Design of an inventory of emotional intelligence perceived for adults

Construcción de un inventario de inteligencia emocional percibida para adultos

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Abstract: Mayer and Salovey (1997) define emotional intelligence as an ability to perceive and express emotions; to access and/or generate feelings; to understand the emotions; and to regulate emotional phenomena. Although following this approach, different tests were designed to evaluate emotional intelligence, limitations both from the conceptual and methodological level still continue. The design and validation of a new instrument to assess Perceived Emotional Intelligence is presented for evaluating adult population of Buenos Aires, Argentina. This process included: a) conceptual and operational construct definition, b) preparation and analysis of items, c) application to a sample of 356 adult participants residing in Buenos Aires, d) study of psychometric properties. Favorable evidence for the validity of content, item discrimination, factorial validity and internal consistency of inventory were obtained. It constitutes a valuable tool, both for research activities, regarding intervention and prevention.

Key words: perceived emotional intelligence, psychological assessment, design psychometric properties, adults

Resumen: Mayer y Salovey (1997) definen la inteligencia emocional como una habilidad para percibir y expresar emociones; para acceder y/o generar sentimientos; para comprender las emociones; y para regularlas. Si bien, desde este enfoque, se han construido distintas pruebas para evaluar inteligencia emocional, las mismas presentan una serie de limitaciones, tanto desde el plano conceptual, como a nivel de su validez y fiabilidad. Se presenta la construcción y validación de un instrumento para evaluar Inteligencia Emocional Percibida en adultos de Buenos Aires, Argentina. Este proceso comprendió: a) definición conceptual y operacional del constructo, b) elaboración y análisis de los ítems, c) aplicación a una muestra de 356 participantes adultos de Buenos Aires, d) estudio de las propiedades psicométricas del inventario. Se obtuvieron evidencias favorables en torno a la validez de contenido, discriminación de los ítems, validez factorial y consistencia interna del inventario, aportando así una herramienta valiosa, tanto para actividades de investigación como de intervención y prevención.

Palabras clave: inteligencia emocional percibida, evaluación psicológica, construcción, propiedades psicométricas, adultos

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Introduction

About twenty years ago, psychologists began to wonder why some people seem emotionally more competent than others, why they handle their interpersonal relationships more appropriately and can face their problems more effectively (Mayer &Salovey, 1997). Around these questions, Mayer and Salovey (1990, 1997) began to raise and conceptualize the construct emotional intelligence (EI), which they will understand as an ability to manage feelings and emotions, discriminate between them, and use this knowledge to direct one´s own thoughts and actions. It would seem to be a type of intelligence that includes the *ability to supervise and understand one's emotions and those of others, discriminate between them, and use (affective) information to guide one's thinking and actions* (Salovey & Mayer, 1990, p.189).

A first aspect or component of EI is highlighted in this definition, linked to the ability to accurately perceive emotions, including the abilities involved in the identification of emotions in faces, voices, photographs, music, and other stimuli (Grewal & Salovey, 2005). This ability to read faces is one of the attributes that humans share across diverse cultures, as Ekman demonstrated in his studies (1994). Another aspect of importance includes the ability to regulate emotions in a way that facilitates thinking and reasoning. It refers to the ability to take advantage of emotional information in order to facilitate other cognitive processes. Certain emotional states can create mental conditions that are favorable for the development of certain tasks (Mayer & Salovey, 1995). In the summarized definition of EI, the ability to express and understand emotions, as well as the relationship between these and their transitions, is also highlighted. Finally, EI involves the ability to regulate one's own emotions and those of others. It is perhaps the character most frequently associated with the definition of EI (Mayer & Salovey, 1995; Mayer & Salovey, 1997).

Since the development of this EI model proposed by Salovey and Mayer (1990, 1997) and with the growing interest in emotional phenomena, different authors postulated alternative theoretical models. Goleman (1998) proposed a mixed model of EI, consisting of both emotional abilities and personality traits. He described four main components of EI: self-awareness, self-management, social awareness, and relationship management.

Also from a mixed approach perspective, Bar-On (1997a) identified five basic components of EI: intrapersonal, interpersonal, adaptive capacity, stress control, and general mood.

However, this conception of EI based on a mixed model will be strongly criticized, mainly because of the resulting associations between EI and other constructs linked to personality such as optimism, psychological well-being, emotional stability, etc. (Petrides & Furnham, 2000; Brackett & Mayer, 2003).

In contrast with this approach, Petrides and Furnham (2000; 2001) developed a model that understands EI as a personality trait or emotional self-efficacy. The authors define it as a set of perceptions and dispositions of oneself, related to the emotion that makes up the affective aspects of the personality of the normal adult, which are located in the lower levels of personality hierarchies (Petrides & Furnham, 2000; Petrides & Furnham, 2001).

After a review of the main theoretical models developed around the EI construct for the construction of the Perceived Emotional Intelligence Inventory (PEII), the model proposed by Salovey and Mayer (1990, 1997) has been considered especially. In the view of this model, we understand PEI as the perception that individuals have about their capacity to deal with, understand, express, and regulate their own emotions and those of others. According to this conceptual definition, four fundamental and representative dimensions of the PEI are conceived, namely: emotional attention, emotional comprehension, emotional expression, and emotional regulation.

