technical manual was released with updated application, correction and interpretation guidelines for the IHS-Del-Prette (Del Prette & Del Prette, 2016). Thus, the updated version was used to correct and interpret the IHS-Del-Prette, which was applied to participants in 2017. This was only possible, since in the second version the items were not modified, being identical in their writing and application, there was only a decrease from 38 to 30 items. Therefore, the thirty items maintained in IHS2 were used, as well as the most current correction and interpretation standards.

Procedures

The project was presented to the Research Ethics Committee of the Universidade Federal de São Carlos (UFSCar) and was approved with the CAAE code: (70079817.6.0000.5504). Only after such approval were the tests applied to participants. Invitations were made via postings on social media and visits to companies in a city in the interior of the state of São Paulo, for convenience.

With the exception of SPCQ and IHS2, which were answered in printed form, all other tests used were answered online. The participant, through a computer, accessed the online software that contained the instruments. For this, after reading and agreeing to the Informed Consent, he/she created a user with his/her own password and then had access to computerized tests. As they are online tests, the results were presented to the participant right after the answer.

Both the online tests, the SPCQ and the IHS2 were answered by participants in reserved places, with the possibility of having up to eight people in the place, but each one answered individually, in two application sessions. The researchers followed the entire application process to give instructions and answer questions, if necessary. Instruments had no application time restriction and, on average, were answered in two hours in all.

In order to guarantee anonymity, a confidential number was given to each participant, who only informed this code in SPCQ, IHS2 and to access computerized tests. Responses to computerized tests were saved in a database and inserted in a specific domain, being obtained in the second half of 2017.

Data analysis

Data were analyzed using SPSS software, version 21.0. The raw scores of the TCE, RV and RA were used, while in the PEP, the raw results were converted into a z-score and in the IHS2, the standardized scores present in the test manual. Initially, the Kolmogorov-Smirnov statistical test was applied to check the normality of the sample distribution and the results indicated that some data were asymmetric, such as TCE ($p = 0.01$), RA ($p = 0.02$), IHS2 factors ($p \leq 0.1$) and the area ($p < 0.01$). To identify data from the normative sample, the medians of the global population that responded to the computerized tests PEP, TCE, RA and RV were considered, while the median of the IHS2 was presented in the test manual, separated by sex and age group. The precision of the tests was considered satisfactory when the Cronbach's Alpha was greater than 0.60, according to Resolution 009/2018 of the Federal Council of Psychology (CFP, 2018).

The median and standard deviation were used for descriptive statistics. In inferential statistics, to compare the medians of the normative sample with the sample of this study (H1), the Wilcoxon test was applied. Kruskal Wallis and Mann-Whitney were used to analyze the differences between the groups (areas of activity and leadership/non-leadership) (H2 and H3), considering $p \leq 0.05$ as significant. For the differences detected, the effect size was interpreted according to Cohen (1998) and Lenhard and Lenhard (2016), with: (a) from 0.00 to 0.19, no effect, (b) from 0.20 to 0.49, small effect, (c) from 0.50 to 0.79, moderate effect, (d) and from 0.80 to 1.00, strong effect.

Results

In order to investigate H1, which suggested that the results obtained by participants of this study are significantly greater than those achieved by the normative samples, descriptive statistics and inferential analysis of the median difference of a sample (Wilcoxon) of the results of the instruments were performed. Data obtained were separated by areas and leadership position to perform the descriptive statistics of the performance obtained in the EI tests (PEP and TCE) and in the G tests (RV and RA) and the analysis of the median difference between the sample of this research and the normative sample. As the IHS2 test manual details the results of the normative sample separated by sex and age group, such separation was necessary.

In this sense, the results in the PEP, for the areas and leadership position, were significantly lower in the participants of the present study, with *p* equal to 0.038, mean rank = 12.69 and *r* = 0.346 for the results of the Technical/Engineering area and *p* smaller than 0.01 for the other areas and leadership position. For the Administrative area, the mean rank was 15.56 and the effect size was 0.47, in the Commercial area, the mean rank was 6.6 and *r* was 0.55 and in Production, the mean rank was 10 and *r* = 0.64. In relation to leadership, the mean rank for leaders was 12.69 and the *r* was 0.66 and for those who did not hold leadership positions, the mean rank was 29.32, but the effect size was smaller (r = 0.37). In TCE, there was no significant difference between the areas, only for the results of the leaders (p = 0.005, mean rank = 13.75, r = 0.43), but also with smaller results for the sample of this study.

