The Relationship between Job Burnout and Emotional Intelligence: A Meta-Analysis"

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Abstract

In the results of scientific research, the evidence of the relationship between emotional intelligence (EI) and burnout is contradictory. Therefore, a meta-analysis was carried out to analyze the relationship between EI and burnout. 59 articles were selected from the SCOPUS and ScienceDirect databases to compose the final sample of the review, which included 16.084 participants with a mean age of 34.5 years (SD = 8.62), 41% of whom were male. The findings suggest that EI is significantly and moderately associated with burnout levels. Therefore, higher levels of EI are related to lower levels of burnout and lower EI is associated with higher frequency of burnout symptoms. It is suggested that future research should investigate which facets of EI exert more influence on burnout. In addition, it is recommended to analyze which factors are antecedents and maintainers of burnout in individuals of different ages and professions.

Keywords: burnout, emotional intelligence, meta-analysis.

A Relação entre Burnout e Inteligência Emocional: uma Metanálise

Resumo

Nos resultados de pesquisas científicas, as evidências da relação entre Inteligência Emocional (IE) e *burnout* são contraditórias. Para tanto, foi realizada metanálise com o objetivo de analisar a relação entre IE e *burnout*. Foram selecionados 59 artigos, extraídos das bases de dados SCOPUS e ScienceDirect, para compor a amostra final da revisão, que abrangeu 16.084 participantes com idade média de 34,5 anos (*DP* = 8,62), sendo 41% do sexo masculino. Os achados sugerem que a IE está de forma significativa e com força moderada associada negativamente aos níveis de *burnout*. Logo, níveis mais altos de IE relacionam-se a níveis mais baixos de *burnout* e IE mais baixa está associada à maior frequência de sintomas de *burnout*. Sugere-se que, em futuras pesquisas, sejam investigadas quais facetas da IE exercem mais influência sobre o *burnout*. Ainda, é indicado realizar análises sobre que fatores são antecedentes e mantenedores dele em indivíduos de diferentes idades e profissões.

Palavras-chave: *burnout*, inteligência emocional, metanálise.

La Relación Entre el Burnout e Inteligencia Emocional: un Metaanálisis

Resumen

En los resultados de la investigación científica, las evidencias de relación entre la Inteligencia Emocional (IE) y *burnout* son contradictorias. Con este fin, se realizó un metaanálisis para analizar la relación entre la IE y el *burnout*. Fueron seleccionados 59 artículos de las bases de datos SCOPUS y ScienceDirect para componer la muestra final de la revisión, que incluyó 16.084 participantes con una edad media de 34,5 años (*DE* = 8,62), siendo 41% del sexo masculino. Los resultados sugieren que la IE está asociada de forma significativa y de forma moderada asociada negativamente con los niveles de *burnout*. Así, los niveles más altos de IE se relacionan con niveles más bajos de *burnout* y la IE más baja se asocia con una mayor frecuencia de síntomas de *burnout*. Se sugiere que en futuras investigaciones se estudie qué facetas de la IE ejercen más influencia sobre el *burnout*. También se recomienda realizar análisis sobre qué factores son antecedentes y mantenedores del *burnout* en individuos de diferentes edades y profesiones.

Palabras clave: *burnout*, inteligencia emocional, metaanálisis.

Burnout can be defined as a psychological syndrome that emerges as a response to chronic prolonged interpersonal job-related stress, being characterized for feelings of emotional exhaustion, low accomplishment and ineffectiveness, and also for depersonalization (Maslach & Leiter, 2017). In general, it involves the depletion of energy and emotional resources (emotional exhaustion); the diminished personal accomplishment or professional efficacy (personal accomplishment); and detachment, repulsion, and treatment with cynicism towards co-workers and others related to that environment (depersonalization) (Choi et al., 2019).

The burnout syndrome is a significant predictor of physical consequences, like coronary heart disease and gastrointestinal issues; psychological consequences, as depressive symptoms, insomnia and use of psychotropic and antidepressant medication; and occupational problems, like absenteeism, presenteeism and new disability pensions (Salvagioni et al., 2017). Furthermore, in the literature burnout is also associated with cognitive impairments, with the prevalence of deficits in executive functions, attention and memory skills (Jonsdottir et al., 2017; Koutsimani et al., 2021). In addition, it is highlighted that cognitive deficits themselves can impact burnout symptoms (Kulikowski, 2020).

