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An Italian contribution to the study of the validity and reliability of the trait meta-mood scale

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Abstract

Background. Emotional Intelligence (EI) is a field of study that is receiving increasingly attention in the literature, due to its relevance to a series of aspects of human psychological and social functioning. **Aims.** This study used archival data from an Italian sample encompassing 885 nonclinical adults, to contribute to the study of the validity and reliability of the Trait Meta Mood-Scale (TMMS), a widely used measure of self-perceived EI. **Method.** Statistical analyses focused on internal consistency, factor structure, and concurrent validity of an Italian TMMS version. **Results.** Results confirmed previous international studies supporting the cross-cultural adaptability of the TMMS, showing adequate reliability and validity indexes for all TMMS scores. **Conclusions.** EI may be measured via self-report. Its relationship to psychopathology, however, deserves more research, as certain components of EI correlate positively with psychological suffering.

Keywords: Emotional Intelligence; TMMS; Validity; Reliability; Cross-cultural

Conflict of interest: The authors declare no conflict of interest.

Emotional intelligence (EI) is often referred to as the set of abilities related to the process of emotional information. These include the capacity to properly perceive and identify emotions, use them to facilitate thinking, and understand the meaning of emotions and its outcomes, as well as the capacity to manage them in order to properly adapt to social situations (Mayer, Salovey, & Caruso, 2008). This concept of EI is based on the classical proposal of Mayer and Salovey (1993) that the processing of emotional information would be a human capacity that could be defined in terms of a type of intelligence, being conceived as an ability model.

Following this first definition, many other conceptualizations of EI tried to include other emotion-related constructs, providing other types of models that became known as the mixed-models or trait EI. These models usually have different definitions, and therefore include other attributes, such as perceived abilities to handle social situations and personality traits and competences. Some examples of other emotional related attributes included in these models are persistence, zeal, self-control, and empathy (Brackett, Rivers, Shiffman, Lerner, & Salovey, 2006).

In line with these multiple definitions, many types of instruments attempt to assess EI. It is possible to distinguish them between performance-based and self-report measures. While performance-based tools measure the ability of the individual to perform in tasks that

involve solving problems related to emotionally charged situations, self-report tools usually assess the individual's perception of his abilities and preferences in dealing with emotions. Because self-perceptions can be biased, especially when dealing with emotion-related topics (e.g., a person may not know the extent to which his/her EI skills are adequate, or s/he may not be willing to admit s/he has poor EI skills), performance-based EI measures are often considered to be preferable over self-reports. However, self-reports offer some advantages too, as they are an easier way to collect data and do not require particular training to be used by researchers. Moreover, EI performance-based instruments can have low ecological validity, as the ability to perform in the task can be limited as a predictor of the individual's actual behavior in a real situation. Indeed, EI tasks are typically performed in laboratory setting (e.g., using a computer screen), with the examinee being exposed to a notably reduced range of stimuli compared to what happens in real-life situations. Self-reports supposedly do not face this problem as they rely on the examinee's recall, evaluation, and interpretation of events that actually happened. Furthermore, among non-self-report measures, the most widely used ability-based measure of EI, i.e., the Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT, Mayer, Salovey, & Caruso, 2002), is not without problems. In particular, there is some debate concerning its psychometric properties, especially in terms of factor structure (Fan, Jackson, Yang, Tang, Zhang, 2010;

Palmer, Gignac, Manocha, & Stough, 2005). For all these reasons, at the time being, research on EI should not be limited to ability- or performance-based measures only, but should rather continue to investigate self-report measures too.

The Trait Meta Mood-Scale (TMMS; Salovey, Mayer, Goldman, Turvey, & Palfai, 1995) was the first instrument proposed to assess perceived EI. It is a 30-item questionnaire created to assess stable traits on the tendency of the individuals to attend to their emotions, clearly discriminate emotional states and regulate them. Indeed, the TMMS assesses three domains of the emotional experience: (1) attention to feelings, which is the tendency to notice emotional states (Attention to Feelings); (2) clarity of feelings, referring to the capacity to identify and differentiate between different emotional states (Clarity of Experience of Feelings); and (3) mood repair, which is the ability to regulate emotional states in order to better adapt to the situations (Repair of Emotions). Additionally, a total score may be generated too, by summing up the scores of Attention to Feelings, Clarity of Experience of Feelings, and Repair of Emotions. The total TMMS score provides a general, composite estimate of the examinee's self-perceived EI.

TMMS scores have shown good psychometric properties and have proven to be valid measures of EI in several types of samples (Aradilla-Herrero, Tomás-Sábado, & Gómez-Benito, 2014; Salovey et al., 1995). For this reason, many studies attempted to

validate the TMMS for different cultures and countries such as Spain (Gorostiaga, Balluerka, Aritzeta, Haranburu, & Alonso-Arbiol, 2011), Turkey (Aksöz, Bugay, & Erdur-Baker, 2010), or China (Li, Yan, Yin, & Wu, 2002).