Similar results are found in the Administrative area for RV (*p* = 0.047, mean rank = 14.17, *r* = 0.33) and RA (*p* = 0.034, mean rank = 13.5, *r* = 0.35) and in leaders for RV (*p* = 0.005, mean rank = 14.22, *r* = 0.42), in which the present sample presented lower results compared to the normative sample. In the SS test, most of the results did not show any significant difference, only for the General Score (EG), in the male participants aged between 18 and 38 years old, who worked in the Production area (*p* = 0.001, mean rank = 9.57, *r* = 0.77) and Technical/Engineering (p <0.001, mean rank = 15.52, *r* = 0.66), the results were significantly higher. In the Administrative area, the results of the studied population were lower: for women (*p* = 0.24, mean rank = 8.58, *r* = 0.56) aged up to 38 in the EG; for men (*p* = 0.049, mean rank = 4.00, *r* = 0.62) of the same age in F4 (Self-control/Coping); and for older men for F2 (affective-sexual approach) (*p* = 0.024, mean rank = 2.00, *r* = 0.80), F3 (positive feeling expression) (*p* = 0.026, mean rank = 0, *r* = 0.79) and F5 (Resourcefulness) (*p* = 0.018, mean rank = 0, *r* = 0.84).

The IHS2 factor scores for the sample were higher than the normative data only in the EG for women leaders, up to 38 years old (*p* = 0.003, mean rank = 6.00, *r* = 0.88) and for non- leader men (*p* = 0.001, mean rank = 26.25, *r* = 0.59), with the same age, the other results were lower. More specifically, the results were lower: for male workers who were not leaders, up to 38 years old, for F3 (Expression of positive feeling) (*p* = 0.034, mean rank = 17.83, *r* = 0.31) and also in F3 for older men (*p* = 0.006, mean rank = 4.50, *r* = 0.71); for women up to 38 years old, non-leaders, in F1 (Assertive conversation) (*p* = 0.001, mean rank = 7.00, *r* = 0.70) and in F5 (Resourcefulness) (*p* = 0.022, mean rank = 6.00, *r* = 0.51); and for older men with *p* less than 0.01 for the factors F2 (mean rank = 3.50, *r* = 0.69), F3 (mean rank = 4.5, *r* = 0.71) and F5 (mean rank = 3.00, *r* = 0.76). In this sense, the results are partially different from expected in H1, which suggested that the participants have higher medians for EI, G and SS compared to the normative sample.

Thus, observing the medians reached by the participants in relation to their areas and leadership positions, there was a significant difference for the PEP, RV, EG of the IHS2, in younger women, and in the SS test factors for men above 38 years old, who were leaders, and from these results only in EG the indices were better for the sample of this study. The results of the PEP showed significant differences in all areas, whereas in the other intelligence instruments, there was a difference among participants in the Administrative area comparing the results of this population with the normative sample, which obtained the best scores.

For the SS test, there were significant differences between the normative sample and that of this study in the EG only for male participants, up to 38 years old, in the areas of Production and Technical/Engineering and for younger women in the Administrative area, with the participants in this sample achieving better indices, different from the EI and G tests. Therefore, there seems to be some difference between the organizational variables studied in the present study (area and leadership) and the general sample, which includes several characteristics of the Brazilian population. Therefore, H2 suggests that there is no significant difference for the scores obtained between the areas of operation in the variables EI, SS and G. Table 1 lists the

data of the analysis of this hypothesis, presenting only the significant results.

The EI tests did not indicate significant differences in relation to the areas, however in the tests assessing G, there were significant differences for the RA test, with small effect size (H = 8.40, p = 0.038, d = 0.44). No significant difference was detected for the IHS2 EG between the areas, only in F2 and F5, with H = 12.939 and 7.94, significance of p = 0.005 and 0.047 and effect size d = 0.61 and 0.44, moderate and small, respectively. Therefore, H2 was partially confirmed, therefore, an analysis of the median difference between each area was performed, for factors F2 and F5 of the IHS2 and the RA, using the Mann-Whitney non-parametric statistical test, in order to investigate between which areas significant differences occurred. Table 2 lists the significant results of this analysis.

From the data in Table 2, professionals in the Technical/Engineering area, presented higher results than professionals in the Administrative area for abstract reasoning (U = 429.0, p = 0.013, d = 0.61), with moderate effect size, affective-sexual approach (F2) with strong effect size (U = 380.5, p = 0.002, d = 0.76) and resourcefulness (F5) with moderate effect (U = 425, 5, p = 0.012, d = 062). The analysis of the median difference between the Technical/Engineering area and the Commercial area showed a significant difference for the affective-sexual approach (F2) (U = 234.0, p = 0.002, d = 0.84) and resourcefulness (F5) (U = 274.0, p = 0.016, d = 0.65), with strong and moderate effect size, respectively, while the comparison between workers in the Technical/Engineering and Production area showed a significant result of difference only in F2 (U = 293.0, p = 0.032, d = 0.56), moderate effect size, in which professionals in the Technical/Engineering area had better results.