A theoretical model about work stress that presents interesting contributions to the study of burnout is the Job Demand-Resources (JD-R) model (Demerouti et al., 2001). The JD-R postulates that job properties can be organized into two universal categories: job demands and job resources (Demerouti et al., 2001). Work demands encompass aspects of work that require continuous physical or mental effort, generating physiological and psychological costs (Bakker, et al., 2004). Examples of demands include high work pressure, conflicts with colleagues, future job insecurity, role overload and poor working conditions (Bakker et al., 2004). On the other hand, resources are those aspects of work that can help the worker to be active and functional to achieve work goals, to amortize the demands and associated physiological and psychological costs (Bakker et al., 2004). Examples of resources are social support, job security, role clarity, salary, autonomy and performance feedback (Bakker et al., 2004). When work demands exceed the adaptive capabilities of employees, according to the JD-R model, they become stressors and can culminate in Burnout (Schaufeli et al., 2009). In this context, work resources can help reduce the impact of work demands, serving as buffers and even prevention tools.

Given this, it is possible to postulate that psychological competences can play a role as a personal resource in the JD-R model (Schaufeli, 2017). Among these skills, Emotional Intelligence (EI) is a stress-relieving work resource, through skills such as emotion regulation and emotional understanding (Ugwu et al., 2017). Individuals with high emotional intelligence tend to have a more positive adaptation to the work context, being able to better cope with the demands of it, compared to workers who have lower EI (Năstasă & Fărcaş, 2015). A high emotional intelligence also gives the individual the ability to be more flexible and to regulate feelings of frustration and anger in the context of work (Lee & Ok, 2012).

The EI is considered to be an essential requisite for the employees to manage their emotions in order to display emotions organizationally desired, being also associated with the reduction of burnout symptoms and the increasing of job satisfaction (Magnano et al., 2017; Moon & Hur, 2011). Thus, EI can be defined as the ability to perceive emotions, integrate them to facilitate thought, understand emotions, and regulate

emotions to promote personal growth (Rivers et al., 2020). This definition comes from the ability model of EI, but it is not the only one. According to Rivers et al. (2020), there are currently two main models of EI: (1) the ability model and (2) the mixed models, which includes the so-called trait model. Ability model defines EI as a cognitive ability, understanding it as a type of intelligence or aptitude (Mayer et al., 2016). Mixed models enlarge this concept to include emotion-related self-perceptions and dispositions, such as adaptability, assertiveness and self-esteem, like in the trait model of EI, defined as a combination of various measures of personality and affect (Petrides, 2010).

Available research points out that EI as an ability and as a trait can influence how people control their emotions and handle frustrations in work, contributing to reducing stress and its consequences (e.g., Hong & Lee, 2016; Zhao et al., 2019). However, literature about the relationship between EI and experienced job stress and its outcomes is not so clearly established, since results are sometimes contradictory (Magnano et al., 2017).

Thus, to provide a clearer understanding, the aim of this study was to identify the relationship between emotional intelligence and burnout in workers. Specifically, we examined five major aspects: (1) the direction and dimension of the relationship between EI and burnout; (2) the variation of this relationship according to the EI model and its measures; (3) differences in this relationship between professional categories; (4) variations in this relationship according to age group; and (5) the relationships between the facets of emotional intelligence and the facets of burnout.

Materials and Method

Search Strategies, Inclusion and Exclusion Criteria

A systematic investigation of the literature was conducted to search for english, portuguese and spanish language articles on the online databases Scopus and ScienceDirect. These databases were chosen because together they index thousands of peer-reviewed titles and journals in the scientific fields of medical and social sciences. The search was conducted for two independent researchers in July 2021 (no discordances identified) with no date range. The search terms were used in each database search in the following format: "emotional intelligence" AND burnout; "emotional intelligence" AND "emotional exhaustion"; "emotional intelligence" AND depersonalization; "emotional intelligence" AND "personal accomplishment". The advanced search was performed in both databases. Studies were required to meet the following criteria: (1) include at least one measure of emotional intelligence and one of burnout; (2) include performance-based or self-report-based instruments, based on the original Salovey and Mayer's conception of EI and occur in more than two other studies; and (3) provide clear correlation coefficients or means and standard deviations statistical data between emotional intelligence and burnout.

The exclusion criteria were: (1) articles in press or not published in journals; (2) not published in english, portuguese, or spanish; (3) not directly related to the theme "emotional intelligence and burnout"; (4) studies that failed to fulfil the criterion of statistical clarity (specifically number of participants and correlations between EI and burnout or some specific facet of burnout); and (5) review papers, meta-analyses and case reports. This first search yielded a total of 1.393 texts. These documents were filtered according to the inclusion

criteria mentioned, initially from the titles and abstracts and after from the full read of the papers. When the full texts of the articles were not identified, they were requested from their corresponding authors, with a period of 15 days waiting for the response.