Furthermore, TMMS showed association with many psychological conditions, including clinical symptoms and mental disorders, such as anxiety disorders, mood disorders and borderline personality disorder (Lizeretti, Extremera, & Rodríguez, 2012). In the original study by Salovey et al. (1995), depression was associated with low clarity and high attention. Neuroticism was also associated with low clarity. Another study by Salovey et al. (2002) showed that greater scores in the three subscales of TMMS were associated with self-esteem, while greater mood repair and clarity were associated with higher ability to recover from a stressful situation and less rumination, having also an impact on physiological responses to acute stress. Other studies also showed a negative correlation between EI and alexithymia, as well as with psychopathy (Aradilla-Herrero et al., 2014).

Despite the growing demand for assessing EI, to date no Italian validations of the TMMS have yet been published. Thus, Italian research on EI is currently limited by the fact that no easy-to-use, psychometrically sound EI measures have yet been made available for use with Italian populations. Furthermore, as cross-cultural studies on the TMMS continue to develop, it becomes more and more important to investigate the TMMS also within an

Italian context, so as to allow for cross-cultural comparisons in EI, and more deeply understand the extent to which the TMMS may be used across different cultures and populations. The current article attempts to respond to this need for research by describing the development and initial validation of an Italian version of the TMMS.

Method

We intended to investigate the internal consistency, factor structure and concurrent validity of an Italian TMMS. Data were retrieved from two previously published research studies, both of which used the same, Italian TMMS version originally introduced by Giovannini et al. (2014), but never thoroughly investigated, from a psychometric standpoint. The final, combined sample used for the current research included 885 nonclinical adults.

The Translation of the TMMS

As described by Giovannini et al. (2014, p. 418), the original version of the TMMS was translated into Italian via back-translation method. That is, some of the authors of Giovannini et al.'s (2014) paper firstly produced an Italian version of the TMMS; next, another (bilingual) author re-translated this Italian version back into English; and finally the two English versions of the TMMS (i.e., the original and the back-translated one) were compared with each other to check for potential inconsistencies. This procedure ensured

that the final, Italian version of the TMMS accurately reflected the contents and meanings of the original, English version.

Participants

As noted above, the data for this study were retrieved from two previously published research studies. The first (Giovannini et al., 2014) encompassed 636 Italian adult participants: All identified themselves as being Italian and/or Caucasian; ages ranged from 18 to 64 (M = 33.0, SD = 12.1); about two-thirds were women (70.7%); a little more than half were college students (n = 355), the remaining ones were non-student volunteers (n = 281). The second (Giromini, Brusadelli, Di Noto, Grasso, & Lang, 2015) included 300 Italian volunteers: All were college students; about two-thirds were women (n = 199); ages ranged from 19 to 48 (M = 21.3, SD = 2.6). The major goal of Giovannini et al.'s (2014) article was to contribute to the study of the validity and reliability of the Five Facet Mindfulness Questionnaire (FFMQ; Baer et al., 2006). The main purpose of Giromini et al.'s (2015) article was to contribute to the study of the validity and reliability of the Balanced Index of Psychological Mindedness (BIPM; Nyklíček & Denollet, 2009). Neither studies analyzed the average scores, factor structure and/or concurrent validity of the Italian TMMS.

The initial, combined sample used for the current research thus included data from 936 adult volunteers. However, data from 51 participants were removed, as they had missing data on one or more item of the TMMS. Thus, the final sample of the current study consisted of 885 individuals: About 70% (n = 613) were women; ages ranged from 18 to 64 (M = 29.1, SD = 11.4); about 70% (n = 629) were college students; all were Italian/Caucasian.

Procedure

For the current study, participants' data were retrieved from two Excel files we had access to. Details on the procedures followed to generate those files may be found in Giovannini et al. (2014) and Giromini et al. (2015). Briefly, after the ethical review board of the University of Milano-Bicocca approved the research projects, prospective participants were invited to anonymously fill out a number of self-report measures. Students were recruited through an online service of University of Milano-Bicocca. Non-students were recruited through word of mouth, using a strategy analogous to that of the snow-ball sampling procedure. In both cases, a signed informed consent form was obtained prior to initiating data collection.

Measures

In addition to the Italian TMMS, participants included in Giovannini et al.'s (2014) study also completed the FFMQ, the Toronto Alexithymia Scale (TAS-20; Bagby, Taylor, & Parker, 1994), the Difficulties in Emotion Regulation Scale (DERS; Gratz & Roemer, 2004), the Scale of Dissociative Activities (SODAS; Mayer & Farmer, 2003), the White Bear Suppression Inventory (WBSI; Wegner & Zanakos, 1994), and some items of the Big Five Questionnaire-2 (BFQ-2; Caprara, Barbaranelli, Borgogni, & Vecchione, 2007). Participants included in Giromini et al.'s (2015) study, in addition to the Italian TMMS also filled out the BIPM, the TAS-20, the DERS, the FFMQ, the Reflection and Rumination Questionnaire (RRQ; Trapnell & Campbell, 1999), and the Symptom Checklist 90-R (Derogatis, 1994). A brief description of each of these instruments follows.