There were no significant differences between professionals in the Administrative and Commercial areas, between workers in the Administrative and Production areas, as well as for professionals in the Commercial and Production areas. Regarding the leadership role, in order to test the H3, that is, that the leaders have better results than the non-leaders in EI, G and SS, the Mann-Whitney U Test was used, of which Table 3 lists the analyses that showed significant results.

Analyzing Table 3, it is possible to observe a statistically significant difference between the scores of leaders and non-leaders for the variables of EI, with the PEP having the Mann-Whitney U of 1097.5, significance of 0.002 and moderate size effect (d = 0.60) and the TCE presented the Mann-Whitney U of 1263.5, significance of 0.02, with a small effect size (d = 0.41) indicating that it was unlikely that such a relationship was achieved by sampling error. Thus, considering the total result of the EI tests concerning the leadership role, it is observed that for this sample, the tendency is

Table 1.
Analysis of Significant Differences Between Areas for PEP, TCE, RA, RV, AND IHS2

	Area	N	Mean rank	H (df = 3)	p	d
RA	Administrative	36	49.93	8.398	0.038*	0.44
	Commercial	24	66.98			
	Production	24	54.00			
	Technical/Engineering	36	71.08			
F2	Administrative	36	52.57	12.939	0.005*	0.61
	Commercial	24	49.75			
	Production	24	57.96			
	Technical/Engineering	36	77.29			
F5	Administrative	36	52.68	7.944	0.047*	0.44
	Commercial	24	52.27			
	Production	24	61.65			
	Technical/Engineering	36	73.04			

*p ≤ 0.05

Note. RA – Abstract reasoning, F2 - Affective-sexual approach of IHS2 and F5 - Resourcefulness of IHS2.

Table 2.
Analysis of Significant Differences Between Areas for IHS2 (F2 AND F5) AND RA

		N	Mean rank	*U*	*Z*	*p*	*d*
RA	Administrative	36	30.42	429	-2.478	0.013*	0.61
	Technical/Engineering	36	42.58				
F2	Administrative	36	29.07	380.5	-3.045	0.002*	0.76
	Technical/Engineering	36	43.93				
	Commercial	24	22.25	234	-3.026	0.002*	0.84
	Technical/Engineering	36	36.00				
	Production	24	24.71	293	-2.151	0.032*	0.56
	Technical/Engineering	36	34.36				
F5	Administrative	36	30.32	425.5	-2.521	0.012*	0.62
	Technical/Engineering	36	42.68				
	Commercial	24	23.92	274	-2.399	0.016*	0.65
	Technical/Engineering	36	34.89				

*p ≤ 0.05

Note. RA – Abstract reasoning, F2 - Affective-sexual approach of IHS2 and F5 - Resourcefulness of IHS2.

Table 3.
Analysis of Differences Between Leaders and Non-Leaders for the Instruments Used

	Leader	N	Mean rank	*U*	*p*	*d*
PEP	No	76	68.06	1097.5	0.002*	0.60
	Yes	44	47.44			
TCE	No	76	65.88	1263.5	0.02*	0.41
	Yes	44	51.22			
F1	No	76	55.68	1306.0	0.05*	0.37
	Yes	44	68.82			

*p ≤ 0.05

Note. F1 – Assertive conversation IHS2.

for non-leaders to be more emotionally intelligent than leaders.

With respect to the SS, the results indicate that there was a significant median difference only for F1 (assertive conversation), with a small effect size (d = 0.37), the other results show the leaders with higher mean ranks for SS than non-leaders. However, although there are these differences between leaders and non-leaders, these results are not significant.

Thus, the significance of the EI tests is not in line with what was expected in H3, that is, that the leaders had better results than the non-leaders in EI, being confirmed only for F1 (assertive conversation), of the IHS2. However, for G and a large part of SS, the results were also not as expected, since there was no significant difference between the groups in the RA, RV, IHS2 EG tests and most of their factors.

Discussion

This study sought to check the level of variables EI, G and SS in professionals from different areas and in leadership positions who work in the organizational context of private companies. H1, which suggested

that participants have higher medians for EI, G and SS compared to the normative sample, was partially confirmed. This hypothesis is in line with what is currently expected and sought by organizations in professionals, that is, who have high performances in EI and G and a good repertoire of SS (Del Prette & Del Prette, 2014; Sampaio, 1998; Salovey & Mayer, 1990).