Emotional attention includes the degree to which individuals perceive that they are capable of identifying and dealing with their own emotions and feelings and those of others, registering the physical and cognitive aspects that they entail. It also implies discriminating between different emotions and their transitions. On the

other hand, emotional comprehension refers to the degree to which individuals perceive that they are capable of thinking about their own emotions and feelings and those of others, and of interpreting them appropriately. It involves understanding and reasoning about emotions to interpret them. Regarding emotional expression, it is defined as the perception of one's own ability to demonstrate emotions and feelings to others by means of words, gestures and / or body postures. It implies the perception of one's own capacity to adequately express the feelings and needs associated with them. Finally, emotional regulation would seem to account for the degree to which individuals perceive themselves as capable of attenuating their negative emotions and feelings, and enhancing positive ones, without repressing or exaggerating the information they transmit. It implies the perception of the ability to manage one's own emotions and those of others in an appropriate way.

Measuring Perceived Emotional Intelligence

The review of the current literature on the subject allows the identification of two research lines linked to the operationalization of the perceived EI construct. Whereas, on the one hand, we have found EI measures based on Salovey and Mayer's skill model (1990, 1997), on the other, instruments have been constructed based on the current state of knowledge on emotional and social functioning (Fernández- Berrocal, et al., 2004).

Part of the first approach are the Trait Meta-Mood Scale (TMMS, Salovey, Mayer, Goldman, Turvey & Palfai, 1995), the Trait Meta-Mood Scale (TMMS-24, Extremera Pacheco, Fernández-Berrocal, Mestr Navas & Guil Bozal, 2004), the Schutte Self Report Inventory (SSRI, Schutte et al, 1998) and the Emotional Skills and Competence Questionnaire (ESCQ, Takšić, 2002). Part of the framework of the second approach to research, the following main instruments have been developed: the Bar-On Emotional Quotient Inventory (EQ-I, Bar-On, 1997b), the Emotional Competence Inventory (ECI, Boyatzis & Burckle, 1999; Boyatzis, Goleman & Rhee, 2000),

the Trait Emotional Intelligence Questionnaire (TEIQue, Petrides & Furnham, 2001), the Emotional Intelligence Questionnaire (EIQ, Mestre, 2003) and the Emotional Intelligence IPIP Scales (EI-IPIP, Barchard, 2001).

Focusing on the IE tests developed based on the model of Salovey and Mayer (1990, 1997) selected in this study, among the most used to measure the perception of each person on their EI, is the Trait Meta-Mood Scale (TMMS) (Salovey, Mayer, Goldman, Turvey & Palfai, 1995). This instrument evaluates, by means of 48 items, the individual skill differences with which people are aware of their own emotions, as well as their abilities to regulate them. Subjects respond on the degree to which they agree with each of the items based on a Likert-type scale. The TMMS reduced version, which consists of 30 items, is recommended; despite maintaining the three original factors, statements with less internal consistency were eliminated (Salovey et al, 1995).

Regarding the TMMS-24, it is a reduced version of the TMMS-48 constructed by the Emotions Laboratory of Malaga (Extremera Pacheco et al, 2004). It is composed of the three dimensions of the original scale: Attention, Clarity and Emotional Repair, although the factors have been refined with respect to the items that compose them. The test comprises 24 items and each of its components presented very good reliability indexes. Like the extended version, the three dimensions correlate in the expected direction with variables such as depression, rumination, and life satisfaction (Extremera Pacheco et al, 2004).

Although the TMMS in its original and abbreviated version represents the PEI test most used in national and international research conducted on this construct (Fernández-Berrocal & Extremera Pacheco, 2005), the most important limitation it has is that it was not constructed to represent the total domain of the PEI, omitting in the operationalization one of the central dimensions - interpersonal EI.

Considering this limitation and starting from the original EI model of Salovey & Mayer (1990), Schutte et al. (1998) constructed the Schutte Self Report Inventory (SSRI, 1998) that includes both intrapersonal and interpersonal aspects, using 33

items with a Likert-type agreement scale. However, despite presenting adequate internal consistency and predictive validity, this instrument has weaknesses at the level of its factorial structure (Ciarrochi, Chan & Bajgar, 2001, Ciarrochi, Deane & Anderson, 2002). Although it is intended to measure three EI factors, evidence of one single general EI factor has been obtained. Recent research (Ciarrochi, Chan & Bajgar, 2001, Ciarrochi, et al., 2002, Petrides & Furham, 2000, Saklofske, Austin & Minski, 2003) argues that the general factor of SSRI can be divided into 4 sub-factors: Emotional perception, Management of one´s own emotions, Management of the emotions of others, and Utilization of emotions.

