

Perceived Emotional Intelligence: what is its influence in Subjective Well-Being?

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Abstract

In this article we propose to explore the Perceived Emotional Intelligence influence in Subjective Well-Being. To do so, we carry out a quantitative, transversal study adopting a descriptive approach and inter-subject correlational design. The sample is formed of $n = 1377$ Portuguese and Brazilian participants, between 18 and 81 years of age, of whom 57.8% identified themselves as female and 42.1% as male, 44.4% were Portuguese and 54.9% were Brazilian. In terms of education 38,1% had a post-graduate/master, 33,2% had a first degree/diploma, 14,9% had up to 12 years of schooling and 13,8% had a Ph.D./post-Ph.D. Participants answered the Assessing Emotions Scale and the Reduced Version of the Portuguese Scale of Positive and Negative Affect. There are differences in many dimensions of PEI, according to socio-demographic characteristics and high perception of the competences forming EI is associated with SWB and has a great effect on predicting the variance of Positive Affect.

Keywords: Emotional intelligence; skills; self-perception; subjective well-being; affect.

Resumo

Inteligência Emocional Percebida: qual a sua influência no Bem-Estar Subjetivo? Este artigo propõe explorar a influência da Inteligência Emocional Percebida no Bem-Estar Subjetivo. Para tal, executa-se um estudo quantitativo, transversal, descritivo com design correlacional intersujeitos. A amostra é constituída por $n = 1377$ participantes entre 18 e 81 anos, dos quais 57,8% se identificaram com o género feminino e 42,1% com masculino, 44,4% eram portugueses e 54,9% eram brasileiros. Em termos de educação, 38,1% tinham pós-graduação/mestrado, 33,2% tinham licenciatura/bacharelato, 14,9% tinham até 12 anos de escolaridade e 13,8% tinham doutoramento/pós-doutoramento. Os participantes responderam à Escala de Avaliação de Emoções e à Versão Reduzida da Escala Portuguesa de Afeto Positivo e Negativo. Encontraram-se diferenças ao nível de grande parte das dimensões da Inteligência Emocional Percebida, em função de características sociodemográficas e concluiu-se que uma elevada perceção das competências que enformam a Inteligência Emocional está associada com o BES e produz um grande efeito na predição da variância do Afeto Positivo.

Palavras-chave: Inteligência emocional; habilidades; autopercepção; bem-estar subjetivo; afeto.

Resumen

Inteligencia Emocional Percibida: ¿cuál es su influencia en el bienestar subjetivo? Este artículo, propone explorar la influencia de la Inteligencia Emocional Percibida en el Bienestar Subjetivo. Se realiza un estudio cuantitativo y transversal descriptivo con diseño correlacional intersujetos. La muestra está formada por $n = 1377$ participantes entre 18 y 81 años, de los cuales el 57,8% se identificaron como mujeres y 42,1% como hombres. En cuanto a la nacionalidad, 44,4% eran portugueses y 54,9% eran brasileños. En términos de educación, 38,1% tenía un postgrado/máster, 33,2% tenía un primer grado/diploma, 14,9% tenía hasta 12 años de escolaridad y 13,8% tenía un Ph.D./post-Ph.D. Los participantes respondieron a la Escala de Evaluación de las Emociones y a la Versión Reducida de la Escala Portuguesa de Afecto Positivo y Negativo. Se encontraron diferencias en la mayoría de las dimensiones de la Inteligencia Emocional Percibida de acuerdo con las características sociodemográficas. Se concluyó que una alta Inteligencia Emocional Percibida está asociada con el Bienestar Subjetivo y tiene un gran efecto en la predicción del Afecto Positivo.

Palabras-clave: Inteligencia emocional; habilidades; autopercepción; bienestar subjetivo; afecto.

