Multigroup Ethnic Identity Measure Scores in a Sample of Adolescents From Zimbabwe

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This study examined the structural validity of scores on the 20-item Multigroup Ethnic Identity Measure (MEIM; Phinney, 1992) in a group of 196 students attending secondary school in Zimbabwe. MEIM scores yielded 2 factors (Ethnic Identity, or EI, and Other Group Orientation, or OGO) as in previous studies, with the EI factor being more viable. Factor analysis of the 14 EI items resulted in a single factor, in contrast to findings of previous studies. The authors suggested that the OGO factor may be less viable in majority groups, that the EI items may best be explained by a single factor, and that the MEIM would benefit from more scale development work.

Erikson’s (1950, 1959, 1968) articulation of the adolescent identity crisis propelled the construct of identity into the forefront of adolescent psychology. Erikson argued that identity was not solely a concept of the individual; rather, he believed that identity had a strong social component, as it is essentially developed in a social context. Thus, the identity search results in the question, “Who am I?,” as well as the question, “Who am I in this social context?” Erikson’s notions of the social context of identity development have been echoed by other theorists (e.g., Bourne, 1978; Kelly & Hansen, 1987; Tajfel, 1978, 1981). This two-pronged aspect of identity resulted in two relatively separate research strands. A number of
researchers have focused their attention on ego identity or the individual side of identity (e.g., Marcia, 1966, 1980, 1983). Other researchers have focused on the social side of the identity, leading to research on a number of social identities, the two most prominent being racial identity (Cross, 1971, 1991; Helms, 1990; Parham & Helms, 1981; Sellers, Rowley, Chavous, Shelton, & Smith, 1997; Vandiver & Worrell, 2001) and ethnic identity (EI; e.g., Bernal & Knight, 1993; Phinney, 1990, 1992; Rumbaut, 1994). This article focuses on one of the most commonly used EI instruments, the Multigroup Ethnic Identity Measure (MEIM; Phinney, 1992). Specifically, we examined the reliability and structural validity of MEIM scores in a sample from a cultural context outside of the United States.

EI

EI has been defined in a number of ways. One of the more frequently cited definitions is that of Tajfel (1981). He defined EI as an individual’s “knowledge of his membership [in] a social group” and “the value and emotional significance attached to that membership” (p. 255). More recently, Phinney and her colleagues (e.g., Phinney, 1989, 1990, 1992, 1996; Phinney & Alipuria, 1990, 1996; Phinney, Cantu, & Kurtz, 1997; Phinney & Chavira, 1992; Phinney & Devich-Navarro, 1997; Phinney & Onwughalu, 1996; Roberts, Phinney, Masse, Chen, Roberts, & Romero, 1999), who have been prolific contributors to the EI literature, defined EI in terms of specific components. In their view, EI consists of “a feeling of belonging to one’s group, a clear understanding of the meaning of one’s [group] membership, positive attitudes towards the group, familiarity with its history and culture, and involvement in its practices” (Phinney et al., 1994, p. 169).

The social components of both definitions are clear. There is one aspect of EI, however, that is often taken for granted: This construct is only salient in societies where multiple ethnic groups are in contact with each other. In an ethnically homogeneous society, EI “is a virtually meaningless concept” (Phinney, 1990, p. 501). Thus, EI is typically studied in pluralistic or diverse societies. In the 1960s, increasing numbers of ethnic minorities and an increased emphasis on social and ethnic consciousness and pride resulted in a greater emphasis on the constructs of racial and EI in the United States. Phinney described the combination of circumstances in this way:

Attitudes toward one’s ethnicity are central to the psychological functioning of those who live in societies where their group and its culture are at best poorly represented (politically, economically, and in the media) and are at worst discriminated against or even attacked verbally and physically; the concept of ethnic identity provides a way of understanding the need to assert oneself in the face of threats to one’s identity. (p. 499)
This description is also in keeping with Erikson’s (1950) contention that identity development would be particularly difficult for African Americans, given the societal discrimination against the group.

The social context for this study was Zimbabwe, an independent nation in West Africa and former British colony. This country was chosen because one of the researchers is a national of that country and was interested in exploring the concept of EI in that cultural context, one in which the structural validity of MEIM scores had not previously been examined. Moreover, examination of the structure of the MEIM in the United States has often included multiple racial and ethnic groups (e.g., Phinney, 1992; Roberts et al., 1999; Spencer, Icard, Harachi, Catalano, & Oxford, 2000; Worrell, 2000; Yancey, Aneshensel, & Driscoll, 2001). In Zimbabwe, however, 98% of the population is of African descent, and all other groups make up less than 1%. Thus, this study allowed us to examine MEIM scores in a racially homogenous context.

In addition, the study provided an opportunity to contribute to an ongoing debate in the extant literature on the structure of MEIM scores, a debate that is important to both theorists and empirical researchers. Although scale development research can provide support for or suggest revisions to theoretical models (e.g., Vandiver, Fhagen-Smith, Cokley, Cross, & Worrell, 2001), these types of studies are often published in measurement journals where they may not be seen by many researchers examining the construct that they are based on. To provide the broader context for the study, we first discuss the development of the MEIM and psychometric studies of MEIM scores both within and outside the United States.

