



Emotional intelligence and depression: The moderator role of gender

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ABSTRACT

Recent research has indicated that Emotional Intelligence (EI) is associated with depression. However, the strength of this relationship has been demonstrated by using the method of assessing EI (ability vs. trait), with ability measures showing low correlations. Based in previous research that found gender differences in the relationship between ability EI and relevant social and health outcomes, the current study primarily aims to examine the moderator role of gender in the ability EI–depression relationship. Participants were 620 students who completed an ability measure of EI, as well as a depression inventory. Results confirmed gender differences in ability EI, with higher levels in women compared to men. Next, interaction analyzes showed that gender moderated the ability EI–depression relationship. Low levels of ability EI were related to higher depression in men, but not in women. We suggest explanations for these differences between the genders. We also discussed the importance of incorporating gender differences in both theoretical and empirical studies investigating ability EI.

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1. Introduction

Two decades ago, Emotional Intelligence (EI) was defined as a new type of ability to carry out accurate reasoning about emotions and to use emotions and emotional knowledge to enhance thought (Salovey & Mayer, 1990). Ever since, this construct has attracted intense research interest, emerging as an umbrella term that comprises individual differences in the ability to identify, utilize, understand and regulate emotions (Mayer & Salovey, 1997).

The conceptualization of EI, based on a functionalist perspective of emotions, proposes that people who are capable of expressing and understanding emotions, assigning meaning to emotional experience and regulating their feelings will be better adjusted, psychologically and socially (Mayer, Roberts, & Barsade, 2008).

EI has received different operationalisations that can be divided in two general streams: maximum performance tests, which assess actual levels of emotional intelligent performance (known as ability EI) (e.g. MSCEIT – Mayer–Salovey–Caruso Emotional Intelligence Test), and self-report questionnaires, which reflect typical emotional intelligent functioning (known as trait IE or emotional self-efficacy) (e.g. SEIS – Schutte Emotional Intelligence Scale) (Pérez, Petrides, & Furnham, 2005). The relation between EI and a mental health indicator, such as anxiety or depression, has been the focus

of different studies (Bastian, Burns, & Nettelbeck, 2005; Brackett & Mayer, 2003; Goldenberg, Matheson, & Mantler, 2006; Warwick & Nettelbeck, 2004). The results of these and other works are summarized in two independent meta-analyses which indicate that higher EI is linked to better mental health (Martins, Ramalho, & Morin, 2010; Schutte, Malouff, Thorsteinsson, Bhullar, & Rooke, 2007). An important result in these meta-analyses is that the method of EI assessment appears as a moderator of the EI–mental health association, with ability measures showing low correlation with mental health (r ranged from 0.11 to 0.17) (Martins et al., 2010; Schutte et al., 2007).

Similar results have been shown in particular research which examined the specific relation between ability EI and depression in different samples (assessed with BDI–Beck Depression Inventory; Beck & Steer, 1987). For example, Goldenberg et al. (2006) reported a correlation of -0.14 in a community sample, and Extremera, Fernández-Berrocal, Ruiz-Aranda, and Cabello (2006) reported similar findings using student samples. In this line, individuals with higher ability to perceive how they are feeling, understand the implications of these feelings and effectively manage their emotional experiences will cope more successfully with negative experiences by using an effective regulatory process (Salovey, Bedell, Detweiler, & Mayer, 1999). This in turn reduces negative mood states associated with mental disorders (Hertel, Schütz, & Lammers, 2009).

There are consistent results indicating that women score significantly higher in ability EI than men (Brackett, Mayer, & Warner, 2004; Extremera, Fernández-Berrocal, & Salovey, 2006; Kafetsios,

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2004; Palmer, Gignac, Manocha, & Stough, 2005). The higher affective performance of women has been found in other measures of emotional abilities than MSCEIT (Brody & Hall, 2000). From a biological perspective, evidence also exists which shows that men and women differ in their brain activity while performing emotional tasks (Jausovec & Jausovec, 2005). It is possible that the child–parent interaction may account for this difference (Brackett et al., 2004; Sánchez-Núñez, Fernández-Berrocal, Montañés, & Latorre, 2008), since some research has indicated that both mothers and fathers socialize emotional understanding differently with daughters than with sons (Fivush, Brotman, Buckner, & Goodman, 2000). For example, parents tend to use more emotional utterances when discussing emotional events with daughters compared to sons (Fivush et al., 2000).