Finally, also based on the model of Salovey and Mayer (1990, 1997), Takšić (2002) developed the Emotional Skills and Competence Questionnaire (ESCQ). It is an emotional self-report measure of 45 items, composed of three subscales: Perception and Emotional Understanding; Expression and Labeling of Emotions; Management and Emotional Regulation. This instrument also showed adequate validity and reliability properties in its original version and in different adaptations (Takšić, Mohorić & Duran, 2009). However, in the subscales that it evaluates, it groups together items of the intra- and interpersonal components of EI, as well as different dimensions of the construct (e.g. Perception and Intrapersonal and Interpersonal Understanding form the same subscale).

Although, as previously shown, there is a wide range of instruments that make PEI evaluation possible, they present different limitations. On the one hand, there are limitations regarding construct operationalization, given that, as is the case with TMMS-24, the interpersonal dimension in the measurement of PEI is omitted. On the other hand, problems arise regarding the psychometric properties of some of them, since the results of several studies have not provided adequate guarantees of their validity and reliability (Extremera Pacheco et al., 2004).

Based on the above, the need arises to build an instrument, starting from the Salovey and Mayer model (1990, 1997), to integrate intra and interpersonal components in the evaluation of perceived EI, and to also overcome the psychometric difficulties pointed out in existing tests, considering their ecological validity in the evaluation of perceived EI in our environment.

Objectives

The proposal is introducing the construction of an inventory to evaluate Perceived Emotional Intelligence (PEII) in adults of Buenos Aires, considering the stages that have been considered as well as any preliminary results obtained when evaluating their psychometric properties.

Materials and Method

Design

The study was designed as an instrumental study because, according to the classification put forward by Montero and León (2005), instrumental research is the one that includes proposals for the construction and adaptation of psychological instruments as well as the analysis of their psychometric properties.

Participants

An intentional, non-probabilistic sample was selected from 356 adult participants, 138 men (39%) and 218 women (61%), ranging in age between 18 and 45 (M = 27.6, SD = 8.3), residing in the City and Province of Buenos Aires, Argentina. Regarding educational level, 13% have completed their elementary school studies, 18% have high-school studies, 5% have tertiary studies, 45% have incomplete university studies, and 19% are university graduates.

The following inclusion criteria were considered: a) being an Argentine native, b) residing in the City or Province of Buenos Aires, c) being over 18 years of age.

Procedure

For PEII building, a series of stages were followed, including:
• Bibliographic review and operationalization of the construct

A thorough review of the main theoretical models developed around the EI construct was carried out, adopting the definition presented in the introduction.
• Preparation of the items

A preliminary version of the inventory consisting of 150 items was prepared; 66 were written considering the theoretically identified

dimensions, and the remaining ones were selected from among the most widely acknowledged and used PEI instruments, both nationally and internationally; the instruments were previously translated and adapted for their use with Buenos Aires adults: a) the Trait Meta-Mood Scale (TMMS-24) by Extremera Pacheco et al. (2004), Mikulic adaptation (2016); b) the Schutte Self Report Inventory (SSRI) by Schutte, et al (1998), Mikulic adaptation (2017); and c) the Emotional Skills and Competence Questionnaire (ESCQ) constructed by Takšić (2002) and adapted for its application in Buenos Aires by Mikulic (2009). Selection considered the adults who showed suitable behaviors in their respective adaptation processes, both at the content and psychometric levels. As will be illustrated further on, selected as well as elaborated items were submitted to the analysis of 16 expert judges to evaluate their relevance, pertinence, semantic clarity, and grammatical correctness.

For drafting the 66 new items, Matesanz Nogales (1997) recommendations were followed in connection with clarity, simplicity, and understanding of the items. In order to avoid acquiescence, direct and inverse items were drafted, in dimensionally similar proportions. That is why some of the items were expressed in the negative. For example: *"I find it hard to relax when I'm nervous about something", "I pay little attention to my emotions."* Table 1 highlights the self-prepared statements.

On the other hand, the items were ordered in the protocol in such a way that dimensions were not presented in isolation, but rather interspersed with the items of each dimension. The response format covered a scale of 1 to 5 points, with 1 being "total disagreement", 3 "no agreement, no disagreement", and 5 meaning "total agreement".

• Study of content validity by expert judgment

In order to provide evidence on the validity of inventory content, 16 judges, specialized on the subject of study and in psychometry, were summoned. The purpose of this research was explained to each, and they received the construct definition as well as each of the dimensions. Subsequently, they were asked to: a) classify each item according to the evaluated dimensions, b) judge each item considering item relevance and formal quality (semantic clarity, syntactic correction, and adaptation to the target population),

and c) to make any remarks and suggestions as needed to improve this preliminary set of items.

The percentage of agreement among judges was analyzed, discarding those items that could not be classified in any dimension, or that were grouped with a dimension different from the theoretically applicable one. The criterion was that at least 80% of the judges should agree that item content had relevance and that it actually represented the dimension for which it was drafted.

Based on judge analyses, 7 items were discarded because they were listed in more than one dimension, and 8 because they did not show any agreement with construct evaluation, or because they did not evaluate the theoretical dimension for which they had been drafted or selected.

