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Measuring psychological mindedness: validity, reliability, and relationship with psychopathology of an Italian version of the Balanced Index of Psychological Mindedness

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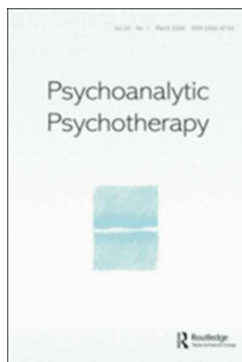
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**Measuring Psychological Mindedness: Validity, Reliability,
and Relationship with Psychopathology of an Italian Version
of the Balanced Index of Psychological Mindedness**

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ITALIAN BIPM AND PSYCHOPATHOLOGY

Abstract

Psychological mindedness (PM) is an underinvestigated, but important construct in psychoanalytic psychotherapy research and practice. It refers to the interest in and ability for reflecting on one's thoughts and feelings, and it represents an important precondition for insight-oriented therapy to be successful. Notwithstanding, very few instruments are available to measure PM. The current investigation aimed at evaluating the validity and reliability of the Balanced Index of Psychological Mindedness (BIPM; Nyklíček & Denollet, 2009), a brief measure of PM. In a first study, factor structure, internal consistency, and concurrent validity of the BIPM were tested, along with the relationship between the BIPM and a continuous measure of general distress, using a sample of 298 Italian students. In a second study, test-retest stability analyses were completed using a new, different, Italian student sample (N = 58). In a third study, the BIPM scores of a clinical sample with diagnosis of mood spectrum disorders (N =30) were compared to those of an age-, gender-, and education-matched nonclinical sample. Overall, results indicate that the BIPM is a psychometrically sound instrument that can be used in clinical practice to obtain rapid information about the client's mentalization skills and assess psychological mindedness.

Keywords: Balanced Index of Psychological Mindedness; Mentalization; Validity; Reliability.

ITALIAN BIPM AND PSYCHOPATHOLOGY

Measuring Psychological Mindedness: Validity, Reliability, and Relationship with
Psychopathology of an Italian Version of the Balanced Index of Psychological Mindedness

Psychological mindedness (PM) is an underinvestigated, but important construct in psychoanalytic psychotherapy research and practice. Originally, it was introduced as the “person’s ability to see relationships among thoughts, feelings, and actions, with the goal of learning the meanings and causes of his experience and behavior” (Appelbaum, 1973, p. 36). Various definitions have been proposed since then. Gough (1957, 1975) defined the psychologically minded person as one who is “interested in, and responsive to, the inner needs, motives, and experiences of others” (p. 11). Farber (1985) stressed the role of psychological awareness and referred to PM as the “disposition to reflect upon the meaning and motivation of behavior, thoughts, and feelings of oneself and others” (p. 170). McCallum and Piper (1990) further extended the construct to aspects such as relating one’s intrapsychic components to one’s difficulties. Conte, Buckley, Picard, and Karasu (1995) also included in their conceptualization motivation and capacity for behavioral change, as well as an interest in the motivation of other people’s behavior. Other authors elaborated slightly different formulations as well. Two components, however, have often been acknowledged as the core of PM: (a) interest in and (b) ability for reflecting on one’s psychological states and processes (Hall, 1992).

Originally, the concept of PM arose in psychodynamic thinking (Appelbaum, 1973; Taylor, Bagby, & Parker, 1989) in order to describe an important precondition for insight-oriented therapy to be successful. For a long time, its use has been confined to psychodynamically oriented psychotherapy practice (Taylor et al., 1989). Recently, some cognitive features of PM have also been taken into account. Beitel, Ferrer, and Cecero