Growing evidence has also shown gender differences in the relationship between ability EI and relevant social and health outcomes (Brackett, Rivers, Shiffman, Lerner, & Salovey, 2006; Brackett et al., 2004; Lishner, Swin, Hong, & Vitacco, 2011). In this vein, Brackett et al. (2006) found that ability EI predicted both perceived and real-time social competence in men, but not in women. Low ability EI in men (but not in women) has also been associated with negative outcomes such as drug and alcohol use, deviant behaviour and poor relations with friends (Brackett et al., 2004). Similarly, in a recent study, managing emotion was negatively associated with primary and secondary facets of psychopathy only in men (Lishner et al., 2011). All these findings suggest the importance of incorporating gender differences into study designs investigating ability EI (Brackett et al., 2006). According to aforementioned literature, it seems reasonable that individuals who perceive, assimilate, understand and regulate emotions should show reduced levels of depression; thus, this might specifically be the case for men compared to women.

In this line, the present research sought to examine the relationship between ability EI and depression while analyzing the potential moderator role of gender. First, we conducted analyzes to replicate the gender differences in ability EI. We hypothesized that women had higher scores in ability EI than men. Second, we conducted interaction analyzes to examine the moderator role of gender in the ability EI–depression relationship. Based on previous research (Brackett et al., 2004, 2006; Lishner et al., 2011), we hypothesized that gender moderated the associations between ability EI and depression, with stronger associations in men than women.

2. Method

2.1. Participants and procedure

Participants in this study were 620 high school and undergraduate students, 45.2% men ($N = 280$) and 54.8% women ($N = 340$), with ages ranging from 16 to 58 years ($M = 19.25$, $SD = 5.91$). Participants were approached and asked if they were willing to take part in a research project “investigating relations between emotion and cognition”. Participation in the research project was entirely voluntary and guaranteed anonymity. The questionnaires were administered in paper-and-pencil format with instructions given in writing. For participating minors, the assessment was carried out in classrooms during the normal school day, and with the approval both of the school authorities and of the pupils’ parents. The adult student participants completed the questionnaires in group format and received course credits for their participation.

2.2. Measures

The Mayer, Salovey, Caruso Emotional Intelligence Test (MSCEIT v.2.0, Mayer, Salovey, & Caruso, 2001) was used to assess ability

EI. This instrument measures ability EI by assessing people’s emotional skills through the performance of various tasks and emotional problems. The MSCEIT contains 141 items and assesses the four branches of the theoretical model of Mayer and Salovey (1997): emotional perception, emotional facilitation, emotional understanding and managing emotions. These branches are grouped into two areas: experiential (perception and facilitation) and strategic (understanding and management). Finally, all branches are summed to provide an overall EI. In this study we focused on the total score of MSCEIT. The psychometric properties of the MSCEIT v.2.0 are appropriate and convergent and discriminant validity has been demonstrated successfully (Mayer, Salovey, & Caruso, 2002). The Spanish version of this instrument was used which has shown satisfactory psychometric properties (Extremera et al., 2006). Split-half reliability for total MSCEIT in this study was 0.81.

Depression was assessed via *Beck Depression Inventory* (BDI; Beck & Steer, 1987). The BDI is a 21-item self-report inventory. Each item is rated on a scale from zero to 3; inventory scores may thus range from zero to 63. The BDI is a reliable and well-validated measure of depression (Beck, Steer, & Garbin, 1988). A Spanish version was used that has shown good internal consistency, reliability and validity in clinical samples ($\alpha = 0.82$, test–retest reliability between 0.65 and 0.72; Sanz & Vazquez, 1998). Cronbach’s alpha in this study was 0.88.