For example, the items: "*I am aware of the emotions I generate in others,*" and "*I am aware of how others feel about me*" were assigned by most of the judges both to the Emotional Attention dimension (Intrapersonal) and to the Emotional Attention dimension (Interpersonal). While the item "I tend to mix up my feelings in different situations," presented very low relevance to assess the corresponding theoretical dimension (Emotional Attention).

After this stage of initial sifting, the inventory included 135 items.

• Pilot test and analysis of psychometric properties

The instrument was applied to the intentional and non-probabilistic sample of 356 adult participants from the City and Province of Buenos Aires, Argentina, described above.

Inventory psychometric analysis was performed, and for this purpose:

(a) A descriptive analysis of the items was made by examining the average, standard deviation, asymmetry and kurtosis of each of them. For the sake of evaluating asymmetry and kurtosis indexes, excellent values were those between ± 1.00, and adequate values were those lower than ± 1.5 (George & Mallery, 2011).

(b) Item discrimination was also analyzed based on the correlation of each item with the total score. It was considered that the items with non-significant or low correlations with the total score (less than .30) should be eliminated or revised (Muñiz, 2005).

(c) An exploratory factor analysis (EFA) was carried out to establish the internal structure of the inventory. Previously, the multi co-linear-

ity among items was analyzed in order to detect high correlations between them; for the above the correlation matrix was examined to identify the presence of values equal to or above .90 (Kline, 2011). Also, prior to the EFA, the KMO sample adequacy tests and the Bartlett Sphericity Test were applied. In connection to the latter, it was decided that if the index was greater than .70, factorial analysis was justified. For the consideration of one item as representative of a factor, a load equal to or greater than .30 was taken as a cut-off point (Tabachnick & Fidell, 1989).

(d) The internal consistency of the factors obtained was verified by calculating Cronbach's α coefficient. High internal consistency values were those greater than or equal to .80; suitable values were greater than or equal to .70, and low values were less than .70 (George & Mallery, 2011).

Results

Descriptive analyses of the items

Descriptive statistics of all the items were obtained. To check the normality assumptions of the sample, asymmetry and kurtosis analyzes were performed for each item. All the items presented asymmetry and kurtosis values lower than ± 1.00.

With respect to the analysis of multi co-linearity among items, inter-item correlations of r = .90 were registered in all cases. As several authors have pointed out, although the Exploratory Factor Analysis technique requires inter-correlation of the elements, if correlations are greater than or equal to .90, the analysis is likely to be weakened and an unstable factorial solution is likely to be obtained (Kline, 2011; 1999; Tabachnick & Fidell, 1989).

Study of the validity of the Perceived Emotional Intelligence Inventory construct

An exploratory factor analysis was carried out with the 135 items by means of the principal axis factoring method, in order to analyze items correspondence and the set of factors that they intend to measure (Ferrando & Anguiano-Carrasco, 2010). The Kaiser-Mayer-Olkin measure of sample adequacy (.81) and the Bartlett sphericity test 24,461.60 (p ≤ .000) showed the feasibility of performing factor analysis.

On the basis of these results, different factorial solutions were analyzed in order to identify the most parsimonious and theoretically relevant structure. Varimax rotation was used, because the factors correlation matrix had moderate coefficients (lower than .32). It was decided to eliminate those items that had inadequate factor weights, had loads shared with another factor, as well as those items that did not load onto any factor. It was also considered that each factor should have at least four items with correlations equal to or greater than .30 (Tabachnick & Fidell, 1989). Based on these criteria, 34 items were discarded. Factorial analysis was done again with the 101 remaining items, keeping to the same criteria mentioned under factorial structure item elimination. The sample adequacy measure by Kaiser-Mayer-Olkin (.83) and the Bartlett sphericity test with a value of 18334.40 (p ≤ .000) showed that factorial analysis was feasible.

For factors extraction, sedimentation graph (Scree Test) and Horn's parallel analysis were used; for Horn's analysis, the FACTOR v. 8.02 program was used (Lorenzo-Seva & Ferrando, 2011). The extraction of six factors was established, resulting in the simplest and most conceptually relevant factorial solution. These factors accounted for 44.54% of variance.

The first factor suggests the perception of one's own ability to identify and deal with the emotions and feelings of others, recognizing the physical and cognitive aspects that they entail (e.g., *"I realize when a person changes his mood"*); this is compatible with what was theoretically defined as Emotional Attention (interpersonal).

The second factor corresponds to the degree to which individuals perceive that they are able to think about their own emotions and feelings and to interpret them appropriately, a dimension that was named - following the model of Salovey and Mayer (1990) - Emotional Understanding (e.g., *"When I am sad I can understand the reason"*).

The third factor may be compared to what Salovey and Mayer (1990) called Emotional Regulation, understanding the perception that people have about their ability to manage their emotions (e.g. *"I try to have positive thoughts even if I feel bad")*.

The fourth factor includes those items associated with the Emotional Attention dimension (e.g. *"I pay little attention to my emotions"*).

