

## Comparison of Three Multigroup Ethnic Identity Measure Models: A Confirmatory Analysis with Female Population

<sup>1</sup>Kristy L. LaMar, Ph.D., <sup>2</sup>Helen N. Rolle, Ph.D.,

<sup>3</sup>Tevni E. Grajales, Ph.D.

<sup>1</sup>(Assistant Professor, Counseling & Psychology/ Alabama A&M University, USA)

<sup>2</sup>(Path To Wellness Counseling & Psychological Services, Bahamas)

<sup>3</sup>(Professor, Research & Statistical Methodology/ Andrews University, USA)

**ABSTRACT:** This article investigates whether the MEIM can measure and identify the ethnic identity of multiple groups at a time. It also explores whether the MEIM contains a two factor or three factor subscale. Further, this article examines which version of the MEIM is best suited for measuring ethnic identity. Discussion regarding a comparison of models by Roberts, Sobansky, and Yap is presented. Additionally, the study indicates that the Yap et al. bi-factor model is the best fit to the data. The least two fitted models, the Roberts et al Model and Sobansky et al Model have marginal results, which suggest the consideration of some model adjustments to make the models more defensible. Finally, the article shows that among the three MEIM models used (Roberts, Sobansky, and Yap), that the Yap et al. bi-factor model is best suited for measuring ethnic identity as it is the only model that achieves the criteria for non-significant  $\chi^2$  and satisfactory Fit Indexes for both groups--African American and Black American.

**KEYWORDS:** Identity, Ethnicity, Black Women, African American

### I. INTRODUCTION

To date, several theorists have developed models in attempts to measure ethnic identity. Ethnic identity refers to one's particular ethnic group and sense of belonging, thinking, perceptions, feelings, and behaviors toward their ethnic group membership. Yap et al. [1] defined ethnic identity as thoughts and feelings about one's ethnic group membership and its importance to the self. Positive ethnic identity has been linked to aspects of positive adjustment, self-esteem, subjective well-being, and reduced depressive symptoms [1, 2]. Ethnic identity is considered a critical component of the self-concept and crucial to the psychological well-being of members of an ethnic group; however, questions remain about what ethnic identity is and how it should be measured [3, 4].

One of the most popular models of ethnic identity development is the theory of *Nigrescence* put forth by William E. Cross [5]. *Nigrescence* is a word of Latin origin that describes a process of becoming black or developing a racial identity. First detailed in 1971, the model related the transition of Black identity through a five-stage acquisition, Black Identification, or the process of becoming Black. The five stages include Pre-encounter, Encounter, Immersion/Emersion, Internalization, and Internalization-Commitment. Though Cross' model was geared toward Black people, it led to many theories thereafter [6]. Phinney [7] proposed a three-stage model of ethnic identity development, developed to study teenage and adolescent populations, which included Unexamined Ethnic Identity, Ethnic Identity Search/Moratorium, and Ethnic Identity Achievement. In the first stage, individuals have a lack of interest in exploring their ethnic background. The second stage a harsh or indirect event precipitates development of a person's ethnic identity. In the third and final stage, the individual comes to terms with who they are and gains a clear sense of their ethnic identity.

The Multigroup Ethnic Identity Measure (MEIM) is a 12-item survey questionnaire that focuses on assessing ethnic identity commitment initially developed by Phinney with 14 items [8]. Previously existing measures of racial or ethnic identity have focused specifically on the ethnic behaviors and practices of a particular group. The MEIM is unique in that it was developed to assess the general components of ethnic identity across different groups comparatively. Elements common to a wide range of ethnic groups including (a) ethnic self-identification, (b) degree of involvement in social activities with members of the individual's ethnic group and participation in cultural traditions, (c) sense of belonging to an ethnic group and attitudes toward the group, and (d) ethnic identity achievement form the basis of the MEIM [8] Administered to 417 high school students and 136 college students from ethnically diverse schools, reliability for the questionnaire measure was

assessed by Cronbach's alpha which was .81 for high school students and .90 for the college students. However, Phinney later revised the MEIM from its one-factor configuration of the 12 items to include two factors. The first factor (ethnic identity search) is developmental and cognitive component. The second factor (affirmation, belonging, and commitment) is an affective component. Items 1, 2, 4, 8, and 10 comprise ethnic identity search, while affirmation, items 3, 5, 6, 7, 9, 11, and 12 make affirmation, belonging, and commitment.