Emotional Intelligence (EI) has aroused great interest in the scientific community since at present it is considered an autonomous construct, it is theoretically defined, there are valid, reliable ways to assess it and it is a possible predictor of functioning in various areas of human life (Carrillo-Ramírez, Pérez-Verduzco, Laca-Arocena, & Luna-Bernal, 2020; Teixeira & Araújo, 2018; Valente & Lourenço, 2020). The EI construct can be regarded as a set of skills that allow human beings' contextual adaptation (Fragoso-Luzuriaga, 2015; Mayer, Roberts, & Barsade, 2008; Moutinho, Monteiro, Costa, & Faria, 2019; Teixeira & Araújo, 2018; Valente & Lourenço, 2020). The four-branch model by Mayer and Salovey (1997), one of the more referenced models, stands out due to its interpretative potential and scientific rigor, as an explanatory and operationalized reference of EI (Carrillo-Ramírez et al., 2020; Fragoso-Luzuriaga, 2015; González-Yubero, Martín, & Lázaro-Visa, 2019). This model gives a cognitive character to EI and presents four major competences forming it: accurate perception, expression and assessment of emotions; the use of emotions to facilitate thinking; analysis and comprehension of emotions and reflexive regulation of emotions (Mayer et al., 2008; Mayer & Salovey, 1997; Teixeira & Araújo, 2018).

In the opinion of Mayer and Salovey (1997), the four branches are organized by level of complexity of psychological processes, i.e., from more basic psychological processes (branch 1), to more integrated processes of higher levels (branch 4). Within each branch there is a progression of sub-competences, ordered in relation to development in the course of life (Mayer & Salovey, 1997; Mayer, Salovey, & Caruso, 2004). Setting out from this approach, someone with a high level of EI first develops the basic capacity to perceive, express and assess emotions. This assumes sub-competences related with identification of emotions in a primary way, accurate identification of emotions (intrinsic and extrinsic), expression of emotions with precision and adaptation (which includes the manifestation of needs related to them) and assessment of one's own emotions as well as those of others. Secondly, emerge the capacity to use emotions to facilitate thought, which frames a progression of sub-competences regarding the reciprocal influence between thought and emotion, the directing of attention and thought (by emotion) for priority information and the facilitation of analysis and problem-solving processes (Mayer & Salovey, 1997; Mayer et al., 2004). Next appears the capacity to analyze and

understand emotions, which covers procedures of identification, discrimination and denomination of emotions, of interpreting and understanding meaning, differences and relations between emotions, association between the causes and consequences of emotions and understanding of emotional chains (Mayer et al., 2004). Finally, the most complex capacity of EI is optimized, which is related to the reflexive regulation of emotions (in relation to oneself and others). This more complex competence contemplates processes of promoting intellectual and emotional growth, openness and receptivity to emotional experience, reflexive involvement or distancing from emotions and meta-experience of the emotion (sub-divided in meta-assessment - attention paid to the emotion and consideration about how clear, typical, acceptable and influential it is; and meta-regulation - understanding of what can influence the emotion). In addition, it involves processes of monitoring, assessing and using emotional knowledge to create, maintain and/or modify emotions (in oneself and others) according to needs (Fragoso-Luzuriaga, 2015; Mayer & Salovey, 1997).

Considering the underlying competences EI represents an essential factor since it potentiates individuals' adaptive, functional capacity (González-Yubero et al., 2019; Moutinho et al., 2019; Schutte, Malouff, Thorsteinsson, Bhullar, & Rooke, 2007; Teixeira & Araújo, 2018). Therefore, EI is directly related to health (physical and mental) (González-Yubero et al., 2019; Ospino & Colorado, 2012) and is a considerable predictor of emotional functioning (e.g., adequate coping strategies, resilience capacity, satisfaction with life, happiness) and social functioning, which can mean an adjustment adapted to the context (Azpiazu, Esnaola, & Sarasa, 2015; Lopes, Salovey, & Straus, 2003; Schutte et al., 2001).

From its relevance and potential, the study of EI stands out, nowadays, as pertinent. Consequently, the scientific literature demonstrates the tendency to understand its applications and implications in people's lives (Blasco-Belled, Rogoza, Torrelles Nadal, & Alsinet, 2019; Randhawa, 2019; Teixeira & Araújo, 2018; Woyciekosky & Hutz, 2009). In this line of research, interest has increased in relation to analysis of the potential influence of EI on well-being (Blasco-Belled et al., 2019; Randhawa, 2019; Ros-Morente, Alsinet Mora, Torrelles Nadal, Blasco Belled, & Berenguer, 2018). For example, studies exploring that relationship have concluded that a higher level of emotional competence (assessed by

performance scales) or perception of emotional competence (assessed by self-reporting instruments) increases levels of well-being (Azpiazu et al., 2015; Lanciano & Curci, 2015). More specifically, studies focusing on analysis of the relationship between this type of intelligence and Subjective Well-Being (SWB) have concluded that higher levels of Perceived Emotional Intelligence (PEI) are associated with a higher level of Positive Affect (PA) (Gallagher & Vella-Brodrick, 2008; Schutte, Malouff, Simunek, McKenley, & Hollander, 2002).