The fifth factor suggests the degree to which people perceive that they are able to think and properly interpret the emotions and feelings of others, as well as to regulate the emotions of others, an aspect that corresponds to comprehension and emotional regulation (interpersonal) (e.g.,*"I find it hard to understand why people feel the way they feel"*).

Finally, the last factor comprises the perception of one's own ability to demonstrate emotions and feelings to others (Emotional Expression) (e.g. *"I can tell someone else how I feel"*).

Table 1 shows the values resulting from the factorial analysis carried out (Appendix 1).

Internal consistency

For the study of internal consistency, Cronbach's α coefficients were calculated for each scale; the values found were between .81 and .92, and they reflect those in the literature (George & Mallery, 2011).

The corrected item-total correlations obtained in each case were greater than or equal to .30, an aspect that reflects the items discrimination capacity and the contribution thereof to the applicable dimensions.

Table 2 shows the α coefficients obtained in each dimension and the corrected item-total correlation values (Appendix 2).

Discussion

The conceptualizations and studies evolved in the last few decades around emotional intelligence, have attempted to highlight the importance that perception, understanding, and emotional regulation have in stress coping, psychological well-being, and the management of interpersonal relationships.

One of the approaches that has best conceptualized and guided the scientific study of emotional intelligence is the one proposed by Mayer and Salovey (Mayer and Salovey, 1997, Mayer, Caruso and Salovey, 1999). From this perspective, various PEI measurement instruments have been developed, although they have tended to address only some of the dimensions that this construct conceptually entails (Extremera Pacheco et al 2004).

In view of this limitation, this study aims to make its contribution with the construction of the PEII, which has proven to be a valid and reliable instrument for evaluating Perceived Emotional Intelligence in adults of the City and Province of Buenos Aires.

With the preliminary statistical analyses, all items that showed low discrimination, low factorial loads and / or factorial complexity were discarded. Six factors were obtained from the exploratory factor analysis of the 101-item version resulting from data sifting; these factors accounted for 44.54% of the variance. The analysis of the resulting factors has allowed that a high level of correspondence be established with respect to the theoretical model of perceived EI adopted. The theoretical dimensions proposed - attention, comprehension and emotional regulation of intra and interpersonal, as well as emotional expression, were identified by performing factor analysis. Although the items corresponding to comprehension and emotional (interpersonal) regulation were grouped into one single factor, they have kept to the theoretical considerations developed for these dimensions. Indeed, as Rimé (2012) and Bisquerra Alzina (2013) point out, in order to be able to regulate the emotions of others, it is necessary in the first place to be able to understand their causes and consequences. The importance of "emotional contagion" as part of the processes of interpersonal regulation is thus emphasized (Rimé, 2012).

Regarding PEII reliability studies, internal consistency of each of the dimensions that make up the instrument was high, with α values greater than .80 in all cases. The analysis of items shows that each item exceeded the established requirements for discrimination and internal consistency indexes.

These results should be considered preliminary, and future research by multiple groups and a larger and more representative sample will be necessary to confirm the approach, for the sake of then verifying whether the internal consistency of scales and this factorial structure are appropriately duplicated among participants differentiated by gender, place of residence, and level of instruction, among other relevant variables.

In the future, a further stage will also be required in order to perform stability and criteria validity studies of the scales, as well as to test the instrument in different application contexts (labor, legal, clinical, among others).

In summary, of the various types of indicators and methods that may be implemented to analyze the inventory psychometric properties, this study has afforded favorable evidence regarding its internal consistency, and the discrimination of items and their factorial validity, thus showing their usefulness for the proposed use.

It has been made clear that we deem that contributing new instruments in this area is highly relevant in view of the significance attained by the concept of EI in recent years. At the same time, although there are different evaluative instruments in this field, they have proved to be problematic, either regarding operationalization of the theoretical model from which they set out (as is the case of the TMMS-24, which excludes the interpersonal dimension in measuring EI), or because analyses of their psychometric properties have yielded few satisfactory results (Extremera Pacheco, et al 2004).

For this reason, the PEII can become a valuable contribution to the study of perceived EI, seen from the perspective of Salovey and Mayer's model.

Being able to resort to valid and reliable tools for the evaluation of PEII is important in more than one sense – in order to achieve increased, in-depth research around EI; for its usefulness in sundry psychological evaluation contexts (clinical, labor, legal, among others) where measuring PEI may be relevant; and for the sake of effective evaluation of interventions that aim to promote or strengthen the skills comprised in EI.