The MEIM has become one of the most widely used measures of ethnic identity. This self-reported measure was designed for use with members of various ethnic groups and purported to capture aspects of ethnic identity equally applicable across ethnic groups. The challenge has been whether the MEIM is able to measure and identify the ethnic identity of multiple groups at a time and whether it contains a two factor or three factor subscale.

Roberts, et al. [3] sought to clarify the construct of ethnic identity through examination of the structure and validity of the MEIM. The researchers found the MEIM to have complex two-factor structure. The first, commitment and sense of belonging constitute the first factor (items 3, 5, 6, 7, 9, 11, and 12) and the second component (items 1, 2, 3, 4, 8, 10) "involves the process through which individuals explore, learn about, and become involved in their ethnic group". (p.316). The structure in which one measured item loaded on two different factors complicates the way in which the subscale is scored because the items would need to be included in both scale scores. In addition, Roberts [3] also found, as did Brown [9] and Muso [10], that European Americans scored significantly lower on ethnic identity than did minority groups. This has been explained by the fact that European Americans, as a part of the majority or dominant group, may not feel the need to identify themselves ethnically. In another look at the MEIM-R using 1,463 participants in a health care setting, Brown, et al. [9] found the notion of ethnic identity to be most salient among people of color.

While the MEIM has become a widely used instrument for measuring ethnic identity, it is not without criticism. In evaluating the factorial structure of the MEIM, Yap, et al. [1] sampled students from 30 different colleges and universities across the United States to examine the possibility of measurement invariance in the MEIM across ethnic groups. Similarly, Brown et al., [9] Debated whether the measurement properties of the MEIM should be confirmed before using it in diverse samples cross specific racial and ethnic groups. It appears that the factors of the MEIM are not distinctive in particular groups.

In a study of 1,970 student participants, Sobansky et al. [11], examined whether the construct of ethnic identity, as measured by the MEIM-R, was similar among white or non-white ethnic groups and to examine the relationship of ethnic identity to other demographic and psychological variables such as age, gender, grade, academic achievement, and self-esteem. The researchers found that the MEIM-R should be used with caution as the results for one ethnic group may not be comparable to results for another ethnic group as the MEIM-R is not invariant across groups. Based on the results of this study, a new version of the scale emerges named Sobansky Model (MEIM-S) with two factors the first constituted by items 4, 8, and 10 known as Exploration and items 4, 5, 6, 9, 11, and 12 constituting the second factor Affirmation-belonging-commitment (A-B-C).

Yap, et al. [1] conducted a study of the MEIM with 30 different colleges and universities across the United States consisting of 9,625 participants of five different ethnic groups (White, Black, Hispanic, East Asian, and South Asian). In this study, pertaining to whether the MEIM measures the same construct in the same way across different ethnic groups, testing for measurement invariance, it was found that the instrument contained configural and metric invariance in favor of a bi-or two-factor model to test for this invariance due to superior model fit. Configural invariance refers to whether the number of factors and the particular items that load on to each factor are similar across groups. Metric invariance, also weak invariance, refers to whether the factor loadings for the items on their respective factor are equal across groups. The Yap, et al bifactor model specified that "each item loads on a general ethnic identity factor and one of two orthogonal substantive factors following Roberts et al. [3] exploration (items 3, 5, 6, 7, 9, 11, and 12) /commitment (items 1, 2, 4, 8, and 10) model" (p. 440). In replicating the original factor structure of the MEIM, Mastrotheodoros et al. [12], tested it for invariance between Bulgarian, Dutch, and Greek ethnicity samples with 901 participants. Results indicated measurement invariance but key differences in factor means and inter-correlations among ethnic groups suggests the MEIM "works" but that dimensions of ethnic identity differ across ethnic groups [12].