However, H1 was partially refuted and it was an unexpected result, especially for G and SS, which have psychological tests that can be used as an additional resource in the selection of workers. However, the use of psychological instruments is only one of the stages of psychological assessment (Primi, 2010) and in the case of the selection of workers, other psychological techniques should be used, such as interview and situational evidence (Parpinelli & Lunardelli, 2006). However, job-specific EI tests, which could be applied by psychologists in the organizational environment, could be additional resources for professionals in selecting the most emotionally intelligent people.

In the field of SS, the results on the median difference between the areas and for each of the instrument's factors, in addition to the General Score of the IHS2 (EG), showed few differences. When investigating whether the medians of the areas were similar to the normative medians, it was observed that the participants of this study presented a performance that, for the most part, is significantly similar to the normative sample of the IHS2. Comparing the medians of the leaders with those of the normative sample, the leaders had significantly lower medians than those of the normative sample for EI, G and for men, over 38 years old, in IHS2.

These data generate some reflections. Such a result may be an indication that older leaders, throughout their careers, have been learning a leadership style that did not stimulate the development of EI and SS in their day-to-day management at work, due, for example, to some superior demanding that the leadership style had to be autocratic in managing teams or people. This argument is in line with what Zacher, Rosing and Frese (2011) report about age being an important factor that influences leadership style. However, in two meta-analysis studies, the data analyzed suggested a very weak association between the leader's age and the relationship with the led (Ng & Feldman, 2010; 2012).

New studies deserve to be developed with more recent data, since within organizations, more and more people are looking for good leaders and better relationships, so understanding this relationship with more current information tends to contribute to decision-making by organizations. In addition, in the future, the main requirements that organizations have used to promote their professionals and to hire them could be analyzed, or even if these variables are required for all leaders, regardless of the area where they work and the people they lead.

H2 indicated that there was no significant difference between the areas in relation to the EI, G and SS constructs, which could be partially confirmed with the results. Although the result was partial to the expected, it is an interesting fact that deserves more attention, since companies tend to expect that professionals, regardless of their work areas, present such characteristics of EI, G and SS in the work environment (Del Prette & Del Prette, 2014; Latif *et al.*, 2017; Lee & Chelladurai, 2018; Lopes, 2016; Yun & Lee, 2017; Van Iddekinge *et al.*, 2017).

When the median difference in the score of factors F2 and F5 of the IHS2 was analyzed, comparing area by area, the results were unexpected, since workers in the Technical/Engineering area, who tend to perform more procedural and technical than relational work, were the ones that had greater significant results than the other areas. Nevertheless, despite apparently working more procedurally than in contact with customers, as professionals in the Commercial area, such employees may need to deal directly and constantly with the work team itself and this context provides a development of the SS repertoire. The tendency of observing the result presented herein may increase due to the projects and studies that have been developed to promote the social skills of these professionals (Karlin, 2010; Sanchez, Camara, & Represa, 2013).

Thus, because they probably have greater needs for teamwork in professionals in the Technical/Engineering area, a more elaborate repertoire of SS can be more targeted in the selection process, making it possible to find people with a higher level of SS in this area. The opposite can occur in other areas, such as in the Commercial area, where professionals often have contact with customers only by telephone, with pre-fixed procedures and protocols, and in the Administrative area, in which they can have their most solitary work focusing on in financial processes and documentation, besides the little need for teamwork, in some cases.

Items of F5, among them addressing authority and disagreeing with authority, may indicate that workers in the Technical/Engineering area have more autonomy to talk and even disagree with their managers

than professionals in other areas. Still, professionals in this area also showed better results in F2, although the items do not seem to indicate habitual behaviors in the work environment, such as addressing sexual relations, declaring loving feelings and the desire to meet someone, are indicative of people with greater ability expressing oneself, which is important in social relationships (Del Prette & Del Prette, 2014; 2016).

Data presented on the comparison between the areas for the EI, G and SS constructs, suggest that the area in which each worker undertakes his/her work activities seems, at least in this study, not to be sufficient to determine or identify whether the professional is more or less emotionally intelligent, or that has a more or less elaborate repertoire of SS or G, despite some significant differences that only partially confirm H2. In this sense, new studies that investigate the differences between professionals in each area, for EI, G and SS, with a larger and more diversified sample, subdividing the large areas based on the functions performed, may contribute to a better understanding of the professional profile of each area in relation to EI, G and SS.

In relation to H3, which states that leaders perform better for EI, G and SS, the differences between the performances of groups of leaders and non-leaders were significant for EI, with non-leaders performing better than leaders. This result was unexpected, since it is suggested in the literature that leaders are more emotionally intelligent or even that EI is a very important factor for leadership (Côté *et al.*, 2010). Although the literature points to EI as one of the most important factors for leadership and also suggests that the most emotionally intelligent leader will know how to better deal with the emotional and social demand emanating from his/her group (Côté *et al.*, 2010), it is likely that private companies tend to have strategic methods of promotion specific to their employees, such as the worker's time in the company or the number of courses he/she attended, not considering EI in the promotion process itself.

