CONVERGENT VALIDITY OF THE MMPI–A AND MACI SCALES OF DEPRESSION

ERIN K. MERYDITH AND LEADELLE PHELPS

University at Buffalo, SUNY

Summary.—The purpose of this study was to investigate the extent to which the depression scales of the Minnesota Multiphasic Personality Inventory–Adolescents (MMPI–A) and the Millon Adolescent Clinical Inventory (MACI) show convergence with a sample of 252 adolescents from an inpatient psychiatric facility. Both inventories were administered as part of the intake process. Pearson correlations were computed among the (a) MMPI–A Scale 2 (Depression), (b) MMPI–A Depression Content Scale, (c) MACI Doleful Personality Scale, and (d) MACI Depressive Affect Scale. There was no significant difference between the mean scores. Evidence of convergent validity between the two tests was moderate.

Among the top 10 tests used by psychologists for the assessment of adolescent psychopathology (Archer, 2005) are the Minnesota Multiphasic Personality Inventory–Adolescents (MMPI–A; Butcher, Williams, Graham, Archer, Tellegen, Ben-Porath, et al., 1992) and the Millon Adolescent Clinical Inventory (MACI; Millon, 1993). Although practitioners have used these self-report measures interchangeably, they were developed from two distinct approaches. The MMPI–A is a downward extension of the MMPI–2 (Butcher, Dahlstrom, Graham, Tellegen, & Kaemmer, 1989), which is based upon an empirical keying approach. The MMPI–A is designed to assess current severity of psychopathology in adolescents 14 to 18 years of age, but it can be used with youth as young as age 12 (Archer, 2005). By comparison, the MACI is based on Millon’s theory of personality and is used to assess personality patterns, expressed concerns, and clinical syndromes in adolescents ages 13 to 19 years (McCann, 1999). A downward extension of the Millon Clinical Multiaxial Clinical Inventory, 3rd Edition (MCMI–III), the MACI contains 160 items that correspond to diagnostic criteria and syndromes categorized in the DSM–IV (American Psychiatric Association, 1994).

Of importance for this study are the MMPI–A Scale 2 (Depression), MMPI–A Depression Content Scale, the MACI Scale 2B (Doleful), and the MACI Scale FF (Depressive Affect). Several studies have shown that the MMPI–2 content scales provide additional information beyond that afforded by the clinical scales (Ben-Porath, Butcher, & Graham, 1991; Ben-

1Address correspondence to Erin Merydith, Ed.S., or LeAdelle Phelps, Ph.D., Department of Counseling, School, and Educational Psychology, University at Buffalo, 409 Baldy Hall, Buffalo, NY 14260-1000 or e-mail (merydith@buffalo.edu or phelps@buffalo.edu).
Porath, McCully, & Almagor, 1993; Archer, Aiduk, Griffin, & Elkins, 1996). That is, the MMPI clinical scales provide information that is less susceptible to manipulation such as “faking good” or “faking bad,” whereas the content scales are composed of items with high face validity and are quite susceptible to an attempt to under- or overreport symptoms (Greene, 2000; Archer, 2005). By comparison, the MACI uses DSM–IV criteria with items in Scale 2B characteristic of a depressive personality disorder such as difficulty experiencing joy, feelings of worthlessness, dysphoria, pessimism, and low self-esteem. Likewise, Scale FF (Depressive Affect) items reflect sadness, lack of energy, feelings of guilt, and social withdrawal.

Few researchers have investigated the relation of the MMPI–A and the MACI. In one of the small number of published studies, Deselms, Jones, Dorr, Alcazar, and Morgan (2003) examined the covariance of scores of depression and psychopathology in a sample of adolescent psychiatric inpatients with the MMPI–A and the MACI, specifically using the Harris-Lingoes scales and several scales on the MACI. Analyses found the covariance between depression and psychopathy significant, indicating that the two areas were not mutually exclusive. Likewise, Deselms (2004) reported evidence of concurrent validity between similar scales within each of the inventories in a sample of hospitalized adolescents.

As the MMPI–A and the MACI are widely used to assess psychopathology in adolescents, yet have distinctly different origins of development and types of scoring systems, the study of the validity of the various scales is warranted. Very few studies have compared the subscales of these measures, and none has focused solely on depression in adolescents. The purpose of this study was to evaluate the convergent validity between the (a) MMPI–A Scale 2 (Depression), (b) MMPI–A Depression Content Scale, (c) MACI Scale 2B (Doleful Personality), and (d) MACI Scale FF (Depressive Affect).