The Five Facets Mindfulness Questionnaire (FFMQ; Baer et al., 2006). The FFMQ is a 39-item, self-report instrument measuring mindfulness, i.e., the ability and willingness to attend and pay attention to experiences occurring in the present moment, in both a non-evaluative and accepting way (Kabat-Zinn, 1990). Items are rated on a 5-point Likert scale, and combination of individual item scores produces a total, mindfulness score and five subscale scores, whose underlying factors are labeled Observe, Describe, Act with Awareness, Nonjudge, and Nonreact. The FFMQ has demonstrated evidence of validity and reliability in both its original (Baer et al. , 2006) and its Italian (Giovannini et al., 2014)

versions. In the current study, alphas were .80 for Observe, .88 for Describe, .86 for Act with Awareness, .85 for Nonjudge,.75 for Nonreact, and .85 for the Total FFMQ score.

The Toronto Alexithymia Scale (TAS-20; Bagby et al., 1993). TAS-20 is a very widely utilized, 20-item self-report measure of alexithymia. Each item is rated on a 5-point Likert scale, and combination of individual item scores generates a total, alexithymia score, as well as three subscale scores, whose underlying factors are labeled Difficulty Identifying Feelings, Difficulty Describing Feelings, and Externally Oriented Thinking. The TAS-20 has shown excellent psychometric properties in numerous studies, and its Italian version has demonstrated very good validity and reliability indices too (e.g., Bressi et al., 1996; Giromini, de Campora et al., 2015). In the current study, alphas were .82 for Difficulty Identifying Feelings, .76 for Difficulty Describing Feelings, .67 for Externally Oriented Thinking, and .85 for the Total TAS-20 score.

The Difficulties in Emotion Regulation Scale (DERS; Gratz & Roemer, 2004). The DERS is a 36-item self-report instrument measuring emotion dysregulation. Items are rated on a 5-point Likert scale, and combination of individual item scores produces a total, emotion dysregulation score, as well as six subscale scores, whose underlying factors are labeled Nonacceptance, Goals, Impulse, Awareness, Strategies, and Clarity. The DERS has achieved satisfactory to excellent reliability and validity indices in various, international

samples (e.g., Neumann, van Lier, Gratz, & Koot, 2010), as well as in Italy (de Campora, Giromini, Larciprete, Li Volsi, & Zavattini, 2014; de Campora, Larciprete, Delogu, Meldolesi, & Giromini, 2015; Giromini, Velotti, De Campora, Bonalume, & Cesare Zavattini, 2012). In the current study, alphas were .84 for Nonacceptance, .84 for Goals, .84 for Impulse, .75 for Awareness, .87 for Strategies, .83 for Clarity, and .94 for the Total DERS score.

The Scale of Dissociative Activities (SODAS; Mayer & Farmer, 2003). The SODAS is a 35-item, self-report measure of dissociation. Items are rated on a 5-point Likert scale, and summing all SODAS item scores generates a total score indicative of tendency to dissociate, and lack of awareness of actions and inner experiences. In their original paper, Mayer and Farmer (2003) reported information on the internal consistency, test-retest stability, and convergent validity of the SODAS, and concluded that the instrument has good psychometric properties. Though the SODAS has not yet been investigated thoroughly within the Italian context, in our sample, Cronbach's alpha for the Total SODAS score was .94.

The White Bear Suppression Inventory (WBSI; Wegner & Zanakos, 1994). The WBSI is a brief, self-report measure of thought suppression. It includes 15 items, each of which is rated on a 5-point Likert scale. Some evidences indicate that the WBSI

possesses good psychometric properties (e.g., Muris, Merckelbach, & Horselenberg, 1996). Like the SODAS, however, the WBSI also has been used rarely, in Italy. In our sample, the Italian WBSI achieved an excellent internal consistency, Cronbach's alpha of .89.

The Big Five Questionnaire-2 (BFQ-2; Caprara et al., 2007). The BFQ-2 is a self-report instrument that measures personality traits as well as behavioral preferences. In Giovannini et al.'s (2014) study, only the BFQ-2 items measuring the tendency to accept and be open to new experiences (Mental Openness) and those measuring the ability to cope with negative emotions (Emotional Stability) were administered, so that only two BFQ-2 subscales were available for the current study (i.e., only 48 of the 134 BFQ-2 items were administered). In their BFQ-2 development paper, Caprara et al. (2007) reported encouraging data on the validity and reliability of the BFQ-2; in our sample alphas were .79 for Mental Openness and .91 for Emotional Stability.

The Balanced Index of Psychological Mindedness (BIPM; Nyklícek & Denollet, 2009). The BIPM is a relatively new, 14-item self-report tool measuring psychological mindedness, a psychological construct whose definition is very similar to that of mentalization. It is rated on a 5-point Likert scale, and individual item scores may be combined to generate a total, psychological mindedness score, as well as two subscale scores whose underlying factors were labeled Interest and Insight. The BIPM has

demonstrated evidence of validity and reliability both in the Netherlands (Nyklíček & Denollet, 2009) and in Italy (Giromini et al., 2015). In the current study, alphas were .78 for Interest, .79 for Insight, and .76 for the total score.