Coding Procedure and Statistical Analysis

All included studies with all its correlations were coded separately in Excel spreadsheets, and no additional data beyond those published in the papers were requested from any author. Two continuous variables were considered for the calculus of the effect size, namely: emotional intelligence and burnout. In the longitudinal research cases (longitudinal cohort study) we decided to select only the values of baseline (e.g., Carvalho et al., 2018). The correlations collected were transformed into Fisher Z-values, ensuring that the variance of the effect size was based on the sample size. According to Cohen (2013), it was considered 0.10, 0.30 and 0.50 respectively small, medium and large effect sizes. Effects lower than 0.10 were considered insignificant. The statistical analysis package Jamovi was used to carry out the analyses (The Jamovi Project, 2019). To examine the variability of the sample, the parameter used was the I^2 test, which is low if it reaches 25%, moderate when it reaches 50%, and it is high if it exceeds 75% (Higgins et al., 2003). For the analysis of the risk of bias, Egger regression was considered, which when significant ($p \leq 0.05$) indicates low risk and when not significant means high risk (Egger et al., 1997).

Results

The initial search resulted in the identification of 1.393 studies. Based on search engine filters of the databases (tools of the databases), 234 studies were excluded. Considering titles and abstracts, we excluded 986 studies, resulting in 173 that were read in full. It was not possible to access a total of eight complete articles, whose authors did not respond to the requests. After full reading, 59 articles were included in the meta-analysis. According to PRISMA guidelines (Page et al., 2020), an overview of the study selection process can be seen in Figure 1.

The 59 datasets included 16.084 participants with a mean age of 34,5 years ($SD = 8,62$) being 41% male. Participants from different countries were included, especially the United States (20%), Spain (10%) and China (10%). In regard to the study designs, cross-sectional design studies prevailed (95%). The year of publication of the studies ranged between 2010 and 2021, covering the last 10 years. A considerable increase in the number of publications was identified in the last five years (60% between 2017-2021). The most frequently analysed working groups were teachers (15% of the studies), doctors (11%) and nurses (10%). In 10 studies, the group of workers varied a lot, so that there is no emphasis on any professional category. None of the studies applied the blinding of participants, and nine of the 59 included studies were randomized. The general characteristics of the included studies are shown in Table 1.

Figure 1

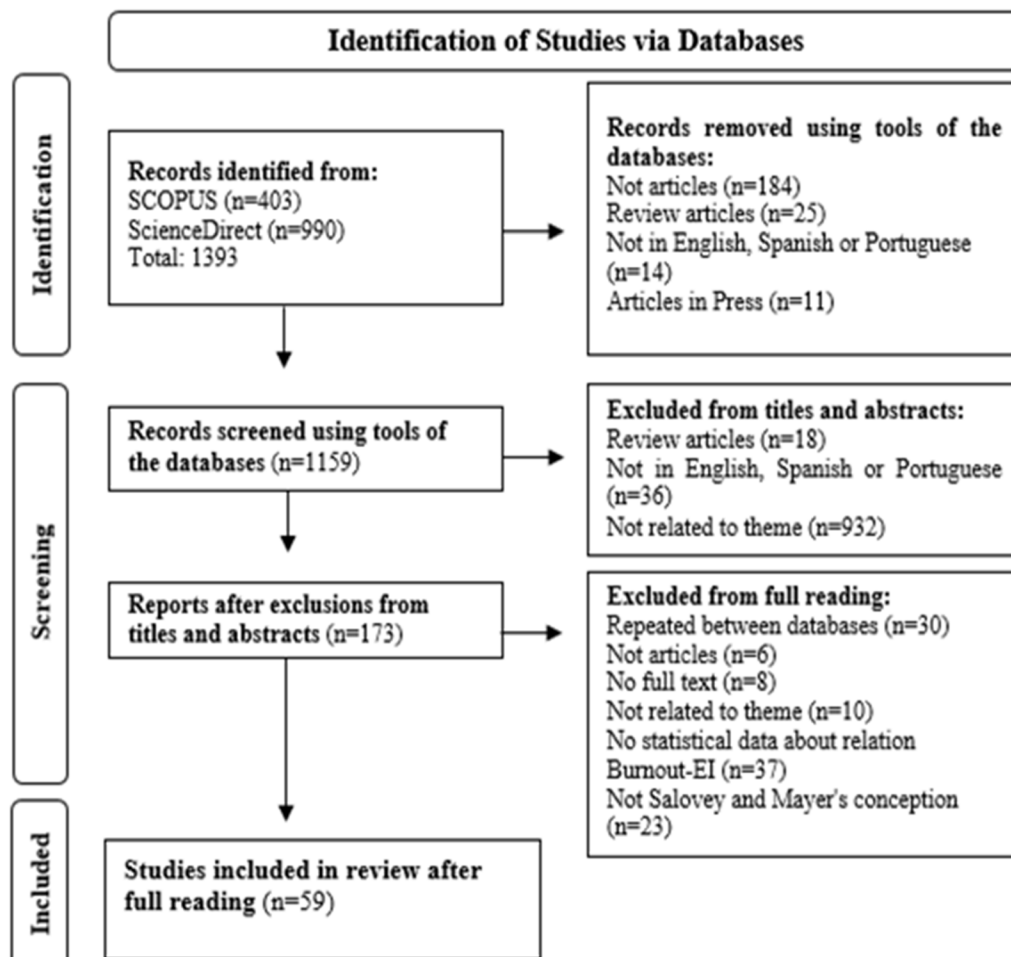*Overview of the study selection process*