All studies seem to indicate that there are culturally relevant differences pertaining to the MEIM factors. This may be due to the function or perception of ethnic identity between groups or exposure to identity issues which may support Roberts [3] theory pertaining to ethnicity identity development process. For example, results of the MEIM among white individuals seem to regularly produce low scores, which may be because white individuals do not think of themselves as "ethnic." This fact alone changes how they view the questions. In addition, as mentioned in Roberts [3], those from the majority culture or dominant group, in particular whites, may not feel the need to identify themselves ethnically as they are the norm within society.

The purpose of this study is to explore the question regarding the dimensional structure of the MEIM and to document use of Structural Equation Modeling to compare Robert's two factors model (MEIM-R), Sobansky's MEIM-S two factors (ABC-Exploration), and the Yap et al. bifactor model. Confirmatory factor analysis (CFA) is used to determine the construct validity of the MEIM and to examine the cultural invariance

of these models in order to know whether a two- or three factor dimension use of the instrument best serves its purpose.

## II. METHODOLOGY

### Participants

The sample was composed of 322 females raised in the United States and who identified themselves as African American or Black. More than half of the sample, 52%, identified ethnically as African American ( $N = 168$ ), 37.5% identified as Black ( $N = 37.5$ ), 6.2% identified as Biracial ( $N = 20$ ), and 4.3% identified as being Multiracial ( $N = 14$ ). This sample was recruited after IRB approval using a convenience sample in QuestionPro, an online survey tool. QuestionPro asserts to providing high quality sample responses from their database network that consists of over 6 million active members, pre-screened and qualified for providing quality online data collection. According to QuestionPro, all members who complete the survey are eligible for a reward. Members earn points which they can redeem for gift cards from various retailers. Additionally, QuestionPro updates their database to add new respondents in an attempt to decrease over participation and monitors its site in an attempt to reduce duplication or fraud.

### Instrument

The Multigroup Ethnic Identity Measure (MEIM) is a one-page questionnaire composed of 12 items which is the most widely used measure of ethnic identity designed to measure the following general components of ethnic identity: (a) ethnic self-identification, (b) degree of involvement in social activities with members of the individual's ethnic group and participation in cultural traditions, (c) sense of belonging to an ethnic group and attitudes toward the group, and (d) EI achievement [8]. In calculating the Cronbach's alpha for the scale, Phinney found an overall reliability for the MEIM of over .80.

### Data Analysis

The data collected were initially screened using SPSS v.24 to identify missing cases and outliers. Descriptive statistics was used to describe the demographic characteristics of the participants, the variables, correlation coefficients among the variables, and coefficients of reliability scales and subscales. IBM SPSS Amos 21.0.0 was used for the confirmatory factor analysis to compare the structural validity and cultural invariance of the models. The database was used for a confirmatory factor analysis of the structure of each of the three proposed models and to assess their configural and metric invariance across Black American and African American. Basic criteria for model testing were to have a non-significant Chi square, or Fit Index  $> .90$  and RMSEA  $< .07$ , and SRMR  $< .05$ . Configural invariance implies the scores of MEIM are best represented by the same number of factors across different groups, Metric invariance requires that items factor loadings being equal across groups.

## III. RESULTS

As was already indicated, the first step consisted in diagramming and testing the three models in a confirmatory factor approach. The first model tested was Robert's [3] as it is described in Figure 1. The  $\chi^2 = 182.50$ , with 52 degrees of freedom was significant ( $< .001$ ). The SRMR was marginal (.07) similar to the RMSEA (.09). Both fit indices the CFI (.93) and GFI (.91) were found acceptable.

