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A REVIEW OF TRAIT META-MOOD RESEARCH*

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ABSTRACT

Reflective experience of mood provides insight to individuals about their knowledge of themselves and their environment, allowing in some cases emotions to run their course, or, when necessary, to be suppressed. According to this affective approach, moods convey valid and useful information for the individual, but people differ in the use, abuse or misuse of this affective information. The experience of mood and the evaluation of our thoughts about the mood has become a growing area in individual differences research. In fact, studies on meta-mood have increased enormously in the last two decades thanks to the resurgence of the interest in emotions as important cues to successful decision making or valid evaluative judgment. Besides, this approach attempts to account for individual behaviour and emotional well-being, assuming that mood conveys important information about oneself and our social context which influences our cognitions and actions. From this perspective, the way people attend to moods and regulate emotions helps to determine coping behaviours and is essential for adaptive coping with stress over their life span.

Currently, two different lines of investigation can be found in meta-mood research. The first one is focused on reflective meta-experience of mood as state. Much of this research is interested in analyzing how a person's thoughts may be affected by his/her mood state, and in understanding the various types of conscious mood regulation. For this purpose, Mayer and Stevens (1994) developed the Meta-Regulation Scale (MRS). The second line is interested in more stable affective capacities that people routinely use to experience their feelings and moods. This approach is denominated trait-meta mood research for which Salovey, Mayer, Goldman, Turvey, and Palfai (1995) developed the Trait Meta-Mood Scale (TMMS). In this chapter we focused on this latter approach. A brief description of the TMMS, its three dimensions (Attention, Clarity, and Repair), and its different translations in diverse countries is given. We begin by discussing the influence of meta-mood abilities on cognition and behaviour, and continue outlining the basic aspects by which the meta-mood experience of mood is important for how people cope with and adapt to stressful situations and contributes to psychological adjustment. Also, the available literature on trait-meta mood research is reviewed (all papers published in peer review journals since 1995) emphasizing its connection with the recent

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field of Emotional Intelligence (EI). Findings about its role in experimental, clinical, applied, and cross-cultural studies are presented. In the last section, the dimensions that compose the instrument and their role as predictors of social adjustment and individual well-being are examined. Finally, we discuss potential improvements on the scale, practical implications, and further studies on trait meta-mood research.

INTRODUCTION

The interest in the scientific study of emotions as a useful and trustworthy source of information for the individual is very recent (Damasio, 1994; Mayer, 1986; Palfai and Salovey, 1993). This approach assumes the functionalist and evolutionist perspective of emotions as essential and fundamental for the organism, and focuses on the analysis of individual differences in the use, abuse, and misuse of the information that emotions provide. This line of research studies people who trust in their emotions, who try to avoid the emotional influence, or who know when to attend or not to emotional signs and which are the emotional consequences. Additionally, this approach investigates in what circumstances the person uses the emotional information to make decisions and to perform judgments, and what are the psychological benefits that the individual obtains from that utilization.

Mayer and Gaschke (1988) suggested that the experience of mood has at least two components: the direct experience of one's moods and the meta-experience of these moods that is reflective and comprises thoughts and feelings about one's moods. The meta-experience of mood is considered a product of a regulatory process that monitors, evaluates, and sometimes acts to change mood, and, as it is suggested by the authors, this reflective process is particularly relevant to understand individual differences in how people experience their feelings, and how they feel and regulate their emotions. Besides, as it is suggested, since meta-mood experience arises in response to the direct perception of mood, it might be directly under the individual's control and may directly modulate mood. In this chapter, we first present a brief description of the Trait Meta-Mood Scale. This self-report measure is the most widely used instrument to assess stable individual differences in the qualities of the reflective mood experience. Specifically, the TMMS is a measure of beliefs concerning one's own emotional Attention (perceived attention paid to one's own emotional states), Clarity (perceived understanding of one's emotional states), and emotional Repair (perceived ability to regulate one's emotional states) (Salovey et al., 1995). Subsequently, its different translations and use in diverse countries are examined and the available literature on trait-meta mood research is reviewed (all papers published in peer review journals since 1995). Findings about its role in experimental, clinical, applied, and cross-cultural studies are presented. In the last section, each dimension that composes the instrument and its role as predictor of social adjustment and individual well-being is described. Finally, we discuss the potential improvements on the scale, the practical implications, and further studies on trait meta-mood research.

CREATION AND DEVELOPMENT OF THE TRAIT META-MOOD SCALE (TMMS)

The creation and development of the *Trait Meta-Mood Scale* by Salovey et al., (1995) have supposed a very useful tool for those social scientists interested in examining the individual differences in the metaknowledge of emotional states and, above all, to understand how these personal abilities affect diverse areas of the individual. Concisely, this scale was proposed as a first evaluative approach from Salovey and Mayer's model of EI (1990); and it is a bequest whose origin stems from the interest of these authors on the study of the reflective processes that accompany most emotional states (Mayer and Gaschke, 1988; Mayer, Salovey, Gomberg-Kaufman, and Blainey, 1991; Salovey, Hsee, and Mayer, 1993).

According to Salovey and Mayer's model of EI, there is a continuous reflective process associated to mood state by means of which the individual constantly perceives, values, and regulates emotional states. This process was called meta-mood experience and for its evaluation the authors developed the *State Meta-Mood Scale (SMMS)*. The SMMS measures individual's reflective processes of their current mood state emphasizing the momentary changes during which these processes occur (Mayer and Stevens, 1994). This instrument included people's beliefs on their level of control of their mood state, their clarity, acceptance, tipicity, and variability. Thus, this scale was focused on the cognitive processes associated to a continuous emotional experience, but it did not collect information regarding more stable attitudes on general mood state neither about the strategies used to cope with emotions. To solve this problem, the authors developed the TMMS in 1995 (Salovey et al., 1995), the first self-report measure that evaluates, steadily in time, people's beliefs about their mood states and emotions. The authors wanted the scale to collect the emotional processes that characterize emotionally intelligent people (Salovey et al., 1995). The objective of this scale is to obtain an index that evaluates people's knowledge about their own emotional states, that is to say, to obtain a personal estimation on the reflective aspects of our emotional experience (Salovey et al., 1995). The TMMS is a meta-knowledge of emotional states trait-scale that, in its extensive version, evaluates through 48 items individual differences in the skills to be conscious of one's own emotions, as well as the ability to regulate them.

The TMMS-48 contains three key dimensions of EI: Attention to feelings, emotional Clarity, and Repair of the emotions. Individuals are asked to evaluate the degree of agreement with each one of the items using a 5-points Likert scale (1 = Totally disagree; 5 = Totally agree).

Attention to feelings is the amount of attention paid to one's emotional states. This subscale is composed by 21 items and includes items such as "I often think about my feelings", "It is usually a waste of time to think about your emotions" (reverse scored), and "I pay a lot of attention to how I feel". This subscale assesses a basic ability in meta-mood experience referred to the tendency to take notice of and value mood. This is considered the basic step of the meta-mood experience and it is essential to understand our emotional state. In fact, it seems likely that a person who does not pay any attention to his/her emotions, who does not see emotions as relevant to anything, is unlikely also to understand how he or she feels at that moment and to engage in repair mood strategies. Some people pay a lot of attention to his/her mood and consider their feelings as very valuable while other people does not consider mood as relevant to anything.

Emotional Clarity refers to understanding one's emotional states. This subscale is composed by 15 items including statements such as "Sometimes I can't tell what my feelings are" (reverse scored), "I am rarely confused about how I feel", and "My belief and opinions always seem to change depending on how I feel". This subscale concerns the extent to which people experience their feelings clearly or understand how they feel. It is a relatively enduring tendency to monitor one's feelings and to experience them lucidly. Some people tend to be confused about how they feel, have difficulty expressing how they feel, and cannot make sense of their feelings, whereas others are rarely confused about their feelings, know how they feel, and experience little uncertainty regarding their feelings (Salovey et al., 1995).

Emotional Repair is the ability to regulate one's emotional states. It refers to the individual's belief about his/her ability to quit and regulate negative emotional states and to extend positive ones. This factor comprises 12 items including statements such as "I try to think good thoughts no matter how badly I feel"; "Although I am sometimes sad, I have a mostly optimistic outlook", and "When I am upset I realize that the "good things in life" are illusions". The Repair factor is the one with the highest level of complexity at the meta-mood experience, because the individual must initiate, once he or she has paid attention to his/her mood state and has understood his/her feelings, a set of strategies to diminish negative moods, restructuring the situation, thinking about pleasant situations, calming down, using distraction strategies, etc.