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Appendix

Appendix 1

Table 1
Factorial Structure of the Perceived Emotional Intelligence Inventory

	Emotional Attention (Interpersonal)	Emotional comprehension	Emotional regulation	Emotional Attention	Emotional Comprehension and regulation (Interpersonal)	Emotional expression
*Me doy cuenta de cómo se siente una persona con sólo mirarla.	.817					
*Se lo que sienten las personas con solo mirarlas	.792					
*Puedo reconocer lo que siente una persona con solo mirar la expresión de su cara.	.770					
*Puedo darme cuenta del estado de ánimo de las personas con sólo observarlas.	.746					
*Me doy cuenta cuando una persona cambia de estado de ánimo	.709					
*Me doy cuenta cuando alguien está triste	.677					
*Cuando veo cómo se siente alguien entiendo que le pasa	.628					
Me doy cuenta cuando alguien está deprimido/a	.628					
Soy capaz de distinguir los cambios de humor en un amigo.	.618					
Me doy cuenta cuando alguien intenta disimular su mal humor	.616					
*Me doy cuenta cuando otro finge una emoción	.607					
Me doy cuenta cuando alguien intenta esconder sus sentimientos	.606					
Con frecuencia entiendo cómo se sienten los demás	.589					
Puedo darme cuenta del estado de ánimo de las personas por su tono de voz.	.573					
Cuando veo a un conocido percibo su estado de ánimo	.573					
Me doy cuenta cuando alguien se siente culpable	.563					
Soy consciente de los mensajes no verbales de las otras personas	.558					
Cuando alguien se siente triste, logro mostrarle el lado bueno de las cosas	.485					
*Presto mucha atención a las emociones de los demás	.474					
*Me doy cuenta cuando alguien actúa distinto porque cambio su estado de ánimo	.453					
*Soy de estar atento a las emociones de los demás	.449					
Normalmente comprendo por qué me siento mal		.694				
Cuanto estoy triste puedo entender el motivo		.687				
*Muchas veces sé cómo me siento		.642				
*Puedo entender las causas de mis emociones		.639				

Table 1
(Continuation)

	Emotional Attention (Interpersonal)	Emotional comprehension	Emotional regulation	Emotional Attention	Emotional Comprehension and regulation (Interpersonal)	Emotional expression
*Puedo llegar a comprender mis sentimientos		.607				
Puedo reconocer la mayoría de mis sentimientos		.592				
*Puedo darme cuenta por qué cambia mi estado de ánimo		.591				
Tengo claros mis sentimientos		.588				
Puedo comprender qué siento en diferentes situaciones		.574				
Soy consciente de mis emociones cuando las siento		.568				
*Interpreto con facilidad las emociones que siento		.559				
*Reconozco los motivos por los cuales mis estados de ánimo cambian		.546				
*Sé por qué cambian mis emociones		.540				
*Sé mucho sobre cómo me siento		.526				
*Cuando estoy triste intento encontrar las causas		.499				
*Cuando estoy alegre puedo reconocer el por qué		.431				
*Me doy cuenta cuando mis sentimientos afectan a mis pensamientos		.405				
*Cuando estoy alegre comprendo por qué		.404				
*Me resulta difícil entender por qué me siento enojado/a		-.366				
*Me cuesta entender el por qué de lo que siento		-.307				
Aunque me sienta mal, procuro pensar en cosas agradables			.701			
*Puedo mantener mi estado de ánimo positivo			.675			
Intento tener pensamientos positivos, aunque me sienta mal			.668			
Cuando estoy enojado/a, trato de cambiar mi humor			.641			
*Cuando estoy enojado, trato de calmarme			.633			
*Soy capaz de mantener un buen estado de ánimo			.624			
*Soy capaz de mantener mi buen humor incluso cuando me ocurren cosas malas			.618			
*Trato de calmarme cuando siento que estoy perdiendo la paciencia			.596			
*Aunque a veces me siento triste soy optimista			.589			

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Table 1
(Continuation)

	Emotional Attention (Interpersonal)	Emotional comprehension	Emotional regulation	Emotional Attention	Emotional Comprehension and regulation (Interpersonal)	Emotional expression
Cuando estoy triste me cuesta hacer cosas para sentirme mejor			-.571			
*No logro cambiar mi estado de ánimo con facilidad			-.550			
*Me resulta difícil cambiar mi humor cuando algo me enoja			-.549			
Si doy muchas vueltas a las cosas y se me complican, trato de calmarme			.547			
*Cuando estoy nervioso/a hago algo que me gusta para tranquilizarme			.545			
Soy capaz de manejar mis nervios			.543			
*Creo que puedo controlar mis emociones			.532			
Cuando estoy de buen humor, es difícil que mi estado de ánimo decaiga			.526			
*Siempre me resulta fácil hacer algo para sentirme mejor			.509			
*Cuando estoy enojado, intento tomarme unos minutos para pensar antes de actuar			.501			
*Me preocupo por estar de buen ánimo			.427			
*Intento controlar las emociones desagradables			.351			
*Me cuesta relajarme cuando estoy nervioso por algo			-.357			
Dedico tiempo a pensar en mis emociones				.829		
*Con frecuencia pienso en mis emociones, tanto positivas como negativas				.764		
Presto mucha atención a cómo me siento				.725		
A menudo pienso en mis sentimientos				.724		
Pienso que merece la pena prestar atención a mis emociones				.709		
*Estoy atento/a a las emociones que siento				.636		
Pienso en mi estado de ánimo constantemente				.622		
Normalmente me preocupo mucho por lo que siento				.618		
Presto atención a mis sentimientos				.529		
A menudo me doy cuenta de mis sentimientos en diferentes situaciones				.309		
*Ignoro mis estados de ánimos				-.345		
*Le presto poca atención a mis emociones				-.422		
*Me cuesta pensar en mis sentimientos				-.389		