ITALIAN BIPM AND PSYCHOPATHOLOGY

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3 (2004), for example, have argued that PM is related to cognitive functioning, in that the
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5 psychologically minded person shows cognitive flexibility, sense of personal agency, and
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7 inclination toward realistic thinking. Accordingly, the importance of PM has been
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9 acknowledged also for other forms of psychotherapy, such as dialectical behavior therapy and
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11 cognitive behavior therapy (Björgvinsson & Hart, 2006; Lewis, 2006). Of note, the role of
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13 PM has lately spread also to the field of behavioral medicine and health psychology (Denollet
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15 & Nyklíček, 2004).
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19 In fact, some empirical data indicate that PM positively relates to psychotherapy
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21 success in clinical populations (McCallum & Piper, 1990; Taylor et al., 1989), wellbeing
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23 (Beitel & Cecero, 2003; Beitel et al., 2004; Trudeau & Reich, 1995), health (Denollet &
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25 Nyklíček, 2004), and coping (Nyklíček, Poot, & van Opstal, 2010). Also, PM tends to
26
27 develop in securely attached individuals (Alvarez, Farber, & Schonbar, 1998; Beitel &
28
29 Cecero, 2003) and is associated with awareness of one's own psychological states (Conte et
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31 al., 1995; Nyklíček & Denollet, 2009). Thus, high PM is expected to relate more to adequate
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33 responses to stressors than low PM. Finally, according to a couple of recent studies PM
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35 inversely relates to symptoms of psychological distress, and psychopathology (Nyklíček &
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37 Denollet, 2009; Nyklíček et al., 2010). Nevertheless, to date very little empirical data on PM
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39 is available, because of the lack both of consensus on the exact meaning and definition of
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41 PM, and of psychometrically sound and easy-to-use instruments.
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46 An attempt to integrate the most relevant features of PM into a brief self-report
47
48 instrument has recently been made by Nyklíček and Denollet (2009). After reviewing the
49
50 relevant literature, the authors introduced the Balanced Index of Psychological Mindedness
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52 (BIPM; Nyklíček & Denollet, 2009), a 14-item self-report scale measuring the person's
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54 interest and ability to be in touch with and reflect on his or her psychological states and
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56 processes. After investigating large samples, the authors concluded that the BIPM is a
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ITALIAN BIPM AND PSYCHOPATHOLOGY

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3 concise, valid, and clinically relevant self-report scale measuring the core aspects of PM.

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5 However, this scale is so new that more research is needed to accurately evaluate its validity
6
7 and reliability.
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10 To add to the literature on this underinvestigated topic and extend our knowledge on
11
12 PM, we adapted the BIPM into Italian and evaluated its psychometric properties and its
13
14 relationship with psychopathology. In particular, we aimed at: (a) testing the factor structure
15
16 proposed by Nyklíček and Denollet (2009); (b) evaluating the internal consistency, test-retest
17
18 stability, and concurrent validity; and (c) investigating the relationship between PM (as
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20 measured by the BIPM) and mental health. This is intended to provide important information
21
22 regarding the validity and reliability of the BIPM and to better understand what the role of
23
24 PM in clinical practice is.
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Study 1

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29 Our first study aimed at investigating the factor structure, internal consistency, and
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31 concurrent validity of the BIPM within a student sample. Hypothesizing that – as proposed
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33 by the authors – the BIPM is a psychometrically sound instrument, we expected our results to
34
35 replicate those of Nyklíček and Denollet (2009). More in detail, we predicted that a
36
37 confirmatory factor analysis would confirm the two-factor structure obtained by Nyklíček
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39 and Denollet (2009), that the internal consistency would be good, and that significant
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41 correlations with other self-reports measuring constructs related to PM would be observed.
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46 Further, because research on this topic is scarce, we also aimed at evaluating the
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48 relationship between PM and psychopathology. As outlined above, some empirical data
49
50 indicate that PM is associated with positive psychotherapy outcome, wellbeing, health,
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52 coping, and cognitive functioning and flexibility. Also, two previous studies found negative
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54 associations between PM and psychopathology. Accordingly, although empirical data on this
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ITALIAN BIPM AND PSYCHOPATHOLOGY

subject are limited, we hypothesized that the BIPM would negatively correlate with the presence psychopathology.

Method

An Italian translation of the BIPM was developed using a translation/back translation procedure (Brislin, 1980; Geisinger, 2003; Van de Vijver & Hambleton, 1996). First, a bilingual researcher in psychology translated the BIPM from English into Italian. Then, another bilingual individual, naive to the questionnaire, re-translated this version back to the original language. Finally, the two English versions of the BIPM were compared to each other to resolve any inconsistencies. The resulting Italian version of the BIPM was then administered to a student sample, along with some other questionnaires, most of which measuring PM related constructs.

Participants. The initial sample consisted of 300 students studying psychology at a university in Italy, who received credits for participation and whose first language was Italian. Two records were not included in the analysis due to missing data on one or more item of the BIPM. The final sample (N = 298) ranged in age from 19 to 48, with a mean age of 21.3 (SD = 2.6). About two thirds (n = 197) were female. All participants gave written consent and anonymously completed seven questionnaires, along with a demographic form.

Measures. Each participant completed the following self-report questionnaires in a classroom setting:

Balanced Index of Psychological Mindedness (BIPM; Nyklíček & Denollet, 2009).

The BIPM is a 14-item self-report measure of a person's interest and ability to be in touch with and reflect on his or her psychological states and processes. Items are rated on 5-point Likert scale ranging from 0 (*not true*) to 4 (*very much true*), and a total score and two subscale scores (Interest and Insight) are calculated. In Nyklíček & Denollet's (2009) original study, the BIPM obtained good internal consistency (alpha = .85 for Interest; alpha = .76 for

ITALIAN BIPM AND PSYCHOPATHOLOGY

Insight), test-retest ($r = .63$ for Interest; $r = .71$ for Insight), and concurrent validity ($r > .40$ with related constructs). Also, Insight correlated negatively with symptoms of psychological distress ($r \leq -.21$).