Leaders presented better results than the non-leaders for the F1 of IHS2 (assertive conversation) and for a better understanding of this result, the items of the factor were verified. Items such as asking for a change of conduct, approaching authority, ending conversation and speaking to an unknown audience are part of this factor, which are indicative of behaviors that may be more in demand for leaders, since when interacting with the led, they may need ask to have a different posture in relation to the work developed, need to end a meeting that is lengthening and not meeting the agenda, or have to talk to people in higher positions hierarchically to make a request for his/her area (Del Prette & Del Prette, 2018). This result is different from that found by Payne (2005) and Yang-Joong and Kyoung-Joo (2018), in which the worker's leadership role did not show significant differences in SS compared to non-leaders.

Despite these results, research tends to indicate the relevance of SS aspects to leadership in the general and work context (Cuadra-Peralta, Veloso-Besio, Iribaren, & Pinto, 2017; Čukanović-Karavidić, Karavidić, & Vujičić, 2016; Gil, Cantero, & Antino, 2013; Guerin, Oliver, Gottfried, Gottfried, Reichard, & Riggio, 2011; Mumford, Campion, & Morgeson, 2007). For example, the study by Guerin et al. (2011) was carried out with a longitudinal study from 2 to 29 years of life of the participating individuals and obtained results that indicated leadership in adulthood being strongly mediated by SS, in addition to factors of SS (e.g. social expressiveness and social control) had a moderate relationship with transformational leadership (*r* between 0.46 and 0.50).

The results of the analyses conducted to verify the H3 are similar to that reported by Baumgartl and Nascimento (2004) regarding the leaders and subordinates not having significant differences for G. This finding suggests that within private organizations there may or may not be considered the capacity of intelligence to promote a worker to leadership positions.

Furthermore, there may be disagreements between the concept of leadership adopted or even the attitudes that this professional should have (Banks, McCauley, Gardner, & Guler, 2016; Bedi, Alpaslan, & Green, 2015; Derue, Nahrgang, Wellman, & Humphrey, 2011), for example, a company can value the leader more than it demands from its subordinates and does not have healthy relationships in the organization for this fact, another organization may have in its culture the belief that being a leader is being a friend with everyone and so on. Such an argument can also apply to the fact that leaders presented better significant data on only one of the SS factors. Therefore, EI and SS instruments aimed at the work environment could help companies to better understand the dynamics of these constructs within themselves.

In addition, new studies would be important for a better investigation of how work organizations have understood EI and what actions have been promoted by them to improve the performance of workers. Organizations may be taking into account

an EI perspective that has no scientific support or just following a trend and failing to reflect on the real importance of EI at work.

The inferential analysis data also pointed out that there was no difference between leaders and non-leaders in the comparison of average performances in G. This evidence is in agreement with Baumgartl and Nascimento (2004), in which the results in RA and RV not were related to the role exercised by the leaders and the led. However, in SS the average results were better for leaders than for non-leaders. This difference between the scores on the tests on intelligence and SS, may refer to the characteristics of the instruments, since the intelligence tests assess the performance of the participants with right and wrong answers and the IHS2 is self-reported, and may be influenced by respondent's social desirability or low level of self-knowledge (Kohlsdorf & DaCosta Junior, 2009).

In this sense, higher levels of G do not seem to be a requirement for today's leaders. But, although organizations are looking for more emotionally intelligent and socially skilled leaders, high performances in G suggest accurate problem-solving skills (Sternberg, 2008) that emerge in everyday work. Therefore, it is important that companies also invest in promoting this capacity, not only in EI and SS.

Future research may investigate the results found here in samples with even more diverse and broad characteristics, since the fact that the present sample is composed mostly of men, may have generated an impact on the results, since in the literature the women tend to have better results in EI, for example (Castro-Schilo & Kee, 2010; Farrelly & Austin, 2007; Goldenberg, Matheson, & Mantler Jr., 2006; McIntyre, 2010; Perdomo, Pérez-Olmos, & Pinilla, 2011). Furthermore, the EI was analyzed through the facets of emotional perception and understanding, for future studies it is suggested that instruments evaluating the facets of facilitation and emotional management should also be used.

References

Adil, A., & Kamal, A. (2016). Workplace affect as mediator between emotional intelligence and job satisfaction among customer service representatives. *Journal of Behavioural Sciences*, 26(2), 79–94.