The Reflection and Rumination Questionnaire (RRQ; Trapnell & Campbell, 1999). The RRQ is a self-report instrument measuring a tendency to reflect and/or ruminate about thoughts, emotions, and/or situations. It consists of 30 items, each of which is rated on a 5-point Likert scale, and combination of individual item scores generates two scale scores, named, respectively, Reflection and Rumination. Data on the evidence of validity and reliability for the RRQ may be found in Trapnell and Campbell (1999). Like the SODAS and the WBSI, the RRQ also has been poorly investigated in Italy. In our sample, however, internal-consistency was highly satisfactory, with alpha values being .86 for Reflection and .82 for Rumination.

The Symptom Checklist 90-R (Derogatis, 1994). The SCL-90-R is a widely utilized, self-report tool assessing a broad range of psychopathological symptoms. It consists of 90 items, each of which is rated on a 5-point Likert scale. Though the SCL-90-R may produce scores on nine dimensions, and 3 global indices of distress may be calculated too, several research studies in fact only focus on the Global Severity Index (GSI), as it is one of the most valid and reliable scores of the instrument. Indeed, the GSI has

demonstrated good psychometric properties both with the original (Derogatis, 1994) and with the Italian (Prunas, Sarno, Preti, Madeddu, & Perugini, 2012) versions. Our study also focuses on the GSI, which in our sample produced an alpha of .98.

Hypotheses and Data Analysis

Our primary goal was to investigate the internal consistency, factor structure, and concurrent validity of the Italian TMMS. Thus, we first investigated the Cronbach's alphas and item-total correlations produced by the Italian TMMS. Next, we tested a confirmatory factor analysis (CFA), to examine how well the factor structure suggested by Salovey et al. (1995) would fit our data. To do so, we mainly focused on the root mean square error of approximation (RMSEA), the standardized root mean square residual (SRMR), the comparative fit index (CFI), and the nonnormed fit index (NNFI). Lastly, we calculated Pearson correlations between the TMMS and all other questionnaires included in the study. Because EI reflects emotional awareness and understanding, we predicted that the Italian TMMS would correlate *positively* with mindfulness (FFMQ), emotional stability (BFQ-2 Emotional Stability), mental openness (BFQ-2 Mental Openness), mentalization (BIPM), and reflection (RRQ Reflection); and *negatively* with alexithymia (TAS-20), emotion dysregulation (DERS), dissociation (SODAS), thought suppression (WBSI), and rumination (RRQ Rumination). Lastly, because EI is important to mental health (e.g.,

Lizeretti et al., 2012), we anticipated that the TMMS would correlate *negatively* also with the SCL-90-R GSI.

Results

TMMS Scores and Internal Consistency

Table 1 presents descriptive statistics concerning the TMMS scores produced by our Italian sample. Women scored significantly higher than men on Attention to Feelings, $t(879) = 7.1$, $p < .01$, $d = .52$, and – albeit to a lesser degree – on the total TMMS score, $t(879) = 2.2$, $p = .03$, $d = .16$. No statistically significant differences emerged for Clarity of Experience of Feelings and Repair of Emotions.

Table 2 reports on the internal consistency of the Italian TMMS. In line with previous studies on the TMMS, all Cronbach's alphas were satisfactory. Furthermore, all three TMMS subscales significantly correlated with each other, as well as with the total TMMS score (Table 3).

Factor Structure

To test whether the three-factor model proposed by Salovey et al. (1995) would fit our Italian data, we conducted a CFA, by specifying three latent variables (i.e., Attention to Feelings, Clarity of Experience of Feelings, and Repair of Emotions), and allowing them to

correlate. We ran this analysis with Lisrel 8.72, based on correlation matrix and maximum likelihood estimation method.

Goodness-of-fit statistics were as follows: RMSEA = .092; SRMR = .075; CFI = .89; NNFI = .88. According to commonly adopted interpretative benchmarks, RMSEA values of .05, .08, or .10 indicate, respectively, a *close*, *fair*, or *marginal* fit (Browne & Cudeck, 1993); SRMR values below .08 indicate a *good* fit (Hu & Bentler, 1999); and CFI and NNFI values of about .90 or higher indicate a *good* fit (Bentler & Bonett, 1980). Based on these thresholds, our model produced a relatively adequate, or *marginal* to *fair* fit, but not a perfect one. Thus, in an attempt to further improve the model, we also inspected modification indexes. Yet, because among all modification coefficients, the 13 highest values were all related to measurement error (theta-epsilon matrix), eventually we determined not to add any additional paths.

Concurrent Validity

Table 4 reports on concurrent validity. The sample size of these analyses varies as some of the instruments were not administered to all participants (for details, see Giovannini et al., 2014; Giromini et al., 2015), and some of the data had missing values. As expected, the TMMS correlated positively with self-report instruments measuring mindfulness (i.e., the FFMQ), emotional stability (i.e., the BFQ-2 Emotional Stability

scale), mental openness (i.e., the BFQ-2 Mental Openness scale), mentalization (i.e., the BIPM), and reflection (i.e., the RRQ Reflection scale), and negatively with other self-report measures assessing alexithymia (i.e., the TAS-20), emotion dysregulation (i.e., the DERS), dissociation (i.e., the SODAS), thought suppression (i.e., the WBSI), and rumination (i.e., the RRQ). However, an interesting exception deserves mentioning: Attention to Feelings did not significantly correlate with the FFMQ scale Nonreact, the DERS scales Goals and Impulse, the total SODAS score, the BFQ-2 scale Emotional Stability scale, and the RRQ Rumination scale. Lastly, all TMMS scales correlated negatively with the SCL-90-R GSI. However, the effect size of these correlations was relatively small.