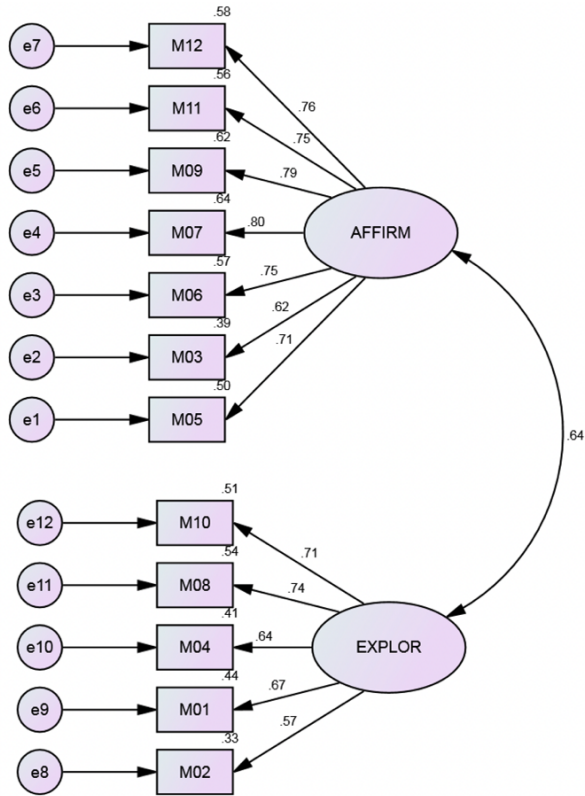


Figure 1. Roberts' Model

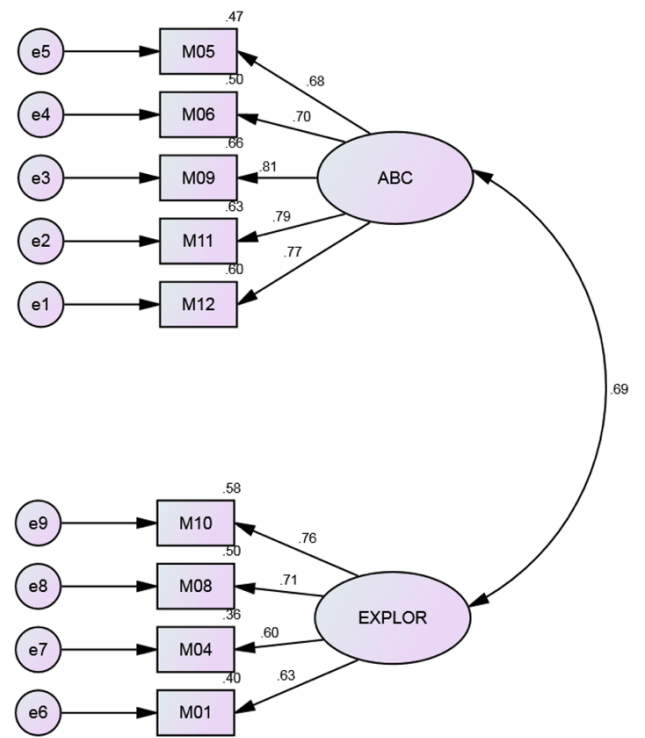


Figure 2. Sobansky's Model

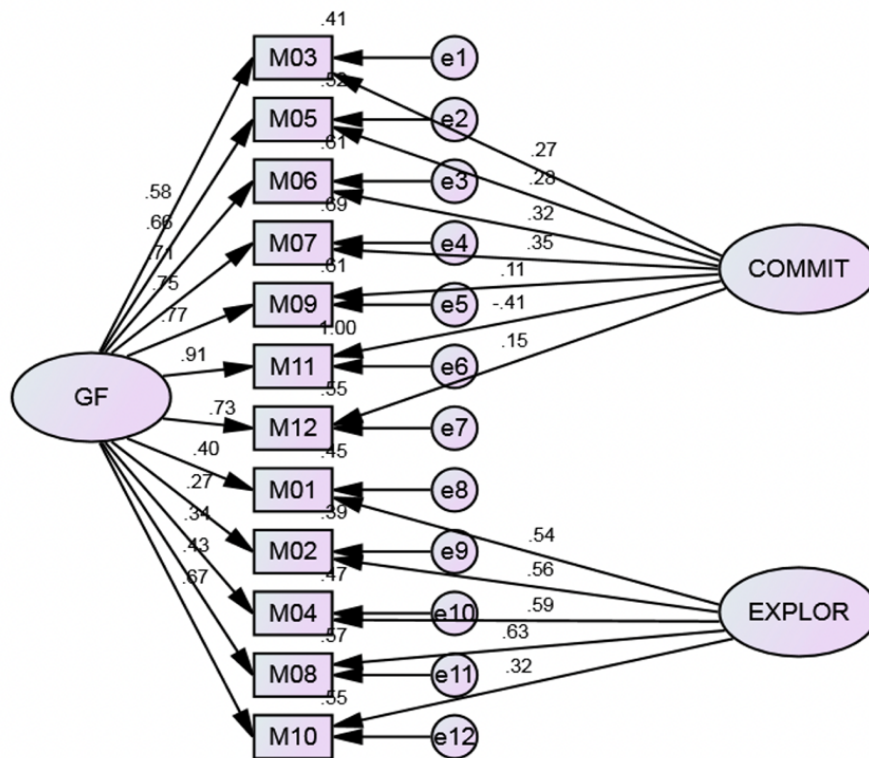


Figure 3. Yap's Bifactor Model

The second model tested was Sobansky's [11] that comprised of two factors: ABC (Affirmation-Belonging-Commitment) and Exploration. It's assumed that this model is nested in Robert's 1999 model with only nine of the original set of items. See Figure 2. The  $\chi^2 = 114.57$ , with 26 degrees of freedom was significant ( $p < .001$ ). The SRMR (.07) but the RMSEA (.10) is above the recommended criteria (LO90 = .08 and HI90 = .12). Both fit indices the CFI (.93) and GFI (.92) are acceptable.

The third model tested was Yap's et al. [1] Bifactor Model (See Figure 3). This is a hierarchical model referred to by other names as well, including nested-factors or direct hierarchical model [13]. Yap's bifactor model has a non-significant  $\chi^2 = 114.57$ , with 26 degrees of freedom ( $p = .08$ ) Both the SRMR (.03) and the RMSEA (.03) indicate that the model fit the data well, with additional support of outstanding CFI (.99) and GFI (.97).

These findings suggest that Yap's bifactor model has the best fit, followed by Roberts. The Sobansky model is the least parsimonious of the three models with 26 degrees of freedom and faces some challenges explaining the error variance (See Table 1).

Table 1  
Fit Indices for CFA Across Initial Models (N=322)

Model	$\chi^2$	df	CFI	GFI	RMSEA	SRMR	AIC	BIC
Roberts et al.*	182.534 (p=.000)	53	.926	.910	.088	.0697	234.537	326.897