Toronto Alexithymia Scale (TAS-20; Bagby, Parker, & Taylor 1994a, 1994b). The TAS-20 is a 20-item self-report measure of alexithymia. Items are rated on 5-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*), and a total score and three subscale scores (Difficulty Identifying Feelings, Difficulty Describing Feelings, and Externally Oriented Thinking) are calculated. In the current study, we used the Italian version (Bressi et al., 1996), which was previously shown to have good internal consistency (Cronbach's alpha of .75 and .82 in nonclinical and clinical groups, respectively) and high test-retest stability ($r = .86$). Within our sample, Cronbach's alphas were .83 (Difficulty Identifying Feelings), .78 (Difficulty Describing Feelings), .66 (Externally Oriented Thinking), and .84 (TAS-20 total score).

Difficulties in Emotion Regulation Scale (DERS; Gratz & Roemer, 2004). The DERS is a 36-item self-report measure of a clinically relevant lack of emotion regulation. Items are rated on 5-point Likert scale ranging from 1 (*almost never*) to 5 (*almost always*), and a total score and six subscale scores (Nonacceptance of Emotional Responses, Difficulties Engaging in Goal-Directed Behavior, Impulse Control Difficulties, Lack of Emotional Awareness, Limited Access to Emotion Regulation Strategies, and Lack of Emotional Clarity) are calculated. For the current study, an Italian validated version was utilized (Giromini, Velotti, de Campora, Bonalume & Zavattini, 2012). Such version achieved good internal consistency (with alpha values ranging from .77 to .92), adequate to excellent test-retest stability (with intraclass correlation coefficients ranging from .49 to .73), and good validity (as demonstrated by both significant correlations with related constructs, and significant scores differences in a clinical vs. non-clinical sample comparison). In the

ITALIAN BIPM AND PSYCHOPATHOLOGY

present sample, Cronbach's alphas were .85 (Nonacceptance), .80 (Goals), .81 (Impulse), .74 (Awareness), .85 (Strategies), .83 (Clarity), and .93 (DERS total score).

Five Facets Mindfulness Questionnaire (FFMQ; Baer, Smith, Hopkins, Krietemeyer, & Toney, 2006). The FFMQ is a 39 item self-report measure of five aspects of mindfulness. Items are rated on 5-point Likert scale, ranging from 1 (*never or very rarely true*) to 5 (*very often or always true*), and a total score and five subscale scores (Observe, Describe, Act with Awareness, Non Judge, and Non React) are calculated. In this study we used the Italian validated version (Giovannini et al., 2013), which showed adequate to excellent internal consistency (alphas $\geq .74$) and good to excellent test-retest stability (intraclass correlation coefficients $\geq .63$), and correlated significantly and in the expected direction with a number of self-report measures related to mindfulness. In the present sample, Cronbach's alphas were .78 (Observe), .85 (Describe), .83 (Act with Awareness), .83 (Non Judge), .74 (Non React), and .81 (FFMQ total score).

Trait Meta-Mood Scale (TMMS; Salovey, Mayer, Goldman, Turvey, & Palfai, 1995). The TMMS is a 30-item self-report measure of emotional awareness and understanding. Items are rated on a 5-point Likert scale, ranging from 1 (*strongly disagree*) to 5 (*strongly agree*), and a total score and three subscale scores (Attention to Feelings, Clarity of Experience of Feelings, and Repair of Emotions) are calculated. The TMMS showed adequate to good internal consistency (Salovey et al., 1995), and significant associations (in the expected direction) with external measures of life-satisfaction and depressive episodes (Martinez-Pons, 1997). Given that no Italian versions of the TMMS were available when we began this study, we adapted the original version into Italian through a back-translation procedure. Within our sample, Cronbach's alphas were .80 (Attention to Feelings), .86 (Clarity of Experience of Feelings), .70 (Repair of Emotions), and .87 (TMMS total score).