Since EI presents a tremendous-potential in the lives of human beings and is presumably related to well-being, thorough-understanding of its influence in SWB is seen as essential. Therefore, the focus of this article is on the study of PEI and its influence in SWB, in adults. In addition, despite some investigations into EI and its relationship with SWB, as far as we know, none has explored that specific relationship in a sample of participants with Portuguese as the official language. Thus, this research concentrates on studying PEI and its potential association with SWB, in a sample of Portuguese and Brazilian adults.

Methods

Objectives and Hypotheses

We propose to test empirically the following hypotheses: H₁: There is an association between PEI and SWB. H₂: EI influences SWB, specifically, higher values of PEI will have a positive influence on SWB (in its dimension of PA).

Sample: Procedures and Formation

After selecting the assessment instruments, whenever required, their authors were contacted to obtain authorization to use them. Aiming to carry out a pre-test, the protocol was applied online with ten people who satisfied the requirements of future participants. After small adjustments to the terminology used in the countries involved, data collection took place between October 2014 and February 2015 and was carried out online. The sample was obtained through geometric propagation, by sending and spreading the access link to the page for completing the instrument. Responding to all the instruments was forecast to take twenty minutes on average. To ensure a rigorous investigation in ethical terms, we adhere to the principles contained in the Deontological Code of the Portuguese Order of Psychologists (2011). We previously assessed

the potential risks of participation, and after deciding to carry out the research, we ensured this would not have harmful physical and psychological effects, and that from the information presented at the beginning of the protocol the subjects would be able to participate in an informed and voluntary way, with the possibility of withdrawing at any moment up to submitting the answers. Informed consent was presented and anonymity and confidentiality were ensured.

Participation amounted to 1645 people who answered the instruments protocol. We fine-tuned and adapted the global database, excluding the answers of respondents who did not match the inclusion criteria (over eighteen years of age, with internet access and having Portuguese and/or Brazilian nationality). In addition, we eliminated cases in which over 10% of the items in the data gathering instruments were omitted. Following these procedures led to a sample formed of 1377 people between 18 and 81 years of age ($M = 38.8$; $SD = 13.48$; $Mdn = 37$; $Mo = 24$). Based on the quartiles analysis the participants' age was organized into four groups: 1 - twenty-seven years old or less; 2 - between 28 and 36 years old; 3 - between 37 and 49 years old and 4 - 50 years old or more, which generated an equivalent percentage of 25% of the participants in each age group. In terms of gender, 57.8% of participants identified themselves as female and 42.1% as male. Regarding nationality, 44.4% were Portuguese, 54.9% were Brazilian and 0.7% had joint nationality. We found that 38.1% had a post-graduate/master, 33.2% had a first degree/diploma, 14.9% had up to 12 years of schooling and 13.8% had a Ph.D./post-Ph.D.

Instrument for Assessing PEI

Considering the multiple perspectives underlying the conceptualization / evaluation of EI, a brief and self-report instrument has been chosen - the Assessing Emotions Scale (AES) (Schutte et al., 1998). Due to its (psychometric) characteristics, it would provide valid information on the perception of the referred construct and efficiently allow to cover a broad sample of participants. This instrument is composed of 33 items based on the theoretical model of the three skills of Salovey and Mayer (1990). On a Likert-type response scale (from one: "completely disagree" to five: "completely agree"), respondents classify their degree of agreement in relation to their perception of: 1) assessment and expression of emotions, 2) regulation and control of emotions, and 3) use of emotions to help solve everyday problems

(Kun, Balazs, Kapitany, Urban, & Demetrovics, 2010; Schutte et al., 1998). Concerning internal consistency of the AES, the authors Schutte et al. (1998) indicated a Cronbach alpha of .90 and test-retest reliability of .78, in a previous study made while developing the instrument ($n = 346$).