Sobansky et al.	114.572 (p=.000)	26	.928	.922	.103	.0675	152.572	224.289
Yap et al.**	55.531 (p=.071)	43	.992	.973	.032	.0276	127.531	263.414

Note: \*Roberts model has a non-significant item for exploration, \*\*Yap model has a non-significant  $\chi^2$  making evident a fitted model however five negative loadings, and two non-significant items one for exploration and other for commitment.

However, each one of the models has some issues for concern. The Yap et al. model has the best fit with a non-significant  $\chi^2 = (55.531, df = 42)$  and SRMR = .03 and the smaller AIC (126.53), but this model has one item (9) that is not significant indicators of its Commitment factor. Additionally, there is no clear explanation of the theoretical and practical meaning of the negative loading that item 11 has in Commitment (See Table 2).

Both Roberts et al. and Sobansky's model failed to achieve the RMSEA <.05 and the SRMR <.05 criteria making evident that these models do not explain an important portion of the residuals of the empirical and the theoretical covariance matrices.

Table 2  
Confirmatory Factor Analysis MEIM item Loadings by models compared to published loadings (in parenthesis) in previous studies.

Items	Roberts (1999)		Sobansky (2010)		Yap (2014)	General
	Affirmation	Exploration	ABC	Exploration	EC	
1. Spend time to learn		.67 (.53)		.63 (.56)	.54 (.42)	.40 (.53)
2. Active in ethnic organization		.57 (.79)			.56 (.14)	.27 (.45)
3. Clear sense of ethnic background	.62 (.56)			(.26)	.27 (.17)	.58 (.71)



