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Ethnic Identity Development among Rural Adolescent Youth

A dissertation submitted in partial fulfillment of the requirements required for the degree of Doctor of Philosophy at Virginia Commonwealth University.

By

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Acknowledgements

I would like to acknowledge the members of my dissertation committee, Drs. Corona, Farrell, Kliewer, Green, and Fabelo for their support on this project. I would like to thank Dr. Farrell for allowing me to use his data set as well as for his time and assistance with the data analyses. To my advisor and mentor, Dr. Corona, *muchas gracias* for being a concerned and caring maternal figure, advocate, and advisor. *Le mando un fuerte abrazo a mi familia por su apoyo y cariño durante este proyecto. Le dedico esta tésis a mi amigo y hermano, Euro Sanchez, que en paz descance-tu fortaleza y espíritu* siempre estarán en mi corazón.

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Abstract

ETHNIC IDENTITY DEVELOPMENT AMONG RURAL ADOLESCENT YOUTH
By Adam Iglesias, M.A.

A dissertation submitted in partial fulfillment of the requirements for the degree of
Doctor of Philosophy at Virginia Commonwealth University.

Virginia Commonwealth University, 2010

Major Director: Rosalie Corona, Ph.D.
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The current study evaluated the factor analytic structure and developmental trajectory of

ethnic identity, as measured by the Multigroup Ethnic Identity Measure, (MEIM) among

early rural adolescents. The convergent validity of the measure for rural youth was also

examined. The sample for this study was drawn from a larger longitudinal study focusing

on violence prevention efforts with an early adolescent sample residing in rural Florida.

The final sample size for these secondary analyses was 5,695 participants. The sample

was 53 % Caucasian, 24% Latino, 15% African American, and 8% Other. The mean age

of the students was 11.3 years. Data were collected at seven time points. A confirmatory

factor analysis (CFA) was conducted with the entire sample to determine whether a two-

factor model was a satisfactory fit for the entire sample at Times 1-7. Individual growth

curve modeling was used to determine ethnic identity trajectories. This study

demonstrated that the MEIM taps into two factors (Exploration and Commitment) for

rural adolescents. Moreover, the findings demonstrated multigroup equivalence across

waves 1-7 of data collection for the Caucasian, African American, and Latino groups.

Further, results from the growth curve modeling procedures indicated that Caucasian

participants demonstrated a greater increase in Exploration relative to Latino and African American participants. Lastly, results from the convergent validity analyses indicated that Commitment was negatively related to attitudes towards violence and positively related towards attitudes towards nonviolence. Implications for future research and prevention programs that incorporate ethnic identity constructs are discussed.

Ethnic Identity Among Rural Adolescent Youth

The number of ethnic minorities in the United States grew dramatically between 1990 and 2000 from approximately 22 million to 80 million (U.S. Census Bureau, 2000). In 2005, the nation's minority population totalled 98 million, comprising approximately 33% of the total population (U.S. Census Bureau, 2005). Latinos are the largest minority group in the U.S. and African Americans are second largest (U.S. Census Bureau, 2000). Moreover, Latino and African American youth are two of the fastest growing groups of ethnic minority youth in the United States. For example, by 2050 Latino youth are estimated to represent 29% of the total youth population in the U.S. (Brindis, Driscoll, Biggs, & Valderrama, 2002). As a result of this growth, it is "critical to understand how successful developmental pathways may differ for children of diverse cultural, racial, ethnic, and national backgrounds" (Garcia Coll & Szalacha, 2005, p. 82).

A key developmental milestone for adolescents is the development of a sense of self. Identity formation in adolescence is influenced by developmental and environmental factors, including cognitive functioning, psychopathology, family relations, and the peer group (Berger, 2009). For ethnic minority youth, this developmental process includes the development of their ethnic identity. Ethnic identity refers to an adolescents' membership in an ethnic group and is comprised of their ethnic self-identification, feelings of belongingness and commitment to a group, and a sense of shared values and attitudes towards one's ethnic group (Phinney, 1989).