The authors of the AES claim it forms a one-dimensional measure to assess the general factor of perception of EI. They recommend, therefore, that the total score should be calculated (which can vary between 33 and 165 – higher scores indicate higher PEI) (Schutte et al., 2001). However, the factor structure of the AES has been subject to questioning (García-Coll, Graupera-Sanz, Ruiz-Pérez, & Palomo-Nieto, 2013; Keele & Bell, 2008; Schutte et al., 1998). Numerous studies have analysed the factor structure of the AES and presented varying results. Kun et al. (2010), compare the original studies by Schutte et al. (1998) with later ones by Petrides and Furnham (2000), Saklofske, Austin, and Minski (2003), Gignac, Palmer, Manocha, and Stough (2005) and Keele and Bell (2008). Despite presenting differences, the studies analysed suggest a multi-factor structure of the AES. Added to this, in the same line, is the factor solution presented by Satuf et al. (2020). Considering the multiplicity of factor solutions, the divergences found in the different studies and accepting the recommendation of Petrides and Furnham (2000), who warn of the need to analyse this instrument's factor structure, it was pertinent to adapt the AES to the sample in this study. In this process, the factor solution presented by Satuf et al. (2020) was adopted as the basis. Setting out from this factor structure, we performed confirmatory factor analysis and concluded that this model is appropriate to describe the latent correlational structure between the items and the factors, therefore supporting the factor structure. Highlighted is $\chi^2/df=4.87$, CFI=.912, GFI=.943, and RMSEA=.053. These values generally indicate, according to Marôco (2010, p. 51) a “good adjustment” and also for Hair, Black, Babin, and Anderson (2010), specifically, for the values of CFI and GFI above .90 with RMSEA under .07. Considering this model, we analysed the psychometric qualities of the AES regarding assessment of the consistency of each dimension. Through this process we confirmed that the first factor, composed of the items proposed by Satuf et al. (2020), presented, according to Pestana and Gageiro (2005), unacceptable internal consistency ($\alpha = .420$). After analysing the possibility of eliminating the least consistent items, we excluded item thirty-three. In this

way, the factors now presented reasonable Cronbach alpha values (according to Pestana and Gageiro (2005)), namely: factors one, two and three presented reasonable internal consistency ($\alpha = .72$, $\alpha = .77$ and $\alpha = .70$ respectively) and factor four, formed of only three items, weak internal consistency ($\alpha = .62$). It is noted that, considering factor four only presented three items, due to its theoretical relevance, the value of its internal consistency was relativized, thereby keeping this factor and the corresponding items. We considered that, for this sample, the four-factor model (twenty items) was most adjusted to the latent configuration of PEI and, grounded theoretically on the four-skill model (Mayer & Salovey, 1997), we modified the nomenclature of the factors. So, in this study, concerning the first factor – perception of the analysis, expression, understanding and regulation of others' emotions, the mean was 4.09 ($SD = 0.46$). As for the second factor – perception of the analysis, expression, understanding and reflexive regulation of one's own emotions – the mean was 3.79 ($SD = 0.71$). For the third factor – perception of management of emotions in oneself and motivation – the mean was 4.42 ($SD = 0.48$). Finally, for the fourth factor – perception of the use of emotions to facilitate thinking – the mean was 4.37 ($SD = 0.59$).

Instrument for Assessing SWB

The Reduced Version of the Portuguese Scale of Positive and Negative Affect (PANAS-VRP) (Galinha, Pereira, & Esteves, 2014) assesses SWB and is formed of ten items with a Likert-type response scale (from one: “not at all or very slightly” to five: “extremely”). According to the time framework of reference expressed in the instructions presented, this instrument assesses: a) affective state, b) mood or c) trait affect (Galinha et al., 2014). In this specific research, we intend to assess participants' trait affect. In a previous study carried out while developing the scale, the PANAS-VRP presented good psychometric characteristics and invariance over time, in a two-month interval, in two samples (245 adults and 535 university students). Galinha et al. (2014) present a bi-dimensional factor model of the PANAS-VRP, in which five items are found to be related to PA (interested, enthusiastic, inspired, active and determined) and the other five are related to Negative Affect (NA; nervous, frightened, startled, guilty and tormented). Considering this structure has been indicated as suitable and is consensual, it was adopted in this study. Based on the present sample, the PANAS-VRP presented, according to Pestana and Gageiro (2005), good internal consistency (α

= .86 for PA and $\alpha = .85$ for NA). Respondents presented, in relation to PA, a mean of 3.84 ($SD = 0.71$), and regarding NA, a mean of 3.98 ($SD = 0.80$).