4. Think about group membership	.64 (.54)	.60 (.63)	.59 (.41)	.34 (.53)
5. Happy to be member	.71 (.88)	.68 (.49)	.28 (.67)	.66 (.50)
6. Sense of belonging to group	.75 (.43)	.70 (.67)	.32 (.47)	.71 (.70)
7. Understand group membership	.80 (.67)		.35 (.38)	.75 (.72)
8. Talk to other about group	.74 (.54)	.71 (.59)	.63 (.44)	.43 (.66)
9. Pride in ethnic group	.79 (.79)	.81 (.67)	.11 (.39)	.77 (.71)
10. Participate in cultural practices	.71 (.66)	.76 (.63)	.32 (.03)*	.67 (.77)
11. Strong attachment to group	.75 (.51)	.79 (.77)	-.41 (.22)	.91 (.84)
12. Feel good about culture	.76 (.84)	.77 (.57)	-.15 (.43)	.73 (.66)

Note: \* sig>.05, \*\*sig>.10  
 ABC = Affirmation, Belonging, and Commitment  
 EC = Exploration and Commitment

Comparison of item loadings as Roberts et al reported them in 1999 indicates that the Spearman correlation between the reported loadings and the observed loadings is not significant for affirmation (.13) and exploration (.09). Items have significant correlation between loadings for Sobansky’s model subscale Affirmation, Belonging, and Commitment (.67), and for Yap et al. model general (.74) and exploratory (.70) scales only. Tables 2 & 3.

The observed items loadings in Sobansky are higher (between .68 and .81) in comparison to the reported loadings (between .49 and .77) for ABC, and the same for exploration reported .56 to .63 and observed .60 to .76. In Roberts model the observed loadings have some noticeable differences. Item 3 was reported by Roberts as indicator for both Exploration (.26) and Affirmation (.56) however in this study Item 3 is significant indicator for Affirmation (.62) additionally differences between the loading published for items 2, 5, 6, 8, and 11 and the observed loadings are higher than .17 and in case of item 6 the difference is .32. The Bi-factor Yap et al. model reported positive loadings for all the items in contrast with a negative loading observed for commitment subscale on item 11 (-.41) (See Table 2). Reliability of the scales measured by Pearson’s alpha is strong in all the scales for the three models ranging from .78 to .89.

Table 3  
*Correlation between reported and observed loadings per scale and observed scale’s reliability*

Model	Scales	Loading Correlation (Spearman R)	Reliability (alpha)
Roberts et al.			

Affirmation	.13	.89
Exploration	.09	.79
Sobansky		
ABC	.67*	.86
Exploratory	.11	.78
Yap et al.		
General	.74*	.88
Exploratory	.70*	.80
Commitment	.07	.89

Note: \* sig>.05

In order to test the cultural invariance of each model, CFA analysis was performed with two groups in the sample. The first group is comprised of 168 female African Americans, the second group is constituted by 154 Black Americans (Black, Biracial, and Multiracial). Each model without modification was tested in each group separately. Results are summarized in Table 4.

Table 4

*Fit Indices for CFA Across Models by African American (n=168) and Black American (n= 154)*

Model	$\chi^2$	df	CFI	GFI	RMSEA	SRMR	AIC	BIC
Roberts et al.								
AA	126.757	53	.917	.884	.091	.0798	176.757	254.856
BA	124.772	53	.919	.882	.094	.0740	174.772	250.
Sobansky								
AA	71.946	26	.922	.913	.103	.0763	109.946	169.302
BA	84.737	26	.911	.888	.122	.0766	122.737	197.439
Yap et al*								
AA	59.046	43	.981	.944	.048	.0430	129.117	239.056
BA	51.165	43	.990	.948	.037	.0354	121.919	228.212

Note: AA = African American, BA = Black American, \*Yap model has a negative error variance (Heywood case in e6) for Item 11.

Results show that all the Yap et al Bi-factor model is the only one that achieves the criteria for non-significant  $\chi^2$  and satisfactory Fit Indexes for both groups African American and Black American with the clarification that this model has a zero variance for the error term in item 11 due to Heywood case.

Roberts et al. model and Sobansky et al. model have mixed results. The  $\chi^2$  is significant <.05 in every case with SRMR between .07 and .08, their CFI are >.90 but the GFI are between .88 and .91 and the RMSEA are poorly around .09. These results suggest that these models behave the same way as it was for the general population when analyzed separately for both cultural group with the same strength and weakness. The proposed factor structures stay the same in every case, but the factor loadings are slightly different as reported in Tables 5, 6 and 7.