3. Results

3.1. Gender differences in ability EI and depression

Difference tests were used to analyze gender differences in ability EI, as well as in depression. Results are presented in Table 1. Univariate ANOVA analyzes revealed significant gender differences for MSCEIT ($F(1618) = 41.52$, $p < 0.01$, $d = 0.52$) and BDI ($F(1618) = 4.29$, $p < 0.05$, $d = 0.17$) with women obtaining higher scores than men in both cases ($M = 103.32$, $SD = 13.73$ for women and $M = 96.01$, $SD = 14.48$ for men in MSCEIT; $M = 7.39$, $SD = 6.82$ for women and $M = 6.22$, $SD = 7.15$ for men in BDI). According to Cohen (1977), these effect sizes can be considered medium and small, respectively.

3.2. The moderation effect of gender on the relationship between EI and depression

To examine the potential moderating effect of gender on the relationship between EI and depression, we conducted a series of hierarchical regression analyzes following recommendations by Aiken and West (1991). Preliminary analyzes indicated no significant associations between age and depression. Therefore, this socio-demographic variable was not included in further regression analyzes. For our regression equations, gender was entered in the first step. In the second step, we included scores in ability EI. Finally, a multiplicative term between MSCEIT \times gender was entered (scores in MSCEIT were mean-centered prior to creating the product term). Results showed that the interaction term met the assumptions for a significant moderation. That is, (a) the increment in the squared multiple correlation was significantly greater than zero for interaction, (b) the coefficient β of the interaction term differed from 0, and (c) the partial correlation between the product MSCEIT \times gender and depression, when controlling for main effect MSCEIT and gender, differed from 0. Results are presented in Table 2. As can be seen, a significant effect of the MSCEIT \times gender interaction was found ($\beta = 0.31$, $p < 0.05$). To illustrate and corroborate this interaction we followed the procedures outlined by Hayes and Matthes (2009). As Fig. 1 shows, there was a significant nega-

Table 1
Gender differences in ability EI and depression.

	Total Sample $N = 620$ $M (SD)$	Female $N = 340$ $M (SD)$	Male $N = 280$ $M (SD)$	p	d
MSCEIT	100.02 (14.53)	103.32 (13.73)	96.01 (14.48)	<0.01	0.52
BDI	6.86 (6.99)	7.39 (6.82)	6.22 (7.15)	0.04	0.17

Table 2
Regression results for the moderating effect of ability EI and gender on depression.

	R^2	F	β
BDI			
Step 1	0.01	4.29	
Gender			0.08*
Step 2	0.03	9.50	
Gender			0.12**
MSCEIT			-0.16**
Step 3	0.04	8.38	
Gender			0.13**
MSCEIT			-0.46**
MSCEIT \times gender			0.32*

* $p < 0.05$.

** $p < 0.01$.

tive relation between MSCEIT and BDI for men ($\beta = -0.12$, $p < 0.01$). In contrast, this relation was insignificant for women ($\beta = -0.04$, $p > 0.05$). Hence, whereas lower scores in ability EI were a significant determinant of depression among men, ability EI was not associated with depression in women.

3.3. Associations among ability EI and depression for men and women

We conducted zero-order correlations to examine the associations among ability EI and depression. Taking into account the gender differences previously found we conducted separate correlations for men and women. We used the Fisher r -to- z transformation to assess the gender difference in the strength of these correlations. The overall correlation between MSCEIT and BDI was $r = -0.13$; $p < 0.01$. When we conducted separate correlations for men and women, and maintained consistency with the moderation analyzes, MSCEIT was significantly correlated with BDI in men ($r = -0.25$; $p < 0.01$) but not in women ($r = -0.06$; $p = 0.23$), and significant differences were shown in the strength of these correlation coefficients ($z = -2.41$; $p = 0.02$).