Data Analysis

Data analysis consisted of parametric tests, with a prior assessment of normality assumptions, in line with the types of hypotheses to be tested. In order to test for group differences, we used: a) the t-Student test for independent samples, to assess whether the means of the dependent variable differed significantly between two comparison groups (Martins, 2011), as was the case for the defined groups according to nationality and gender characteristics; and b) analysis of variance using one-way ANOVA, to compare three or more independent groups (Martins, 2011), as was the case for groups defined according to age and education level. For the first characteristic mentioned (age), in order to identify where the differences were, the Tukey Post-hoc test was conducted. Gabriel Post-hoc test was conducted for education level since the groups created according to this parameter did not have the same number of participants. In order to ascertain whether two or more interval variables would be associated, in this

case, the perceived EI and the SWB, Pearson's correlation was used. Finally, in order to estimate the possible predictive value of the independent variable (in this case the perceived EI), on the dependent variable (in this case the SWB), a multiple linear regression model was conducted.

Results

Characterization of PEI

In this research it was important to study PEI (considered in the four dimensions referred) characterizing it according to socio-demographic characteristics. Concerning age, the data indicated that older people demonstrated more PEI, in its overall dimensions, than younger ones (Table 1 and Table 2).

Furthermore, we found that Brazilians reported greater perception of management of emotions in themselves and motivation as well as the use of emotions to facilitate thought, compared to Portuguese. We did not find statistically significant differences for the analysis, expression, understanding and regulation of others' emotions or for the analysis, expression, understanding and reflexive regulation of one's own emotions (Table 3).

Table 1. Differences in Perceived EI as a Function of Age (Results from the One-Way Parametric ANOVA)

Factor	Age (groups)				F (3.1336)
	27 or less (n = 328) M (SD)	Between 28 and 36 (n = 332) M (SD)	Between 37 and 49 (n = 327) M (SD)	50 or more (n = 353) M (SD)	
1	4.05 (0.46)	4.06 (0.46)	4.08 (0.48)	4.14 (0.45)	2.787**
2	3.72 (0.67)	3.74 (0.71)	3.72 (0.78)	3.91 (0.67)	5.999***
3	4.33 (0.48)	4.38 (0.49)	4.41 (0.49)	4.54 (0.44)	11.387***
4	4.22 (0.59)	4.30 (0.61)	4.42 (0.59)	4.50 (0.53)	14.690***

†p < .10; * p < .05; ** p < .01; *** p < .001

Table 2. Differences in Perceived EI as a Function of Age (Tukey's Post-Hoc Test Results)

Factor	Age (groups)					
	27 or less Vs. Between 28 and 36	27 or less Vs. Between 37 and 49	27 or less Vs. 50 or more	Between 28 and 36 Vs. Between 37 and 49	Between 28 and 36 Vs. 50 or more	Between 37 and 49 Vs. 50 or more
1	ns	ns	*	ns	†	ns
2	ns	ns	**	ns	**	**
3	ns	ns	***	ns	***	**
4	ns	***	***	ns	***	ns

†p < .10; * p < .05; ** p < .01; *** p < .001; ns = non-significant

Perceived Emotional Intelligence: what is its influence in Subjective Well-Being?

Table 3. Differences between Portuguese and Brazilian at the Level of Perceived EI (Results of the T-Student Test)

Factor	Nationality (groups)		t (1334)
	Portuguese (n = 602) M(SD)	Brazilian (n = 744) M(SD)	
1	4.06 (0.45)	4.10 (0.46)	-1.61
2	3.80 (0.71)	3.77 (0.71)	1.02
3	4.36 (0.49)	4.47 (0.46)	-4.42***
4	4.26 (0.60)	4.45 (0.57)	-5.93***

†p < .10; * p <.05; ** p < .01; *** p <.001

Regarding gender, we found that females reported greater perception of the analysis, expression, understanding and regulation of others' emotions as well as the analysis, expression, understanding and reflexive regulation of their own emotions, compared to males (no other statistically significant differences were found) (Table 4).