DEVELOPMENT OF THE MEIM

In response to the need for a measure of EI “that can be used with diverse populations” and “to study and compare the role of EI in development,” Phinney (1992, p. 158) developed the MEIM. The MEIM is unique in that it uses the same questions to measure EI within and between ethnic groups. Fourteen questions on the MEIM were developed to measure three related aspects of EI: Ethnic Affirmation and Belonging (5 items), Ethnic Identity Achievement (7 items), and Ethnic Behaviors (2 items). An additional 6 items were developed to measure Other Group Orientation (OGO), or the general responses that members of one ethnic group have toward groups other than their own. Phinney noted that “attitudes toward other groups are not part of ethnic identity, but they may interact with it as a factor in one’s social identity in the larger society” (p. 161), and that this interaction was particularly important for minority groups. This contention is in keeping with the notion that EI is a social construction that is framed in response to other social groups. From a theoretical standpoint, then, Phinney expected MEIM scores to yield a four-factor structure, with three EI factors and the OGO factor.
Phinney (1992, p. 165) conducted an exploratory factor analysis (EFA) of the 20 items in both a high school and a college-aged sample using a principal axis extraction procedure and the “proportion criterion” to determine the number of factors to extract. The high school sample consisted of 417 students, 44% of whom were male, ranging in age from 14 to 19 years old. These students were from diverse socioeconomic backgrounds and included Asian Americans (32%), African Americans (31%), Hispanic Americans (21%), Americans from mixed backgrounds (10%), European Americans (3%), and students who chose the “other” category (2%). The college sample consisted of 136 participants (35% male) ranging in age from 18 to 34 years old. These students also came from diverse socioeconomic backgrounds and were all enrolled in introductory psychology courses at a large urban university. The college sample was made up of 43% Hispanic Americans, 26% Asian Americans, 17% European Americans, 8% African Americans, and 6% of mixed background.

Phinney (1992) reported that the proportion criterion suggested three factors for the high school sample and five factors for the college sample. Both the high school and college samples, however, yielded two interpretable factors: one factor made up of the 14 EI items and a second factor consisting of the 6 items measuring OGO. Internal consistency estimates for scores were in the high range for EI (.81–.90) and in the moderate range for OGO (.71–.74). An examination of the three hypothesized EI factors indicated intercorrelations ranging from .46 to .79. Phinney commented that “the results from the two samples combined suggest a single factor for ethnic identity and a distinct factor for other-group orientation” (p. 166), and she concluded that “ethnic identity appeared to consist of a single factor, including three intercorrelated components” (p. 169).

Not surprisingly, the publication of the MEIM (Phinney, 1992) resulted in an explosion of research in this area. A search of the PsycInfo database in early 2004 using MEIM as the keyword yielded 48 studies—on average, four studies a year for the last 12 years—and PsycInfo probably does not retrieve all of the studies that use the MEIM—for example, two presentations at the 2002 convention of the American Psychological Association (Kovach & Hillman, 2002; Weber & Castillo, 2002). At this point, the MEIM may be the most frequently used measure in quantitative examinations of EI in the research literature.

WHAT CONSTITUTES THE MEIM ANYWAY?

Two related developments have resulted in a lack of clarity about what constitutes the MEIM and what it measures. First, factor analytic evidence and conclusions notwithstanding (Phinney, 1992), some studies using the MEIM have reported on the three EI components as separate variables and treated them as constructs in their own right (e.g., Phinney & Devich-Navarro, 1997). The use of the three EI scores is prob-
ably not surprising in retrospect. Indeed, after reporting the results of the factor analysis in the 1992 article, Phinney (p. 167) proceeded to report means and standard deviations for the three EI subscales, and she compared the college and high school students on these subscales as well as on the global scale with t tests.

The second development involves the number of items on the MEIM. Again, contradicting the results presented in the original validation article (Phinney, 1992), several studies using the MEIM have described it as a 14-item measure (e.g., Phinney & Devich-Navarro, 1997; Phinney et al., 1994; Phinney, Ferguson, & Tate, 1997), even though these researchers cite the 1992 study as their source. Moreover, even within the studies that discuss the MEIM as a 14-item measure, there are differences about the number of factors that should be interpreted. For example, Phinney et al. (1994) noted that “although the three aspects of ethnic identity measured by the scale are conceptually separate, factor analysis revealed that they all load on the same factor. Therefore, they were not analyzed separately” (p. 175). Similarly, Phinney et al. (1997) acknowledged the components of the EI, but used the EI factor in their analyses. Phinney and Devich-Navarro, however, reported means and standard deviations for the three EI subscales—attitudes, behaviors, and achievement—but not for the global EI subscale.

What Should We Measure When Studying EI?

These studies raise measurement concerns about the structure of the MEIM that can be answered empirically. They also raise questions, however, about studying the role of attitudes toward ethnic groups other than one’s own as an aspect of EI. If we accept the contention that EI is only salient in the context of a society with multiple ethnic groups (Phinney, 1990), it follows that an examination of EI attitudes should include an examination of attitudes toward ethnic groups other than one’s own (Phinney, 1992; Phinney et al., 1997).

From this premise, we can conclude that a full examination of attitudes related to EI can lead to at least four major groupings of individuals: high EI and high OGO, high EI and low OGO, low EI and high OGO, and low EI and low OGO. Moreover, it is plausible that individuals falling into different quadrants will engage in different behaviors, suggesting that all of the quadrants are worthy of investigation. Research on racial identity has resulted in similar groupings. For example, studies on the nigrescence model by Cross and his colleagues (e.g., Schaefer & Worrell, 2003; Vandiver, Cross, Worrell, & Fhagen-Smith, 2002; Worrell, Vandiver, Schaefer, Cross, & Fhagen-Smith, 2003) have delineated attitudes that reflect these four quadrants: multicultural attitudes reflective of a strong orientation toward one’s own racial group (high–high); Afrocentric attitudes reflecting a strong orientation to Black culture and a low orientation toward White culture (high–low); assimilation attitudes, which downplay the importance of Black culture but highlight majority culture (low–high); and low race salience atti-
tudes, which downplay the significance of race across the board (low–low). Thus, Phinney’s (1992) inclusion of both EI and OGO attitudes on the MEIM is in keeping with theorizing about social identities, in general, and is supported by empirical research examining racial identity.