Table 1

General characteristics of the studies

Study (year)	Study design	*M* Age	Sample	Male	Country	Work Group
Afsar et al. (2017)	Cross-sectional	35	379	Unclear	Pakistan	Nurses
Akinsulure-Smith (2018)	Cross-sectional	32	210	26.4%	USA	Social workers
Akomolafe & Popoola (2011)	Cross-sectional	35	300	48%	Nigeria	Students
Alan et al. (2021)	Cross-sectional	36	104	40.4%	Turkey	Health employees
Álvarez-Ramírez et al. (2017)	Cross-sectional	37	76	32.2%	Spain	Education employees
Amirian et al. (2020)	Cross-sectional	Unclear	124	64.5%	Iran	Teachers
Carvalho et al. (2018)	Longitudinal cohort	19	303	29.7%	Spain	Students
Cazann & Năstasă (2015)	Cross-sectional	Unclear	91	Unclear	Romania	Students
Choi et al. (2019)	Cross-sectional	32	344	52,60%	Egypt	Hotel employees
Cofer et al. (2018)	Cross-sectional	Unclear	40	67.5%	USA	Doctors
Cohen & Abedallah (2015)	Cross-sectional	Unclear	221	16.3%	Israel	Teachers
Colomeischi (2015)	Cross-sectional	38	575	34.7%	Romania	Teachers
D'Amico et al. (2020)	Cross-sectional	50	238	13%	Italy	Teachers
Dionigi (2019)	Cross-sectional	38	160	27.5%	Italia	Doctors
Espinosa et al. (2018)	Cross-sectional	32	210	26.4%	USA	Social workers
Fiorill et al. (2019)	Cross-sectional	47	318	5.3%	Italy	Teachers
Fiorilli et al. (2020)	Cross-sectional	15	1235	22.1%	Italy	Students
Geng & Zhou (2011)	Cross-sectional	33	246	35.7%	China	Social workers
Gleason et al. (2020)	Longitudinal cohort	30	236	56%	USA	Doctors
Gong et al. (2019)	Cross-sectional	Unclear	347	59.9%	China	Not specified
Grover & Furnham (2021)	Cross-sectional	30	232	53%	Uninformed	Not specified
Gualda et al. (2017)	Cross-sectional	35	54	20.63%	Spain	Education employees
Guerrero-Barona et al. (2020)	Cross-sectional	37	331	27.9%	Spain	Social workers
Guy & Lee (2013)	Cross-sectional	Unclear	167	35.9%	USA	Not specified
Holliday et al. (2017)	Cross-sectional	56	60	85%	USA	Health employees
Hong & Lee (2016)	Cross-sectional	32	211	Unclear	Korea	Nurses
Huang et al. (2010)	Cross-sectional	24	493	9.5%	China	Not specified
Ju (2015)	Cross-sectional	42	307	20.4%	China	Teachers
Kwon & Kim (2016)	Cross-sectional	Unclear	200	10%	South Korea	Nurses
Lee & Ok (2013)	Cross-sectional	Unclear	309	42.4%	USA	Hotel Employees
Lee (2017)	Cross-sectional	Unclear	167	35.9%	USA	Not specified
Lee & Ok (2012)	Cross-sectional	Unclear	309	42.4%	USA	Hotel employees
Lindeman et al. (2017)	Longitudinal cohort	Unclear	143	52.3%	USA	Doctors
Magnano et al. (2018)	Cross-sectional	51	354	36.40%	Italia	Not specified
Markiewicz (2019)	Cross-sectional	Unclear	104	0	Poland	Nurses
Mitra et al. (2018)	Cross-sectional	31	61	63.9%	India	Doctors
Mustafa et al. (2016)	Cross-sectional	Unclear	136	40%	Malaysia	Human Resources professionals
Năstasă & Fărcaﬂu (2015)	Cross-sectional	Unclear	120	Unclear	Romania	Health employees
Pena & Extremera (2012)	Cross-sectional	40	245	31,80%	Spain	Teachers
Platsidou (2010)	Cross-sectional	39	123	38.2%	Greece	Teachers
Prati & Karriker (2010)	Cross-sectional	31	244	31.6%	USA	Stores employees
Prentice et al. (2013)	Cross-sectional	Unclear	578	45%	USA	Stores employees
Romano et al. (2020)	Cross-sectional	16	493	18.1%	Italia	Students
Salami et al. (2015)	Cross-sectional	28	230	55%	Nigeria	Bank employees
Sanchez-Gomez & Breso (2020)	Cross-sectional	38	1197	41.4%	Spain	Not specified
Santos et al. (2015)	Cross-sectional	Unclear	143	40%	Malaysia	Human Resources professionals
Shead et al. (2016)	Cross-sectional	39	86	36.05%	England	Social workers
Shkoler & Tziner (2017)	Cross-sectional	32	243	48.1%	Israel	Not specified
Srivastava & Dey (2018)	Cross-sectional	Unclear	350	55.4%	India	IT employees
Srivastava et al. (2019)	Cross-sectional	Unclear	286	57.34%	India	Not specified
Swami et al. (2013)	Cross-sectional	27	56	Unclear	India	Doctors
Szczygiel & Mikolajczak (2018)	Cross-sectional	42	188	0	Poland	Nurses
Szczygieł (2018)	Cross-sectional	36	180	47.7%	Poland	Stores employees