Table 4. Gender Differences at the Level of Perceived EI (Results of the T-Student Test)

Factor	Gender (groups)		t (1372)
	Male (n = 579) M(SD)	Female (n = 795) M (SD)	
1	4.02 (0.46)	4.13 (0.45)	-4.65***
2	3.69 (0.73)	3.85 (0.69)	-4.29***
3	4.40 (0.49)	4.44 (0.47)	-1.73†
4	4.34 (0.60)	4.39 (0.59)	-1.28

†p < .10; * p <.05; ** p < .01; *** p <.001

Finally, we found that in most of the dimensions of PEI (analysis, expression, understanding and reflexive regulation of one's own emotions, management of emotions in oneself and motivation, and the use of emotions to facilitate thought), more educated people reported greater PEI than people with less schooling (Table 5 and Table 6).

Table 5. Differences in Perceived EI as a Function of Education (Results of the One-Way Parametric ANOVA Analysis Of Variance)

Factor	Education (groups)				F (3.1363)
	Up to 12 years (n = 203) M (SD)	Bachelor/Degree (n = 454) M (SD)	PostGraduate Studies/Master (n = 521) M (SD)	PhD/Post Doctorate (n = 189) Média (DP)	
1	4.07 (0.52)	4.11 (0.46)	4.05 (0.45)	4.14 (0.44)	2.285° †°
2	3.68 (0.77)	3.78 (0.71)	3.79 (0.68)	3.90 (0.72)	3.398*
3	4.31 (0.55)	4.40 (0.46)	4.44 (0.46)	4.57 (0.44)	9.807° ****°
4	4.26 (0.67)	4.34 (0.59)	4.37 (0.58)	4.53 (0.53)	7.246***

Note. Value obtained by the Welch F statistic; †p < .10; * p <.05; ** p < .01; *** p <.001

Table 6. Differences in Perceived EI as a Function of Education (Results of Gabriel's Post-Hoc Test)

Factor	Education (groups)					
	Up to 12 years Vs. Bachelor/Degree	Up to 12 years Vs. PostGraduate Studies/Master	Up to 12 years Vs. PhD/ PostDoctorate	Bachelor/Degree Vs. PostGraduate Studies/ Master	Bachelor/Degree Vs. PhD/ PostDoctorate	PostGraduate Studies/ Master Vs PhD/PostDoctorate
1	ns	ns	ns	ns	ns	ns
2	ns	ns	**	ns	ns	ns
3	ns	**	***	ns	***	**
4	ns	ns	***	ns	***	**

†p < .10; * p <.05; ** p < .01; *** p <.001; ns = non-significant

Analysis of the Association between PEI and SWB

To assess the existence of correlation between PEI and SWB, we performed a Pearson correlation. The reference values used were those proposed by Cohen (1988). We found an association between the dimensions of EI and those of SWB, presenting positive correlations with statistical significance in the analyses generally (Table 7). The one presenting the highest value was the correlation between management of emotions in oneself and motivation and PA ($r = .56, p < .001$), followed by the correlation between the analysis, expression, understanding and reflexive regulation of one's own emotions and PA ($r = .51, p < .001$) and finally, the correlation between the use of emotions to facilitate thought and PA ($r = .42, p < .001$). The data also indicate moderate, positive, statistically significant correlations. In this case, in first place was the association between management of emotions in oneself and motivation and NA ($r = .35, p < .001$), followed by the correlation between the analysis, expression, understanding and reflexive regulation of one's own emotions and NA ($r = .30, p < .001$) and finally, the correlation between the analysis, expression, understanding and regulation of others' emotions and PA ($r = .25, p < .001$). In the case of weak correlations, there was a correlation between the use of emotions to facilitate thinking and NA ($r = .16, p < .001$), followed by the correlation between the analysis, expression, understanding and regulation of others' emotions and NA ($r = .07, p = .01$). Although all the dimensions of PEI are positively correlated, with both PA and NA, the first association is of greater magnitude.