The course of ethnic identity development during adolescence is conceptualized as a process similar to ego identity formation whereby the individual undergoes a process

of exploration leading to identity commitment and a secure sense of self (Phinney, 1990). Moreover, the findings from various studies that have measured ethnic identity suggest that it is not a stable construct when measured from adolescence through early adulthood Specifically, Phinney's (1992) *Multigroup Ethnic Identity Measure* (MEIM) taps into different constructs for early ethnic minority adolescents relative to adults. In addition, the reliability coefficients in studies with early ethnic minority adolescents are lower relative to studies with older ethnic minority adolescents and early adults (Pegg & Plybon, 2005; Roberts et al. 1999; Spencer et al., 2000; Yancey et al., 2001).

Understanding the course and development of ethnic identity is important since ethnic identity has been associated with positive outcomes for Latino and African American youth (Kiang, Gonzales-Backen, Yip, Witkow, & Fuligni, 2006; Umaña-Taylor, Diversi, & Fine, 2002). Specifically, an increased sense of ethnic identity is associated with increased self-esteem (Umaña-Taylor et al., 2002), academic success (Supple, Ghazarian, Frabutt, Plunkett, & Sands, 2006), and positive psychosocial adjustment (Kiang et al., 2006). Ethnic identity thus serves as a potential marker of psychological well-being in terms of individual competence for racial/ethnic minority youth.

Although ethnic identity serves a protective function for minority adolescents, there has been considerable debate regarding the measurement of ethnic identity in adolescent samples. Specifically, Phinney's (1992) exploratory factor analytic work with urban high school and college students indicated that the MEIM was composed of two factors: Ethnic Identity and Other Group Orientation. The Ethnic Identity factor was

considered to be a global measure of ethnic identity. The Other Group Orientation factor was considered to tap into one's attitudes towards other ethnic and racial groups. In contrast, exploratory factor analytic studies with early adolescent samples suggest a distinct two-factor model consisting of Ethnic Identity Exploration and Commitment factors (Pegg & Plybon, 2005; Roberts et al., 1999; Yancey, Aneshensel, & Driscoll, 2001). Ethnic Identity Exploration factor refers to thoughts, feelings, and behaviors that reflect seeking out the meaning of one's ethnic identity. Ethnic Identity Commitment factor refers to the thoughts, feelings, and behaviors that reflect commitment towards one's ethnic identity. Although the Exploration and Commitment factors were derived as a byproduct of exploratory factor analyses, it should be noted that they have theoretical underpinnings. Erickson (1966), Marcia (1968), and Phinney's (1989) identity development paradigms suggest that a pre-requisite of an achieved identity status is a period of exploration. Consequently, an adolescent's level of exploration and commitment determine his/her placement in a respective stage of identity development.

The differences between studies with adult and adolescents suggest that the MEIM taps into unique constructs (Exploration and Commitment) for ethnic minority early adolescents. Although we have learned quite a bit regarding ethnic identity development among adolescents, relatively few studies have examined ethnic identity longitudinally (Elizabeth-French, Seidman, Allen, & Aber, 2006; Pahl & Way, 2006) or the ethnic identity development of rural Latino and African American early adolescents. This study will address these gaps in the literature.

Similar to urban youth, rural ethnic minority youth face risk factors that potentially affect their identity development. These risk factors include poverty, academic difficulties, exposure to violence, and lack of adequate health care services (Duhart, 2000). For example, rural youth are at risk of exposure to violence. In 1998, rural residents accounted for 20% of the U.S. population and sustained 15% of all violent and property crime victimizations (Duhart, 2000). Studies with rural youth have further demonstrated a positive association between exposure to violence and trauma symptoms, including anxiety, depression, posttraumatic stress, anger, and aggression (Carlson, 2006; Slovak & Singer, 2002). Rural youth also encounter obstacles to adequate mental health services, including transportation issues, less access to services and inadequate quality of services (Kelleher, Taylor, & Rickert, 1992). Although rural youth are exposed to similar risk factors as urban youth, some of these risks may be exacerbated in a rural setting. For example, rural youth are more likely to drop out of school relative to youth living in urban communities (Carlson, 2006). Approximately 20% of rural students drop out of high school relative to 15% of urban students (Carlson, 2006). Moreover, rural Latino youth have the highest rate of dropping out of high school (51%) compared to other youth living in rural communities (Carlson, 2006). In addition, suicide rates among rural boys aged 15-19 are higher than among boys of the same age (Hudnall, 2003). Together these studies suggest that living in a rural environment can affect adolescent adjustment and developmental processes.