Table 1 (continued)

General characteristics of the studies

Study (year)	Study design	*M* Age	Sample	Male	Country	Work Group
Thomas et al. (2012)	Cross-sectional	Unclear	30	Unclear	Malaysia	Teachers
Ugwu et al. (2017)	Cross-sectional	28	401	29%	Nigeria	Nurses
Wahyuni et al. (2019)	Cross-sectional	Unclear	250	20.8%	Indonesia	Education employees
Weng et al. (2011)	Cross-sectional	40	110	85.4%	Taiwan	Doctors
Xie et al. (2020)	Cross-sectional	28	793	10%	China	Nurses
Zhao et al. (2019)	Cross-sectional	33	343	60%	China	Not specified

The instruments used to assess IE were: Wong and Law Emotional Intelligence Scale (WLEIS; *n* = 20), Trait Emotional Intelligence Questionnaire Short Form (TEIQue-SF; *n* = 20), Emotional Intelligence Scale and variations (EIS; *n* = 13), Self-Report Emotional Intelligence Test (SREIT; *n* = 4) and the Mayer Salovey Caruso Emotional Intelligence Test (MSCEIT; *n* = 2). It is emphasized that the assessment of EI as an ability was performed in only two studies (Gualda et al., 2017; Zhao et al., 2019), using the MSCEIT instrument for this purpose.

Considering the effects of the relationship between emotional intelligence and burnout by the EI model adopted in the studies, it is highlighted that for the trait model the relationship was significant, moderate and with low risk of bias (*SMD* = 0.38; 95% CI = 0.36 to 0.41; $p < 0.001$; $I^2 = 83.8\%$; Egger regression $p = 0.90$). Regarding the ability model, presented in only two studies, the effect size was small, but significant, homogeneous and with low risk of bias (*SMD* = 0.12; 95% CI = 0.5 to 0.18; $p < 0.001$; $I^2 = 0\%$; Egger regression $p = 0.95$).

Burnout was assessed using 14 different instruments, of which we can highlight: Maslach Burnout Inventory - Human Service Survey (MBI - HSS; *n* = 23), Copenhagen Burnout Inventory (CBI; *n* = 7), Maslach Burnout Inventory - General Survey (MBI - GS; *n* = 6), Maslach Burnout Inventory - Educators Survey (MBI - ES; *n* = 4) and Oldenburg Burnout Inventory (OLBI; *n* = 3). As for the burnout dimensions evaluated, emotional exhaustion (in 35.5% of the studies), personal accomplishment (34.6%) and depersonalization (29.9%) stood out.