Discussion

The current study used archival data encompassing self-reported information from an Italian sample comprised of 885 nonclinical adults to extend the literature on the validity and reliability of the Trait Meta Mood-Scale (TMMS; Salovey et al., 1995). By inspecting central tendency and dispersion statistics, internal consistency, factor structure, and concurrent validity of an Italian TMMS version, our research aimed at contributing to the study of the cross-cultural adaptability of the TMMS, and at facilitating further progress in the study of cross-cultural differences in perceived EI.

Taken together, our results confirm that the TMMS is robust to cross-cultural adaptations. In line with previous, international studies of the TMMS, the Italian TMMS achieved satisfactory internal-consistency reliability indexes, with alphas ranging from .75 to .87. Along the same lines, the average correlation between the three TMMS subscales was about .3, and the three-factor model proposed by Salovey et al. (1995) fit fairly well, albeit not perfectly, our data. Furthermore, consistent with our hypotheses and theoretical expectations, the Italian TMMS correlated *positively* with constructs such as mindfulness, emotional stability, mental openness, mentalization, and reflection; and *negatively* with constructs such as alexithymia, emotion dysregulation, dissociation, thought suppression, and rumination. In particular, when looking at the total TMMS score, all concurrent validity correlations were statistically significant, with the effect size ranging from $|r| = .18$ (i.e., *medium* to *small*) to $|r| = .67$ (i.e., *large*) (Cohen, 1988).

A close examination of Table 4 reveals some interesting patterns that deserve mentioning. Attention to Feelings produced high correlations with other scales measuring the willingness or desire to focus on, think about, and/or attend to one's personal feelings and emotions. Indeed, among the three TMMS scales, Attention to Feelings is the one that produced the strongest correlations with FFMQ Observe (+), TAS-20 Externally Oriented Thinking (-), DERS Awareness (-), BIPM Interest (+), and RRQ Reflection (+). The size of

these correlations (|*r*| = .29 to |*r*| = .54) may be characterized as a *medium* to *large* effect size (Cohen, 1988). Differently, Clarity of Experience of Feelings more strongly associated with other questionnaire scales measuring the respondent's ability to identify, describe, and/or understand his or her feelings and emotions. For instance, when compared to the two other TMMS scales, Clarity of Experience of Feelings more strongly correlated with FFMQ Describe (+), TAS-20 Difficulties Identifying Feelings (-),TAS-20 Difficulties Describing Feelings (-), DERS Clarity (-), SODAS (-), WBSI (-), BIPM Insight (+), and RRQ Rumination (-). Also in this case, the size of these findings (|*r*| = .30 to |*r*| = .75) was *medium* to *large* (Cohen, 1988). Lastly, when compared to the other two TMMS scales, Repair of Emotions more strongly associated with the ability to manage, deal with, and/or cope with one's emotions and feelings, as demonstrated by the fact that it more strongly correlated with DERS Goals (-), DERS Strategies (-), and BFQ-2 Emotional Stability (+). Once more, the effect size of these findings (|*r*| = .29 to |*r*| = .52) may be characterized as *medium* to *large* (Cohen, 1988). All in all, one might thus say that – consistent with Salovey et al.'s (1995) model – Attention to Feelings reflects an attitude toward focusing "internally" rather than "externally"; Clarity of Experience of Feelings measures the ability to identify and describe one's own feelings and emotions; and Repair of Emotions more directly informs on the ability to manage or cope with these feelings and emotions.

With these considerations in mind, it is interesting to look one more time the correlations between the TMMS scales and the risk for psychopathology, as measured by the SCL-90-R GSI, to notice that the highest *r* was produced by Repair of Emotions, followed by Clarity of Experience of Feelings, with the lowest one being produced by Attention to Feelings. Although all these correlations consisted of a small effect size ($|r| < .22$), this pattern of findings suggest that focusing on one's own feelings (i.e., Attention to Feelings) is necessary but not sufficient to being able to understand them (i.e., Clarity of Experience of Feelings), and being able to understand feelings and emotions may likely be important, but still not sufficient to being able to manage them (i.e., Repair of Emotions). In line with this hypothesis, previous research has showed that psychopathology is negatively associated with Clarity of Experience of Feelings and Repair of Emotions, but the results emerged for Attention to Feelings were rather mixed (e.g., Lizeretti et al., 2012; Salovey et al., 1995). Similarly, Giromini et al. (2015) recently reported that, when compared to a non-clinical control group, a sample of depressed patients had poorer ability to understand their emotions and feelings, but greater interest in being in touch with their inner psychological states and processes. Indeed, because emotions and feelings are exactly the source of their problems, Giromini et al. (2015) hypothesized that "depressed individuals might happen to be highly interested in introspection, but still unable to

correctly understand and manage their psychological states and processes, and consequently their behaviors." (p. 83).