**USING FACTOR ANALYSIS TO ESTABLISH CONSTRUCT VALIDITY**

Before recommending an instrument for use in either research or practice, it is important to examine the construct validity of the instrument’s scores—that is, does the instrument measure what it should be measuring? Construct validity is based on a preponderance of evidence (Benson, 1998), including evidence about the reliability and structural validity of the scores with the populations of interest. Most studies using scales provide internal consistency estimates for the scores. Although reliability is important, however, high internal consistency estimates only tell us that individuals’ responses to items tend to be similar, but they do not speak to the dimensionality or structure of those scores (Goodwin & Goodwin, 1999; Schmitt, 1996). To determine the structure of an instrument’s scores, one must use a procedure like factor analysis (Clark & Watson, 1995; John & Benet-Martinez, 2000).

*Factor analysis* is a data-reduction procedure that allows a larger number of items or operationalized variables to be summarized into some smaller number of created variables or factors by using the covariation among the observed variables to create latent variables or factors from groups of observed variables that covary (Tabachnick & Fidell, 2001). For example, Phinney (1992) examined participants’ responses to 20 items and concluded that these 20 items could be summarized by two factors. To the extent that factor analytic results mirror hypotheses generated by a theory, they provide general construct validity support for the theory and structural validity support for the items operationalizing the theory. Because factor analysis uses the correlations among the observed variables or items to create the factors, changing the wording of items on a scale can potentially change the factor structure, especially if participants’ responses to items are determined by the context of that item, and changing the number of items on the scale changes the correlation or covariance matrix from which the factors are created, which can lead to a different factor structure emerging.

**VALIDITY STUDIES OF THE MEIM**

The version of the MEIM that was validated in 1992 consisted of 20 items, and there is supporting evidence for this contention. First, the theoretical framework
proposed by Phinney (1992) acknowledged the importance of attitudes toward others in understanding EI, and items were developed to measure these attitudes. Second, the OGO items (4, 7, 9, 15, 17, and 19) were interspersed among the EI (1, 2, 3, 5, 8, 10, 11, 12, 13, 14, 16, 18, and 20) items on the measure. Third, one of the hypothesized EI subscales, Ethnic Behaviors, consisted of only two items—that is, too few to be considered a viable subscale or factor (Floyd & Widaman, 1995). Fourth, the factor analyses that were conducted used the correlation matrix from all 20 items; thus, the resultant factor structure was based on 20 items and not 14. Finally, Phinney acknowledged the two-factor structure based on 20 items in the results and discussion of the study, as well as in the scoring for the MEIM presented in Appendix B (pp. 172–173).

More recent factor analytic work on the MEIM has produced mixed evidence on the structure of the EI construct, in part due to the use of different versions of the instrument and different factor analytic strategies. To help keep the distinction between the two versions of the instrument clear, in this article, the 20-item version will be referred to as the original MEIM (MEIM-O), and the 14-item version will be referred to as the reduced MEIM (MEIM-R).

### Structural Validity of the MEIM-O

In addition to Phinney’s (1992) study, three studies (Lee, Falbo, Doh, & Park, 2001; Ponterotto, Gretchen, Utsey, Stracuzzi, & Saya, 2003; Worrell, 2000) have examined the factor structure of MEIM-O scores with adolescents or young adults. Worrell examined MEIM-O scores in a sample of 275 academically talented, high school-aged adolescents (53% Asian American, 21% White, 8% African American, 8% Hispanic, and 5% Mixed) using EFA. Based on principal axis extraction (Comrey, 1988; Floyd & Widaman, 1995) and multiple criteria, including parallel analysis, to determine the number of factors to extract (MacCallum, Widaman, Zhang, & Hong, 1999; Thompson & Daniel, 1996), he reported findings almost identical to Phinney’s original analyses. Worrell found a 14-item EI factor and a 6-item OGO factor, with reliability estimates of .89 and .76, respectively, salient loadings ranging from .35 to .77, and no cross-loadings above .22. Worrell also reported that an oblique rotation indicated that “the two factors were not appreciably correlated \( r = .006 \)” (p. 442).

Lee et al. (2001) examined the MEIM-O in two independent samples: 120 Korean Americans and 182 Korean Chinese. They used principal component analysis (PCA) with varimax (orthogonal) rotation and restricted the extraction to two factors. Scores from both samples resulted in two factors that could be labeled EI and OGO. EI and OGO, however, consisted of 12 and 8 items, respectively, in the Korean American sample and 13 and 7 items in the Korean Chinese sample. Eliminating 5 items for cross-loading in one of the samples or loading differentially
across samples resulted in a revised instrument with a 9-item EI factor and a 6-item OGO factor. Lee et al. found group differences between the two samples, but no item bias across the groups.

More recently, Ponterotto et al. (2003) began with confirmatory factor analysis (CFA) procedures to examine MEIM-O scores in a sample of 219 high school juniors and seniors (85% White, 6% Pacific Islander/Asian, 5% Hispanic, and lower percentages of all other groups). Unlike EFA, CFA procedures allow the researcher to specify the model being tested and provide goodness-of-fit statistics to evaluate the fit. These researchers compared the two-factor structure obtained by Phinney in 1992 with a unidimensional model obtained by Reese, Vera, and Paikoff (1998), who used modified MEIM-O items with an elementary school sample. Based on the accepted standards for CFAs, neither model fit the data well, although the two-factor model did result in a better fit. A subsequent EFA of the data using extraction and rotation procedures used by Phinney (1992) did yield a two-factor structure comparable to Phinney’s, with the loadings on the EI factor (.46–.78, $Mdn = .61$) being considerably more robust than the loadings on the OGO factor (.21–.61, $Mdn = .34$).

Structural Validity of the MEIM-R

Three studies have examined the structure of MEIM-R items in relatively large, diverse adolescent samples in large urban areas (Roberts et al., 1999; Spencer et al., 2000; Yancey et al., 2001), and one study used an ethnically diverse sample of Asian American college students (Lee & Yoo, 2004). Roberts et al.’s sample consisted of 5,423 early adolescents (14% White) attending middle schools in Houston, Spencer et al.’s sample was made up of 2,184 early adolescents (32% White) attending middle schools in Seattle, Yancey et al.’s used 847 adolescents (20% White) in Los Angeles county, and the study by Lee and Yoo combined data sets from three studies to yield a sample of 323 participants from universities in Texas and California. The three studies of adolescents yielded similar findings. Roberts et al. reported a two-factor structure consisting of 12 of the 14 items, with a 7-item factor labeled *Affirmation, Belonging, and Commitment* and a five-item factor labeled *Exploration and Ethnic Behaviors*. Spencer and his colleagues reported finding a 7-item factor, which they labeled *Identification*, and a 6-item factor, which they labeled *Exploration*. Yancey et al.’s findings yielded a two-factor structure based on 10 items: a 4-item factor labeled *Participation* and a 6-item factor labeled *Affirmation and Belonging*.

