Relationship Between Measures of Emotional Intelligence and Alexithymia Among Moroccan Students

Wafae Gartani and Benaissa Zarhbouh

Sidi Mohamed Ben Abdellah University

The main purpose of the present study was to examine the relationship between emotional intelligence (EI) and alexithymia, using the Bar-on Emotional Quotient Inventory (EQ-I; BarOn, 1997) and the Wong and Law Emotional Intelligence Scale (WLEIS; Wong & Law, 2002) to measure EI and The Toronto Alexithymia Scale (TAS-20; Bagby et al., 1994) to measure alexithymia. A second purpose was to examine the relationship between the two measures of EI. The study sample consisted of fifty-two participants (28 girls and 24 boys), with a mean age of 151.71 months, belonging to the Fez-Meknes region, Morocco. It was found that there was a negative correlation between score on the Bar-on EQ-i and score on the TAS-20 as well as a positive correlation between the total scores on the two measures of EI. Results were discussed in the context of different theoretical bases for the two measures of EI.

Keywords: Emotional intelligence, alexithymia, students

This study aims to shed light on the concept of EI in relation to alexithymia, through two models: The first model of BarOn (1997) which considers that EI is a non-cognitive intelligence embodied in a set of emotional capacities and skills that affect an individual's ability to cope effectively with environmental requirements and pressure (Bracket & Mayer, 2003; Mishar & Bangun, 2014). Baron preferred to evaluate the EI as a typical performance, reflecting the individual's possession of mixed competencies: emotional and social (Bar-On, 2006). That's why his scale rated as a self-report mixed according to the method of classification of Ashkanasy and Daus (2005 as cited in O'Connor et al., 2019). The second model concerns the cognitive

perception of EI according to Wong and Law (2002). These authors consider that individuals with high EI can use mechanisms of regulation of their own emotional states to create positive emotional states as well as to improve emotional and intellectual development (Ng et al., 2008). This model is based on the four components of EI proposed by Mayer and Salovey (1997), interested in analyzing individual differences regarding abilities to consciously think about emotions, perceive and understand their causes and effects, and use them in ways that enhance thinking and behavior (Fiori, 2009). Accordingly, various practitioners developed the EI scale such as Wong and Law (2002) developed the EI Scale consistent with the EI scheme of Davies et al. (1998), which reflects the conception of for EI as a mental ability (Ng et al., 2008). Although the researchers set out in their conception of EI from the abilities approach, which considers that EI is like general intelligence, because it depends on a group of abilities similar to those of classical intelligence (O'Connor et al., 2019). However, they did not construct a measure based on maximal performance, or based on true and false answers, as they do measures of ability that seek to simulate the objectivity of general intelligence tests (O' Connor et al., 2019; Szczygiel & Mikolajczak, 2017). Instead, they chose to implement a measure that assesses typical performance; thereby making Wong and Law Emotional Intelligence Scale (Wong & Law, 2002) scale to be classified as a self-report of EI as ranked by O'Connor et al. (2019). Thus, both scales (EQ-i & WLEIS) aimed to measure an individual's EI based on one's self-perception of his / her emotional abilities (Szczygiel & Mikolajczak, 2017) and together these are considered as self-report measures or trait measures of EI.

The emotional processes underlying EI can be performed consciously, as well as automatically, as these processes interact with each other and contribute differently to functioning based on different characteristics (Fiori, 2009). From this point of view, it can be said that firstly, self-report measures that predict EI as a typical performance or habitual behavior performed by the individual, are more related to automatic emotional processing mechanisms, which reflect the typical emotional behavior of the individual. Secondly, measures of EI as an ability predicting the maximum abilities of the individual and the maximum performance that he can achieve at the level of emotional behavior are more related to the mechanisms of conscious emotional processing. These mechanisms reflect the ability of the individual to maintain consciousness and alertness to process emotional stimuli, for as long as possible and at different stages of processing. Fiori (2009) showed that this processing begins with the

conscious perception of stimuli, through a reflection on the effect of this perception on cognition and behavior. These two suggestions help us to understand four issues; firstly, BarOn (1997) considers his model as noncognitive, meaning that it does not aim to assess the cognitive abilities of individuals, but rather their emotional and social competencies. In addition, if we know that the concept of competence is more linked to the behavioral aspect (performance as application of knowledge) than it is linked to theoretical knowledge, and it's linked according to Fiori (2009) to unconscious processes based on learning, and the practice that can transform explicit (conscious) mental processes into implicit (automatic or automatized) mental processes, which help to possess intuitive, expert-level competencies. Secondly, the abilities approach considers that EI is based on cognitive abilities, which are assessed through situations that require the presence of theoretical knowledge and the understanding of emotions and emotional performance (O'Connor et al., 2019), and conscious thoughts about emotional situation (Fiori, 2009), to decide and find an appropriate solution to the problem posed. Thirdly, the assertion of Tett et al. (2005) suggested that the abilities approach and the mixed approach are in fact complementary approaches (Ng et al., 2008). Finally, the consideration of Petrides and Furnham (2000) that the nature of the model should not be determined by the theory from which it is launched, but by the type of scale it adopts.