Table 7. Associations between PEI and SWB

Factor	PA (n=1377)	NA (n=1377)
	r	r
1	.25***	.07**
2	.51***	.30***
3	.56***	.35***
4	.42***	.16***

p<.01;*p<.001

Exploring the Influence of PEI on SWB

Considering the statistically significant correlation, confirmed in exploring the results of the previous section, we examined the behaviour of PEI as a predictor of SWB. To do so, we performed a multiple linear

regression analysis, using the forced entry method (Field, 2015). The reference values used to interpret the value of the R² coefficient were those suggested by Cohen (1988).

Considering the NA dimension of SWB, taken as a dependent variable of PEI, we found that PEI predicted 15% of the variance in score of that dimension (medium effect) (Table 8). The data also showed an F value of 60.67 [$F_{(4,1372)}=60.67; p < .001$]. Regarding each dimension of PEI, all contributed to predicting the NA (Table 8). Here, the analysis, expression, understanding and regulation of others' emotions [$\beta=-.11; t_{(4,1372)}=-3.90; p < .001$], followed by the use of emotions to facilitate thought [$\beta=-.08; t_{(4,1372)}=-2.45; p = .015$], contributed negatively and with statistical significance to NA. As for the dimensions of PEI EI that contributed positively to explaining the variability of NA, it stands out that the one with the greatest influence was management of emotions in oneself and motivation [$\beta = .32; t_{(4,1372)}=9.39; p < .001$], followed by the analysis, expression, understanding and reflexive regulation of one's own emotions [$\beta = .19; t_{(4,1372)}=6.08; p < .001$].

Table 8. Predictor Effect of PEI on NA

Factor	β	t
1	-.11	-3.90***
2	.19	6.08***
3	.32	9.39***
4	-.08	-2.45**
R ² = .150		

Note. Dependent variable: NA

*p<.05; **p<.01; ***p<.001

Regarding the PA dimension of SWB, considered a dependent variable of PEI, the results suggested that PEI predicted 36.5% (major effect) of the variance in score of that dimension (Table 9). The results also presented an F value of 197.08 [$F_{(4,1372)}=197.08; p < .001$]. Concerning the contribution of each dimension of the predictor, only the last three factors of PEI contributed to prediction of PA (Table 9). Management of emotions in oneself and motivation [$\beta=.37; t_{(4,1372)}=12.279; p < .001$], followed by the analysis, expression, understanding and reflexive regulation of one's own emotions [$\beta = .26; t_{(4,1372)}=9.506; p < .001$] and the use of emotions to facilitate thought [$\beta = .09; t_{(4,1372)}=3.342; p < .001$] contributed positively and with statistical significance to explaining the variability of PA.

Table 9. Predictor Effect of Each Dimension of PEI on PA

Factor	β	t
1	-.04	-1.454
2	.26	9.506***
3	.37	12.279***
4	.09	3.342***

R2 = .365

Note. Dependent Variable: PA

***p<.001

Discussion

Concerning characterization of PEI – according to socio-demographic characteristics – in the entire sample, older people demonstrated greater PEI (in its dimensions as a whole) than younger people. These results are in line with Mayer et al. (2008), who revealed that EI is in constant development from birth. In the same line, Lopes et al. (2003) argue that EI can be developed throughout life. This premise was tested by Mayer et al. (1999, as cited in Schutte et al., 2007), where, through performance measures, they found that older people had a higher level of EI than younger ones. The results were similar in a study made by Schutte et al. (2007), through self-report measures.

As for nationality, we did not find statistically significant differences between Portuguese and Brazilian adults, regarding perception of the analysis, expression, understanding and regulation of emotions (one's own and of others). According to Mayer and Salovey (1997), the development of sub-skills forming the third branch – analysis and understanding of emotions – coincides with language development. Although studies in this specific area have not been found, the data seem to agree with the cultural similarities between Portugal and Brazil, their common language being an example of this (<https://www.ibge.gov.br/>).