Anglim, J., Sojo, V., Ashford, L. J., Newman, A., & Marty, A. (2019). Predicting Employee Attitudes to Workplace Diversity from Personality, Values, and Cognitive Ability. *Journal of Research in Personality*, 103865. https://doi.org/10.1016/j.jrp.2019.103865

Banks, G. C., McCauley, K. D., Gardner, W. L., & Guler, C. E. (2016). A meta-analytic review of authentic and transformational leadership: A test for redundancy. *The Leadership Quarterly*, 27(4), 634–652. https://doi.org/10.1016/j.leaqua.2016.02.006

Baumgartl, V. O. & Nascimento, E. (2004, junho). A Bateria de Provas de Raciocínio (BPR-5) aplicada a um contexto organizacional. *Psico-USF,* 1(9), 1-10. https://doi.org/10.1590/S1413-82712004000100002

Bedi, A., Alpaslan, C. M., & Green, S. (2015). A Meta-analytic Review of Ethical Leadership Outcomes and Moderators. *Journal of Business Ethics*, 139(3), 517–536. https://doi.org/10.1007/s10551-015-2625-1

Carrol, J. B. (1997). The three-stratum theory of cognitive abilities. In: D. P. Flanagan, J. L. Genshaft, & P. L. Harrison (Eds.). *Contemporary intellectual assessment: theories, testes, and issues* (pp. 122-130). New York: The Guilford Press.

Castro-Schilo, L. & Kee, D. W. (2010). Gender differences in the relationship between emotional intelligence and right-hemisphere lateralization for facial processing. *Brain and Cognition*, 73, 62-67. http://dx.doi.org/10.1016/j.bandc.2010.03.003.

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2. Auflage). Hillsdale, NJ: Erlbaum. https://doi.org/10.1002/bs.3830330104

Conselho Federal de Psicologia – CFP (2018). *Resolução n.º 009/2018 [Online]*. Disponível: http://satepsi.cfp.org.br/docs/Resolu%C3%A7%C3%A3o-CFP-n%C2%BA-09-2018-com-anexo.pdf.

Côté, S., Lopes, P. N., Salovey, P., & Miners, C. T. H. (2010). Emotional intelligence and leadership emergence in small groups. *Leadership Quarterly*, 21, 496–508. https://doi.org/10.1016/j.leaqua.2010.06.012

Cuadra-Peralta, A. A., Veloso-Besio, C., Iribaren, J., & Pinto, R. (2017). Intervention for supervisors, based on social skills and leadership, in order to improve organizational climate perception and organizational performance outcomes. *Journal of Organizational Change Management*, 30(2), 281–292. https://doi.org 10.1108/jocm-10-2016-0205

Čukanović-Karavidić, M., Karavidić, S., & Vujičić, S. (2016). Business education and social skills to leadership competencies. *International review (Faculty of Business Economics and Entrepreneurship)*, 2016(1-2), 38-45. https://doi.org/10.5937 / intrev1602038C

Del Prette, A. & Del Prette, Z. A. P. (2014). *Psicologia das relações interpessoais: vivências para o trabalho em grupo*. (11a ed.). Petrópolis: Vozes.

Del Prette, A. & Del Prette, Z. A. P. (2016). *Inventário de habilidades sociais: Manual de aplicação, apuração e interpretação*. São Paulo: Casa do Psicólogo.

Del Prette, A. & Del Prette, Z. A. P. (2017). *Competência social e habilidades sociais: manual teórico-prático*. Petrópolis; Vozes. https://doi.org/10.7476/9786580216161

Del Prette, A. & Del Prette, Z. A. P. (2018). *Inventário de habilidades sociais 2 (IHS2-Del-Prette): Manual de aplicação, apuração e interpretação*. São Paulo: Pearson Clinical Brasil.

Derue, D. S., Nahrgang, J. D., Wellman, N., & Humphrey, S. E. (2011). Trait and behavioral theories of leadership: an integration and meta-analytic test of their relative validity. *Personnel Psychology*, 64(1), 7–52. https:// doi.org/10.1111/J.1744-6570.2010.01201.X

Farrelly, D. & Austin, E. (2007). Ability EI as an intelligence? Associations of the MSCEIT with performance on emotion processing and social tasks and with cognitive ability. *Cognition and Emotion*, 21, 1043-1063.

Flanagan, D. P. & Ortiz, S. O. (2001). *Essentials of cross-battery assessment*. New York: John Wiley & Sons, Inc.

Gil, F., Cantero, F.J., & Antino, M. (2013). Tendencias actuales en el ámbito de las habilidades sociales. *Apuntes de Psicología*, 31 (1), 51-57.

Goldenberg, I., Matheson, K., & Mantler, J. (2006). The assessment of emotional intelligence: a comparison of performance- the assessment of emotional intelligence: a comparison of performance-based and self-report methodologies. *Journal of Personality Assessment*. 86, 33–45. http://dx.doi.org/10.1207/ s15327752jpa8601_05.