Only one of the included studies reported non-significant correlations between EI and Burnout (Guy & Lee, 2013). Specifically, for the purpose of effect size analysis, this meta-analysis included 205 correlations, which generated statistically significant effects. The overall effect of the relationship between emotional intelligence and burnout facets was calculated based on the Random-Effects Model, being initially moderate, with high heterogeneity and risk of bias (standard mean difference-*SMD* = 0.39; 95% CI = 0.36 to 0.42; $p < 0.001$; $I^2 = 89.7\%$; Egger regression $p = 0.05$). After sensitivity analyses, considering the risk of bias and the heterogeneity value, four correlations above 0.81 (three standard deviations above the mean) were removed from the analysis, which significantly affected the results presented (from the studies by Geng & Zhou, 2011 and Srivastava et al., 2019). Thus, the overall effect after sensitivity analyses (with 201 effect sizes) remained moderate and still with high heterogeneity, despite the reduction in I^2, but with low risk of bias (*SMD* = 0.37; 95% CI = 0.35 to 0.49; $p < 0.001$; $I^2 = 83.8\%$; Egger regression $p = 0.13$).

Considering the effects of the relationship between specific aspects of emotional intelligence and burnout, it is highlighted that for the self-emotion appraisal and total burnout the overall effect was significant, moderate and with low risk of bias (*SMD* = 0.38; 95% CI = 0.24 to 0.52; $p < 0.001$; $I^2 = 88.7\%$; Egger regression $p = 0.95$). Regarding the regulation of emotions, the effect size was also moderate, significant, heterogenous and with low risk of bias (*SMD* = 0.36; 95% CI = 0.27 to 0.45; $p < 0.001$; $I^2 = 87.6\%$; Egger regression $p = 0.22$). About the use of emotions, the overall effect was significant, large and with low risk of bias (*SMD* = 0.50; 95% CI = 0.34 to 0.65; $p < 0.001$; $I^2 = 92.6\%$; Egger regression $p = 0.78$).

Regarding the facets of burnout in its relation to EI, was observed a significant overall effect for emotional exhaustion, with moderate size and low risk of bias (*SMD* = 0.30; 95% CI = 0.24 to 0.33; $p < 0.001$; $I^2 = 59.9\%$; Egger regression $p = 0.65$). About the facet depersonalization, it was observed a moderate overall effect size, with low risk of bias (*SMD* = 0.35; 95% CI = 0.30 to 0.40; $p < 0.001$; $I^2 = 74.7\%$; Egger regression $p = 0.20$). For personal accomplishment, it was also observed a moderate overall effect size, but with high risk of bias (*SMD* = 0.45; 95% CI = 0.39 to 0.52; $p < 0.001$; $I^2 = 84.6\%$; Egger regression $p = 0.05$).

To examine whether these relations vary across professional categories, we separately assessed the groups of teachers, doctors and nurses, which were the professional categories with the highest number of studies (more than 20 effects each). Effect sizes were found to be slightly higher in the doctors' group and lower in the nurse's group. It was observed that the effect size of the EI and Burnout relations in doctors was the highest, being significant, moderate, with medium heterogeneity and low risk of bias (*SMD* = 0.39; 95% CI = 0.34 to 0.43; $p < 0.001$; $I^2 = 54.13\%$; Egger regression $p = 0.19$). As for teachers, it was observed a significant overall effect size, moderate, with high heterogeneity and low risk of bias (*SMD* = 0.38; 95% CI = 0.34 to 0.42; $p < 0.001$; $I^2 = 77.75\%$; Egger regression $p = 0.85$). Nurses were the category with the smallest effect size, which was significant, moderate, with medium heterogeneity and low risk of bias (*SMD* = 0.35; 95% CI = 0.31 to 0.39; $p < 0.001$; $I^2 = 55.95\%$; Egger regression $p = 0.15$).

To assess the effect size of the EI and burnout relationship according to the age of the subjects the results were divided into age groups: under 20 years old; from 21 to 31; from 32 to 42; and 43 years old or more, and the analyses were performed separately. It was observed that the effect of the EI and burnout relations is greater and of moderate heterogeneity in the group with older individuals, with 43 years old or more (*SMD* = 0.36; 95% CI = 0.33 to 0.40; $p < 0.001$; $I^2 = 57.6\%$; Egger regression $p = 0.10$), and lower, with greater risk of bias and heterogeneity, but also moderate in the group of younger individuals, under 20 years of age (*SMD* = 0.31; 95% CI = 0.14 to 0.48; $p < 0.001$; $I^2 = 93.2\%$; Egger regression $p = 0.001$). In the intermediate age groups, the results were similar, being significant, moderate and with high heterogeneity (from 21 to 31 years: *SMD* = 0.35; 95% CI = 0.31 to 0.39; $p < 0.001$; $I^2 = 71.4\%$; from 32 to 42 years: *SMD* = 0.33; 95% CI = 0.30 to 0.36; $p < 0.001$; $I^2 = 71.4\%$).