Eight of the 14 items loaded on the same factors across the three studies that reported two-factor structures: The 2 Ethnic Behavior items and 3 of the 7 Ethnic Achievement items loaded on one factor, and 3 of the 5 Affirmation items loaded on the other factor. These similarities also apply to two of the three factors in the Lee and Yoo (2004) study. Across the four studies, 7 of the 14 EI items loaded on
the same factor (see Table 1), whereas 8 of the items failed to achieve a salient coefficient in at least one study or did not load on the similar factors across studies. In addition, there are also a number of caveats when comparing these findings to Phinney’s (1992) original study. First, as indicated earlier, the correlation matrix was based on 14 rather than 20 items. Second, both Spencer et al. (2000) and Yancey et al. (2001) made changes to the 14 items as well. Spencer et al. changed the response option from a 4-point Likert scale to a 3-point Likert scale, a procedure that can result in a decrease in reliability (Comrey, 1988), and Yancey et al. modified the questions so that the generic phrase, “my ethnic group,” was replaced by the EI that the student claimed. This change may highlight ethnic group membership in a way that the original questions do not.

Third, in the studies yielding two-factor solutions, the structure coefficients reported differed substantially. For example, Spencer et al. (2000) obtained two clean factors by setting the structure coefficient floor for salience at .55, whereas Yancey et al.’s (2001) salient items went as low as .39. Using a .40 cutoff, 6 of the 13 items in the Spencer et al. study had salient loadings on both factors (see Table 1). Fourth, across the four studies, the correlation between the two factors ranged from .38 to .75, leading Spencer et al. to speculate that the EI items may represent a single scale. Fifth, the studies reported accepting differing numbers of items from 10 (Yancey et al., 2001) to 14 (Lee & Yoo, 2004). The Lee and Yoo study also used

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Note. Items in bold had salient loadings on similar factors in all four studies. MEIM-R = reduced multigroup ethnic identity measure; EI = ethnic identity.<sup>a</sup>

<sup>a</sup>All times loaded on one factor in this study. <sup>b</sup>Had salient loadings (i.e., > .40) on two factors.
principal components analysis rather than common factor analysis, and the resultant inclusion of error variance in this study may be one of the reasons that the findings diverged from the other three studies. Finally, although three of the studies reported on some type of confirmatory analysis, none compared the fit of the items on a single factor to their two-factor structures; rather, they all reported on the invariance of the two-factor structure across groups. Similarly, none of the studies has used scores on the 20 items to compare a one-, two-, three-, and four-factor structure.

EI AND OGO ATTITUDES IN MAJORITY AND MINORITY GROUPS

Phinney (1990) noted that context is important for understanding EI. For example, as stated previously, EI is believed to be more salient in societies with multiple ethnic groups and of greater importance to minority groups than to members of the majority group. Although the research on this question is still limited, some of the findings in the literature seem to support this contention. For example, Phinney and Alipuria (1990) reported significantly higher EI search scores for African American, Asian American, and Mexican American college students than for their White counterparts. Ethnic group comparisons based on MEIM scores resulted in similar findings. Asian, Black, Hispanic, and Mixed high school students obtained significantly higher EI scores than their White counterparts (Phinney, 1992), and Black students obtained higher EI scores than Whites and Hispanics in the college sample. The 1992 study had very small samples for some ethnic groups, however—12 Whites in the high school sample and 11 Blacks in the college sample. More recent studies with larger sample sizes (e.g., Phinney et al., 1994, 1997) resulted in similar findings, with effect sizes in the moderate to high range.

Although EI attitudes seem to be less salient in majority group members, it is probable that OGO attitudes are even less salient, because members of the majority seldom have to accommodate to the wishes of the minority. Moreover, some majority group members (e.g., Jewish Americans, Irish Americans) may have potentially strong ethnic ties. Thus, one can hypothesize that the OGO factor will be less viable in majority samples than in minority samples. Unfortunately, most factor analytic studies of the MEIM have used ethnically diverse samples, with majority group members a minority of the samples. Ponterotto et al.’s (2003) study, with an 85% White group, is the only exception, and in this study, the OGO factor was not viable—indeed, three of the six OGO items obtained factor loadings of less than .35.
THIS STUDY

In sum, the evidence on the MEIM has been fairly consistent across a number of studies. Structural validity analyses of the MEIM-O in four majority ethnic minority samples (Lee et al., 2001; Phinney, 1992; Worrell, 2000) yielded a relatively robust two-factor structure. In contrast, the single study of the MEIM-O’s structure with a mostly majority sample resulted in a strong EI factor and a substantially weaker OGO factor. Studies of MEIM-R scores have provided less consistent support, with three studies yielding slightly different two-factor structures, and one study resulting in a three-factor structure. To date, no studies have examined the structure of both the MEIM-O and the MEIM-R in the same sample. Finally, in most of the studies that have examined ethnic group differences on the EI score, majority group members have obtained significantly lower scores than their minority counterparts.