Table 5  
Item factor loadings of Roberts' Model by overall study population and ethnicity

Item	Affirmation			Exploration		
	Overall	AA	BA	Overall	AA	BA
1				.67	.74	.58
2				.57	.58	.56
3	.62	.68	.57			
4				.64	.61	.71
5	.71	.72	.69			
6	.75	.77	.73			
7	.80	.81	.79			
8				.74	.71	.79
9	.79	.74	.84			
10				.71	.70	.70
11	.75	.69	.81			
12	.76	.71	.80			

Table 6  
Item factor loadings of Sobansky's Model by overall study population and ethnicity

Item	ABC			Exploration		
	Overall	AA	BA	Overall	AA	BA
1				.63	.71	.57
2						
3						
4				.60	.57	.68
5	.68	.70	.67			
6	.70	.71	.70			
7						
8				.71	.69	.78
9	.81	.78	.85			
10				.76	.74	.73
11	.79	.74	.85			
12	.77	.75	.78			

Table 7  
Item loadings for factors of Yap's Model by overall study population and ethnicity

Item	Exploration			Commitment			General		
	Overall	AA	BA	Overall	AA	BA	Overall	AA	BA
1	.54	.58	.44				.40	.47	.35
2	.56	.60	.48				.27	.25	.28
3				.27	.22	.35	.58	.65	.51
4	.59	.57	.67				.34	.32	.36
5				.28	.25	.27	.66	.67	.68
6				.32	.34	.28	.71	.73	.70



7				.35	.35	.35	.75	.76	.74
8	.63	.58	.71				.43	.42	.44
9				.11	.12	.07	.77	.72	.83
10	.32	.30	.30				.67	.67	.68
11				-.41	-.48	-.33	.91	.87	.94
12				.15	.06	.24	.73	.69	.76

Differences between African American and Black American in factors loadings for the Yap's higher than .10 were observed in seven items. For the General factor three (1, 3, and 9), for Commitment three (3, 11, and 12) and for Exploration another three (1, 2, and 8). In this particular case items 1 and 3 have differences in both the General factor and the Specific factor.

#### IV. DISCUSSION & CONCLUSION

The purpose of this article is to investigate whether the MEIM is able to measure and identify the ethnic identity of multiple groups at a time; and whether it contains a two factor or three factor subscale. It is also to make clearer which version of the MEIM is best suited for measuring ethnic identity. This study is supported by the data gathered in which the above stated research shows that among the three MEIM models used (Roberts, Sobansky, and Yap), that the Yap et al. bi-factor model is best suited for measuring ethnic identity as it is the only model that achieves the criteria for non-significant  $\chi^2$  and satisfactory Fit Indexes for both groups--African American and Black American.

The aforementioned study indicates that the Yap et al Bi-factor model is the best fit to the data, ( $\chi^2$  non-significant, SRMR <.07); however, there are some issues pending in order to improve the viability of the model such as making clearer what are the conceptual definitions for each of the two subscales Commitment and Exploration. The least two fitted models, the Roberts et al Model and Sobansky et al Model have marginal results (Significant  $\chi^2$  and marginal SRMR, RMSEA), which suggest the consideration of some model adjustments to make the models more defensible. It is noted that one advantage of these models is that both are organized in a more simple and parsimonious way making the definition and interpretation of the subscales easier.

The cross-cultural metric and configural invariance findings suggest each of the three models preserve their proposed factor structure for both African American and Black American women; however, metric invariance is not supported by these results. The Sobansky Model seems to behave in a better way in comparison to the other models. Item 1 is a problem for the three models, item 3 represents a problem for Roberts and Yap, and item 4 is problematic for the Roberts and Sobansky Models.