Concerning gender differences, women scored higher than men on the TMMS, especially on Attention to Feelings. The effect size of this finding is *small* (for the total score) to *medium* (for Attention to Feelings). Although this result is coherent with some other findings (e.g. Aradilla-Herrero et al., 2014; Gorostiaga et al., 2011), gender differences are rarely observed with the TMMS. Studies measuring self-perceived EI tend to show equivalent results between genders, sometimes with differences within subscales, but these differences seem to vary among samples (Brackett et al., 2006). A possible explanation for our finding may be related to the composition of our sample: Because part of Giovannini et al.'s (2014) sample included psychology students, and given that the majority of the students of psychology in Italy are women, it is possible that the women in our sample scored high on Attention to Feelings simply because some of them were studying psychology. Alternatively, it is possible that men scored lower than women on Attention to Feelings because of some specific, cultural aspects related to our sample being comprised of Italians only. Future studies should further investigate this topic.

Like all studies, our study also is not without limitations. First, using self-reports to assess abilities such as EI or emotional regulation is problematic, to some extent. Indeed,

considering the TMMS as a self-report measure of perceived EI might be controversy, as it in fact most likely measures *one's beliefs* about his/her EI, i.e., what was named by Salovey et al. (2002, p. 624) as the "emotional intelligence self-efficacy". Thus, it would be important to replicate our findings by using performance-based measures, too. Second, our CFA did not produce a perfect fit. Although inspection of modification indexes did not suggest any substantial changes to the main structure, additional research on the factor structure of the Italian TMMS would certainly be beneficial. Third, because the majority of the participants were college students and women, the generalizability of our findings to other populations may be questioned. Along the same lines, because part of the sample was recruited through word of mouth procedure, we could not control for a number of possible confounds (e.g., the profession of the participants, the order with which they filled out the questionnaires, their motivation, etc.). Accordingly, future studies with additional, larger, and better stratified samples would be useful too. Another limitation to be mentioned is that some of the questionnaires utilized in this research had not previously been validated for use with Italian samples. Although we undertook several procedures to ensure their applicability in our study (e.g., a back-translation procedure had been used; internal consistency was calculated, etc.), caution is warranted when considering the results concerning those instruments (i.e., the SODAS, the WBSI, and the RRQ). Lastly, the use of

the SCL-R-90 as our measure of psychopathology did not allow determining the role that self-perceived EI might play in specific psychological disorders. Future studies should attempt to compare clinical samples to control groups, to disentangle the relationship of EI to various, specific mental conditions.

References

Aksöz, İ., Bugay, A., & Erdur-Baker, Ö. (2010). Turkish adaptation of the trait meta-mood scale. *Procedia - Social and Behavioral Sciences*, *2*(2), 2642–2646. http://doi.org/10.1016/j.sbspro.2010.03.387

Aradilla-Herrero, A., Tomás-Sábado, J., & Gómez-Benito, J. (2014). Perceived emotional intelligence in nursing: psychometric properties of the Trait Meta-Mood Scale. *Journal of Clinical Nursing*, *23*(7-8), 955–66. http://doi.org/10.1111/jocn.12259

Baer, R. a, Smith, G. T., Hopkins, J., Krietemeyer, J., & Toney, L. (2006). Using self-report assessment methods to explore facets of mindfulness. *Assessment*, *13*(1), 27–45. http://doi.org/10.1177/1073191105283504

Bagby, R. M., Taylor, G. J., & Parker, J. D. (1994). The Twenty-item Toronto Alexithymia Scale--II. Convergent, discriminant, and concurrent validity. *Journal of Psychosomatic Research*, *38*(1), 33–40. http://doi.org/10.1016/0022-3999(94)90006-X

Bentler, P. M., & Bonett, D. G. (1980). Significance tests and goodness of fit in the analysis of covariance structures. *Psychological Bulletin*, *88*, 588–606.

Brackett, M. A., Rivers, S. E., Shiffman, S., Lerner, N., & Salovey, P. (2006). Relating emotional abilities to social functioning: A comparison of self-report and performance measures of emotional intelligence. *Journal of Personality and Social Psychology*, *91*(4), 780–795. http://doi.org/10.1037/0022-3514.91.4.780

Bressi, C., Taylor, G., Parker, J., Bressi, S., Brambilla, V., Aguglia, E., … Invernizzi, G. (1996). Cross validation of the factor structure of the 20-item Toronto Alexithymia Scale: An Italian multicenter study. *Journal of Psychosomatic Research*, *41*(6), 551–559. http://doi.org/10.1016/S0022-3999(96)00228-0

Browne, M. W., & Cudeck, R. (1993). Alternative ways of assessing model fit. In K. A. Bollen & J. S. Long (Eds.), *Testing structural equation models* (pp. 136–162). Beverly Hills, CA: Sage.

Caprara, G. V., Barbaranelli, C., Borgogni, L., Vecchione, M. (2007). *Big Five Questionnaire – 2 (BFQ-2)*. Firenze: Giunti O.S. Organizzazioni speciali.