Several research questions were addressed in this study. First, we examined the structural validity and internal consistency of MEIM-O scores in a sample of adolescents in Zimbabwe. Second, we examined the structure of scores on the MEIM-R in the same sample, in response to the studies that yielded more than one factor when only the EI items are analyzed. A third question concerned the viability of the MEIM-O’s OGO factor in this population. Whereas the majority of the samples used in previous examinations of MEIM-O scores were ethnic minorities, the sample used in this study were mostly members of the majority group in that society. We expected to find support for the two-factor structure for MEIM-O scores in keeping with previous research, but we believed that the OGO factor might prove to be less robust in this context. With regard to the MEIM-R, a one-factor structure was hypothesized, with the caveat that if a two-factor structure was found, the intercorrelation between the two factors would be substantial (i.e., greater than .50).

METHOD

Participants

The participant pool consisted of 211 students attending four secondary schools in an urban area in Zimbabwe. Fifteen participants were eliminated due to missing data on demographic variables (e.g., sex, age). Fifty-two percent of the final group of 196 were boys ($n = 102$). Ages ranged from 14 to 18, with a mean age of 15.7 years ($SD = .78$). Seventy-six percent of the participants ($n = 149$) wrote in Black in response to the question on race, and 24% wrote in African—however, all participants were of African descent. Although all of the children were being schooled
in English and were fluent in that language, only 2% (n = 4) indicated that English was the language of the home. Participants reported 30 different home languages, with Zezeru (49.9%), Manyika (9.7%), Mananyka (7.7%), and Korekore (6.6%) being the most frequently used home languages. The majority of the participants (96%) were Shona, the largest ethnic group in Zimbabwe, constituting 82% of the population. The average level of education was some high school for both mothers and fathers, with the modal education level being some middle school for fathers and some high school for mothers. Participants reported that 10% of their fathers and 5% of their mothers had college degrees.

Materials

All participants completed a packet of measures, including the 20-item MEIM (Phinney, 1992) and some demographic questionnaire. The MEIM consists of the 14 EI items and 6 OGO items. All MEIM items were rated on a 4-point Likert scale ranging 1 (strongly disagree), 2 (somewhat disagree), 3 (somewhat agree), to 4 (strongly agree). Four of the 20 items have to be recoded as they are worded negatively. Factor analyses conducted on the 20-item scale in three independent samples (Phinney, 1992; Worrell, 2000) have consistently yielded two factors: an EI factor and an OGO factor, with reliability estimates of scores being higher for EI (.81 ≤ α ≤ .90) than for OGO (.71 ≤ α ≤ .76). The demographic questions related to information on home language, gender, race, age, and grade level.

Procedure

MEIM items were included in a larger packet of measures, and students were informed that the questionnaires were to be completed anonymously and that completing the packet was optional. Questionnaires were completed in class, and completed questionnaires were placed in an envelope and handed in to one of the researchers. Students were able to ask questions if they did not understand a question. The study was approved by the institutional review board of the Pennsylvania State University.

RESULTS

EFAs were used for a number of reasons. First, the MEIM was being examined in this population for the first time. Second, the factor analyses involving the MEIM that have been reported in the literature have produced slightly different results. Third, given 20 items, a sample size of 200 is the minimum recommendation for an EFA (Comrey, 1988; Comrey & Lee, 1992; Gorsuch, 1983; Streiner, 1994), and with the potential increase in parameters to estimate in CFAs, an even larger sam-
ple size would be needed. Fourth, recent work in this area (e.g., MacCallum et al., 1999) has indicated that communality levels and ratio of variables to factors also affect obtaining a convergent and admissible solution. The communality estimates of the MEIM items in this study ranged from .24 to .65 (Mdn = .36), putting them in the low range. MacCallum et al. reported that, with low communality estimates (i.e., in the .2–.4 range) and a 20:3 variable to factor ratio, sample sizes of 100 result in acceptable EFA solutions 97.1% of the time, and sample sizes of 200 result in acceptable solutions 100% of the time, providing support for the EFA of the data in this study.

Structure of the MEIM-O

An initial principal axis factor analysis of the 20 MEIM resulted in a Kxxxx Mxxxx Oxxxx (KMO) Measure of Sampling Adequacy of .79; a significant Bartlett’s Test of Sphericity (BTS) = 777.51 (190), \( p < .001 \); and seven eigenvalues greater than 1. Parallel analysis, however—recommended by Thompson and Daniel (1996)—using tables provided by Lautenschlager (1989) and MacParallel (Watkins, 2000) as well as the scree test indicated that two factors should be retained. A two-factor solution was extracted (8 iterations required), and both oblique and orthogonal rotations were examined. The results of the two rotation options were very similar, and results of the oblique rotation are presented in Table 2. The rotated two-factor solution accounted for 24% of the variance. Factor I consisted of 12 items with structure coefficients greater than .30 (Floyd & Widaman, 1995) and was labeled Ethnic Identity; the five items making up Factor II with structure coefficients greater than .30 were labeled Other Group Orientation. Only three of the five items loading on Factor II had coefficients greater than .40. The two factors were not correlated (\( r = –.001 \)). Two EI items and 1 OGO item did not load on any factor, with loadings of less than .30 on both factors. No item was correlated with the factor with which it was not associated beyond \( r = .26 \).

In addition to the structure coefficients for the items, Table 2 contains the means and standard deviations for the 20 items and reliability estimates for the two factors. Means ranged from 2.35 to 3.68, indicating that participants typically responded with relatively high ratings on the 1–4 rating scale. These means (2.71–3.77) are comparable to those reported by Worrell (2000, p. 442). Reliability estimates of scores on the two factors based on Cronbach’s alpha were .81 and .54 for EI and OGO, respectively, and construct reliability estimates based on salient loadings were similar. Item intercorrelations are presented in Table 3. Correlations among items that were salient with the same factor were generally in the low to moderate range for Factor I (\( .09 = r = .51, Mdn r = .25 \) and Factor II (\( .02 = r = .31, Mdn r = .23 \)), and correlations among items that were salient with opposite factors were even lower.
### TABLE 2
Means, Standard Deviations, Reliability, and Structure Coefficients of the Subscale Scores From Exploratory Factor Analysis