The current study is heading in this direction, as it aims to reveal similarities between EQ-i (BarOn, 1997) and WLEIS (Wong & Law, 2002) measures evaluated in Moroccan pre-adolescents. In addition, whether there are significant differences between what each scale measures, given the difference in their theoretical bases. For instance, BarOn (2002) considers under the mixed approach that EI is noncognitive, linked to personal and social competencies, as measured by a mixed self-report measure or a trait measure, while Wang and Law (2002) depart from the Mayer and Salovey's (1997) model of abilities approach as an acknowledgment by them of the presence of the cognitive component in EI as well as the personal and social components. They use a self-report measure or a trait measure, confirming that measuring EI requires viewing it as typical performance, and not maximal performance.

In this study, it is preferred to rely on measures of EI prepared in the form of a self-report (Mishar & Bangun, 2014; Ng et al., 2008) rather than on those that take the form of a psychometric intelligence test (Petrides & Furnham, 2000). This has been done for two reasons; that is the emotional nature of EI and agreement with Mikolajczak (2014) that the individual's ability to know the best strategy to

confront a particular situation (theoretical knowledge, or applied knowledge in a therapeutic or test situation), does not necessarily mean that she/he has the ability to actually apply it in his daily life, as a spontaneous or habitual emotional performance when faced with life situations that require the use of this strategy.

This study focuses on revealing the extent to which EI as a typical performance considered as an indicator of the individual's ability to accurately describe their emotional experiences (Mavrou, 2020) is associated with alexithymia, which is considered a personality trait or disorder that affects cognitive and emotional functioning (Farina et al., 2021). Alexithymia is characterized by difficulty recognizing, expressing, and controlling emotional states (Naghavi & Redzuan, 2012 ; Shibata et al., 2014; Swart et al., 2009), and distinguishing them (Naghavi & Redzuan, 2012) and use it to guide their behavior (Parker et al., 2001). Moreover, to examine the relationship between the two EI scales (EQ-i; BarOn, 1997 as a mixed self-report scale and WLEIS, Wong & Law, 2002 as a self-report scale) and to examine these relationships according to the specificities of the Moroccan context.

From the definition of EI and the definition of alexithymia, it is assumed that they are inversely related. This is indeed has been shown by Parker et al. (2001) asserting that passing the TAS-20 (Bagby et al., 1994) and EQ-i (BarOn, 1997) scales on a sample of adults, that higher alexithymia is strongly associated with lower EI, although the two structures are independent, but they are closely related. This has been further confirmed by Farina et al. (2021) deliberating that alexithymia measured by the TAS-20 is inversely related to EI measured by the Trait Emotional Intelligence Questionnaire (Petrides, 2009) in a sample of Italian adolescents.

Objectives and Hypotheses

Accordingly, this study aims to examine the correlation between EI and Alexithymia in the Moroccan context, to confirm and support studies that revealed an inverse correlation between these two constructs. Thus, contributing to the generalization of this finding across cultures. As far as we know, this relationship has not yet been addressed in the Moroccan environment.

This study is based on the assumption that alexithymia measured by TAS-20 (Bagby et al., 1994) is negatively related to EI measured by the EQ-i (BarOn, 1997) and WLEIS (Wong & Law, 2002), and also on the assumption that both scales measure EI by measuring the same components in Moroccan pre-adolescents, even if the names of

these components and dimensions differ according to the theoretical model from which they are launched.

For these reasons, the following hypotheses are proposed:

1. There is a negative relationship between EI and alexithymia in Moroccan pre-adolescents.
2. There is a positive relationship between the two EI scales in Moroccan pre-adolescents.

Method

Participants

The sample of this study consisted of 52 students including 28 girls (53.85%) and 24 boys (46.15%) studying at the sixth level of primary education, with a mean age of 151.71 months (SD = 10.33; range = 132 to 168), belonging to the Fez-Meknes region, Morocco.

Instruments

The Arabic version of the instruments used in this study was used based on techniques of translation and back-translation of the original English version with the aim of evaluating translation accuracy.