ITALIAN BIPM AND PSYCHOPATHOLOGY

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3 **Reflection and Rumination Questionnaire (RRQ; Trapnell & Campbell, 1999).** The
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5 RRQ is a 30-item self-report measure of self-consciousness, divided along the dimensions of
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7 positively motivated reflection and negatively motivated rumination. Items are rated on a 5-
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9 point Likert scale, ranging from 1 (*strongly disagree*) to 5 (*strongly agree*), and two scale
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11 scores (Reflection and Rumination) are calculated. According to Trapnell and Campbell
12
13 (1999), both the RRQ scales have good internal consistency (Cronbach's alphas $\geq .90$) and
14
15 adequate validity. This measure, similarly to the TMMS, was adapted to our Italian sample
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17 through a back-translation procedure, due to unavailability of Italian validated versions. In
18
19 our sample, Cronbach's alphas were .87 (Reflection) and .82 (Rumination).
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23 **Symptom Checklist 90-R (SCL-90-R; Derogatis, 1994).** The SCL-90-R is a 90 item
24
25 self-report measure used to assess a broad range of psychopathological symptoms. It includes
26
27 nine dimensions: Somatization; Obsessive-Compulsive; Interpersonal Sensitivity;
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29 Depression; Anxiety; Hostility; Phobic Anxiety; Paranoid Ideation; and Psychoticism. Three
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31 global indices of distress can also be calculated: the Global Severity Index; the Positive
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33 Symptom Total; and the Positive Symptom Distress Index. The Global Severity Index (GSI)
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35 – which is obtained by adding the scores of all 90 items and dividing by 90 – is a widely
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37 used, valid, and reliable index of general distress. According to the Italian validation study
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39 (Prunas, Sarno, Preti, Madeddu, & Perugini, in press), the adoption of the GSI as an index of
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41 general distress is supported also with Italian populations. Indeed, a second-order principal
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43 component analysis clearly yielded a single factor. In the current study, accordingly, the
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45 Italian version of the SCL-90-R was administered, and the GSI was used as a continuous
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47 measure of psychopathology.
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52 **Data Analysis and Predictions.** Data analysis aimed at investigating the factor
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54 structure, internal consistency, and concurrent validity of the BIPM, and at testing the
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56 association between PM and mental health.
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ITALIAN BIPM AND PSYCHOPATHOLOGY

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3 As for the factor structure, a confirmatory factor analysis (CFA) was conducted. A
4 correlation matrix was used and two latent variables were specified, corresponding to Interest
5 and Insight, which were allowed to correlate. Loadings of the variables on the relevant factor
6 were to be freely estimated while the loadings on the other factor were set to zero. Lisrel 8.51
7 (Jöreskog & Sörbom, 2001) was used for this analysis. When evaluating the goodness of fit
8 between the model and the data, we paid particular attention to five indices. First we
9 examined the root mean square error of approximation (RMSEA), whose values are expected
10 to be around .05 for a close fit, .08 for a fair fit, and .10 for a marginal fit (Browne & Cudeck,
11 1993). Second, we inspected the standardized root mean square residual (SRMR), whose
12 values are expected to be below .08 for a good fit (Hu & Bentler, 1999). Third, we looked at
13 the comparative fit index (CFI), whose values are expected to be .90 or higher for a good fit
14 (Bentler & Bonett, 1980). Fourth, we considered the nonnormed fit index (NNFI), whose
15 values, similar to the CFI, are expected to be .90 or higher for a good fit (Bentler & Bonett,
16 1980). Fifth, we evaluated the ratio of the value of chi-square to its degrees of freedom ($\chi^2 /$
17 df), whose values are expected to be close to 2.00 for a good fit, and lower than 5.00 for a
18 quite promising fit (Watkins, 1989). As stated above, we predicted the factor structure
19 proposed by Nyklíček & Denollet (2009) to be replicated by our data.
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40 As for the internal consistency, we hypothesized that the Cronbach's alphas for
41 Interest, Insight, and for the total BIPM score would be adequate and comparable to those
42 previously reported, so as to confirm the previous findings on this subject.
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47 As for the concurrent validity, Nyklíček & Denollet (2009) stated that PM is
48 conceptually related to constructs like self-consciousness (Fenigstein, Scheier, & Buss,
49 1975), mindfulness (Kabat-Zinn, 1990; Thera, 1972), alexithymia (Taylor et al., 1989), and
50 emotional intelligence (Salovey et al., 1995). Accordingly, we predicted that the BIPM would
51 positively correlate with the TMMS, the FFMQ, and the Reflection scale of the RRQ, and
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ITALIAN BIPM AND PSYCHOPATHOLOGY

negatively correlate with the TAS-20 and the DERS. Absence of correlation between the Rumination scale of the RRQ and the BIPM was predicted, as PM is usually seen as a psychological strength, while rumination is not.

Finally, as for the association between PM and mental health, we hypothesized that the BIPM would negatively correlate with the GSI score of the SCL-90-R. According to Nyklíček and Denollet's (2009) findings, Insight, but not Interest, correlated negatively with some symptom scales of the SCL-90-R. However, both Insight and Interest were low in mental health patients in two previous studies using the BIPM (Nyklíček & Denollet, 2009; Nyklíček et al., 2010). Also, some evidence indicates that there should be a general beneficial effect of PM on psychological functioning (e.g., PM is associated with wellbeing, health, etc). Accordingly, we hypothesized all BIPM scores to be negatively correlated with the presence psychopathology.