Concerning gender, females reported greater perception in relation to the analysis, expression, understanding and regulation of emotions (one's own and of others). This evidence agrees with the conclusions of the studies by Craig, et. al (2009) and Petrides and Furnham (2000) (as cited in Schutte et al, 2007), who, using self-report measures, identified that females had a higher perception of EI than males. Lanciano and Curci (2015) explore different studies, made with performance measures, where the results were similar (e.g., Extremera, Fernández-Berrocal, & Salovey, 2006; Salguero, Extremera, & Fernández-Berrocal, 2012).

In most dimensions of PEI, more educated people report greater PEI than those with less schooling. These data corroborate the information of Lopes et al. (2003), who claim that EI is developed through learning and experience.

Concerning the specific objective of this research, focused on analysing the association between PEI and SWB, we intended to determine the existence of correlations between the variables referred to. In doing so, we concluded that all the dimensions of PEI were correlated positively with both PA and NA. Despite this result, we conclude that the former association (with PA) is of greater magnitude in all dimensions. These results are generally similar to those found in the literature reviewed. In this connection, in the field of studies whose data on EI were gathered through performance measures, the one by Lanciano and Curci (2015) is emphasized, which indicates an influential relationship between EI and well-being. Regarding studies that collected data on EI through self-report measures, the following stand out: Azpiazu et al. (2015) and Ferragut and Fierro (2012), which corroborated the premise that PEI is positively related to SWB, especially to PA.

The results obtained, in the present research, and the elements deriving from the different studies above-mentioned led to exploring the potentially influential relationship between the variables. In this study, the data suggested that PEI predicted 15% (medium effect) of the variance in the score of NA. In this case, it is noted that the dimensions of the analysis, expression, understanding and regulation of others' emotions and the use of emotions to facilitate thinking contribute negatively and with statistical significance to NA, which is as expected. That is, these components of PEI contribute negatively to NA. On the other hand, management of emotions in oneself and motivation, and the analysis, expression, understanding and reflexive regulation of one's own emotions contribute positively to explaining the variability of NA. These data, although contrary to expectations, seem to agree with the results of the study by Schutte et al. (2002), who suggest that PEI does not play a role in minimizing NA. Although we found a medium predictor effect of PEI on NA, this effect increases in relation to the variance in the score of PA. That is, relative to the PA dimension of SWB (considered as a dependent variable of PEI), the results indicated that PEI predicted 36,5% (major effect) of the variance in the PA score. Here, we emphasize that the dimensions of management of emotions in oneself and motivation;

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analysis, expression, understanding and reflexive regulation of one's own emotions and the use of emotions to facilitate thought contributed positively and with statistical significance to explaining the variability of this dimension of SWB. Therefore, we conclude that PEI influences and predicts SWB, which agrees with studies such as Gallagher and Vella-Brodrick (2008) and Schutte et al. (2002), who demonstrated that a higher level of PEI increases PA.

Conclusion

The results of this study provide information allowing the characterization of PEI and better understanding of its connection with SWB in Portuguese and Brazilian adults.

Concerning the characterization of PEI (considered in four dimensions) it was demonstrated by the analyses carried out that; in general, there are differences in a great number of the dimensions of PEI, according to socio-demographic characteristics such as age, nationality, gender and level of education.

We conclude that, according to the evidence gathered, high perception of the competences forming EI is associated with SWB. Therefore, to answer the question introduced by the title of this article "Perceived Emotional Intelligence: what is its influence in Subjective Well-Being?" we emphasize that high PEI can increase PA. This can potentially mean increased interest, enthusiasm, inspiration, activity and determination. This evidence confirms and emphasizes the importance of studying the role played by EI in the life of human beings.

Since data were collected online, a potential limitation of this study concerns the level of control in completing the protocol. Nevertheless, this form of data collection made it easier to gather information in two geographically distant countries, as well as ensuring respondents' total confidentiality, which may have contributed to reducing the factor of social desirability.

The results of this research also indicate a direction to consider for potential future studies. So, it seems pertinent, regarding the subjects dealt with, to carry out work that combines self-report and performance measures in assessing EI. It is also considered relevant to deep the sub-samples comparison, in the correlation/regression analysis, taking nationality as potential moderator variable. And also, to make longitudinal studies that contemplate an analysis of the development of EI throughout life.

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Perceived Emotional Intelligence: what is its influence in Subjective Well-Being?

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