Salovey's group recommends a reduced version of the TMMS that consists on 30 items, and maintains the three factors but where those statements with smaller internal consistency have been eliminated (Salovey et al., 1995).

In Spain, the TMMS-48 has been adapted into Spanish. The Spanish version of the TMMS shows psychometric properties very similar to those of the original scale (Attention, $\alpha = .87$; Clarity, $\alpha = .81$; and Repair, $\alpha = .76$; Fernández-Berrocal, Alcaide, Domínguez, Fernández-McNally, Ramos, and Ravira, 1998). Currently, an abridged version of the TMMS-48 exists, called TMMS-24 that maintains the three original components of the scale but reduces the number of items to half the original, conserving those of greater internal consistency. The final scale is composed of 24 items, 8 items by factor, and the reliability for each component is: Attention, $\alpha = .90$; Clarity, $\alpha = .90$, and Repair, $\alpha = .86$. Likewise, it shows good test-retest reliability (Attention = .60; Clarity = .70 and Repair = .83). As it occurs with the extended version, the three subfactors correlate adequately and in the expected direction with classical criterion variables such as depression, anxiety, rumination, and vital satisfaction (Fernández-Berrocal, Extremera, and Ramos, 2004). The authors recommend the utilization of the Spanish reduced version, the TMMS-24.

The TMMS has also been translated and adapted into other languages and countries. Subsequently we resume those translations of the scale that have been published in peer-reviewed journals. A German version of the TMMS exists and has been validated in three studies (Otto, Döring-Seipel, Grebe, and Lantermann, 2001). Two factor analytic studies with 341 university students yielded 3 corresponding, highly consistent scales (from .81 to .88) with high convergent and discriminant validity concerning related questionnaires (personality measures such as the Big Five, Private and Public Self-Consciousness, Alexithymia, Depression, Ambivalence over emotional expressiveness or Optimism). A third study consisted on an emotion recognition experiment, where 95 participants (53 females, 42 males; mean age 26 years) were asked to identify emotions in 28 photographs of 7 facial emotions (joy, fear, disgust, surprise, anger, sadness, contempt). The results confirmed the hypotheses

that people with high Attention to emotions perceive other's facial expressions of emotions more accurately than subjects with low Attention to emotions.

Recently, the Portuguese version of the TMMS has been published (Queirós, Fernández-Berrocal, Extremera, Cancela, and Queirós, 2005). In this study the validity and reliability of the Portuguese modified version of the TMMS in a sample of 240 Portuguese participants (120 students and 120 persons over 65 years old) were examined. The internal consistency of the subscales was adequate for both samples (for the students sample the Cronbach's alphas were: .80 for Attention, .79 for Clarity, and .85 for Repair; for the elderly people sample: .88 for Attention, .83 for Clarity, and .92 for Repair). The correlations between the Portuguese modified version of the TMMS subscales and Mental Health, Satisfaction with Life Scale, Ruminative Responses Scale, and Beck Depression Inventory were in the expected direction. That is, emotional Clarity and emotional Repair were negatively associated with depression and rumination and positively correlated to satisfaction with life and mental health, while Attention to feelings did not correlate with any outcomes variables. In short, the Portuguese version of the TMMS showed appropriate reliability, and Clarity and Repair subscales significantly correlated with criterion variables as in previous studies with the original version.

There also exists a Chinese version of the TMMS which has been applied and revised in military medical students. 420 sophomores and juniors (314 males and 106 females aged 18-24 years) in a military medical school in China were assessed with the TMMS and the Center for Epidemiological Studies Depression Scale (DES-D). Its construct validity, internal consistency, and test-retest reliability were examined with principle component analysis and correlation coefficient analysis. The results showed that the three factors derived from the revised version matched the structure of the original design; the subjects' scores on the TMMS were negatively correlated with their DES-D scores; and there were no significant gender differences found in the TMMS subscores. It is concluded that the revised TMMS has satisfactory reliability and validity (Li, Yan, Yin, and Wu, 2002).

The English version of the TMMS has been used in other countries (Lee and Lee, 1997). These authors tested the reliability and validity of the TMMS in 342 male and 175 female Korean students. In order to investigate the criterion-related validity indexes, the scores from the subscales of the TMMS-30 were correlated with measures assessing associated constructs, such as the Mood Awareness Scale, the Negative Mood Regulation Scale, the Emotional Expressivity Scale, the Ambivalence over Emotional Expressiveness Questionnaire, and the Toronto Alexithymia Scale (TAS). Results indicated that the TMMS subscales showed good psychometric properties and correlated adequately and in the expected direction with other measures.

Davis, Stankov, and Roberts (1998) studied the instruments available for the assessment of EI. The aim of their study was to identify the construct validity of these instruments, and found that several well-known instruments showed low reliability (e.g. TAS subscales showed Cronbach's alphas from $\alpha=.007$ to $\alpha=.801$). Thus, the findings from this study showed the lack of agreement regarding the concept of EI and the absence of reliable instruments to measure this construct. In our opinion, at the time Davis et al. (1998) conducted their study, most of the current instruments for the measurement of EI (i.e. EQ-i, ECI, SSRI, MEIS, and MSCEIT) had not been developed yet. Also, most of the scales that were analyzed in the study were not developed to assess EI (e.g. the TAS and the Emotional Empathy Scale). However, a detailed analysis of the findings show us that considering the ten

self-reported measures evaluated, the TMMS factors showed the best psychometric properties ($\alpha=.73$ and $\alpha=.83$). The relations between the TMMS and other scientifically consolidated constructs were the expected ones. There is to say that the Toronto Alexithymia Scale showed negative correlations with the TMMS and positive correlations with emotional inhibition. Self-consciousness correlated positively with emotional Attention and Emotional Empathy, but negatively with the Alexithymia Scale. Likewise, neuroticism correlated negatively with emotional Repair (Davies et al., 1998).

Another recent study has also analyzed the underlying relations between the different dimensions of the TMMS and has validated the factorial structure of the scale in an Australian sample (Palmer, Gignac, Bates, and Stough, 2003). Support was also found for the construct validity of the emotional management competency assessed by the TMMS. The analyses showed positive and significative correlations between the three dimensions. However, mediation analyses showed that Clarity mediated the relation between Attention and Repair; there was an indirect relation between these two factors. This finding supported the results reported by Martinez-Pons (1998), suggesting that an adequate emotional clarity is not possible without a minimum level of attention to feelings and that, on the other hand, an adequate ability to repair our emotions is difficult unless there is certain clarity of emotions and mood states.

Recently, Salovey's group has specified that since the scorings that are obtained through the TMMS refer to people's perceptions of their own EI rather than to the real levels of EI, the authors prefer to call these scorings an index of "Perceived Emotional Intelligence (PEI)" with the intention to differentiate this index of EI to that another obtained by ability measures (Salovey, Stroud, Woolery, and Epel, 2002).

EMPIRICAL STUDIES WITH THE TMMS

A revision of the empirical studies using the TMMS that have been published in peer-review journals will now be detailed. This revision will be presented following a thematic criterion. Most studies reviewed are correlational studies, thus, the causal direction between the associations and the psychological processes involved needs to be further investigated. Thus, during the last few years, several experimental studies have been carried out, together with transcultural studies that examine differences on emotional processes across countries and cultures.

EI IN THE LABORATORY

The first study that used this scale examined if the capacity to attend, discriminate, and regulate emotions influenced the successful adaptation to stressful experiences (Salovey et al., 1995). To the authors, higher levels of these abilities could influence the integration and assimilation of the ruminative thoughts that follow negative vital events. EI would be a personal resource that would help to improve cognitive adaptation to the trauma. To test this hypothesis, an experimental investigation with university students was conducted. The experiment was comprised of three phases. In the first one, the participants filled a battery of

emotional and personality measures. In the second, they were exposed to a video-scene about drunk drivers with real scenes on the consequences of a reckless driving and the testimony of the victims. In the third one, the participants valued the degree of positivity, intensity, persistence, and controllability of their thoughts related to the video-scene. To conclude, the participants should talk about these thoughts. According to the hypothesis of the authors, the individuals with a greater clarity to discriminate their emotions and with a greater repair of negative thoughts would report positive thoughts across time, they would present a decrease in the intrusiveness and uncontrollability of negative thoughts and would generate more positive states at the end of the experiment. The results verified that the presentation of the video-scene had a strong emotional impact. The participants reported higher levels of positive emotions before watching the video-scene. Nevertheless, their emotional states after the video-scene diminished significantly. Finally, there was a positive recovery at the end of the experiment. With respect to the modulator effect that on the emotions had the different components of PEI (measure through the TMMS), it was found that before the presentation of the video scene the positive emotional state was significantly associated with emotional Repair and with low Attention. After the video, the participants with higher scores on Repair were the less affected ones, even when the initial emotional state was included. Finally, the emotional recovery (the apparition of a positive mood state in a third moment) was predicted by Clarity. That is to say, those people who reported that "I am usually very clear about my feelings" were the ones that better recovered from the induced negative mood state and showed a smaller rate of ruminative thoughts (Salovey et al., 1995).