<table>
<thead>
<tr>
<th>MEIM-O Items</th>
<th>Factor I</th>
<th>Factor II</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>20. I feel good about my cultural or ethnic background.</td>
<td>.69</td>
<td>−.06</td>
<td>3.17</td>
<td>1.03</td>
</tr>
<tr>
<td>18. I feel a strong attachment toward my ethnic group.</td>
<td>.67</td>
<td>−.12</td>
<td>2.80</td>
<td>1.04</td>
</tr>
<tr>
<td>11. I have a strong sense of belonging to my own ethnic group.</td>
<td>.66</td>
<td>−.09</td>
<td>3.09</td>
<td>1.03</td>
</tr>
<tr>
<td>12. I understand pretty well what my ethnic group membership means to me, in terms of how to relate to my own group and other groups.</td>
<td>.64</td>
<td>.05</td>
<td>2.90</td>
<td>1.03</td>
</tr>
<tr>
<td>14. I have a lot of pride in my ethnic group and its accomplishments.</td>
<td>.54</td>
<td>.00</td>
<td>2.90</td>
<td>1.11</td>
</tr>
<tr>
<td>1. I have spent time trying to find out more about my own ethnic group, such as its history, traditions, and customs.</td>
<td>.43</td>
<td>.05</td>
<td>2.80</td>
<td>1.06</td>
</tr>
<tr>
<td>3. I have a clear sense of my ethnic background and what it means to me.</td>
<td>.39</td>
<td>−.20</td>
<td>2.66</td>
<td>1.11</td>
</tr>
<tr>
<td>2. I am active in organizations or social groups that include mostly members of my own ethnic group.</td>
<td>.37</td>
<td>.04</td>
<td>2.35</td>
<td>1.10</td>
</tr>
<tr>
<td>10. I really have not spent much time trying to learn about the culture and history of my ethnic group.</td>
<td>.36</td>
<td>.03</td>
<td>2.57</td>
<td>1.15</td>
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<tr>
<td>4. I like meeting and getting to know people from ethnic groups other than my own.</td>
<td>.13</td>
<td>.58</td>
<td>3.02</td>
<td>1.15</td>
</tr>
<tr>
<td>9. I often spend time with people from ethnic groups other than my own.</td>
<td>−.01</td>
<td>.52</td>
<td>2.43</td>
<td>1.22</td>
</tr>
<tr>
<td>8. I am not very clear about the role of my ethnicity in my life.</td>
<td>.26</td>
<td>−.41</td>
<td>2.44</td>
<td>1.11</td>
</tr>
<tr>
<td>17. I am involved in activities with people from other ethnic groups.</td>
<td>.17</td>
<td>.40</td>
<td>2.63</td>
<td>1.18</td>
</tr>
<tr>
<td>19. I enjoy being around people from ethnic groups other than my own.</td>
<td>−.11</td>
<td>.34</td>
<td>2.43</td>
<td>1.13</td>
</tr>
<tr>
<td>7. I sometimes feel it would be better if different ethnic groups didn’t try to mix together.</td>
<td>.03</td>
<td>.24</td>
<td>3.15</td>
<td>1.09</td>
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<tr>
<td>15. I don’t try to become friends with people from other ethnic groups.</td>
<td>.15</td>
<td>.18</td>
<td>3.68</td>
<td>0.68</td>
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<td>5. I think a lot about how my life will be affected by my ethnic group membership.</td>
<td>−.09</td>
<td>.13</td>
<td>2.49</td>
<td>1.20</td>
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</table>

Reliability coefficient: 0.81
Construct reliability (based on salient coefficients): 0.82

Note. N = 196. MEIM-O = original multigroup ethnic identity measure. Coefficients in excess of .32 and higher are italicized. Oblique rotation, factor intercorrelation = −.01.
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<td>0.09</td>
<td>0.46</td>
<td>−0.07</td>
<td>1.00</td>
</tr>
</tbody>
</table>

*Note.* $N = 196.$
To examine if the EI factor would split into the meaningful components, as suggested by other researchers (e.g., Lee & Yoo, 2004; Phinney, 1992; Roberts et al., 1999), three- and four-factor solutions were also extracted. Factor I in the three-factor orthogonal solution consisted of 7 EI items and 3 OGO items, Factor II consisted of 5 EI items and 1 OGO item, and Factor III was made up of 2 EI items and 1 OGO item. One OGO item cross-loaded on Factors I and III, and 1 of each type of item did not load on any factor. The results of the oblique rotation were almost identical. The four-factor oblique and orthogonal solutions also resulted in mixed factors, with one of the four-factors consisting of only 2 items. Neither the three- nor four-factor solution yielded Phinney’s hypothesized EI factors nor the factors found by other researchers using the MEIM-R.

Structure of the MEIM-R

When the 14 EI items were examined, initial analyses revealed a KMO Measure of Sampling Adequacy of .86, a significant BTS = 557.26 (91), \( p < .001 \), and four eigenvalues greater than 1. Parallel analysis (Lautenschlager, 1989; Watkins, 2000) indicated that one factor should be retained, and the scree test indicated two factors. Given Phinney’s (1992) hypothesized structure and other recent results (Lee & Yoo, 2004; Roberts et al., 1999; Spencer et al., 2000), three-, two-, and one-factor solutions were examined with both orthogonal and oblique rotations for the multifactor solutions. In the three-factor orthogonal solution, using .32 as the minimum level for salience, 8 of the 14 items loaded on Factor I, 7 items loaded on Factor II, and 1 item loaded on Factor III, with 5 items having salient coefficients on both Factors I and II. In the three-factor oblique solution presented in Table 4, 11 items had salient structure coefficients on Factor I (using a liberal criterion; i.e., greater than or equal to .32), 2 items on Factor II, and 10 items on Factor III. Both salient items on Factor II and 9 of the salient items on Factor III, however, also had salient structure coefficients on Factor I (see Table 4), and the Factor I–Factor III intercorrelation was .57. Thus, the three-factor solution only had one viable factor on both the oblique and orthogonal solutions.