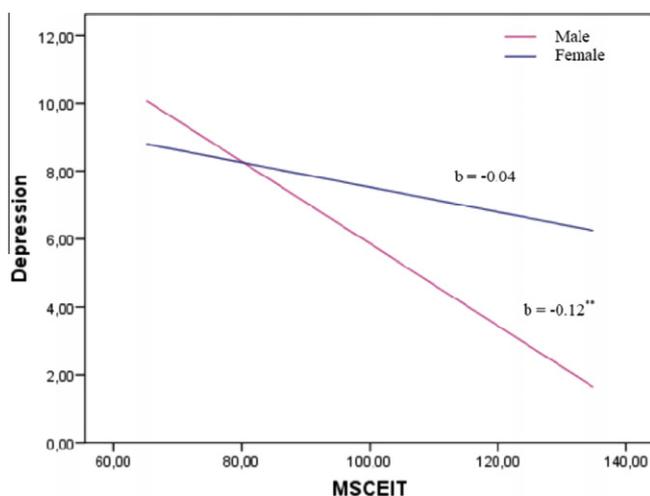


Fig. 1. Effects of ability EI and gender on depression.

4. Discussion

Previous work examining the relation between EI and mental health has revealed the existence of significant, but low correlations, between ability EI and different indexes of mental health (Martins et al., 2010; Schutte et al., 2007). This pattern of results has also been found in studies examining the specific relation between ability EI and depression (Goldenberg et al., 2006). Based in previous research that have found gender differences in the relationship between ability EI and relevant social and health outcomes, in this study we aimed to examine the existence of gender differences in the ability EI–depression relationship.

Firstly, findings corroborated gender differences in ability EI. In line with other studies, women scored higher than men in MSCEIT. This result is consistent in both normal and clinical populations (Hertel et al., 2009) and across different cultures (Extremera et al., 2006; Palmer et al., 2005). A growing body of research has documented that women are more skilled in emotional domains than men, including reading feelings from facial expressions and non-verbal clues (Hall, 1984; Rotter & Rotter, 1988), use of emotions vocabulary (Fivush et al., 2000), or emotional memory (Bloise & Johnson, 2007). Furthermore, men and women differ in their brain activity while performing emotional tasks (Jausovec & Jausovec, 2005). Although educational differences between men and women have been suggested to account for these gender differences (Brackett et al., 2004, 2006; Fivush et al., 2000), more research examining specific biology, heritability and socio-cultural variables is needed for a better understanding of gender differences in ability EI (Palmer et al., 2005).

Secondly, the interaction analyzes corroborated the moderator role of gender in the ability EI–depression relationships. Although the correlation between MSCEIT and BDI in the total sample was similar to the correlation reported in previous studies (Extremera et al., 2006; Goldenberg et al., 2006), there were differences between men and women in the strength of these correlations. For men, lower scores in ability EI were significantly associated with depression, while insignificant associations were found for women. This result is consistent with other studies where ability EI predicted relevant social and health outcomes only in men (Brackett et al., 2004, 2006; Lishner et al., 2011).

Several important limitations of the present study must be mentioned. First, we used a sample of students (high school and undergraduate), who may not necessarily generalize to clinical or normative populations. Although neither of the meta-analyzes that examined the relationship between EI and mental health have found a significant effect of origin of participants (students vs. community), our findings need to be replicated with samples which include a higher range of age. In this sense, it would be an interesting objective for future research to examine if the gender differences found on EI in this study are maintained from adolescence to adulthood. Second, using a cross-sectional design did not allow us to establish causality relations. Future research using prospective designs is needed to confirm our findings. Third, the need has been stressed for examining the contribution of EI as a predictor of mental health when personality and cognitive abilities are taken into account. Thus, future studies will need to control for both personality and cognitive abilities in the same analysis to examine the incremental validity of EI.

Despite these limitations, this study provides preliminary evidence of the gender differences in the ability EI–depression relationship. In line with previous studies, our findings also provide support for the importance of incorporating gender differences in both the EI theory and in empirical studies investigating ability EI. Finally, the higher contribution of the ability EI to depression in men suggests that EI may be a significant resource for men. It may help them to reach a state of psychological well-being, and it provides guidance for how to implement interventions aimed at reducing depression.

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