The investigations on the influence of PEI using the TMMS have not circumscribed exclusively to studies in natural situations of stress. Several laboratories have proposed a more experimental approach to the influence of these emotional abilities on physiological or cognitive mechanisms. Three investigations conducted by Salovey's group illustrate this approach (Salovey et al., 2002). The first study was a correlational study and tried to confirm the relations between the factors of the TMMS and several psychological and interpersonal functioning variables such as depression, social anxiety, and satisfaction with interpersonal relationships. The results confirmed those obtained by previous studies. Concretely, people with higher Clarity and emotional Repair showed lower scorings in depression and lower report of physical and somatic symptoms, lower social anxiety, and higher empathy and interpersonal satisfaction. On the other hand, high levels of emotional Attention correlated positively with higher empathy. Finally, the three subscales of the TMMS correlated positively with self-esteem. In the second study, sixty women were faced to the execution of puzzles, serial subtraction tasks, and to the recording of a speech in time pressure conditions. In this study it was found that the abilities of Repair were related to less passive coping strategies and to the perception of the stressors as less threatening. Emotional Clarity was associated to a greater increment of the negative mood state, but to lower levels of cortisol during repeated stress situations. In the third study, the participants were randomly assigned to a condition of achievement or of interpersonal stress. In the achievement condition the participants should resolve complicated arithmetic problems and memorize a complex poem in situations of time pressure. In the interpersonal stress condition the participants had to maintain a conversation with two confederates who deliberately rejected them. The results showed that the ability to Repair emotions was associated with active coping and distraction strategies and with lower levels of rumination. In turn, emotional Attention was associated to lower cortisol levels and to less high blood pressure as reaction to the laboratory stressors.

These data suggest that the psychophysiological responses to stress would be a potential mechanism that underlies the relation between emotional functioning and health (Salovey et al., 2002).

Woolery and Salovey (2004) expand these findings analyzing the interactions between PEI and cardiovascular reactivity during an emotional writing task. The participants were encouraged to write for ten minutes about an emotional event of their lives or about topics of scarce importance. When compared to the control group, those participants that were asked to write about an emotional event showed a generalized increase in their cardiovascular responses. The participants who perceived clearly their emotions showed a greater increment of their systolic blood pressure immediately after the writing. Nevertheless, following a rest period their systolic blood pressure diminished notably when compared to those individuals who reported to discriminate their emotions worse. During the rest period, the participants with high emotional Clarity would have assimilated and processed the emotions experienced during the writing. Consistently, their initial levels of cardiovascular response tended to be recovered efficiently. Nevertheless, the participants that informed to have a low ability to clarify their emotional states, after living stressful situations they would experience intrusive thoughts with the purpose of clarifying the emotions felt. The increase in the systolic blood pressure could be consequence of that maladaptive coping style.

In an experimental study conducted by Coffey, Berenbaum, and Kerns (2003) the execution in an emotional Stroop task was positively associated with the dimension of emotional Attention. Specifically, those participants who reported higher Attention to their emotions showed also greater reaction time in the emotional contents of the Stroop task. No differences between words with emotional negative or positive content were found. In contrast, performance on the emotional Stroop task did not correlate significantly with Clarity neither with other variables of personality such as neuroticism, extraversion, and openness to experience. Finally, additional evidence of the discriminant validity of these two dimensions of the TMMS was found. While higher levels of neuroticism were associated with lower levels of emotional Clarity, higher levels of extraversion were related to higher levels of Attention to emotions. In turn, openness to experience was positively associated with Clarity and Attention.

In Spain, Fernandez-Berrocal and Extremera (2005) explored the use of interaction between moral heuristics and the TMMS. The main insight presented was that the quality of moral decisions is very sensitive to emotions, and hence this may lead us to a better understanding of the role of emotional abilities in moral choices. In doing so, the authors considered how individual differences (specifically, in Clarity and Repair) are related to moral decisions. Results showed that Clarity and Repair moderate framing effects in different moral tasks such as “the Asian disease problem” and other more real-life problems like “a divorce decision.”

These authors, Fernández-Berrocal and Extremera (2006), have analysed the influence of PEI on emotional responses in laboratory context. Specifically, the experiment investigated: how does PEI affect previous mood states? How does persons’ emotional reactivity to different mood induction conditions depend on their PEI? And, how does PEI help to a better mood recovery? PEI was first assessed by the TMMS one month before the experimental session. The experiment comprised three phases. At time 1 the experimenter assessed mood states of the participants before mood induction. At time 2 (mood reactivity phase), participants were randomly assigned to one of the three experimental conditions: amusement,

anger, and sadness mood conditions. Subsequently participants were assessed in their mood states. At time 3 (mood recovery phase), following a rest period participants were evaluated in mood states and intrusive thoughts measures. Results indicated that EI, specifically Clarity and Repair, were related to previous mood states, emotional reactivity to mood induction conditions, and emotional recovery. Thus, Clarity and Repair seem to play different but complementary roles in processing emotional situations generated in laboratory context. In this sense, PEI could join the list of personal and interpersonal factors that contribute to the efficient processing of positive and negative emotions.

Ramos, Fernández-Berrocal, and Extremera (2007) have analyzed the role of PEI in coping processes in induced stress situations. Previous to the experimental session, the participants were evaluated in the TMMS. Then, in the laboratory, they watched individually a video scene on sexual aggressions (concretely, multiple violations to a young woman). Immediately after watching the video the participants reported their emotional state by completing a mood state scale. In a second session, two days later, the intrusive thoughts experience during those two intermediate days was evaluated through an intrusions scale. Subsequently, all the participants visualized again the same video. Once more, the emotional state provoked by the video was evaluated in order to contrast it with the results from the first day. The results from this study indicated that the components of the TMMS were an optimum indicator of emotional adaptation. The participants who obtained a high score in the Repair subscale showed a lower score in depression and annoyance when they were exposed to the video on sexual aggressions the second day. The participants with higher ability to repair their emotional states experienced a lower number of intrusive thoughts what facilitated adaptation to the experience. Thus, intrusions completely mediated the effects of PEI (concretely the Repair factor) had upon the variables annoyance and depression. This result supposes the discovery of a mechanism by which people with higher PEI adapt better to stressful situations.

On the other hand, the factor emotional Clarity had a direct effect on the emotional adjustment in the first day of exposition to the video-scene. Before intrusive thoughts could mediate, those individuals who reported greater capacity to clarify their emotional states were found less tired and sad after being exposed to the stressor. Concisely, people who differentiate and understand their emotional states when faced to stressful stimulus will obtain benefits from this ability. Therefore, the factor Clarity seems to act in a first stage as a preventive level; nevertheless, the component emotional Repair requires that the negative emotion had been stirred up. Consequently, it acts in a second stage and in a palliative form.

CLINICAL AND HEALTH STUDIES

Other studies present a prospective focus in the study of PEI. For example, Goldman, Kraemer, and Salovey (1996) examined the moderating role of the TMMS dimensions on the report of symptoms and of illness among university students during periods of general stress. The authors collected the scorings in the TMMS along with measures of stress, physical symptoms, and visits to health centres in three different moments during the semester: 1) after filling the TMMS, 2) during the academic year, and 3) previously to the final exam. The authors hypothesized that the successful adaptation to the stressful experience would depend

on the capacity to attend, to discriminate and to regulate feelings. The results indicated that when the stress was substantial, the participants with higher Attention to their feelings were more likely to report diverse physical symptoms. On the other hand, those participants who repair their negative emotional states were less likely to complain of illness during stressful moments and visited health centres with lower frequency. These benefits of mood regulation were especially pronounced among participants experiencing heightened distress in response to impending examinations, thus suggesting that regulating immediate emotions can serve as an important buffer against life stressors (Goldman, et al., 1996).