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Erlbaum.

de Campora, G., Giromini, L., Larciprete, G., Li Volsi, V., & Zavattini, G. C. (2014). The impact of maternal overweight and emotion regulation on early eating behaviors. *Eating Behaviors, 15*(3), 403–409. http://doi.org/10.1016/j.eatbeh.2014.04.013

de Campora, G., Larciprete, G., Delogu, A. M., Meldolesi, C., & Giromini, L. (2015). A longitudinal study on emotional dysregulation and obesity risk: From pregnancy to 3 years of age of the baby. *Appetite, 96*, 95–101. http://doi.org/10.1016/j.appet.2015.09.012

Derogatis, L. R. (1994). Symptom Checklist-90-R: Administration, scoring and procedures manual, 3rd ed.. Minneapolis, MN: National Computer Systems.

Fan, H., Jackson, T., Yang, X., Tang, W., & Zhang, J. (2010). The factor structure of the Mayer–Salovey–Caruso Emotional Intelligence Test V 2.0 (MSCEIT): A meta-analytic structural equation modeling approach. *Personality and Individual Differences, 48(7),* 781-785.

Giovannini, C., Giromini, L., Bonalume, L., Tagini, A., Lang, M., & Amadei, G. (2014). The Italian Five Facet Mindfulness Questionnaire: A contribution to its validity and reliability. *Journal of Psychopathology and Behavioral Assessment, 36*(3), 415–423. http://doi.org/10.1007/s10862-013-9403-0

Giromini, L., Brusadelli, E., Di Noto, B., Grasso, R., & Lang, M. (2015). Measuring

psychological mindedness: validity, reliability, and relationship with psychopathology of an Italian version of the Balanced Index of Psychological Mindedness. *Psychoanalytic Psychotherapy*, *29*(1), 70–87. http://doi.org/10.1080/02668734.2015.1006666

Giromini, L., de Campora, G., Brusadelli, E., D'Onofrio, E., Zennaro, A., Zavattini, G. C., & Lang, M. (2015). Validity and Reliability of the Interpersonal Competence Questionnaire: Empirical Evidence from an Italian Study. *Journal of Psychopathology and Behavioral Assessment*, Advance Online Publication (7 July), doi: 10.1007/s10862-015-9499-5

Giromini, L., Velotti, P., de Campora, G., Bonalume, L., & Cesare Zavattini, G. (2012). Cultural Adaptation of the Difficulties in Emotion Regulation Scale: Reliability and Validity of an Italian Version. *Journal of Clinical Psychology*, *68*(9), 989–1007. http://doi.org/10.1002/jclp.21876

Gorostiaga, A., Balluerka, N., Aritzeta, A., Haranburu, M., & Alonso-Arbiol, I. (2011). Measuring perceived emotional intelligence in adolescent population: Validation of the short trait Meta-Mood Scale (TMMS-23). *International Journal of Clinical and Health Psychology*, *11*(3), 523–537. http://doi.org/10.2224/sbp.2010.38.9.1197

Gratz, K. L., & Roemer, L. (2004). Multidimensional Assessment of Emotion Regulation and Dysregulation: Development, Factor Structure, and Initial Validation of the Difficulties in Emotion Regulation Scale. *Journal of Psychopathology and Behavioral Assessment*, *26*(1), 41–54. http://doi.org/10.1023/B:JOBA.0000007455.08539.94

Hu, L. T., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling, 6(1),* 1–55

Kabat-Zinn, J. (1990). *Full catastrophe living: Using the wisdom of your body and mind to face stress, pain, and illness*. New York: Delacourt.

Li C, Yan J, Yin X, Wu Z. (2002). A primary study of the application of the Trait Meta-Mood Scale in military medical students. *Chinese Journal of Clinical Psycholo*gy, 10, 202-3.

Lizeretti, N. P., Extremera, N., & Rodríguez, A. (2012). Perceived emotional intelligence and clinical symptoms in mental disorders. *Psychiatric Quarterly*, *83*(4), 407–418. http://doi.org/10.1007/s11126-012-9211-9

Mayer, J. D., & Salovey, P. (1993). The intelligence of emotional intelligence. *Intelligence*, *17*(4), 433–442. http://doi.org/10.1016/0160-2896(93)90010-3

Mayer, J. D., Salovey, P., & Caruso, D. R. (2002). Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT) user's manual. Toronto, On- tario, Canada: Multi-Health Systems.

Mayer, J. L., & Farmer, R. F. (2003). The development and psychometric evaluation of a new measure of dissociative activities. *Journal of Personality Assessment*, *80*(2), 185–196. http://doi.org/10.1207/S15327752JPA8002_07

Muris, P., Merckelbach, H., & Horselenberg, R. (1996). Individual differences in thought suppression. The White Bear Suppression Inventory: Factor structure, reliability, validity and correlates. *Behaviour Research and Therapy*, *34*(5-6), 501–513. http://doi.org/10.1016/0005-7967(96)00005-8

Neumann, A., van Lier, P. a C., Gratz, K. L., & Koot, H. M. (2010). Multidimensional assessment of emotion regulation difficulties in adolescents using the Difficulties in Emotion Regulation Scale. *Assessment*, *17*(1), 138–149. http://doi.org/10.1177/1073191109349579

Nyklícek, I., & Denollet, J. (2009). Development and evaluation of the Balanced Index of Psychological Mindedness (BIPM). *Psychological Assessment*, *21*(1), 32–44.