Results

BIPM Scores. Table 1 provides descriptive statistics, by gender, for Interest, Insight, and total scores. All scores were normally distributed. Women scored significantly higher ($M = 22.3$, $SD = 4.6$) than men ($M = 21.0$, $SD = 5.4$) on Insight, $t_{(175.9)} = -2.0$, $p = .04^1$, although the effect size of this difference was low, $d = .26$. No other significant gender differences were found.

Both Interest and Insight were significantly correlated with the total score, $r = .76$, $p < .01$, and $r = .73$, $p < .01$, respectively. Nonetheless, the correlation between Interest and Insight only approached significance, $r = .11$, $p = .06$.

Factor Structure. Although the tested model did not show a perfect fit of the data, the RMSEA was fair (RMSEA = .085; 90% confidence interval = .073 – .097), the SRMR was good (SRMR = .07), the CFI and NNFI were not far from the threshold value of .90 (CFI

¹ Since homoscedasticity could not be assumed, Welch-Satterthwaite method was used to adjust degrees of freedom.

ITALIAN BIPM AND PSYCHOPATHOLOGY

= .86, NNFI = .83), and the χ^2 / df was quite promising to good ($\chi^2 = 238.1$; $df = 76$; $\chi^2 / df = 3.13$). Furthermore, all factor loadings were $\geq .44$ (Table 2). Taken together, these results give some support to the two-factor model proposed by Nyklíček & Denollet (2009).

Internal Consistency. The Cronbach's alphas for Interest, Insight, and total scores were .78, .79, and .76, respectively. The item-total correlations ranged from $r = .43$ (for Item 2) to $r = .63$ (for Item 11); all were significant, with $p < .01$. These results are very similar to those obtained by Nyklíček & Denollet (2009) and confirm that the BIPM has a relatively good internal consistency.

Concurrent Validity. Table 3 provides a correlation matrix showing that, as expected, the BIPM positively correlated with the TMMS, the FFMQ, and the Reflection scale of the RRQ, and negatively correlated with the TAS-20 and the DERS. Also, as predicted, the Rumination scale of the RRQ did not correlate with the BIPM. These results support both the concurrent and the divergent validity of the instrument.

BIPM and Mental Health. In line with our hypotheses, Insight and the total scores were negatively correlated with the GSI score of the SCL-90-R, $r = -.45$, $p < .01$, and $r = -.18$, $p < .01$, respectively. Quite surprisingly, on the contrary, Interest was slightly (but significantly) positively correlated with the GSI score of the SCL-90-R, $r = .16$, $p < .01$. These results indicate that Insight is inversely related to psychopathology, while Interest is positively (albeit weakly) related to it.

Study 2

Our second study aimed at investigating the test-retest stability of the BIPM. Again, we hypothesized our results to replicate those of Nyklíček and Denollet (2009). Accordingly, adequate to good test-retest stability coefficients were predicted.

Method

ITALIAN BIPM AND PSYCHOPATHOLOGY

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3 Before a psychology class at the university, all students in the classroom were invited
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5 to complete our version of the BIPM for research purposes. After having clarified that
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7 participation was voluntary, an informed consent form was handed to all present students,
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9 with the request to read (and sign) it only if willing to volunteer. None refused to participate
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11 and all students completed the BIPM along with a brief demographic form. After about 6
12
13 weeks, before a subsequent lesson of the same psychology class, the BIPM was administered
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15 again, in the same classroom setting. The procedure was similar to that of the first
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17 administration. As such, test-retest stability analyses of study 2 refer to the 58 students who
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19 were present at both administrations.
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23 **Participants.** Participants were 58 students of psychology at a university in Italy, who
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25 received credits for participation and whose first language was Italian. Ages ranged from 19
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27 to 28, with a mean age of 21.7 (SD = 2.1). Similar to study 1, about two thirds (n = 40) of this
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29 new sample were female.
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32 **Data Analysis and Predictions.** Intraclass correlation coefficients (ICCs) were
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34 computed for scores on the first and second administration of the BIPM in order to determine
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36 the test-retest stability of the BIPM scores. According to the suggested benchmarks
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38 (Cicchetti, 1994; Cicchetti & Sparrow, 1981; Fleiss, 1981), ICC values less than .40 are poor,
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40 values between .40 and .59 are fair, values between .60 and .74 are good, and values greater
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42 than .74 are excellent. Expecting to replicate Nyklíček and Denollet's (2009) original
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44 findings, we hypothesized to obtain ICC values greater than .59 (i.e., good to excellent).
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Results

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49 The ICCs for Interest, Insight, and total scores were .50, .60, and .61, respectively.
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51 These results suggest that the BIPM has a fair to good test-retest stability.
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Study 3