Research conducted in the United States has also verified the influence of PEI in extensive areas of personal functioning. In this sense, Martínez-Pons (1997) carried out a study with 108 participants between 18 and 60 years old to verify the predictive validity of the TMMS in three areas of personal functioning: a) orientation to goals, that contained two diametrically opposite factors, task control and competitive success; b) perception of vital satisfaction -personal perception of the quality of life-; and c) depressive symptomatology -emotional, cognitive, and physical demonstrations of dejection and discouragement-. The results obtained aimed in the expected directions. PEI correlated positively with vital satisfaction and with the task control subscale, and negatively with depressive symptomatology. Martínez-Pons (1997) obtained the following relations: the influence of PEI on vital satisfaction was mediated by the variable task control and, on the other hand, the influence of PEI on depression was indirect through the perception of vital satisfaction and task control. Specifically, the 43% of the variance in depression was explained by the direct contribution of vital satisfaction, which, at the same time, was predicted by PEI. In conclusion, according to Martínez-Pons's model (1997), the higher the PEI of a person is, the higher his ability to carry out adaptive behaviours oriented toward tasks will be. Simultaneously, higher levels in these two areas of functioning will improve personal perception of quality of life which implies a decrease in the probability of apparition of depressive symptomatology.

In one of the first studies carried out in Spain with this measure, Fernández-Berrocal, Ramos, and Orozco (1999) analyzed the influence of the metaknowledge of emotional states on the psychological adjustment of women during their initial period of gestation. The sample consisted on 217 women interviewed individually in their health centers during the first three months of pregnancy. The results showed that the dimensions of PEI Clarity and Repair correlated negatively with the scores obtain in the Beck Depression Inventory (BDI); the women with high scores in PEI (Clarity and Repair) reported lower levels of depression. On the other hand, a sequential dependence among the components of PEI appeared: Attention, Clarity, and Repair. Attention and Clarity showed a significant correlation, as Repair and Clarity. Nevertheless, Attention and Repair did not correlate significantly. It is deduced that a person cannot differentiate between emotions if he or she does not attend them first, and also a person will not be able to repair his/her emotional state nor to handle his/her emotions efficiently unless he or she knows which emotions are. The most interesting result showed that the expectant mothers with lower scorings in the BDI differed from those with higher scorings in the BDI and classified as depressive, in their lower scorings in emotional Attention, and higher scorings in Clarity and Repair of emotional states.

Other investigations have also analyzed the influence of PEI on the psychological adjustment of adolescents (Fernández-Berrocal, Alcaide, and Ramos, 1999). Specifically, the results showed interesting gender differences that have been confirmed later in adult

population. Women obtained higher scores in Attention, anxiety, depression, and empathy than men. Men scored higher in Clarity, Repair, and emotional inhibition. Subsequently, the participants were divided into three groups corresponding to the criterion of the BDI: normal state, light depression, and moderate depression. The main result was that the adolescents with a normal state were differentiated of those classified as depressive in significantly higher levels in Clarity and Repair. On the other hand, the students classified as depressive obtained higher scorings in anxiety and suppression of thoughts and lower scorings in Clarity and Repair.

In another study carried out with American firemen and designed to investigate the role of the emotional experience and cognitive difficulties in acute stress situations, the importance of emotional Clarity was verified again (Gohm, Baumann, and Sniezek, 2001). In concrete, those individuals with higher levels of emotional Clarity reported a lower number of cognitive difficulties such as “to fail to see the point and do not know what to do”, “to forget what I learned” or “to be unable to think” during the different simulated fire exercises. According to the authors, an explanation to this results would be that people who are clear about their emotional reactions to an acute stress situation take less time ruminating in their emotional answer what permits, therefore, to pay more attention to the task that are carrying out. Besides, this study underlines the importance of these emotional abilities, above all, in situations of acute stress when the reaction time and performance very is limited.

The evidences on the importance of emotional abilities collected using the TMMS also stem from the clinical environment. The Australian group lead by Moriarty (Moriarty, Stough, Tidmarsh, Eger, and Dennison, 2001) investigated whether the levels of PEI evaluated with the TMMS would differentiate a group of adolescent sex offenders from other control group. The authors evaluated 15 adolescents that attended the common services and health services in Victory (Australia) because of diverse sexual crimes (violation, abuse, sexual arrest ...) and as control group the authors selected 49 age- matched adolescents that were not sex offenders. These two groups complimented diverse scales of emotional abilities including the TMMS. The discriminant analyses showed that the 89.9% of the sample was correctly situated in their group. In general, the adolescent sex offenders obtained higher scorings in aggression and Attention to feelings and they reported lower Clarity about their feelings and lower ability to Repair negative mood states and to maintain positive mood states. Because of these results, the authors consider the inclusion of emotional abilities as an essential factor in programs of sexual education for young adolescents that have committed sexual abuse (Moriarty et al., 2001).

In another study, McCarthy, Moller, and Fouladi (2001) analyzed the influence of parent's attachment style on the emotional abilities of their children and on perceived stress among college students. The participants completed an extensive battery of attachment questionnaires and a scale of perceived stress. The results found the following profile: the children who showed higher levels of fatherly and maternal attachment reported lower levels of perceived stress, higher trust in their ability to attend and to regulate their negative emotions and also they trusted less in the use of the suppression of thoughts as a way to cope with their negative feelings. These response patterns seems to suggest that people with higher levels of parental attachment tend to evaluate life situations as less stressful and are less prone to use conscious strategies to block the thoughts that lead to negative emotions. In contrast, those students with a parental style characterized by overprotection trusted less in their ability

to identify and to regulate negative emotions, and showed higher perceived stress, and higher use of the suppression of thoughts as a strategy to regulate mood state.

Another investigation focused on the relationship between pain, negative affect, and Clarity in chronic pain patients: arthritis and fibromyalgia patients (Zautra, Smith, Affleck, and Tennen, 2001). The roles of positive affect and mood Clarity in modifying the size of the relationship between pain and negative affect were examined as a means of testing the predictions of a dynamic model of affect regulation. The presence of positive affect reduced the size of the relationship between pain and negative affect. Also, for arthritis participants with greater mood Clarity, there was less overlap in ratings of negative and positive affective states. With respect to fibromyalgia participants, mood Clarity was associated with less negative affect overall, as was average positive affect, suggesting that these attributes may have been viewed as coping resources among those with this kind of pain.

Gohm and Clore (2002a) have conducted an extensive review of the studies that used the TMMS in different areas of personal well-being within the Anglo-Saxon environment. The relation between coping styles and PEI has been examined. In general, the results showed that valuing emotional experiences and having confidence in our ability to attend, understand, and regulate our emotions were associated with the coping style considered as more adaptive in the available literature. In two different samples, high total score in the TMMS was significantly related to the use of positive reinterpretation and growth, higher active confrontation, action planning, and higher search for emotional and social support. The participants with high PEI showed some tendency to concentrate and to relieve their emotions but not to avoid the stressful situation by means of behaviour or mental suppression. In conclusion, these data indicate that an emotionally intelligent individual should likely process and express emotions in a useful way showing confrontation strategies according to the information that the emotional state provides him or her.

These same authors found relations between emotional well-being and scorings in the TMMS in university students (Gohm and Clore, 2002b). The results showed that PEI correlated with higher levels of present happiness, prior happiness, positive affect, life well-being, and self-esteem. Likewise, scorings in the TMMS correlated inversely with general and social anxiety. These relations could be due to the beneficial effects of incorporating emotional information to the individual's every day life, which would influence judgments, decision making, and more appropriate social interactions. Besides, the scores in the TMMS were also significantly associated to the individual's attributional style. The participants who showed high emotional abilities in the TMMS tended to make adaptive attributions (stable, global, and internal) of their successes in life.

In another study carried out in Spain the role played by the different components of the TMMS on middle aged women' quality of life was analyzed (Extremera and Fernández-Berrocal, 2002). Succinctly, no differences were found between the different health domains in function of the menopausal status of the women when age was controlled. However, women with higher levels of emotional Repair showed more adjusted scorings in all health domains, independently of their menopausal status. That is to say, those women with higher ability to regulate their emotions showed better physical functioning, greater emotional and physical role, higher levels of vitality and social functioning, and better perceived general health, while their scorings in body pain were lower than women who reported higher difficulties to regulate their negative emotions. Moreover, regression analyses showed that the components of the TMMS predicted significantly different health domains such as physical

role, emotional role, body pain, perception of general health, vitality, mental health and social functioning.