In the two-factor orthogonal solution, 10 items loaded on Factor I, and 7 items loaded on Factor 2. Five of the items were complex, however—that is, they loaded on both factors—making the solution difficult to interpret. A two-factor oblique solution yielded one factor with 12 salient items and a second factor with only 2 salient items, both of which also had salient structure coefficients on Factor I (see Table 4). Thus, the second factor was not viable. Extraction of a one-factor solution, which did not require rotation, yielded 12 salient items with coefficients of at least .32. As can be seen in Table 4, Items 5 and 8 did not achieve salient loadings. These results indicated that MEIM-R items are best represented by a single EI factor in this sample.
DISCUSSION

In this study, we examined the factor structure of the MEIM-O (Phinney, 1992) and the MEIM-R in a group of adolescents from Zimbabwe. Exploratory factor analyses of MEIM-O scores indicated two factors similar to the EI and OGO factors previously reported (Lee et al., 2001; Phinney, 1992; Worrell, 2000). The scores on the second factor (OGO), however, were not reliable in this sample, with low salient coefficients paralleling the results of Ponterotto et al. (2003). The factor structure of the MEIM-R (i.e., the EI items) indicated that these scores are best represented by a single factor, in contrast to the two- (Roberts et al., 1999; Spencer et al., 2000; Yancey et al., 2001) and three-factor (Lee & Yoo, 2004) structures reported in other studies (see Table 1).

Structure of the MEIM-O

The sample in this study represents the seventh independent sample in which the MEIM-O’s scores were examined. Phinney’s (1992) study included both a college and a high school sample, Ponterotto et al. (2003) used a college sample, Lee et al. (2001) studied two college student samples, and Worrell (2000) had a single sample of academically talented middle and high school students. The results of this

<table>
<thead>
<tr>
<th>Item</th>
<th>3-Factor Structure Coefficients</th>
<th>2-Factor Structure Coefficients</th>
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Note. N = 196. MEIM-R = reeducated multigroup ethnic identity measure. Coefficients of .32 and higher are italicized.
study support the presence of two factors in MEIM scores, and as in the other study with mostly majority group participants (i.e., Ponterotto et al., 2003), the OGO factor was not as robust. Thus, the evidence to date strongly suggests that the MEIM-O is made up of a factor representing EI and one representing OGO.

There are two other issues that need to be raised about the two-factor structure. The first is specific to this study and concerns the relative weakness of the OGO factor. As indicated earlier in this article, EI is a variable that is important in a diverse social context. Phinney’s (1990) comments suggest that diversity is not the only contextual factor that makes EI salient; in fact, she suggested that the psychological importance of EI is tied to poor representation of one’s group in the broader society or even discrimination against your group by other groups in society. Her remarks, and the results of this study, suggest that attitudes toward one’s own ethnic group and other ethnic groups in society become salient in response to a failure to achieve a dominant, or at least an equitable, position in society. We suspect, however, that even before discrimination or poor representation become widespread, ethnic identification occurs in situations where groups are clearly delineated through the development of in-group, out-group bias or other intergroup attitudes (Ng & Cram, 1988; Phinney et al., 1997).

In a country like Zimbabwe, where there is a clear and dominant majority group, the EI attitudes of this group may not be salient, and their attitudes toward other groups even less so. This hypothesis explains both the small amount of variance accounted for by the two factors—24% in this study, as opposed to 41% in Worrell (2000)—as well as the low factor loadings for OGO items and the low reliability estimates for OGO scores. It is possible that if EI questions were to activate group membership on the basis of tribal affiliation or home language, one might get a different response to EI questions. Also, EI may be quite salient for the Ndebele who constitute 14% of Zimbabwe’s population or the 2% that constitute Zimbabwe’s non-Black population.

The second issue raised by the MEIM-O’s two-factor structure is a broader one. The two factors were uncorrelated in this study, even though an oblique rotation was used. These findings mirrored Worrell’s (2000)—Phinney (1992) did not report what type of rotation she used, and the other studies of the MEIM-O structure used orthogonal rotations. The lack of a relation between EI and OGO supports the contention in the introduction that individuals can be low on both attitudes, high on both attitudes, or low on one and high on another. In other words, having pro-EI attitudes does not preclude you from having pro-OGO attitudes and vice versa. These findings mirror findings on African American racial identity attitudes. In studies using the Cross Racial Identity Scale (Vandiver et al., 2000; Worrell, Vandiver, & Cross, 2001), researchers reported finding no meaningful relation between Black Nationalist or Afrocentric attitudes and multicultural attitudes (Vandiver et al., 2001; Vandiver et al., 2002). Taken together, these findings suggest that being concerned with one’s heritage or cultural background does not pre-
clude taking a meaningful interest in the cultural backgrounds of members of another group.

Structure of the MEIM-R

Contrary to the findings of four recent studies on MEIM-R items (i.e., Lee & Yoo, 2004; Roberts et al., 1999; Spencer et al., 2000; Yancey et al., 2001), EI scores in this study were best represented by a single factor. One plausible reason for the discrepancy could be the fact that this sample is not American and, furthermore, consists of the majority group in that social context. An analysis of MEIM-R scores from Worrell’s (2000) study, however, based on an American sample with a majority of ethnic minority participants, were also best explained by a single factor. Twelve of the items in a forced two-factor structure were complex (i.e., loading on both factors), and the correlation between the factors was .60. Moreover, Worrell’s data set consisted of 275 participants, and the communality estimates were in the moderate range, suggesting that the solution should be acceptable (MacCallum et al., 1999).

The findings in this study, including the reanalysis of the data from Worrell (2000), raise questions about the multifactor structure of the EI items. The differences in results may be due to differences in methodological approaches. First, all of the other studies used the eigenvalue rule to determine how many factors to extract. There is considerable consensus among methodologists that the eigenvalue rule is the least accurate measure for determining the number of factors to extract (e.g., Bernstein & Teng, 1989; Floyd & Widaman, 1995; Gorsuch, 1997; Thompson & Daniel, 1996). Thompson and Daniel further indicated that “the simultaneous use of multiple decision rules is appropriate and often desirable” (p. 200), and these decision rules should include the theoretical structure underlying the instrument as well as previous empirical findings.