Discussion

A meta-analysis of 201 effect sizes based on the responses of 16.084 subjects identified that emotional intelligence was significantly associated with burnout. The general effect of burnout relations with EI was considered moderate, with high heterogeneity and low risk of bias. Although the methodology of this study does not provide evidence on causality, the findings suggest that higher levels of emotional intelligence are associated with lower burnout levels. Prati and Karriker (2010) demonstrated that emotion regulation, a component of the Mayer and Salovey's model, is related to a lower level of burnout. Being able to regulate emotions in oneself and others can make emotional situations at work less stressful (Prati & Karriker, 2010). Another study demonstrated that the high emotional intelligence trait can dampen the effects of burnout, especially by controlling negative emotions such as anger and sadness (Szczygiel & Mikolajczak, 2018).

Overall, skills related to emotional intelligence can mitigate the effects of burnout and even protect the worker from these effects through a better management of stressful emotional situations that occur in the work context (Lindeman et al., 2017). Cognitive abilities, such as emotional intelligence, can play an important role in the individual's relationship with work demands and work resources, being a necessary target for new exploratory studies (Kulikowski, 2020). In the present study, it was possible to identify that the mechanisms of EI (facets) most associated with burnout were emotional self-assessment, emotional regulation, and the use of emotions. According to the literature, and consistent with the logic of the JD-R model, individuals with enhanced emotional self-assessment and emotion regulation skills make better use of emotions and suffer less from the impacts of chronic stress in the work environment.

Relationships Between EI and Facets of Burnout

Regarding the facets of burnout, it was identified that emotional exhaustion has more relationships with EI, followed by depersonalization and personal accomplishment. Thus, work interventions aimed at improving EI are likely to affect emotional exhaustion more positively. The effects of EI as a work resource can buffer emotional exhaustion through emotional self-assessment and emotion regulation, for example. In the same logic, the depersonalization component can be amortized by emotion regulation, but also by the more adaptive use of emotions. The increase in EI can also provide the worker with the ability to deal with feelings of frustration that make up low personal accomplishment.

Future research can investigate cause and effect relations between EI and burnout, seeking, among other questions, to analyse whether individuals with greater EI are less prone to burnout. Furthermore, this meta-analysis identified that most studies in the literature present cross-sectional designs (95%), with very few interventional and longitudinal studies. Future research can also investigate the impacts of interventions for EI on burnout levels, performing longitudinal and even cost-benefit comparisons between types of intervention or even between the absence and presence of interventions with this objective in the organizational environment.

The Assessment Tools Used

In the analysis of the assessment tools used, it was possible to identify that EI as an ability was evaluated in only two studies through the MSCEIT. The other studies evaluated EI as a trait, with emphasis on WLEIS and TEIQue-SF instruments. There are some possible explanations for the low quantity of studies that use the model of EI as ability and for the high amount of studies that analyse EI using the trait model. It is common for the instruments that consider EI as ability, which are usually performance measures, not to foresee strongly previously predicted results by theories (Miao et al., 2017). In addition, there is a shortage of instruments that evaluate EI as ability, mainly for the difficulty of creating tools capable to accurately measure the construct (O'Connor et al., 2019). The most used instrument to measure EI as ability, the MSCEIT, is traded at high prices. This may be a factor that makes its use on a large scale in research unfeasible. This highlights the need to develop performance instruments, which are shorter, cheaper and with good psychometric properties to measure EI as ability.

With regard to the trait EI measures, which are usually self-report instruments, are useful for measuring emotional self-efficacy and behavioural arrangements. EI as trait is related to a large set of emotional, social, behavioural and personality variables (Petrides et al., 2016; O'Connor et al., 2017). The large scope of empirical evidence with instruments that evaluate EI as a trait is one of the reasons that can explain the extensive use in the studies of this meta-analysis. In addition, trait measures are usually indicated for research that analyzes situations involving continuous stress in educational and employment contexts (O'Connor et al., 2019), which characterizes a large part of the articles analysed. About the different models of EI and their evaluation, more research can be done with the ability model, perhaps evaluating separately the elements of Mayer and Salovey's model (Mayer, et al., 2016). Future research can also compare the relationships between the different models of EI and burnout in order to search for the theoretical model that predicts better results in burnout. Further, future studies may examine which facets of EI exert more influence on the syndrome.