Several studies have examined the TMMS incremental and predictive validity to predict criterion variables when other classical variables which have previously shown relevance are controlled for. Palmer, Donaldson, and Stough (2002) evaluated the PEI of 107 participants using a reduced version of the TMMS along with tests of satisfaction with life, mood state measured through the PANAS, and alexitymia by means of the TAS. The results showed that the Clarity factor of the TMMS correlated positively with satisfaction with life. Moreover, this capacity to understand and to discriminate emotions predicted the degree of satisfaction with life when the positive and negative affect of the participants were controlled for. The results provide evidence that certain components of the EI construct, measured through the TMMS, explain variance for criterion variables such as satisfaction with life beyond other classical variables of personality. In a posterior analysis of the data obtained by Palmer et al., (2002), Gignac (2006) has used structural equation modeling for the purposes of modeling a general EI factor as a potential incrementally predictive predictor of life satisfaction. The results demonstrated that a general PEI factor was associated with life satisfaction. These results have recently been verified and expanded in the Spanish population controlling not only mood state, but also the big five personality factors. In this study, emotional Clarity predicted incrementally satisfaction with life beyond mood state and the big five personality factors (Extremera and Fernández-Berrocal, 2005).

Research on depression and its relation with the TMMS factors continues stirring up controversy and different theoretical explanations. Rude and McCarthy (2003) noted that depressed participants scored significantly higher in thought suppression and significantly lower in Attention and emotional Clarity than nondepressed participants. Besides, the results showed that higher thought suppression and lower emotional Clarity distinguished between individuals with high and low vulnerability to depression.

On the other hand, Thayer, Rossy, Ruiz-Padial, and Johnsen (2003) have found gender differences. Women scored higher than men in Attention to emotions, consistently with previous findings where women scored higher in Attention to feelings and rumination about their feelings than men. However, in the study by Thayer et al., (2003), when the variance associated to higher score on Attention was controlled for, gender differences on depressive symptomatology were not significant. Subsequent analyses found that for women with lower depressive symptomatology, higher Attention to feelings was not associated with higher levels of depression. In contrast, women with higher depressive symptomatology showed higher Attention to emotions, lower emotional Repair ability, and higher depressive symptomatology than men with high levels of depression. As the authors point out, when people exhibit high Attention to emotions accompanied by high levels of Clarity and emotional Repair, these abilities associate with the positive effects of a higher emotional processing of the information. On the other hand, when a high Attention to emotions is not maintained in equilibrium with adequate levels of Clarity or Repair, the individual may fall in an emotional spiral due to the lack of strategies to cope with rumination. In this sense, this emotional spiral of higher attention to emotions without the ability to discriminate neither to repair those emotional states can flow into what Nolen-Hoeksema calls *ruminative thoughts* which has been identified as an important factor in depression in general and, specifically, in gender differences in depression (Nolen-Hoeksema, Larson, and Grayson, 1999).

In line with the results of Thayer et al., (2003), Lischetzke and Eid (2003) have made more precise the relation between the different components of the TMMS, focusing mainly in the factor emotional Attention. These authors carried out two multi-method studies to evaluate the levels of Attention, Clarity, and Repair through the perception of the participants as well as through the reports of two friends of the participant. The authors found that Repair, but not Clarity, moderated the existing relation between Attention and emotional well-being. Specifically, for individuals with high emotional Repair, a high emotional Attention was beneficial for their well-being. On the other hand, for individuals with low emotional Repair, a high Attention was damaging and affected negatively their well-being. These data might help to explain the reason why different investigations found contradictory results regarding the relation between Attention and emotional well-being. Thus, when the factors of the TMMS are correlated with well-being indexes in clinical or subclinical population, where the levels of Attention and Repair are high and low respectively, it is likely that Attention shows a negative relation with well-being indexes. On the other hand, in non clinical populations, with medium to high levels of emotional Repair, the factor of Attention may show positive relations with well-being and psychological adjustment indexes.

The relationship between anxiety, PEI, perceived health, and health behaviour in adolescence was examined in 462 adolescents between 16 and 19 years old. Results showed a relationship between low anxiety, high Clarity and emotional Repair, and perceived health symptoms and life satisfaction. Positive health perception was related with an increment of health behaviours and low alcohol and drugs intake (Latorre and Montañes, 2004).

The relation between physical activity and PEI was studied in elderly persons, with a sample of 400 men and women aged 60 to 95 years. Results showed that, compared with no exercise, physical activity was associated positively and significantly with the three components of the TMMS, Attention, Clarity, and emotional Repair. The authors suggest that regular physical activity could represent an important and potent protector factor for PEI decline in elderly persons (Queiros, Cancela, and Fernández-Berrocal, 2004).

Within the clinical field of depression, the TMMS has served to verify the construct validity of different types of depression. Williams, Fernández-Berrocal, Extremera, Ramos, and Joiner (2004) examined the relation between the most predictive component of the TMMS, the Repair factor, and the symptoms of endogenous depression and hopelessness depression evaluated through the BDI. While endogenous depression is defined as a state of depression which primary cause resides in factors of biological type or somatic factors, hopelessness depression is characterized by being a depression subtype produced, at less partially, as a reaction to external stressors. The study predicted that the relation between the ability to regulate emotions and endogenous depression would be weaker than the relation between the ability to regulate emotions and hopelessness depression because endogenous depression would be less influenced by aspects of emotional character. Pearson's correlations and partial correlations analysis showed that the relation of emotional Repair with hopelessness depression was stronger than with endogenous depression. In addition, while the correlation between emotional Repair and hopelessness depression was still significant when the levels of endogenous depression was controlled for, when the partial correlation between emotional Repair and endogenous depression was conducted controlling for hopelessness depression, no significance was found. These results give further discriminant evidence of the hopelessness depression subtype and give support to the hopelessness theory of depression (Abramson, Metalsky, and Alloy, 1989).

Schmidt and Andrykowski (2004) investigated psychological adjustment as a function of PEI as evaluated by the TMMS, social support, and social constraints in 210 patients recruited via postings to Internet-based breast cancer support groups. Results indicated that high social constraints and low PEI were associated with greater distress, specifically, less depression, anxiety, and breast cancer-related avoidance. These findings suggested that high PEI could buffer against the negative impact of a toxic social environment. This research supported the view that EI may play an important role in the process of psychological adaptation to breast cancer.

Subsequently, these authors examined the characteristics of individuals who elected to write about the events of September 11th and the linguistic characteristics of their writing (Graves, Schmidt, and Andrykowski, 2005). Consistent with their hypothesis, total TMMS scores, as well as scores for Repair and Clarity, were positively associated with the use of affect words. Thus, people who are more skilled in recognizing their emotions and engaging in mood repair used more emotion-related words when writing about a stressful event. Given the prominent role of emotional expression and cognitive processing of emotion in historical and contemporary models of adaptation to trauma (e.g., Lepore and Smyth, 2002), dispositional characteristics associated with emotionally expressive behavior (here evidenced in writing) are likely to facilitate the adaptation process.

On the other hand, Leible and Snell (2004) have examined the relations between the TMMS factors and the different personality disorders described in the DSM-IV. The authors found that the individuals with higher scorings in an instrument designed to measure borderline personality disorders (Personality Diagnostic Questionnaire 4; PDQ-4) reported lower levels of Clarity and Repair. This research supports the hypothesis that people with borderline personality disorder present socio-emotional adaptation problems, in part, due to their lacks of EI abilities. Likewise, very interesting data were obtained when the different personality disorders groups were analyzed in function of each TMMS factors. Thus, emotional Attention correlated negatively with symptoms of schizoid and anti-social personality, and correlated positively with symptoms of histrionic personality. On the other hand, emotional Clarity revealed significant and negative correlations with each one of the twelve personality disorders: paranoid, schizoid, schizotypal, antisocial, limit, histrionic, narcissistic, avoidant, dependent, obsessive-compulsive, negativistic, and depressive. Moreover, emotional Clarity also correlated negatively with PDQ-4 total scoring.

Finally, the factor of emotional Repair showed significant and negative relations with all but the histrionic personality disorder, as well as with total scoring in the PDQ-4. The data of this study suggest that people with personality disorders lack comprehension of the nature and meaning of their emotions along with a weak ability to regulate their emotional states and to cope with negative emotional experiences, confirming a deficit in the intrapersonal aspects of EI.

Focusing on positive schizotypy, Kerns (2005) examined whether emotion processing traits and task performance are associated with this personality disorder, assessed with the Magical Ideation and Perceptual Aberration Scales. The results of this study suggest that emotion processing is associated with positive schizotypy. Thus, individuals with elevated positive schizotypy reported greater attention to emotions, but they reported less clarity of emotions than controls. More participants with positive schizotypy were also classified as emotionally overwhelmed (Gohm, 2003) than controls. On the basis of previous research,

these findings suggest that people with positive schizotypy might tend to have poor mood regulation and poor coping with stress.