Measures of Emotional Intelligence

The EQ-i (BarOn, 1997) and the WLEIS (Wong & Law, 2002) were used to measure the participants' level of emotional intelligence. The EQ-i (BarOn, 2002) is the short self-report which has been psychometrically assessed by Parker et al. (2011) and has been modified and adapted from the English language to the Arabic language (López-Zafra et al., 2021). This version includes 35 items that are scored on a 5-point Likert scale. According to López-Zafra et al. (2021) and Parker et al. (2011) four subscales representing the dimensions of emotional intelligence according to this model that is, the Intrapersonal Intelligence, the Interpersonal Intelligence, the Stress Management, and Adaptability. In the current study, reliability of EQ-i was examined using Cronbach's alpha coefficient (.76) and Spearman-Brown Coefficient (.77). The EQ-i score have reliable evidence of validity based on positive correlation with their items .65

for Intrapersonal, .50 for Interpersonal, .52 for Stress Management and .53 for Adaptability.

The Arabic version of WLEIS (El-Ghoudani et al., 2018) was used in this study. This version includes 16 items having four subscales that are consistent with Wong and Law's model (2002) including Self-Emotional Appraisal (SEA); Others' Emotional Appraisal (OEA); Regulation of Emotion (ROE) and Use of Emotions (UOE) (Bryant & Malone, 2015; Cortés-Denia et al., 2020). The items of this Arabic version are scored on a 4-point Likert scale instead of a 7-point (Lopez-Zafra et al., 2019). The reliability of WLEIS is estimated from the internal consistency coefficient alpha of .79 has been acquired. The total score of WLEIS has positive and statistically significant correlation coefficients with all of the items and subscales (SEA = .73; OEA = .79; ROA = .76; & UOE = .62).

Measure of Alexithymia

The current study used the TAS-20 originally developed by Bagby et al. (1994) which is translated, modified and adapted in Arabic language (Landa et al., 2021), in order to measure the participant's level of alexithymia. This instrument includes 20 items having three subscales which are scored on 4-point Likert scale. As with the two measures of emotional intelligence, the reliability of TAS-20 (Landa et al., 2021) was examined using Cronbach's alpha coefficient (.82). The scores have reliable evidence of validity based on positive correlation with all items and subscales (i.e., Difficulty Identifying Feelings = .81; Difficulty Describing Feelings = .50; & Externally Oriented Thinking = .61). These results indicate that the items and subscales of all instruments used have a high degree of internal consistency, confirming that they have reliable evidence of validity, and measure what they were set to measure.

Procedure

All scales were counterbalanced and passed on collectively to the participants by clarifying to them the enforcement procedure. Participants were informed that their participation in this study would advance scientific research on emotional intelligence and that their responses would be kept confidential.

Results

Descriptive statistics for the psychometric measures are presented in Table1.

Table 1

Descriptive Statistics for all the Instruments (N = 52)

Scale and Subscales	*M*	Median	*SD*
WLEIS- Total Score	49.98	51.00	6.01
Self-Emotional Appraisal Subscale	13.31	14.00	2.11
Others' Emotional Appraisal Subscale	11.29	11.00	2.70
Regulation of Emotion Subscale	13.71	14.00	1.80
Use of Emotions Subscale	11.67	12.00	2.68
EQ-i- Total Score	113.13	114.00	12.34
Intrapersonal Subscale	30.83	31.50	7.69
Interpersonal Subscale	23.79	23.00	6.51
Stress Management Subscale	23.37	24.00	4.69
Adaptability Subscale	35.15	36.00	6.30
TAS-20- Total Score	47.77	47.00	6.39
Difficulty Identifying Feelings Subscale	17.15	17.00	4.06
Difficulty Describing Feelings Subscale	11.60	12.00	2.24
Externally-Oriented Thinking Subscale	19.02	19.00	2.84

Table 1 shows that there is a convergence between the psychometric measures obtained in the current study and those of the Arabic version of all instruments used (El-Ghoudani et al., 2021; Landa et al., 2021; Lopez-Zafra et al., 2021).

Pearson's correlation coefficient between measures of alexithymia and emotional intelligence among Moroccan pre-adolescents has been assessed. Findings indicated that alexithymia has inverse relationship with EQ-i ($r = -.52$, $p < .01$); however, it is nonsignificant with WLEIS ($r = -.04$, $p = .75$). In addition, both scales of EI has shown positive correlation ($r = .30$, $p < .02$) between the WLEIS (Wong & Law, 2002) and the EQ-i (BarOn, 1997) in Moroccan pre-adolescents.

Discussion

This study aims to examine two relationships concerning emotional intelligence in Moroccan context: the relationship between EI and alexithymia and the relationship between two measures of emotional intelligence (i.e., EQ-i & WLEIS), which belong to the same category that measures emotional intelligence (self-report), but they proceed from two different approaches as explained above.