To our knowledge, no studies have examined the ethnic identity development of Latino and African American youth living in rural communities. Yet, ethnic identity

development may be different for rural adolescents because of the rural adolescent's potential lack of access to social resources (e.g., ethnic clubs and organizations) that are likely associated with ethnic identity development. Research suggests that ethnic identity develops over time via interactions and exposure to members of the same ethnic group (Tajfel, 1981). Rural minority adolescents, however, are potentially more likely to be isolated from the positive influence of minority role models and organizations in their community than urban adolescents and thus may not have access to these ethnic identity promoting experiences. For example, in a study with rural American Indian adolescents (mean age of 13.6 years), Newman (2005) found that adolescents with higher levels of ego development demonstrated higher levels of ethnic identity. He further suggested that it is important to study ethnic identity development among rural American Indian youth because they receive "inconsistent messages about the meaning and value of their ethnicity from the broader society" (p. 736). More specifically, he noted that messages from the popular media tend to portray American Indians in an inaccurate and/or negative fashion (e.g., mascots of professional sports teams). In other words, it is within this cultural setting that psychosocial maturation (e.g., ethnic identity development) should be understood for American Indian youth. Although these findings cannot be generalized to other American Indian youth or other rural populations, they highlight the importance of an adolescent's community context when studying the development of ethnic identity.

This dissertation assessed the reliability and factor analytic structure of the MEIM in a sample of European American, Latino American, and African American middle school students residing in rural Florida. A secondary goal was to evaluate the

convergent validity of the MEIM with other theoretically relevant constructs. A third goal was to assess the longitudinal trajectory of ethnic identity and identify the factors that are associated with its stability and change. The findings from this study have practical implications for prevention programming. For example, if ethnic identity operates the same among rural youth, this information can inform the planning and implementation of prevention programs that involve ethnic identity constructs with rural adolescent populations. Moreover, the findings from this study can provide support for the cross-ethnic equivalence of the MEIM to rural ethnic adolescent groups (e.g., African American, Latino, and Caucasian). The literature indicates that cross-ethnic equivalence of a measure includes as many as five types of equivalence (1) conceptual equivalence or the extent to which a construct has the same meaning across groups, (2) operational equivalence or construct operationalization, (3) functional equivalence or cross-ethnic similarity of behaviors, goals, antecedents, consequences, and correlates, (4) item equivalence, and (5) scalar equivalence (Harachi, Choi, Abbott, Catalano, & Bliesner, 2006). Thus, cross-ethnic equivalence ensures that the MEIM is reliable, valid, and suitable for cross-ethnic comparisons to rural adolescent populations.

Literature Review

Definition of Terms

Given the focus of this project on the development of ethnic identity in a sample

of rural adolescents, it is important to first define terms related to culture, ethnicity, and

race. Culture refers to a common heritage or set of beliefs, norms, and values. It refers to

the attributes that are learned and shared among a group of people. Race refers to a

socio-political construct or "a dynamic set of historically derived and institutionalized

ideas and practices" that categorizes individuals into groups according to perceived

physical and behavioral characteristics (Rose Markus, 2008, p. 654). The major racial

groups in the U.S. are Caucasian, African American, American Indian, Asian, and Pacific