The relationship between PEI, social support, and affectivity has been further studied in university students. The results show that social support is strong and significantly related with both mood Repair, on one hand, and more positive affects and sensation seeking, on the other (Verissimo, 2005). Recently, Extremera and Fernández-Berrocal (2006) have further studied this matter, analyzing association between PEI, anxiety, depression, and mental, social, and physical health in university students. The sample was made up of 184 university students. The results showed that high emotional Attention was positively and significantly related to high anxiety, depression, and to low levels of role emotional, social functioning, and mental health. However, high levels of emotional Clarity and mood Repair were related to low levels of anxiety and depression, and high levels of role physical, social functioning, mental health, vitality, and general health. This study confirmed the predictive value of Attention, Clarity and mood Repair regarding the levels of anxiety, depression, and areas related to mental, social, and physical health in university students.

Fernández-Berrocal, Alcaide, Extremera, and Pizarro (2006) examined the relationship between PEI, anxiety, and depression among adolescents. 250 high-school students were administered the TMMS, along with measures of thought suppression, self-esteem, anxiety, and depression. The authors hypothesized that emotional abilities would predict psychological adjustment above and beyond factors that had been previously associated with poor adjustment (i.e., self-esteem and thought suppression). The study revealed two main findings. First, self-reported ability to regulate mood was positively related to self-esteem. Second, PEI was negatively related to levels of depression and anxiety. Specifically, emotional Clarity and emotional Repair were associated with better psychological adjustment, independent of the effects of self-esteem and thought suppression. These results provide support for the hypothesis that emotional abilities are an important and unique contributor to psychological adjustment.

Recently, it has been explored whether the dimensions that comprise PEI and alexithymia constructs are differentially associated with well-being measures and adaptive coping styles (Velasco, Fernández, Páez, and Campos, 2006). The study examined how PEI and alexithymia relate to coping and affect regulation, using social support, perceived stress, depression, and affect balance as indexes. The authors found that the TMMS and the alexithymia scale subfactors converge in two different dimensions: clarity and regulation, and attention. Clarity and regulation were associated to an adaptive profile of coping with stress.

Nowadays a major public health concern affects smoking, alcohol consumption, and the use of cannabis and psycho-stimulant drugs among young people. If EI could be a protective factor against smoking, alcohol consumption, and substance abuse, seems an important field for research. In this sense, the role of PEI, measured with the TMMS, in the use of tobacco and cannabis in undergraduates has been analysed (Limonero, Tomás-Sabado, and Fernández-Castro, 2006). This paper presents the first investigation on the relationship between PEI and cannabis use. The authors find that, in their sample, the students who consume tobacco or cannabis present low scores in the Repair factor of the TMMS, and also are those who started consuming tobacco or cannabis at an earlier age. Occasional consumption of cannabis seems to be related to emotional Clarity, thus, students with high scores are those who consume less. The authors discuss these findings, considering that drug

use is a complex problem in which EI might exert a relevant role, and also discuss the implications of these results for the prevention of smoking and the use of cannabis.

The literature on eating disorders emphasizes the relationship between alexithymia and anorexia nervosa on the one hand, and between bulimia nervosa and affect dysregulation on the other. Gilboa-Schechtman, Avnon, Zubery, and Jeczmiem (2006) have recently studied these matters. In their study, two questions were addressed: (1) Are there different patterns of emotional processing deficiencies in anorexia and bulimia? and (2) Is there a unique contribution of eating disorders to emotional processing deficiencies? The participants were 520 women with anorexia nervosa, 520 women with bulimia nervosa, and 520 women as normal controls who completed measures of eating disorders, state-trait anxiety, social anxiety, depression, alexithymia, the TMMS, and the Response Styles Questionnaire. Three hypotheses were examined: (1) Women with eating disorders will exhibit lower emotional awareness and more deficient emotional regulation than will normal controls (emotional deficiency); (2) anorexia nervosa patients will be less emotionally aware than bulimia nervosa patients, whereas bulimia nervosa ones will be less capable of effective emotional regulation than anorexia nervosa ones (disorder specificity); and (3) emotional distress will mediate the relationships between emotional processing and eating disorders (emotional distress mediation). Results supported the emotional deficiency and distress mediation hypotheses, and partially supported the disorder specificity hypothesis. Thus, eating disorders patients showed lower scores on Attention, Clarity, and Repair than controls. Moreover, anorexia nervosa women reported lower Attention to feelings and emotional Clarity than bulimia nervosa women, but they did not report different patterns of emotional Repair. However, none of the differences in emotional awareness or emotional regulation between women with eating disorders and normal controls remained significant after statistically controlling for emotional distress. Using regression analyses, the authors found that only rumination remained significantly correlated with a continuous measure of eating disorders pathology when controlling for measures of depression and anxiety.

ORGANIZATIONS

The organizational field is quite attractive to demonstrate what emotionally intelligent workers can do for companies and institutions. To some authors, persons with high EI should have more adaptive and positive outcomes in their job. Concretely, these employees should have better relations with work mates and managers, better work performance, and higher satisfaction and compromise with work and with the organization, among others. However, research on the predictive value of EI and its usefulness within the workplace is still sparse. While within health and educational fields the studies focused on academic performance and well being are encouraging, in organizations, the idea of increasing employee's EI to improve their work performance, productions, and their well-being at the workplace must be confirmed and validated, and require, as EI detractors consider, rigorous and strong research (Matthews, Zeidner, and Roberts, 2002). The effect of PEI in the quality of the interpersonal relations within the labor context has been analyzed (Gohm and Clore, 2002a). The participants were asked to specify in what measure a list of adjectives described their relations with their superiors and with their more nearby coworkers. Some of these adjectives were

positive (e.g., friendly, charming, respectful) and other negative (e.g., tense, edge, little centred). The scorings in PEI were associated with positive aspects, but not with negative aspects, of the relationship with the companions and with the supervisor. The fact that the scorings in the TMMS were linked to positive aspects, but not to the negative ones, could make one think of a general trait of happiness that would underlie these correlations. Nevertheless, if this was the case, one would expect an intense and inverse correlation between PEI and negative aspects, and this was not found. Additionally, high scorings in the TMMS correlated positively with higher levels of general satisfaction with work and with higher satisfaction with the relationships with companions, but did not correlate with satisfaction with the salary or with working hours (Gohm and Clore, 2002a).

A study conducted with workers in an organizational unit charged with developing creative designs and manufacturing techniques, the factor Clarity of feelings was particularly relevant to understand how negative and positive moods relate to creativity in the workplace (George and Zhou, 2002). In this creative context of working, people are likely to use their mood as input into their evaluations of their ongoing efforts. However, for mood to serve as input, people must be high on clarity of feelings or know and be clear about how they are feeling. To the extent that people tend to be confused about how they feel (or are low on clarity of feelings), mood cannot serve as input because people are not sure about how they feel. Using a mood-as-input model, the authors found that negative moods were positively related to creative performance when perceived recognition and rewards for creative performance and Clarity of feelings were high. On the other hand, positive moods were negatively related to creative performance when perceived recognition and rewards for creativity and Clarity of feelings were high. When the organizational context is seen as emphasizing and rewarding creative performance, and Clarity of feelings is high, people use their mood as input into the ongoing evaluation of their current efforts with regard to creative performance. Positive moods signal that ongoing efforts are sufficient; negative moods signal that the improvements are needed, and more effort needs to be exerted to come up with truly novel and useful ideas. In general, the study found that in order for mood to contribute to creativity in the workplace, people must know how they feel or be high on clarity of feelings (George and Zhou, 2002).

In a study carried out with professionals who attend people with intellectual disability, the results showed that the dimensions of Clarity and emotional Repair correlated positive and significantly with the dimension of burnout of personal achievement, but not with the dimensions of emotional exhaustion and depersonalization (Durán, Extremera, and Rey, 2004). These results support the meta-analysis carried out by Lee and Asforth (1996), in which it was established that personal execution is more related to the worker's personal resources than to labour demands. The data obtained from these studies suggest that EI could be a personal resource of the employee that would facilitate a greater perception of subjective well-being, self-effectiveness, and self-assessment at work, and would help to maintain high levels of work dedication.