Consistent with these two goals, an inverse correlation between emotional intelligence and alexithymia, and a positive correlation between the two emotional intelligence scales, was hypothesized.

The results supported the first hypothesis, as it was found that the higher the emotional intelligence, the lower the alexithymia. This means that the emotional intelligence level of a person suffering from alexithymia will be low. Our findings are consistent with the results of studies that evaluated EI using the TEIQue (Petrides, 2009) or emotional intelligence scales (e.g., Baughman et al., 2013; Farina et al., 2021; Ghiabia & Besharat, 2011; Karimi & Besharat, 2010), and studies which used the EQ-i scale (Parker et al., 2001). Another study conducted in Egypt by Mohamed and Ahmed (2022) using the emotional intelligence scale of Othman and Rizk (2001) and TAS-20 (Bagby et al., 1994) revealed that there is a negative relationship between emotional intelligence and alexithymia in a sample of depressed people. Most depressed patients suffered from alexithymia and low levels of emotional intelligence according to the results of this study. In line with these findings, the study of Hatamzadeh et al. (2012) demonstrated the effectiveness of emotional intelligence training in reducing alexithymia in an Iranian sample. This supports the strong inverse association between EI and alexithymia across cultures.

However, the current study result found this correlation between emotional intelligence and alexithymia using the EQ-i scale (BarOn, 1997) only, while nonsignificant correlation has been found between these two variables using the WLEIS (Wong & Law, 2002). As there is lack of evidence to examine the target relationship, using the WLEIS (Wong & Law, 2002); therefore, it is hard to compare current results using this scale with another study. However, it is reasonable to explain the result of the lack of association between TAS-20 and WLEIS, based on that the model of Wong and Law (2002), which is inspired by the Mayer and Salovey (1997) abilities model, is limited to mental abilities related to emotional awareness and cognitive processing of emotional states (Parker et al., 2001), without including

other personal characteristics, such as BarOn's model (1997). Its subscales include several characteristics that may be associated with TAS-20 (Bagby et al., 1994), but are not included in the definition of alexithymia; or in the Salovey and Mayer models (Parker et al., 2001).

Regarding the second hypothesis, the results supported the correlation of emotional intelligence measured by EQ-i scale (mixed self-report measure) with emotional intelligence measured by WLEIS scale (self-report ability EI measure as named in LaPalme et al. (2016). This result suggests the overlap between what the two scales measure, in terms of the fact that they adopt the same measurement method (self-report measure, which is based on an individual's perception of their own emotional abilities and an assessment of their typical emotional performance as an habitual emotional style) ; regardless of their theoretical premises. However, this overlap is still relative, and does not reflect a complete congruence between them, since the same relationship was not found between alexithymia and emotional intelligence measured by EQ-i (BarOn, 1997) and emotional intelligence measured by WLEIS. Nonetheless, the possibility that alexithymia is associated with emotional intelligence as measured by WLEIS (Wong & Law, 2002) remains if the research sample is expanded. Especially if we know that the results of this study showed an inverse correlation between the Self-Emotional Appraisal (WLEIS subscale) and the Externally Oriented Thinking subscale of TAS-20 (Bagby et al., 1994). This is an assumption that can be further investigated in upcoming studies, which help reveal the extent to which there is overlap or congruence between what the two scales measure.

Limitations and Suggestions

One of the limitations of this study is that it is based on a small sample and a limited age group. Similar studies, with a wider sample and diverse age group, are recommended for a better generalization of the results. However, future researchers can use these findings. On one hand, to generalize the inverse correlation between emotional intelligence and alexithymia across cultures. On the other hand, to investigate degree of variance in measures of EI. Another limitation of this study concerns test-retest reliability, which was not assessed.

Implications

These findings may help psychologists and educators understand the behavior of pre-adolescent individuals with affective disorders

affecting life satisfaction, self-esteem, anxiety, and unhealthy social relationships, and thus emotional intelligence and alexithymia should be taken into consideration while working with this age group.

Conclusion

In conclusion, the current study confirmed that alexithymia and EI as measured by EQ-i are two opposite constructs. An individual's high level of alexithymia indicates that he has low emotional intelligence, and vice versa. The positive correlation between EQ-i (BarOn, 1997) and WLEIS (Wong & Law, 2002) measures of emotional intelligence indicates that there is an overlap between what the two scales measure. However, the lack of evidence of an inverse correlation between WLEIS (Wong & Law, 2002) and TAS-20 (Bagby et al., 1994) does not support the hypothesis of congruence between what the two scales of emotional intelligence measure. This opens the door, in our view, to deepen research into the extent of difference and congruence between emotional intelligence measures in pursuit of achieving the best possible investment of emotional intelligence that lead to improving the quality of life and comfort of individuals.

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