ITALIAN BIPM AND PSYCHOPATHOLOGY

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3 Although PM is often considered a psychological strength (e.g., Nyklíček et al.,
4 2010), to date only a few studies investigating the relationship of PM to psychopathology
5 have been published (e.g., Nyklíček & Denollet, 2009; Nyklíček et al., 2010). The results of
6 these few studies, overall, suggest that PM should be positively associated with mental
7 health.
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12 To add to the literature on this underinvestigated topic and provide additional
13 information on BIPM and PM, we compared the BIPM scores of a nonclinical sample with
14 those of a clinical sample characterized by mood disorders.
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Method

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22 The participants in the clinical sample were recruited between January 2012 and
23 March 2012 in a psychiatric rehabilitation unit of a private mental health facility located in
24 the North of Italy. This unit serves approximately 450 individuals each year, with an average
25 length of stay of 30 days. After the standard clinical evaluation, 30 patients diagnosed with a
26 mood spectrum disorder were asked if they were willing to complete a very brief
27 questionnaire, for research purposes. As none refused to take part in the study, all were
28 handed the BIPM along with an informed consent form.
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39 The nonclinical sample was recruited via convenience sampling method and was
40 ultimately made up of 30 adults who completed the BIPM, the SCL-90-R (used here as a
41 screening tool), and an informed consent form. Participants in this group were selected with
42 the purpose of matching (as closely as possible) the clinical group on age, gender, and
43 education. Before achieving the desired sample size, i.e., N = 30, three potential nonclinical
44 participants were excluded from the study due to SCL-90-R GSI scores greater than 1.
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52 **Participants.** The clinical sample consisted of 30 patients with diagnosis of mood
53 spectrum disorders. More specifically, 3 had a bipolar disorder, 12 had a major depression
54 disorder, 11 had a mood disorder in the depression spectrum, 3 had recently had a major
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ITALIAN BIPM AND PSYCHOPATHOLOGY

depressive episode, and 1 had recently had a manic episode. All diagnoses were made by expert psychiatrists and psychologists that had been working together at the psychiatric rehabilitation unit of institution for more than 10 years. Ages of participants ranged from 30 to 84 ($M = 56.0$; $SD = 9.6$); 24 were women and 6 were men; 1 had a college degree, 16 had a high school diploma, and 13 did not have a high school diploma.

The nonclinical sample was made up of 30 adults which obtained SCL-90-R GSI scores lower than 1. Ages ranged from 30 to 83 ($M = 55.3$; $SD = 9.8$); 22 were women and 8 were men; 1 had a college degree, 17 had a high school diploma, and 12 did not have a high school diploma.

Data Analysis and Predictions. The BIPM scores of the two groups, i.e., clinical vs. nonclinical, were compared through a series of independent-sample t-tests. Because PM is often considered a psychological strength (e.g., Beitel & Cecero, 2003; Beitel et al., 2004; Denollet & Nyklíček, 2004; McCallum & Piper, 1990; Taylor et al., 1989; Trudeau & Reich, 1995) and given that Nyklíček and Denollet (2009) found relatively low PM in mental health patients, we predicted the BIPM scores of the nonclinical group to be higher than those of the clinical group.

Results

As expected, the scores of the nonclinical group were significantly higher than those of the clinical group for both Insight and the total score. Quite surprisingly, on the contrary, Interest was significantly higher in the clinical group (Table 4). Similar to study 1, these results indicate that Insight is inversely related to psychopathology, while Interest is positively related to it.

General Discussion

Broadly defined as the ability and disposition to reflect upon one's psychological states and processes, PM is often considered a precondition for insight-oriented therapy to be

ITALIAN BIPM AND PSYCHOPATHOLOGY

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3 successful. Recent research also suggests that PM might be positively related to health,
4 coping, and wellbeing (Beitel & Cecero, 2003; Beitel et al., 2004; Denollet & Nyklíček,
5 2004; Nyklíček et al., 2010; Trudeau & Reich, 1995), and negatively related to symptoms of
6 psychological distress (e.g., Lumley, Ovies, Stettner, Wehmer, & Lakey, 1996; Subic-Wrana,
7 Bruder, Thomas, Lane, & Kohle, 2005). Due to a lack of consensus on the construct
8 definition and a shortage of psychometrically sound and easy-to-use instruments, however,
9 very little empirical data on PM is available to date.

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19 To add to the extant literature on this underinvestigated topic, we sought to investigate
20 the validity and reliability of a brief PM self-report, i.e., the BIPM, and to examine its
21 relationship with psychopathology. Three studies were completed. In a first study, a relatively
22 large Italian student sample was administered the BIPM, a few other questionnaires
23 measuring PM related constructs, and the SCL-90-R. Four statistical analyses were
24 performed for this study. First, confirmatory factor analysis of the BIPM items tested the two-
25 factor model proposed by Nyklíček and Denollet (2009). Second, internal consistency of both
26 the total and subscale scores of the BIPM was examined. Third, concurrent validity analyses
27 were conducted. Fourth, the relationship between the BIPM scores and a continuous measure
28 of psychological symptoms, i.e., the SCL-90-R GSI, was analyzed. After completing study 1,
29 in study 2 we performed test-retest stability analyses on a new, different, student sample.
30 Finally, in our study 3, the BIPM scores of a clinical sample with diagnosis of mood
31 spectrum disorders were compared to those of an age-, gender-, and education-matched
32 nonclinical sample.