The influence of PEI in nursing job stress was analyzed in 218 nurses of different hospitals in Spain. The main results showed that women present greater levels of job stress than men; nurse stress scorings significantly correlated with the components Clarity and Repair of the TMMS, and the participants with higher scores in Clarity or Repair showed lower stress levels. Thus, differential effects of the TMMS factors upon work stress were found, concluding that it would be necessary to analyze in more detail the differential

implication of each one of the components of PEI in job stress and the use of coping strategies (Limonero, Tomas-Sábado, Fernandez-Castro, and Gomez-Benito, 2004).

Donaldson-Feilder and Bond (2004) evaluated the importance of psychological acceptance and PEI through the TMMS, to predict satisfaction with work, physical well-being, and mental health in a sample of British workers of different businesses. The results did not give support to the incremental validity of the TMMS on these variables. The relations between the TMMS and different indexes of well-being at work disappeared once the influence of psychological acceptance and worker's control of the work environment were controlled for. In this study, organizational variables showed higher influence than emotional variables to explain well-being at work.

In other study, 84 tertiary students completed questionnaires measuring PEI, personality, affiliation, abstract reasoning ability, emotional knowledge, and task orientation. Among personality variables, extraversion and agreeableness correlated moderately with total scoring on TMMS. The score on TMMS also correlated with emotional knowledge but not with abstract reasoning or interest in affiliation. Results also found that the TMMS correlated with task orientation but this effect disappeared when personality was controlled for (Warwick and Nettelbeck, 2006).

The relations between PEI and satisfaction with life in Spanish college teachers has been recently studied (Augusto, López-Zafra, Martínez de Antoñana, and Pulido, 2006). The authors have examined the incremental role of the TMMS upon satisfaction with life in college teachers, controlling for several demographic variables, negative and positive affect, and alexithymia dimensions. Beyond possible conceptual overlap between alexithymia dimensions and the TMMS, the subfactors Clarity and Repair of the TMMS showed significant correlations with satisfaction with life, and moreover, showed incremental variance in satisfaction with life when the forementioned variables were controlled for. However, authors found that the two most important significant predictors of satisfaction with life were the worker's affect and his/her own satisfaction with work.

The TMMS and general self-efficacy has been further studied as predictors of burnout and engagement dimensions controlling the influence of demographics characteristics, perceived stress, and self-efficacy (Durán, Extremera, Rey, Fernández-Berrocal, and Montalbán, 2006). Results indicate the relevance of EI as an individual resource and support the hypothesis that this construct accounts for non-overlapping variance on academic burnout and engagement above and beyond classic constructs predicting these criterion measures such as perceived stress and general self-efficacy.

Recently, the relationship between leadership, PEI and intuition in 176 senior female managers has been examined. The results provide partial support for a relationship between the TMMS, leadership and intuition. A positive relationship was found between transformational leadership and PEI, indicating that those female managers who adopt a more transformational leadership style also perceive themselves as better at attending to moods and emotions, discriminating amongst their feelings, and regulating their moods. This relationship suggests that the abilities related to the meta-mood experience measured by the TMMS are interrelated to the behaviours of the transformational leader, who is able to engender feelings of trust, respect, admiration and loyalty from their subordinates, which in part may be related to their ability to accurately process the emotional information they experience (Downey, Papageorgiou, and Stough, 2006).

TRANSCULTURAL STUDIES

Recently, a new field of research has arisen to study whether the effects of PEI evaluated through the TMMS have a differential influence in several criterion variable depending on the culture. In this sense, evidence exists that the factors of the TMMS correlate with constructs such as alexithymia, anxiety, depression, self-esteem, and perceived stress, both for American and Iranian samples (Ghorbani, Bing, Watson, Davison, and Mack, 2002). These authors consider the factors of the TMMS as an information processing system composed of an input (Attention to emotions), a process (Clarity of emotions), and an output (Repair of emotions). Confirmatory factor analyses and measurement invariance procedures revealed cross-cultural similarities in the fit of an a priori higher-order factor structure to the obtained data, but subsequent structural equation modelling techniques uncovered cross-cultural dissimilarities in the actual processing of emotional information. Specifically, the higher-order factors of PEI were similar, but the interrelationships among those higher-order factors were not. As expected, Iranians displayed positive relationships among the input (emotional Attention), processing (Clarity), and output (Repair) activities of the information-processing model. For the Americans, however, greater input (Attention) was associated with diminished processing (Clarity) and output (Repair). Nevertheless, the Americans showed positive and strong relations between Clarity and Repair. The authors propose that the historical American emphasis on the self and individualism promotes positive and optimistic thinking. Overall, these data most importantly suggested that subtle cultural differences might exist in the processing of emotional information.

Another transcultural study using the TMMS examined the hypothesis that cultural factors influence the relation between PEI and depression (Fernández-Berrocal, Salovey, Vera, Extremera, and Ramos, 2005). The authors predicted that the influence of PEI on depression is moderated by culture. The cultural factors used in this study were Individualism-Collectivism and Masculinity-Femininity based on Hofstede's dimensions (Hofstede, 1984). Participants from three different cultures (United States, Chile, and Spain) completed the TMMS, and the Beck Depression Inventory. Attention was related to a higher score in the BDI, and Clarity and Repair were associated to a lower BDI scores in all cultures. As predicted, Attention and Clarity were stronger predictors of depression in feminine cultures than in masculine cultures. The results indicate that the effect of PEI on depression is moderated to some degree by culture.

FUTURE RESEARCH, IMPLICATIONS AND IMPROVEMENTS OF THE TRAIT-META MOOD SCALE

If something has been confirmed along this review is that the different dimensions of PEI evaluated with the TMMS do not always show a homogeneous profile and predict the criterion variables in the same direction. In general, individuals with better psychological adaptation show moderate to low scorings in emotional Attention and high scorings in the other two dimensions of the TMMS (Clarity and Repair) (Extremera and Fernández-Berrocal, 2002; Fernández-Berrocal, Extremera, and Ramos, 2003; Fernández-Berrocal, Ramos, and Extremera, 2001; Salovey, Bedell, Detweiler, and Mayer, 1999; Salovey et al., 1995; Thayer

et al., 2003). We believe that it is interesting to summarize the importance of these dimensions of the TMMS, their role in individual well-being, and their influence on different criterion of everyday life. First, we will examine the factor emotional Attention, since it is a dimension which extreme levels usually correlate with emotional maladjustment.

The emotional Attention is defined as the individual's tendency to observe and think about his/her own emotions and feelings, to value and to examine his/her emotional states, and to focus on and maximize the emotional experience (Gohm and Clore, 2000; Salovey et al., 1995; Swinkels and Giuliano, 1995). Emotionally attentive people constantly examine the progress of their mood states trying to understand them, which is not always fruitful for the individual, especially when a high Attention to emotions is not followed by the sufficient capacity to discriminate their causes, motives, and consequences (Thayer et al., 2003).

Therefore, the real danger for people who attend excessively to their emotions without the adequate emotional Clarity and Repair is that they could develop an emotional spiral which generates a ruminative process out of control of the individual, which maintains, rather than to alleviate, their negative mood state. This hypothesis would support prior findings where a high emotional Attention, accompanied by low levels of Clarity and Repair, have been associated with a higher tendency to ruminative thoughts (Fernández-Berrocal et al., 2001) and this, at the same time, has been related to greater depressive symptomatology, mainly in women (Nolen-Hoeksema, et al., 1999; Nolen-Hoeksema and Morrow, 1993). In contrast, medium levels of emotional Attention accompanied by high emotional Clarity and Repair would be related to a more adequate processing of emotional information and to better levels of adjustment (Thayer et al., 2003). Interestingly, both extremes seem to be dangerous. As Gohm (2003) points out it is likely that people who pay little attention to their emotions and consider their emotional states irrelevant, will not use that information to regulate their mood state. In contrast, one might think that a person who pays too much attention to his /her emotions, constantly attending to his /her mood states but who does not act, will have problems to carry out strategies that lead to an effective regulation. In fact, people with high levels of Attention to emotions report greater number of physical symptoms (Goldman, et al., 1996), greater anxiety and depressive symptomatology (Fernández-Berrocal, et al., 2006; Salovey, et al., 2002; Thayer et al., 2003), higher tendency to suppress their thoughts and decreased social and physical functioning (Extremera and Fernández-Berrocal, 2002; Fernández-Berrocal et al., 2001; Salovey et al., 1995). Therefore, people who pay moderate attention to their emotions will be the ones that will carry out more adaptive strategies for emotional regulation because they will use the information obtained of their emotions efficiently (Gohm, 2003).