As regards burnout's assessment, it has been identified that the Maslach burnout inventories, with particular emphasis on MBI-HSS, continue to be the most widely used instruments for this purpose, as previously reported (Shoman et al., 2021). A plausible explanation for the vast use of Maslach inventories is that the theoretical job burnout model that underpins the instruments, Maslach and Jackson's model (Maslach & Jackson, 1981) is the most widely accepted and propagated in the literature. According to Demerouti et al. (2021), a common failure in burnout studies is the low methodological variance and scarcity of studies that seek to analyse the contextual background of the syndrome. Future research in this context can use complementary tools to the burnout evaluation instruments, such as environmental and organizational climate assessment measures, which has already proved to be crucial variables for the development of burnout at work (Aronsson et al., 2017). It is also possible to use instruments that try to evaluate the antecedents together with the symptoms of the syndrome, as was done by Benevides-Pereira et al. (2017) in his Burnout Syndrome Inventory.

Burnout in Different Occupations/Working Groups

In subgroup analysis, separated by working groups, it was identified that teachers, doctors and nurses were the most present professional categories in the studies. These three working groups were separately analysed, and it was identified that the effect sizes for the doctor's group were larger than the other two groups, but both had significant and moderate overall effect size for the relations between EI and burnout.

For doctors and nurses, studies such as Holliday et al. (2017) and Vlachou et al. (2016) presented results similar to that of this meta-analysis. The authors emphasize that these groups of workers experience stressful situations on their daily life associated with negative emotions linked to death and illness, in addition to having a low sense of emotional and social well-being, which can lead to symptoms of burnout.

However, in a meta-analysis analysing the relations between EI and burnout in teachers (Mérida-López & Extremera, 2017), the findings differ somewhat, with small effect sizes for primary school teachers and effect sizes varying from small to large in middle school teachers. The professional context of teachers involves constant emotional exchange with students and their families, high demand and expectations (Ghanizadeh & Jahedizadeh, 2015). There is other evidence in the literature that shows that secondary/middle school teachers have higher levels of burnout than primary school teachers (Ribeiro et al., 2020). This is probably due to the greater number of students in the classroom, the amount of content to be taught to students and the greater demand from parents and guardians for these students (García-Carmona et al., 2019; Ribeiro et al., 2020). In general, future studies can evaluate the context of each working group separately, analysing background factors and burnout maintainers in each profession.

Burnout at Different Ages

Regarding the age of the subjects, it was identified that the group of individuals aged 43 years or over had a greater effect on the relationship between EI and burnout. Meanwhile, younger individuals, under 20 years of age, had smaller effect sizes. These findings may indicate, for example, that older individuals may have lower EI capacity to deal with burnout. Corroborating this, studies have shown that: individuals over 40 years of age are more vulnerable to burnout, due to wear and tear due to working hours and other reasons (Marchand et al., 2018; Schadenhofer et al., 2018), as opposed to younger; and that emotional intelligence increases throughout life and peaks in the intermediate age groups, between 25 and 40 years, and starts to decline thereafter (Sharma, 2017). Future research can analyze the preventive effects of interventions for emotional intelligence in younger and older workers and track the burnout and EI levels of these individuals post-intervention over time. Future research can also compare burnout and EI levels in different age groups and verify the level of influence of EI in the prevention, occurrence and intensity of the syndrome over time.

Limitations and Recommendations for Future Research

Despite including a considerable number of participants, of both sexes, different professions and nationalities, this study has some limitations. First, although we have searched for literature in relevant databases without time limitation, the research undertaken was restricted to the databases used

and the languages included. In addition, 37 studies had to be excluded due to the lack of clear presentation of the statistical data needed to calculate the effect size, so their results were not included in this study. Furthermore, in this meta-analysis only the relationships between IE and job burnout were analysed, not including other burnout concepts, such as the clinical and the family burnout, not related to work (Mikolajczak et al., 2019).

Conclusion

Overall, there was a moderate, inverse and significant relationship between burnout and emotional intelligence. However, cause and effect analyses are necessary to confirm the claim presented. With the findings of this study, it is possible to say that emotional intelligence is a relevant target for interventions that aim at prevention or remedy of job burnout. However, more interventional studies, longitudinal projects, comparisons and tests of models are needed to provide more evidence on these relationships. These efforts may represent potential discoveries to help people who are experiencing health problems that characterize burnout syndrome and can contribute to individual, organizational and social improvements.

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