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50 Taken together, the results of all these studies indicate that the BIPM is a
51 psychometrically sound, valid, and reliable tool. Indeed: (a) the confirmatory factor analysis
52 resulted in an adequate fit; (b) the internal consistency of both the total and subscale scores of
53 the BIPM was adequate and comparable to that of the original version; (c) the BIPM

ITALIAN BIPM AND PSYCHOPATHOLOGY

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3 correlated significantly and in the expected direction with mindfulness, emotional
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5 intelligence, self-consciousness, alexithymia, and difficulties in emotion regulation; and (d)
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7 the test-retest stability analyses revealed that the BIPM has fair to good test-retest stability.
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9 Given that the BIPM consists of only 14 items, these results are quite impressive.
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11 Both the correlation analysis between the BIPM scores and the SCL-90-R GSI
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13 performed in study 1, and the clinical vs. non-clinical sample comparison performed in study
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15 3, however, produced a quite unexpected result. According to our hypotheses, because PM is
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17 considered a psychological strength, we predicted all BIPM scores to be positively associated
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19 with mental health. Instead, this pattern was only observed for Insight and for the total score,
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21 while Interest was rather positively associated with psychopathology. In fact, Insight and the
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23 total BIPM score negatively correlated with the SCL-90-R GSI in study 1, and their mean
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25 values were higher in the nonclinical than in the clinical sample in study 3. On the contrary,
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27 Interest positively (albeit weakly) correlated with the SCL-90-R GSI in study 1, and its mean
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29 value was lower in the nonclinical than in the clinical sample in study 3. Put simply, Insight
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31 and the total BIPM score were, as expected, negatively associated with psychopathology,
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33 while Interest was, unexpectedly, positively associated with it.
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38 One possible explanation for these unexpected findings is that the specific type of
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40 psychological functioning characterizing the samples under investigation might have played a
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42 central role. It is possible, indeed, that the depressed patients of study 3 were highly focused
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44 on their feelings, just because those feelings were precisely the source of their problems, and
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46 that such an introspective attitude was also shared by the most distressed psychology students
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48 of study 1, in that “human feelings” were exactly the subject of their studies. Thus, such an
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50 interest toward one’s own feelings may not be representative of all types of
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52 psychopathologies and psychological conditions. This hypothesis, to some extent, is also in
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54 line with the fact that there is “a difference between being aware of emotional responses and
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ITALIAN BIPM AND PSYCHOPATHOLOGY

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3 having a clear understanding of the nature of these responses” (Gratz & Roemer, 2004, p.
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5 47). Being interested in and aware of one’s own emotions, feelings, and psychological states,
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7 indeed, does not imply, per se, being actually able to fully comprehend and manage them
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9 accordingly. Thus, depressed individuals might happen to be highly interested in
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11 introspection, but still unable to correctly understand and manage their psychological states
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13 and processes, and consequently their behaviors. Further studies should investigate these
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15 hypotheses.
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Limitations and Final Remarks

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20 Taken together, the results of our studies indicate that the BIPM is a short, valid and
21
22 reliable tool to measure PM, and confirm that Insight might be used in the clinical context to
23
24 assess whether or not to adopt components of treatment aimed at enhancing PM. As
25
26 suggested by Nykliček and Denollet (2009), indeed, people with low scores on Insight may
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28 benefit from techniques applied in the mentalization-based approach (Bateman & Fonagy,
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30 2004) in order to enhance their PM.
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34 Some limitations, however, warrant consideration. First, the results of study 1 and 2
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36 refer only to student samples. Future studies should test factor structure, internal consistency,
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38 concurrent validity, and test-retest stability using clinical samples, and possibly also
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40 nonclinical community samples. Second, these studies uniquely used self-report measures,
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42 while observation- and performance-based instruments should be considered for future
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44 research. Third, most of the data refer to correlational data, which do not allow for any
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46 conclusions regarding causality. Future longitudinal studies are certainly needed before
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48 adopting the BIPM in the clinical context. Fourth, the clinical sample we used in study 3 was
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50 small (N = 30). Therefore replication of these findings is necessary before any definitive
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52 conclusions can be made. Fifth, we only included a clinical sample characterized by mood
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54 disorders. Future studies should consider testing other clinical populations.
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ITALIAN BIPM AND PSYCHOPATHOLOGY

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3 Despite all these limitations, however, this research is the first to investigate the BIPM
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5 in an Italian cultural setting, and provides important information regarding the psychometric
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7 properties of the BIPM, and its relationship with psychopathology.
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For Peer Review Only

ITALIAN BIPM AND PSYCHOPATHOLOGY

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ITALIAN BIPM AND PSYCHOPATHOLOGY

Table 1

Descriptive Statistics for BIPM Scales Among Men (N = 101), Women (N = 197), and Entire Sample (N = 298).