Method

Participants and Procedures

Two hundred and fifty-two adolescents between 13 and 18 years of age who were inpatients at a psychiatric hospital were administered the MMPI–A and the MACI. The mean age of the sample was 15.3 yr. (SD = 1.1). The sample consisted of 90% Caucasian, 5% African American, 3% Hispanic, and 2% listed as “Mixed race or other.” Fifty-nine percent of the participants were girls, and 41% were boys. Upon admission, the assigned primary diagnoses were 75% mood disorders, 13% anxiety disorders, 4% ADHD/ODD/CD, 3% psychotic disorders, 3% eating disorders, and 2% sexual/gender identity disorders. The average length of the hospitalization was 3 mo.

The demographic information and scores on the MMPI–A and MACI
were recorded anonymously (i.e., no names, date of birth, or other identifying information was coded). All patients at this facility were routinely administered both measures. Raw scores were transformed to standard $T$ scores based on gender norms as directed in the administration manuals of both instruments. Data were analyzed using SPSS 16.0.2. Correlations among the MMPI–A Scales 2 and Depression Content Scale and the MACI Scales 2B and FF were examined to evaluate convergent validity.

**Results**

Means and standard deviations for the four subscales are reported in Table 1. All were moderately elevated ($T$ range 62–71) with no significant differences among the mean scores (ANOVA, $F = .89$). Table 2 displays the correlations among the depression scales of the MMPI–A and the MACI. All correlations were significant with the strongest relationship occurring in the Depression Content Scale of the MMPI–A and the Depressive Affect Scale of the MACI ($r = .78; p < .01$).

Coefficients of determination indicated that 31% of the variance was accounted for between the MMPI–A Scale 2 with MACI Doleful Personality (Scale 2B) and 48% with MACI Depressive Affect (Scale FF). Similarly, the Depression Content Scale of the MMPI–A has 33% of overlap in variance with the Doleful Personality Scale of the MACI and 61% with the Depressive Affect scale of the MACI.

**Table 1**

<table>
<thead>
<tr>
<th>Scale</th>
<th>$M$</th>
<th>$SD$</th>
<th>ANOVA $F$</th>
</tr>
</thead>
<tbody>
<tr>
<td>MMPI–A Scale 2</td>
<td>62.70</td>
<td>13.22</td>
<td>.89</td>
</tr>
<tr>
<td>Depression Content</td>
<td>63.06</td>
<td>14.15</td>
<td></td>
</tr>
<tr>
<td>MACI Doleful Personality</td>
<td>62.62</td>
<td>20.50</td>
<td></td>
</tr>
<tr>
<td>Depressive Affect</td>
<td>71.08</td>
<td>20.89</td>
<td></td>
</tr>
</tbody>
</table>

*Note.* — $F$ not significant at $p < .05$.

**Table 2**

<table>
<thead>
<tr>
<th>Depression Scale</th>
<th>MMPI–A Depression Content</th>
<th>MACI Doleful Personality</th>
<th>MACI Depressive Affect</th>
</tr>
</thead>
<tbody>
<tr>
<td>MMPI–A Scale 2</td>
<td>.76*</td>
<td>.56*</td>
<td>.69*</td>
</tr>
<tr>
<td>MMPI–A Depression Content Scale</td>
<td>.57*</td>
<td>.78*</td>
<td></td>
</tr>
<tr>
<td>MACI Doleful Personality Scale</td>
<td></td>
<td>.69*</td>
<td></td>
</tr>
</tbody>
</table>

*$p \leq .01$. 

Discussion

The results of this study yielded adequate convergent validity among the MMPI–A Clinical Scale 2 (D) and Depression Content Scale with the MACI Scale 2B (Doleful Personality) and Scale FF (Depressive Affect). Each scale, however, appears to tap different aspects of depression. For example, Archer (2005) reported that the MMPI–A Scale 2 measures apathy, physical symptoms, general dissatisfaction with life, and social withdrawal. McCann (1999) noted that the MACI Doleful Personality Scale (2B) is a measure of personality characteristics related to a depressive disorder as delineated in the DSM–IV, including feelings of low self-esteem, worthlessness, and pessimism. The MMPI–A Scale 2 also appears to be more strongly associated with clinical depressive symptomatology as measured by the MACI Depression Affect Scale (FF).

There are, however, practical considerations for psychologists in either school or clinical settings. As the MMPI–A and the MACI have concurrent validity, it may be more practical for psychologists in the schools to use the MACI as it is considerably more time efficient. Use of the MMPI–A alone or in combination with the MACI may be more applicable in clinics or hospital settings, as time constraints are less severe. This point, however, may best be addressed by research designed to evaluate the efficiency of the MMPI–A and MACI across diverse clinical settings.

REFERENCES


Accepted August 7, 2009.