The results of this study are limited to African American and Black American women ages 18 years old and above. Further studies are needed with various populations, ages, and genders; as well as male populations and non-American populations to investigate the relationship of ethnic identity among different groups and to further examine which Model is best suited for measuring ethnic identity to provide additional clarity to the causes for some non-significant indicators, negative loadings, Heywood cases, and marginal Fit Indexes. For these reasons, it is currently recommended that any of the listed Models (Roberts, Sobansky, and Yap) be used with caution. It is our hope that more studies with differing populations will lead to greater understanding of each Model, and which is best suited for the purposes of measuring aspects of ethnic identity.

#### REFERENCES

- [1] Yap, S. C., Donnellan, M. B., Schwartz, S. J., Kim, S. Y., Castillo, L. G., Zamboanga, B. L., & Vazsonyi, A. T. (2014). Investigating the structure and measurement invariance of the Multigroup Ethnic Identity Measure in a multiethnic sample of college students. *Journal of Counseling Psychology, 61*(3), 437.

- [2] Yap, S., Donnellan, M. B., Schwartz, S. J., Zamboanga, B. L., Kim, S. Y., Huynh, Q. L., Vazsonyi, A. T., Cano, M. Á., Hurley, E. A., Whitbourne, S. K., Castillo, L. G., Donovan, R. A., Blozis, S. A., & Brown, E. J. (2016). Evaluating the invariance of the Multigroup Ethnic Identity Measure across foreign-born, second-generation and later-generation college students in the United States. *Cultural diversity & ethnic minority psychology*, 22(3), 460–465.
- [3] Roberts, R. E., Phinney, J. S., Mase, L. C., Chen, Y. R., Roberts, C. R., & Romero, A. (1999). The structure of ethnic identity of young adolescents from diverse ethnocultural groups. *The Journal of Early Adolescence*, 19(3), 301-322.
- [4] Fisher, S., Zapolski, T. B., Wheeler, L., Arora, P. G., & Barnes-Najor, J. (2020). Multigroup Ethnic Identity Measurement invariance across adolescence and diverse ethnic groups. *Journal of adolescence*, 83, 42–51.
- [5] Cross, W. E. (1994). Nigrescence theory. Historical and explanatory notes. *J Vocational Behavior*, 44, 119-123.
- [6] Endale, L. (2018). The Multidimensional Model of Black Identity and Nigrescence Theory: A Philosophical Comparison. *The Journal of Pan-African Studies*, 12, 509.
- [7] Phinney, J. S. (1993). A three-stage model of ethnic identity development. In M. Bernal & G. Knight (Eds). *Ethnic identity: Formation and transmission among Hispanics and other minorities* (pp.61-79). Albany, NY: State University of New York Press. *Journal of Behavioral Sciences*, 13 (2), 193-208.
- [8] Phinney, J. S. (1992). The multigroup ethnic identity measure: A new scale for use with diverse groups. *Journal of Adolescent Research*, 7 (2), 156-176.
- [9] Brown, S. D., Unger Hu, K. A., Mevi, A. A., Hedderson, M. M., Shan, J., Quesenberry, C. P., & Ferrara, A. (2014). The Multigroup Ethnic Identity Measure—Revised: Measurement invariance across racial and ethnic groups. *Journal of counseling psychology*, 61(1), 154.
- [10] Musso, P., Moscardino, U & Inguglia, C. (2018) The multigroup ethnic identity measure–revised (MEIM-R): Psychometric evaluation with adolescents from diverse ethnocultural groups in Italy, *European Journal of Developmental Psychology*, 15(4), 395-410.
- [11] Sobansky, R. R., Gutkin, T. B., Galloway, A. M., Saunders, A. L., Yetter, G. P., & Song, S. Y. (2010). Moving Toward a Culturally Invariant Measure of Ethnicity Identity. *International Journal of Psychology: A Biopsychosocial Approach*, 2010, [Vol.] 7, 85-110.
- [12] Mastrotheodoros, S., Dimitrova, R., Motti-Stefanidi, F., Abubakar, A., & Van De Schoot, R. (2012). Measurement invariance of the Multigroup Ethnic Identity Measure (MEIM) across Bulgarian, Dutch and Greek samples. *European Journal of Developmental Psychology*, 9(4), 508-515.
- [13] Keith, T. Z. (2019). *Multiple Regression and Beyond*. Third edition. New York, NY: Routledge.