Islander (U.S. Census Bureau, 2000). In the past, racial categorizations were often used

to segregate and discriminate against minority individuals. Current research, however,

has demonstrated that there are more differences within a racial group than across racial

groups (Rose Markus, 2008; Umaña-Taylor & Fine, 2001). Ethnicity, on the other hand,

refers to a set of ideas that categorizes individuals into groups based on similar features,

including cultural values, language, history, nation of origin, physical appearance, and

religion (Rose Markus, 2008). Thus, the term Latino references an individual's ethnic

background. The term Latino is used to describe a pan-ethnic group of persons of Indo-

Hispanic origin in the United States (Garcia & Marotta, 1997). Further, Latino is used to

refer to individuals originating from or having a heritage related to Latin America

(Comas-Diaz, 2001). Although the literature tends to consider Latinos as a homogenous

group, there are considerable within-group differences (e.g., nationality, language use,

reasons for migration) between the Latino sub-groups. Because an individuals' national origin is believed to affect his/her customs, values, and beliefs, ethnic identity research should also consider differences in nationality (Umaña-Taylor & Fine, 2001). Given this heterogeneity, the specific ethnic or racial label used by authors will be used to describe the samples in prior work whenever possible.

Ethnic identity is considered the ethnic component of social identity, which refers to "the part of an individual's self-concept which derives from his/her membership in a social group together with the value and emotional significance attached to that membership" (Tajfel, 1981, p. 225). Operationally, ethnic identity is defined as the part of an individual's self-concept that derives from his knowledge of his membership with a specific ethnic group, sense of belonging and attachment to that ethnic group, and involvement in the cultural and social practices of the group (Phinney, 1990).

Theories and Models of Ethnic Identity Development

The majority of empirical work examining adolescent ethnic identity development is based on Erikson's (1968) and Marcia's (1966) theories of identity formation. Erikson posited that identity formation is the central developmental task during adolescence. During this period, the adolescent strives for a sense of belonging and identification with his/her peer group. For Erikson, the term "identity" involves choices with regards to values and beliefs, and includes a connection to one's past and future. According to Erikson, adolescence is characterized by an identity crisis whereby the individual searches to realize an awareness of a uniqueness of self. The search for a stable sense of self provides adolescents with direction in life guided by an understanding of who they

are and where they are going. The search for identity provides both purpose and meaning to adolescent's lives as they enter adulthood. The identity crisis during adolescence was believed to be resolved once an individual reconciled the identity imposed by family and society with an identity that brings feelings of competence and satisfaction. Eriksons' theory suggests that the culmination of a period of exploration will result in the resolution of a particular identity. Achievement of a positive identity during adolescence results in an internal organization of a coherent sense of self, which is an internal dynamic organization consisting of drives and beliefs, shaped by the child's navigation through developmental stages. In contrast, Erikson hypothesized that the failure to achieve a healthy sense of self during adolescence is believed to result in "identity confusion" placing the adolescent at risk of negative outcomes, such as school dropout and future job instability.

Marcia (1966, 1980) operationalized Erikson's theory of adolescent identity development as a four-stage process. Marcia's paradigm includes four identity statuses based on the presence or absence of exploration and commitment. The first stage, *identity diffusion*, refers to the adolescent that has neither explored nor reached a commitment. The second stage, *foreclosure*, refers to when individuals have committed to an identity based solely on family values and goals without personal exploration. The next stage, *moratorium*, refers to a period of identity crisis whereby individuals explore and seek out the meaning of their identity, and experience confusion and ambivalence. The last stage, *identity achievement*, refers to when individuals have experienced an identity crisis and have resolved it by committing to an identity (see Table 1).

Table 1. *Presence of Exploration and Commitment in Marcia's (1966) paradigm*.

Identity Status	Exploration	Commitment
Identity Diffusion	No	No
Foreclosure	No	Yes
Moratorium	Yes	No
Identity Achievement	Yes	Yes

Marcia's stage model hypothesized that having an achieved identity is the ideal end point to identity development. In contrast, failure to achieve a satisfying identity can have negative psychological consequences for adolescents. It should be noted that both Marcia and Erikson's theories of identity formation don't suggest a developmental progression to a completed or resolved identity status. Both theories also suggest that the individual must undergo a period of exploration prior to arriving at an achieved identity status. Other theorists have further outlined adolescent identity development via a stage-based developmental model.