Table 1
(Continuation)

	Emotional Attention (Interpersonal)	Emotional comprehension	Emotional regulation	Emotional Attention	Emotional Comprehension and regulation (Interpersonal)	Emotional expression
*A veces pienso en las emociones de los demás					.629	
*Me resulta difícil entender por qué las personas se sienten como se sienten					.602	
*Me resulta difícil comprender los gestos de los otros					.588	
*Soy incapaz de conectarme con las emociones de los demás					.569	
*Me resulta difícil lograr que una persona se sienta mejor si está angustiada					.526	
*Me cuesta tranquilizar a un amigo que está nervioso/a					.517	
*Me cuesta darme cuenta cuando alguien está nervioso/a					.516	
*Soy incapaz de prestar atención a las emociones de los demás					.476	
*Mis palabras ayudan a otras personas a calmarse cuando están nerviosas					.452	
Me cuesta darme cuenta cuando alguien está nervioso/a					.446	
*Me resulta difícil darme cuenta cuando alguien está enojado/a					.382	
*Me cuesta tratar de calmar a alguien cuando está enojado					.337	
Soy capaz de convencer a un amigo de que no hay razón para que se preocupe					.333	
*Soy capaz de expresar mis emociones adecuadamente						.652
*Puedo decirle a otro/a cómo me siento						.624
Es fácil para mí transformar mis sentimientos y emociones en palabras						.594
Soy capaz de expresar cómo me siento						.566
*Suelo guardarme mis sentimientos						-.518
*A veces puedo transmitir a otros cuáles son mis emociones						.495
A veces puedo expresar a otros cuáles son mis sentimientos						.487
Siempre puedo decir cómo me siento						.484
*Me resulta difícil poner en palabras lo que siento						-.443
Cuando algo no me agrada lo de muestro fácilmente						.341
Soy capaz de describir mis estados emocionales						.332
*Me resulta difícil ocultar como me siento						-.304

Note: * describes self-developed items.

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Appendix 2

Table 2
Coefficients alpha and corrected item-total correlations of the scale of the Perceived Emotional Intelligence Inventory

	Alpha	Corrected item-total correlation	Alpha if ítem deleted
Emotional Attention (Interpersonal)	.926		
Me doy cuenta de cómo se siente una persona con sólo mirarla		.726	.920
Se lo que sienten las personas con solo mirarlas		.685	.921
Puedo reconocer lo que siente una persona con solo mirar la expresión de su cara		.689	.921
Puedo darme cuenta del estado de ánimo de las personas son sólo observarlas		.710	.921
Me doy cuenta cuando una persona cambia de estado de ánimo		.670	.922
Me doy cuenta cuando alguien está triste		.651	.922
Cuando veo cómo se siente alguien entiendo que le pasa		.651	.922
Me doy cuenta cuando alguien está deprimido/a		.586	.923
Soy capaz de distinguir los cambios de humor en un amigo.		.607	.923
Me doy cuenta cuando alguien intenta disimular su mal humor		.626	.922
Me doy cuenta cuando otro finge una emoción		.565	.923
Me doy cuenta cuando alguien intenta esconder sus sentimientos		.567	.924
Con frecuencia entiendo cómo se sienten los demás		.601	.923
Puedo darme cuenta del estado de ánimo de las personas por su tono de voz		.532	.924
Cuando veo a un conocido percibo su estado de ánimo		.567	.923
Me doy cuenta cuando alguien se siente culpable		.544	.924
Soy consciente de los mensajes no verbales de las otras personas		.531	.924
Cuando alguien se siente triste, logro mostrarle el lado bueno de las cosas		.468	.925
Presto mucha atención a las emociones de los demás		.495	.925
Me doy cuenta cuando alguien actúa distinto porque cambio su estado de ánimo		.472	.925
Soy de estar atento a las emociones de los demás		.491	.925
Emotional comprehension (Intrapersonal)	.908		
Normalmente comprendo por qué me siento mal		.572	.903
Cuanto estoy triste puedo entender el motivo		.463	.906
Muchas veces sé cómo me siento		.505	.905
Puedo entender las causas de mis emociones		.619	.902
Puedo llegar a comprender mis sentimientos		.556	.904
Puedo reconocer la mayoría de mis sentimientos		.521	.905
Puedo darme cuenta por qué cambia mi estado de ánimo		.658	.901
Tengo claros mis sentimientos		.613	.902
Puedo comprender qué siento en diferentes situaciones		.483	.905
Soy consciente de mis emociones cuando las siento		.678	.901
Interpreto con facilidad las emociones que siento		.525	.904
Reconozco los motivos por los cuales mis estados de ánimo cambian		.524	.905
Sé por qué cambian mis emociones		.682	.901
Sé mucho sobre cómo me siento		.630	.902
Cuando estoy triste intento encontrar las causas		.489	.905
Cuando estoy alegre puedo reconocer el por qué		.622	.902
Me doy cuenta cuando mis sentimientos afectan a mis pensamientos		.518	.905
Cuando estoy alegre comprendo por qué		.485	.905
Me resulta difícil entender por qué me siento enojado/a		.488	.905
Me cuesta entender el porqué de lo que siento		.369	.909