Sample	Scale	Min	Max	Mean	Standard Deviation	Skewness	Kurtosis
Men	Interest	3	28	16.6	5.6	.03	-.61
	Insight	7	28	21.0	5.4	-.45	-.87
	Total Score	10.5	28.0	18.8	4.0	.19	-.44
Women	Interest	3	28	16.5	4.9	-.10	-.01
	Insight	6	28	22.3	4.6	-.98	.50
	Total Score	10.0	28.0	19.4	3.6	-.09	-.19
Total	Interest	3	28	16.6	5.1	-.04	-.25
	Insight	6	28	21.9	4.9	-.79	-.15
	Total Score	10.0	28.0	19.2	3.7	-.00	-.33

ITALIAN BIPM AND PSYCHOPATHOLOGY

Table 2

Factor Loadings for BIPM Items Obtained From CFA (N = 298).

Variable	Factor Loading
INTEREST	
Item 2	.52
Item 5	.48
Item 7	.55
Item 8	.48
Item 11	.72
Item 13	.68
Item 14	.62
INSIGHT	
Item 1 (r)	.58
Item 3 (r)	.49
Item 4 (r)	.57
Item 6 (r)	.63
Item 9 (r)	.67
Item 10 (r)	.44
Item 12 (r)	.73

ITALIAN BIPM AND PSYCHOPATHOLOGY

Table 3

Correlations Between the BIPM Subscales and Related Constructs.

Variable	BIPM Interest	BIPM Insight	BIPM Total
TAS-20 (N = 295)			
Difficulty Identifying Feelings	-0.08	-0.60**	-0.44**
Difficulty Describing Feelings	-0.17**	-0.46**	-0.42**
Externally Oriented Thinking	-0.50**	-0.43**	-0.62**
Total Score	-0.32**	-0.65**	-0.64**
DERS (N = 295)			
Nonacceptance	0.06	-0.32**	-0.17**
Goals	-0.05	-0.17**	-0.15**
Impulse	-0.01	-0.36**	-0.24**
Awareness	-0.62**	-0.34**	-0.65**
Strategies	-0.01	-0.40**	-0.27**
Clarity	-0.25**	-0.68**	-0.61**
Total Score	-0.18**	-0.54**	-0.48**
FFMQ (N = 290)			
Observe	0.44**	-0.02	0.29**
Describe	0.33**	0.39**	0.48**
Act with Awareness	0.03	0.43**	0.31**
Non Judge	-0.09	0.34**	0.16**
Non React	0.17**	-0.15*	0.02
Total Score	0.34**	0.41**	0.50**
TMMS (N = 294)			
Attention	0.48**	0.41**	0.60**
Clarity	0.32**	0.60**	0.61**
Repair	0.14*	0.24**	0.25**
Total Score	0.45**	0.59**	0.70**
RRQ (N = 298)			
Reflection	0.61**	0.23**	0.57**
Rumination	0.08	-0.11	-0.02

Note. TAS-20 = 20-item Toronto Alexithymia Scale; DERS = Difficulties in Emotion

Regulation Scale; FFMQ = Five Facet Mindfulness Questionnaire; TMMS = Trait Meta-

Mood Scale; Reflection and Rumination Questionnaire; * $p < .05$; ** $p < .01$

ITALIAN BIPM AND PSYCHOPATHOLOGY

Table 4

Comparison Between Clinical (N = 30) and Nonclinical (N = 30) Samples.

Variable	Sample	<i>M</i>	<i>SD</i>	Confidence Interval (95%)		<i>t</i>	<i>df</i>	<i>p</i>	<i>d</i>
				Min	Max				
BIPM Interest	Nonclinical	14.4	7.4	11.6	17.1	-2.3	58	.03	-.58
	Clinical	18.3	5.9	16.1	20.5				
BIPM Insight	Nonclinical	25.2	2.7	24.2	26.2	6.8	35.7*	<.01	1.76
	Clinical	14.9	7.8	12.0	17.8				
BIPM Total	Nonclinical	19.8	3.9	18.3	21.2	2.7	58	<.01	.71
	Clinical	16.6	5.0	14.7	18.5				

Note. * Because homoscedasticity could not be assumed, Welch-Satterthwaite method was used to adjust degrees of freedom.