Drawing from Erikson's and Marcia's theories, Phinney's (1989) model of ethnic identity development is characterized by a progression from a diffused to an achieved ethnic identity status. Phinney's (1989) model posits a linear developmental trajectory whereby the diffuse/foreclosed status is the starting point and achieved is the optimal identity resolution. The model further hypothesizes that ethnic identity development commences in early adolescence and is resolved in late adolescence or early adulthood. Phinney's model of ethnic identity development draws on Marcia's (1980) operationalization of Erikson's (1968) theory of adolescent identity development.

Phinney's (1989) model of ethnic identity development is divided into three stages. According to this model, the first stage, Diffusion/Foreclosure, is characterized

by the lack of exploration of ethnicity and results in an unexamined ethnic identity. During this stage, the child or adolescent has no clear understanding of the salient issues regarding ethnic identity (e.g., Diffuse Identity Status). Alternatively, it is possible that the adolescent has not thought about the issues regarding ethnic identity and accepts the values and attitudes of the majority culture (e.g., Foreclosed Identity Status). Consequently, the foreclosed adolescent is susceptible to internalizing negative views of their own cultural group.

In the second stage, Moratorium, adolescents engage in an ethnic identity search whereby they recognize the importance of their ethnic identity and the need to explore it. This may occur due to a significant experience (e.g., an "encounter) in the adolescent's life that triggers the onset of active exploration (Phinney, 1989). During this stage, youth tend to actively seek out information about their cultural roots and family history. They also tend to seek out feelings of pride and attachment towards their ethnic group. Thus, adolescents in this stage immerse themselves in their culture and contemplate what it means to be a member of their ethnic group. Phinney posited that this stage occurs during middle adolescence. Empirical support for this stage has been provided via a series of interviews with Black and White eighth graders (mean age of 13 years), whereby Phinney and Tarver (1988) found that approximately one-third of the Black participants were actively engaged in some form of exploration regarding their ethnicity (e.g., discussing their culture with family members, reading books about the subject). This period of exploration is considered a prerequisite for reaching a committed ethnic identity (Phinney, 1992).

The third stage, Achieved Ethnic Identity, is characterized by a clear, confident sense of commitment and understanding towards one's own ethnicity. By this stage, youth have realized identity achievement and accepted and internalized their ethnic identity (Phinney, 1989). Phinney (1992) also posited that an achieved ethnic identity is accompanied by high levels of affirmation and belonging and a decrease in exploration. Said differently, as the adolescent becomes more secure with their personal identity, they are less likely to explore what their identity means to them and more likely to endorse belonging to their ethnic group. The literature suggests that ethnic identity commitment is accompanied by an increase in affirmation and belonging to one's ethnic group (Elizabeth-French, Seidman, Allen, & Aber, 2006; Pahl & Way, 2006).

The third stage also represents the resolution of two fundamental challenges for ethnic minority youth, which are (a) cultural differences between their own ethnic group and the dominant group, and (b) the lower or disparaged status of their group within society, from the perspective of the White majority (Phinney, 1990). In turn, a secure sense of self provides the adolescent with a source of personal strength and positive self evaluation. The actual manifestations of a secure sense of self are hypothesized to result in positive psychological outcomes (e.g., high self-esteem and healthy coping strategies) whereas a failure to achieve a secure sense of self results in less positive psychological outcomes (e.g., low self-esteem) (Martinez & Dukes, 1997; Seaton, Sellers, & Scottham, 2006). An achieved ethnic identity is thus characterized by an acceptance of oneself as a member of an ethnic minority group.