Guerin, D. W., Oliver, P. H., Gottfried, A. W., Gottfried, A. E., Reichard, R. J., & Riggio, R. E. (2011). Childhood and adolescent antecedents of social skills and leadership potential in adulthood: Temperamental approach/withdrawal and extraversion. *The Leadership Quarterly*, 22(3), 482–494. https://doi.org/10.1016/j.leaqua.2011.04.006

Hochwarter, W. A., Witt, L. A., Treadway, D. C., & Ferris, G. R. (2006). The interaction of social skill and organizational support on job performance. *Journey of Applied Psychology,* 91, 482-489. https://doi.org/10.1037/0021-9010.91.2.482

Jung, H. S., & Yoon, H. H. (2014). Moderating role of hotel employees' gender and job position on the relationship between emotional intelligence and emotional labor. *International Journal of Hospitality Management*, 43, 47–52. https://doi.org/10.1016/j.ijhm.2014.08.003

Karlin, S. (2010). Making engineers smart-and savvy Education. EI*EE Spectrum*, 47(5), 24–24. https:// doi.org/10.1109/mspec.2010.5453134

Kohlsdorf, M. & DaCosta Junior, A. L. (2009). O Autorrelato na Pesquisa em Psicologia da Saúde: desafios metodológicos. *Psicologia Argumento*, Curitiba, 27(57), 131-139.

Kulikowski, K., & Orzechowski, J. (2018). Working memory and fluid intelligence as predictors of work engagement - testing preliminary models. Applied Cognitive Psychology. https://doi.org/10.1002/acp.3500

Latif, H., Majoka, M. I., & Khan, M. I. (2017). Emotional intelligence and job performance of high school female teachers. *Pakistan Journal of Psychological Research*, 32(2), 333–351.

Lee, Y. H., & Chelladurai, P. (2018). Emotional intelligence, emotional labor, coach burnout, job satisfaction, and turnover intention in sport leadership. European Sport Management Quarterly, 18(4), 393–412. https://doi.org/10.1080/161847 42.2017.1406971

Lenhard, W. & Lenhard, A. (2016). *Calculation of Effect Sizes*. Recuperado 25 de janeiro de 2019, de: https://www.psychometrica.de/effect_size.html. Dettelbach (Germany): Psychometrica. http://dx.doi.org/10.13140/RG.2.1.3478.4245.

Lopes, P. N. (2016). Emotional Intelligence in Organizations: Bridging Research and Practice. *Emotion Review*, 8(4), 316–321. https://doi.org/10.1177/1754073916650496

Lopes, D. C., Dascanio, D., Ferreira, B. C., Del Prette, A., & Del Prette, Z. A. P. (2017). Treinamento de habilidades sociais com universitários de ciências exatas. *Interação em Psicologia*, 21(1), 55-65. https://doi.org/10.5380/psi.v21i1.36210

Lopes, D. C., Gerolamo, M. C., Del Prette, Z. A. P., Musetti, M. A., & Del Prette, A. (2015). Social skills: A key factor of engineering students to develop interpersonal skills. *International Journal of Engineering Education*, 31(1), 405-413.

Mayer, J. D., Salovey, P., & Caruso D. R. (2002). Inteligência emocional como zeitgist, como personalidade e como aptidão mental. In: R. Bar-On & J. D. A. Parker. *Manual de inteligência emocional: teoria, desenvolvimento, avaliação e aplicação em casa, na escola e no local de trabalho* (pp. 81-98). Porto Alegre: Artmed Editora.

Mayer, J. D., Caruso, D. R., & Salovey, P. (2016). The ability model of emotional intelligence: Principles and updates. *Emotion Review*, 8(4), 290–300. https://doi.org/10.1177/1754073916639667

McIntyre, M. H. (2010). Gender differences in the nature and linkage of higher-order personality factors to trait and ability emotional intelligence. *Personality and Individual Differences*, 48, 617-622. http://dx.doi.org/10.1016/j.paid.2009.12.019.

Miguel, F. K. & Primi, R. (2014). Estudo psicométrico do Teste Informatizado de Percepção de Emoções Primárias. *Avaliação Psicológica*, 13(1), 1-9.

Mumford, T. V., Campion, M. A., & Morgeson, F. P. (2007). The leadership skills strataplex: leadership styles requirement across organizational levels. *The Leadership Quarterly*, 18(2), 154-166.