Table 2
(Continuation)

	Alpha	Corrected item-total correlation	Alpha if ítem deleted
Emotional regulation (Intrapersonal)	**.851**		
Aunque me sienta mal, procuro pensar en cosas agradables		.606	.838
Puedo mantener mi estado de ánimo positivo		.599	.839
Intento tener pensamientos positivos, aunque me sienta mal		.656	.836
Cuando estoy enojado/a, trato de cambiar mi humor		.608	.838
Cuando estoy enojado, trato de calmarme		.614	.837
Soy capaz de mantener un buen estado de ánimo		.575	.840
Soy capaz de mantener mi buen humor incluso cuando me ocurren cosas malas		.505	.841
Trato de calmarme cuando siento que estoy perdiendo la paciencia		.631	.837
Aunque a veces me siento triste soy optimista		.532	.841
Cuando estoy triste me cuesta hacer cosas para sentirme mejor		.435	.844
No logro cambiar mi estado de ánimo con facilidad		.539	.840
Me resulta difícil cambiar mi humor cuando algo me enoja		.418	.845
Si doy muchas vueltas a las cosas y se me complican, trato de calmarme		.537	.841
Cuando estoy nervioso/a hago algo que me gusta para tranquilizarme		.525	.841
Soy capaz de manejar mis nervios		.507	.842
Creo que puedo controlar mis emociones		.433	.844
Cuando estoy de buen humor, es difícil que mi estado de ánimo decaiga		.433	.844
Siempre me resulta fácil hacer algo para sentirme mejor		.452	.843
Cuando estoy enojado, intento tomarme unos minutos para pensar antes de actuar		.442	.844
Me preocupo por estar de buen ánimo		.363	.847
Intento controlar las emociones desagradables		.373	.846
Me cuesta relajarme cuando estoy nervioso por algo		.343	.841
Emotional Attention (Intrapersonal)	**.879**		
Dedico tiempo a pensar en mis emociones		.740	.858
Con frecuencia pienso en mis emociones, tanto positivas como negativas		.703	.861
Presto mucha atención a cómo me siento		.710	.862
A menudo pienso en mis sentimientos		.647	.865
Pienso que merece la pena prestar atención a mis emociones		.628	.867
Estoy atento/a a las emociones que siento		.626	.867
Pienso en mi estado de ánimo constantemente		.568	.870
Normalmente me preocupo mucho por lo que siento		.443	.877
Presto atención a mis sentimientos		.565	.870
A menudo me doy cuenta de mis sentimientos en diferentes situaciones		.376	.880
Ignoro mis estados de ánimos		.451	.877
Le presto poca atención a mis emociones		.433	.878
Me cuesta pensar en mis sentimientos		.740	.858
Emotional Comprehension and regulation (Interpersonal)	**.812**		
A veces pienso en las emociones de los demás		.411	.808
Me resulta difícil entender por qué las personas se sienten como se sienten		.532	.797
Me resulta difícil comprender los gestos de los otros		.528	.797
Soy incapaz de conectarme con las emociones de los demás		.502	.799
Me resulta difícil lograr que una persona se sienta mejor si está angustiada		.549	.794

Table 2
(Continuation)

	Alpha	Corrected item-total correlation	Alpha if ítem deleted
Me cuesta tranquilizar a un amigo que está nervioso/a		.457	.804
Me cuesta darme cuenta cuando alguien está nervioso/a		.418	.808
Soy incapaz de prestar atención a las emociones de los demás		.312	.817
Mis palabras ayudan a otras personas a calmarse cuando están nerviosas		.522	.797
Me cuesta darme cuenta cuando alguien está nervioso/a		.524	.797
Me resulta difícil darme cuenta cuando alguien está enojado/a		.319	.818
Me cuesta tratar de calmar a alguien cuando está enojado		.327	.815
Soy capaz de convencer a un amigo de que no hay razón para que se preocupe		.411	.808
Emotional expression	**.825**		
Soy capaz de expresar mis emociones adecuadamente		.306	.823
Puedo decirle a otro/a cómo me siento		.572	.801
Es fácil para mí transformar mis sentimientos y emociones en palabras		.642	.793
Soy capaz de expresar cómo me siento		.568	.801
Suelo guardarme mis sentimientos		.651	.794
A veces puedo transmitir a otros cuáles son mis emociones		.391	.778
Soy capaz de describir mis estados emocionales		.561	.803
A veces puedo expresar a otros cuáles son mis sentimientos		.517	.807
Siempre puedo decir cómo me siento		.509	.808
Me resulta difícil poner en palabras lo que siento		.569	.802
Cuando algo no me agrada lo de muestro fácilmente		.443	.801
Me resulta difícil ocultar como me siento		.301	.824