http://doi.org/10.1037/a0014418

Palmer, B. R., Gignac, G., Manocha, R., & Stough, C. (2005). A psychometric evaluation of the Mayer-Salovey-Caruso Emotional Intelligence Test Version 2.0. *Intelligence*, *33*(3), 285–305. http://doi.org/10.1016/j.intell.2004.11.003

Prunas, A., Sarno, I., Preti, E., Madeddu, F., & Perugini, M. (2012). Psychometric properties of the Italian version of the SCL-90-R: a study on a large community sample. *European Psychiatry : The Journal of the Association of European Psychiatrists*, *27*(8), 591–7. http://doi.org/10.1016/j.eurpsy.2010.12.006

Salovey, P., Mayer, J., Goldman, S., Turvey, C., & Palfai, T. (1995). Emotional attention, clarity, and repair: Exploring emotional intelligence using the Trait Meta-Mood Scale. *Emotion, Disclosure, and Health*. http://doi.org/10.1037/10182-006

Trapnell, P. D., & Campbell, J. D. (1999). Private self-Consciousness and the five-factor model of personality: Distinguishing rumination from reflection. *Journal of Personality and Social Psychology*, *76*(2), 284–304. http://doi.org/10.1037/0022-3514.76.2.284

Wegner, D. M., & Zanakos, S. (1994). Chronic Thought Suppression. *Journal of Personality*, *62*(4), 615–640. http://doi.org/10.1111/j.1467-6494.1994.tb00311.x

Table 1. Descriptive Statistics for the Italian TMMS Scales, among Men, Women, and Entire Sample.

	Men (n = 268)				Women (n = 613)				Entire Sample (N = 885)			
	M	SD	Skew	Kurtosis	M	SD	Skew	Kurtosis	M	SD	Skew	Kurtosis
Attention to Feelings	46.9	6.7	-0.1	-0.5	50.3	6.4	-0.5	0.6	49.2	6.7	-0.3	0.1
Clarity of Experience of Feelings	39.4	6.8	-0.1	-0.2	38.5	7.1	-0.3	-0.1	38.8	7.0	-0.2	-0.1
Repair of Emotions	20.7	3.9	-0.4	0.0	20.3	4.4	-0.4	-0.3	20.4	4.2	-0.4	-0.2
Total	106.9	13.3	0.1	-0.4	109.1	13.6	-0.3	0.2	108.5	13.6	-0.2	0.0

Note: Four cases were missing gender information.

Table 2. Internal Consistency Analyses for the Italian TMMS.

	No. of items	Cronbach's alpha	Range of item-total correlations
Attention to Feelings	13	.80	.32 – .67
Clarity of Experience of Feelings	11	.87	.48 – .78
Repair of Emotions	6	.75	.58 – .79
Total	30	.87	.19 – .64

Table 3. Correlations between the Scales of the Italian TMMS.

	Attention to Feelings	Clarity of Experience of Feelings	Repair of Emotions	Total
Attention to Feelings	–			
Clarity of Experience of Feelings	.38	–		
Repair of Emotions	.24	.38	–	
Total	.76	.82	.63	–

Note: All correlations are statistically significant at $p < .01$.

Table 4. Concurrent Validity Analyses for the Italian TMMS.

	Attention to Feelings	Clarity of Experience of Feelings	Repair of Emotions	Total
FFMQ (n = 878)				
Observe	.288**	.204**	.108**	.282**
Describe	.328**	.621**	.237**	.559**
Actaware	.136**	.377**	.258**	.343**
Nonjudge	.128**	.374**	.297**	.350**
Nonreact	-.031	.264**	.226**	.192**
Total	.315**	.652**	.392**	.617**
TAS-20 (n = 855)				
Difficulties Identifying Feelings	-.209**	-.653**	-.338**	-.548**
Difficulties Describing Feelings	-.306**	-.581**	-.265**	-.535**
Externally Oriented Thinking	-.538**	-.378**	-.120**	-.499**
Total	-.441**	-.686**	-.310**	-.670**
DERS (n = 852)				
Nonacceptance	-.117**	-.332**	-.287**	-.319**
Goals	.036	-.271**	-.287**	-.212**
Impulse	-.059	-.376**	-.344**	-.331**
Awareness	-.510**	-.467**	-.170**	-.545**
Strategies	-.088*	-.372**	-.523**	-.398**
Clarity	-.310**	-.747**	-.310**	-.636**
Total	-.231**	-.591**	-.477**	-.568**
SODAS (n = 582)				
Total	.016	-.412**	-.309**	-.299**
WBSI (n = 587)				
Total	-.116**	-.401**	-.220**	-.332**
BFQ-2 (n = 586)				
Mental Openness	.233**	.245**	.153**	.290**
Emotional Stability	-.055	.349**	.425**	.287**
BIPM (n = 297)				
Interest	.473**	.324**	.138*	.448**
Insight	.409**	.598**	.234**	.592**
Total	.593**	.615**	.248**	.696**
RRQ (n = 297)				
Rumination	.082	-.303**	-.190**	-.178**
Reflection	.462**	.259**	.132*	.406**
SCL-90-R (n = 507)				
GSI	-.093*	-.175**	-.215**	-.202**

Note: * $p < .05$; ** $p < .01$.