Ng, T. W. H., & Feldman, D. C. (2010). The relationships of age with job attitudes: a meta-analysis. Personnel Psychology, 63(3), 677–718. https://doi.org/10.1111/j.1744-6570.2010.01184.x

Ng, T. W. H., & Feldman, D. C. (2012). Evaluating Six Common Stereotypes About Older Workers with Meta-Analytical Data. *Personnel Psychology*, 65(4), 821–858. https://doi.org/10.1111/peps.12003

Nguyen, N. N., Nham, P. T., & Takahashi, Y. (2019). Relationship between Ability-Based Emotional Intelligence, Cognitive Intelligence, and Job Performance. *Sustainability*, 11(8), 2299. https://doi.org/10.3390/su11082299

Oliveira, A. E. N. A. & Bueno, J. M. H. (2013). *Construção e avaliação das propriedades psicométricas de um instrumento para avaliação do conhecimento emocional*. Poster presented at the VI Congresso Brasileiro de Avaliação Psicológica, Maceió. Retrieved from http://www.ibapnet.org.br/congresso2013/lista_trabalhos_poster.php.

Parpinelli, R. F. & Lunardelli, M. C. F. (2006). Avaliação psicológica em processos seletivos: contribuições da abordagem sistêmica. *Estudos de Psicologia (Campinas)*, *23*(4),463-471. https://doi.org/10.1590/S0103-166X2006000400014

Payne, H. J. (2005). Reconceptualizing social skills in organizations: Exploring the relationship between communication competence, job performance, and supervisory roles. *Journal of Leadership & Organizational Studies*, 11(2), 63–77. https://doi.org./10.1177/107179190501100207

Perdomo, D. M. C., Pérez-Olmos, I., & Pinilla, M. I. (2011). Inteligencia emocional en adolescentes de dos colegios de Bogotá. *Revista Colombiana e Psiquiatria,* 40 (1), 49-64.

Primi, R. (2010). Avaliação psicológica no Brasil: fundamentos, situação atual e direções para o futuro. *Psicologia: Teoria e Pesquisa*, *26*(spe), 25-35. https://doi.org/10.1590/S0102-37722010000500003

Primi, R. & Almeida, L. S. (2000). *BPR-5: Bateria de Provas de Raciocínio. Manual Técnico*. São Paulo: Casa do Psicólogo.

Salovey, P. & Mayer, J. D. (1990). Emotional intelligence. *Imagination, Cognition and Personality*, 9, 185-211. https://doi.org/10.2190/DUGG-P24E-52WK-6CDG.

Sampaio, J. R. (1998). Testes psicológicos no processo de seleção de pessoal. In I. B. Goulart & J. R. Sampaio (Orgs.). *Psicologia do trabalho e gestão de recursos humanos: estudos contemporâneos*. (pp. 149-167). São Paulo: Casa do Psicólogo.

Sanchez, P. L., Camara, J. M., & Represa, C. (2013). Social skills and moral values in engineering education. *Journal of Accessibility and Design for All*, *3*(1), 28-43. https://doi.org/10.17411/jacces.v3i1.61

Schneider, W. J., & McGrew, K. S. (2012). The Cattell-Horn-Carroll model of intelligence. In D. P. Flanagan & P. L. Harrison (Eds.), *Contemporary intellectual assessment: Theories, tests, and issues* (pp. 99-144). New York, NY, US: Guilford Press.

Siegling, A.B., Nielsen, C., & Petrides, K.V. (2014) Trait emotional intelligence and leadership in a European multinational company. *Personality and Individual Differences*, 65, 65-68. https://doi.org/10.1016/j.paid.2014.01.049

Sternberg, R. J. (2008). *Psicologia cognitiva.* (4a ed.). (R. C. Costa, Trad.). Porto Alegre: Artmed.

Van Iddekinge, C. H., Aguinis, H., Mackey, J. D., & DeOrtentiis, P. S. (2017). A Meta-Analysis of the Interactive, Additive, and Relative Effects of Cognitive Ability and Motivation on Performance. *Journal of Management*, 44(1), 249–279. https://doi.org/10.1177/0149206317702220

Yang-Joong, Y. & Kyoung-Joo L. (2017). Social skills as a moderator between R&D personnel's knowledge sharing and job performance. *Journal of Managerial Psychology*, 32(5), 387-400. http://dx.doi.org/10.1108/JMP-05-2016-0156

Yun, Y.-J., & Lee, K.-J. (2017). Social skills as a moderator between R&D personnel's knowledge sharing and job performance. *Journal of Managerial Psychology*, 32(5), 387–400. http://dx.doi.org/10.1108/JMP-05-2016-0156

Zacher, H., Rosing, K., & Frese, M. (2011). Age and leadership: The moderating role of legacy beliefs. The Leadership Quarterly, 22(1), 43–50. doi:10.1016/j.leaqua.2010.12.006

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