The second component of the TMMS is called emotional Clarity. It refers to people's ability to identify, distinguish, and describe the emotions that they experience. It would be the capacity to name our emotions, in comparison to only knowing that one feels well or bad. Most people are able of saying if they feel fine or bad, but some individuals are better detecting if their actual negative mood state is, for example, of annoyance, anxiety, or frustration. In light of prior investigations that relate the factors of the TMMS with the dimensions of alexitymia (Gohm and Clore, 2002a), this factor would be opposed to the construct of alexitymia and, specifically, to the alexitymia dimension unable to describe own emotions. Thus, emotional Clarity is characteristic of people with high levels of intrapersonal emotional understanding. These individuals show greater facility to understand the origin of their emotions, what events to expect during the experience of those emotions (e.g.,

physiological reaction, motor behaviour, thoughts) and their consequences. Clarity is strongly related to emotional Attention and they have been analyzed together in various studies (Gohm and Clore, 2000,2002a,b; Gohm et al., 2001; Gohm, 2003).

People who know what they are feeling would be more skillful dealing with emotional problems and, consequently, experience greater emotional welfare compared to people who have less emotional Clarity. Likewise, people who easily identify a specific emotion during stressful situations will spend less time attending to their emotional reactions, and will invest less cognitive resources which will let them evaluate the alternatives of response, to maintain their thoughts in other tasks or carry out more adaptive coping strategies (Gohm and Clore, 2002b; Gohm et al., 2001). A person with low emotional Clarity, confused about his/her emotions, is more likely to show unpredictable and often problematic reactions during emotional situations. In fact, high scorings in emotional Clarity have been associated with different dimensions of general health (Extremera and Fernández-Berrocal, 2002), minor tendency to suppress thoughts (Fernández-Berrocal et al., 2001), greater satisfaction with life (Extremera and Fernández-Berrocal, 2005; Palmer et al., 2002), strategies for positive coping and global attributional styles for positive events but not for negative events (Gohm and Clore, 2002b), better self-esteem and interpersonal satisfaction (Salovey et al., 2002), lower vulnerability to stress and better recovery from negative thoughts (Salovey et al., 1995), less depression (Fernández-Berrocal et al., 2006; Salovey et al., 2002), lower tendency to develop personality disorders (Leible and Snell, 2004) and a better adaptation to stressful situations at work (Gohm et al., 2001).

The third factor of the TMMS, emotional Repair, is defined as the individual's belief in his/ her ability to interrupt negative emotional states and prolong the positive ones. This factor is strongly related to the previous one, emotional Clarity, and literature has shown their narrow links in the recovery of mood state. Not in vain, people with high ability to differentiate emotional experiences are more likely to regulate their emotions (Feldman-Barret, Gross, Conner, and Benvenuto, 2001). However, emotions can be regulated by very diverse strategies (Gross and John, 2002) and the factor emotional Repair does not cover all them certainly. Nevertheless, most regulation strategies focused on increasing or maintaining the intensity of positive emotions and reducing or eliminating negative emotions (Ben-Ze'ev, 2000). Precisely, the aim of the factor Repair is to collect these individual abilities of emotional regulation steadily across time, evaluating the individual's active intents for leading negative emotions toward a more positive direction, for example, planning or imagining something pleasant, being calmed or generating different perspectives.

This empirical work has been confirmed by the line of investigation conducted by Catanzaro and Mearns (1990) showing the importance of the expectations on our capacity of emotional regulation as a protective factor of our mental health and wellbeing. However, the measurement instrument used by these authors focuses explicitly on the reduction or elimination of negative emotions and does not cover other important aspects, collected in the TMMS, related to the maintenance of positive mood states. Besides, emotional Repair reflects a regulation of emotions focused on the responses, because this ability towards the modulation of the emotional reaction once the emotion has been generated by some situation or person (Gross, 2001). The studies carried out using the TMMS have shown that the Repair factor presents a high predictive value (Extremera and Fernández-Berrocal, 2002; Goldman et al., 1996; Thayer et al., 2003) and, together with Clarity, show significant and positive correlation with numerous criterion variables (Fernández-Berrocal et al., 2001,2006;

Goldman et al., 1996; Leible and Snell, 2004; Martínez-Pons, 1997; Salovey et al., 1995; 2002).

To conclude this revision, and even when the usefulness of this instrument is more than reasonable according to the results examined, it is necessary to point out some critical aspects of the TMMS that should be kept in mind for future investigations. First, some studies have used this scale obtaining a total scoring through the sum of its three factors instead of valuing each one of the components of the TMMS separately. This option is feasible within the Anglo-Saxon countries because the three components have a positive sense in the prediction of vital results. However, this option is not feasible within Hispanic-speaker samples, because the factor emotional Attention does not predict positively relevant criterion variables. Thus, as it has been stated before, Attention frequently predicts relevant criterion variables negatively.

Future lines of research should examine cultural differences in the relation between the components of the TMMS and other criterion variables. In addition, future works should cover the issue of situational specificity; present in other constructs such as social abilities, and could influence the emotional abilities that define EI. In this sense, a person might be very skillful regulating his/her emotions in a concrete context (e.g., labour context) but might have difficulties regulating his/her own emotions or those of the others in other environments (e.g., in a family environment or being with friends).

On the other hand, some studies have shown that various items of the scale, specifically within the Repair factor, seem to overlap in certain degree with other traditional constructs such as optimism, neuroticism or depression which throws doubts on the discriminant validity of this subscale (Davis et al., 1998). Future works should refine this dimension or create new items for Repair or emotional management to eliminate this problem about conceptual overlapping. In the same line, another limitation is that the TMMS does not evaluate differences in Attention, Clarity, and Repair between positive and negative mood states. It is possible that some people were more skillful perceiving or distinguishing some mood states than others, nevertheless, the TMMS does not differentiate this aspect. Finally, since the TMMS was created in 1995, previously to the theoretical reformulation of Mayer and Salovey (1997) model, a lack of correspondence between the factors of the TMMS and the dimensions of EI proposed in the new model exists. Later instruments, such as the ability measures (e.g., MEIS, MSCEIT), do cover the four theoretical dimensions. Future works should develop a new self-report measure based on the Mayer and Salovey model of EI or adapt the TMMS to evaluate appropriately the four proposed areas in the current model.

CONCLUSION

In spite of these limitations, the TMMS is an instrument of evaluation of doubtless usefulness for the assessment of the individual's emotional reflective processes. Barely in ten years, the number of investigations that have used this instrument to examine individual differences in the ability to perceive, clarify, and repair emotions has grown exponentially. These studies evidence that the abilities collected in the TMMS represent a useful and significant predictor for relevant aspects of people's lives, even when classical personality variables are controlled for. Thus, considering the number of scientific works published in Spain and Latin America, the TMMS is the most used measurement instrument for the

evaluation of EI within Spanish-speaking population. In this sense, the TMMS has become a referring instrument to study how people use emotional information and integrate it in their thought. In spite of the scientific productivity obtained using the TMMS, further work on how individual differences in the use of emotional information predict personal adaptation and interpersonal wellbeing. In addition, future work should deepen in the interaction of emotional abilities with other variables of personality (e.g., self-esteem, optimism, extraversion...) and their influence on the individual's adjustment.

Finally, the reader could ask himself: does it worth to use self-reported measures (e.g., the TMMS) when ability measures (e.g., the MSCEIT) are available? The answer could seem obvious, what we are is more important than what we think we are. In this case, it is the score on the MSCEIT. Let us analyze the following example: If I obtain a high score on the MSCEIT (e.g., 115, the mean is 100) then I assume certain ability to, for example, successfully manage and cope with negative emotions and stress. This is the best approach nowadays, at least psychometrically speaking, to my real EI. From this point of view, it would be irrelevant if my scores on a test such as the TMMS were low for the dimensions Clarity and Repair. This would just indicate certain kind of modesty or, in other cases, unawareness of my real abilities.

However, reality is not that simple, and perceptions, beliefs and expectations about our abilities determine their use. Carol Gohm has shown in different studies that people's perception of their EI resolve the effective use of their emotional abilities under stressful situations. Specifically, people overwhelmed by their emotions feel confused about these emotions and do not trust in their emotional abilities. What happens when someone does not trust in his or her abilities? Easy, this person will not use them. In this sense, it is irrelevant if we have emotional abilities or not.

The educational and clinical consequences of this fatal combination are clear. It is necessary to create and develop programs that, besides educating emotions, increase the individual's awareness of their emotional abilities giving precise feedback about their emotional behaviour under real everyday life situations.

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