The second methodological concern focuses on the extraction methods used. Three of the studies (Lee & Yoo, 2004; Roberts et al., 1999; Spencer et al., 2000) used PCA rather than common factor analysis, and the third study (Yancey et al., 2001) used maximum-likelihood common factor analysis. Gorsuch (1983) argued that, with greater than 35 variables and communality estimates above .70, the differences between PCA and common factor analysis were negligible. Neither of the two studies that used principal component extraction methods reported their communality estimates, and, in any case, there are only 14 EI items. After comparing principal component and common factor analysis in a Monte Carlo study, Snook and Gorsuch (1989) made the following assessment: “Contrary to the conclusions that the procedures give the same results, the present study indicates that an empirical distinction does exist. Common factor analysis is a more accurate procedure than component analysis” (p. 153) in studies with 9, 18, and 36 variables and loadings of .40, .60, and .80 (see also Widaman, 1993). Bernstein and Teng
(1989) also reported that maximum-likelihood procedures “paradoxically become even more sensitive to [categorization] effects when multicategory ratings [i.e., Likert scales] replace dichotomies” and that “PC [principal component] analysis is also not immune to this problem” (p. 474).

A third concern is that, although three of the studies indicated that oblique rotations were used, the authors did not indicate if the coefficients that they reported are from the pattern or structure matrix. This information is crucial to interpret what the coefficients actually mean. Fourth, although confirmatory analyses were run in three studies, they were not used to test the relative fit of competing models, perhaps one of the most common (Bryant & Yarnold, 1995) functions of CFA in the scale development process. Rather, they were used to test the invariance of one model across groups, an examination that may be premature given the findings in this study and the CFA reported by Ponterotto et al. (2003). In sum, the findings on the MEIM-O indicate that the scale is a promising measure of two factors (EI and OGO), but it will benefit from efforts to enhance it (e.g., more OGO items, items with higher loadings on the factors).

Limitations and Future Research

As with all studies, this one had a number of limitations. First, the scale was administered to the participants in English. Although they were being schooled in English and purportedly fluent in the language, English was not the home language of the majority of participants, and no measure of English fluency was used. Thus, it is possible that results may have been different if participants had been administered the MEIM in their home language, as in the Lee et al. (2001) study. A related concern is that of cultural context. Even if the scale had been administered in participants’ home languages or if they were all fluent in English, language use is often contextual, and there may be American nuances of the MEIM that are not evident to people who live in another country. For example, what does the phrase, “my ethnic group,” mean to Zimbabwean adolescents? Second, although 196 is just shy of 200, it would have been ideal to have a larger sample size for the study. Certainly, replication of the study is warranted with supplemental interviews to contextualize the results.

In addition to replicating this study, there are a number of possibilities for future research in this area. Revisiting the MEIM with the intention of strengthening the psychometric properties of the scores may be an important first step. The results of this study and several others suggest that some EI items are not making meaningful contributions to the EI factor, and the OGO factor needs to be strengthened. There is also a need to examine MEIM scores in individual ethnic groups to see if the factor structure is invariant across ethnic groups—work that has been started by Roberts et al. (1999) and Yancey et al. (2001)—with the 14 EI items. Another structural validity study that must be done is an examination of the competing models of
the MEIM using CFA techniques, presumably after the scale’s properties are enhanced. These types of studies can end the speculation about the number of factors that MEIM-O and MEIM-R scores represent. In fact, reanalysis of the large data sets used in Roberts et al., Spencer et al. (2000), and Yancey et al. using more robust factor analytic procedures may be a first step in this direction.

Another potential study involves comparing the MEIM to measures of racial identity like the Cxxxx Rxxxx Ixxxx Sxxxxv (Vandiver et al., 2000). Even though Phinney (e.g., Marshall, 1995; Phinney & Onwughalu, 1996) and others use ethnic and racial identity as synonyms, there is no empirical evidence indicating that these variables are interchangeable. As is, there are differences between two of the more prominent racial identity theories in the literature: nigrescence theory and the multidimensional model of racial identity (see Cross & Vandiver, 2001; Sellers et al., 1997; Vandiver et al., 2002). Moreover, recent work on nigrescence theory (Cross & Vandiver, 2001; Vandiver et al., 2002; Vandiver et al., 2001; Worrell, Cross, & Vandiver, 2001) suggested that the various racial identities are frames of reference rather than stages and are not developmental, two characteristics that are still hypothesized about EI constructs (Phinney, 1989, 1990, 1993; Phinney & Alipuria, 1990). As early as 1990, Helms (1990) argued that there are definite distinctions between ethnic and racial identity, despite their apparent similarities, but this claim has not received much attention in the empirical literature.

One other series of studies that need to be conducted involves examining the relations between MEIM scores and other important psychological variables. Although there are a number of studies that report correlations between MEIM scores and a number of other variables, there is no evidence that EI is causative. For example, do the modest correlations found between EI and self-esteem (Phinney & Chavira, 1992) mean that higher levels of EI result in a more positive sense of well-being?

**CONCLUSION**

This study examined the structural validity of the MEIM-O and MEIM-R. In keeping with previous studies of the MEIM-O, the results indicated a two-factor structure best explained MEIM scores. Contrary to previous research on the MEIM-R, however, the results of this study supported a single factor for EI item scores. Whether the differences in this study are the result of using a sample from the majority group, the result of differences in the statistical methodologies that were used, or some other factor will be best clarified by further research in this area. The findings indicate that there is still work to be done on the MEIM before we are clear on how the scores operate. These results add to a growing literature on the MEIM and on EI more generally. They also remind us, as did Cronbach and Meehl
(1955) and Benson (1998), that construct validity is an ongoing process that draws on results from many samples and many types of evidence.

REFERENCES