The literature suggests that ethnic identity achievement does not occur until late adolescence or early adulthood across ethnic groups (Ontai-Grzebik & Raffaelli, 2004; Phinney, 1992; Phinney & Chavira, 1995; Phinney & Tarver, 1988). For example, identity exploration has been identified as a defining characteristic of emerging adulthood, a period when young people are legally adult but have not taken on the full range of responsibilities that are characteristic of adulthood (Phinney, 2006). Ethnic minority early adults may be faced with identity issues related to their ethnic heritage. Specifically, the significance of their group membership may remain relevant throughout early adulthood. In a study with 196 American-born Asian American, African American, Hispanic, and White college students, Phinney and Alipuria (1990) found that ethnic identity was a significantly more important identity issue for these students than for European American students. In fact, ethnic identity was rated equal in importance to sex role and religious identity domains for minority students, suggesting that ethnic identity is a central concern for minority early adults. Consequently, ethnic group membership is an underlying issue that may continue to be pervasive and influential through early adulthood

Ethnic identity development is a phenomenon that is subject to evolve past adolescence through early adulthood. Specifically, exploration and questioning about one's group membership and its implications may continue throughout the life span. Moreover, reformulations of ethnic identity are potentially realized during early adulthood (Phinney, 2006). Specifically, individuals may reexamine the meaning of their

ethnic identity and come to a new resolution. Thus, ethnic identity exploration may progress throughout early adulthood.

White Identity Development

Not only is ethnic identity development salient for ethnic minorities, but it is also relevant to White Americans. Despite comprising the majority racial group of Americans, race likely still remains a salient issue in identity development for White Americans. For example, White racial identity formation may involve the awareness of racism. Helms' model (1990) of White racial identity outlined a two phase process or progression from a lack of awareness of the implications of being White to the integration of a positive sense of self, characterized by an understanding of racism and oppression and respect for cultural differences. Similar to Phinney's (1989) model of ethnic identity development, Helms' model emphasizes a stage-driven process of the exploration of identity.

Factors that Shape Ethnic Identity Formation

An individual's ethnic identity exploration process is contingent on a host of social and cognitive factors. The following section will outline social-cognitive factors that influence ethnic identity formation. Ethnic identity development is related to a child's cognitive development and social experiences. Ethnic identity development is also related to the attitudes, perceptions, and behaviors valued among members of ethnic groups. Children's information about their ethnicity and ethnic group membership may be acquired through social learning experiences provided by their families and communities (Knight, Bernal, Garza, Cota, & Ocampo, 1993). Consequently, a child's

ethnic identity is formed through the influence of their own ethnic background as well as

through the experiences that they encounter in contact with the dominant society. The

socialization of children in ethnic minority groups results in individual and group

differences that have an impact on the way children deal with others, as well as how

others deal with them (O'Brien Caughy, Murray Nettles, O'Campo, & Fraleigh Lohrfink,

2006; Phinney & Rosenthal, 1992). Thus, ethnic identity is related to a child's

interpersonal behavior.

   Parental socialization. Children and adolescent's attitudes towards their own and

other ethnic groups are shaped by parental socialization experiences. For example,

among Mexican mothers residing in the United States, a positive relationship was found

between maternal ethnic socialization and 6-10 year old children's ethnic identity

development (Knight et al., 1993). Specifically, Mexican mothers residing in the United

States that were more comfortable with their cultural background were more likely to

teach their children about their culture and have children that were more ethnically

identified relative to Mexican mothers that were less comfortable with their cultural

background. In a separate study with 75 first and second generation Mexican and Puerto

Rican mothers residing in the United States, Umaña-Taylor and Yazedjian (2006) found

that diverse groups of Latino mothers emphasized the importance of ethnic socialization

practices, including exposing their children to the culture and history of their native

country. The authors concluded that ethnic socialization comprises a normative

component of child rearing across Latino groups. In a similar vein, Phinney, Romero,

Nava, and Huang (2001) found a positive relation between parental "cultural maintenance

behaviors" (e.g., discussing cultural history) for adolescents of Armenian, Vietnamese, and Mexican descent residing in the United States (mean age of 14 years). Fathers also play an influential role in the socialization of ethnic identity. In a study with 98 biethnic adolescents (one European American parent and one Latino parent), González et al. (2006) found a trend whereby fathers were more likely to provide ethnic-related messages to their sons than daughters. Thus, the findings suggest that parental teaching of ethnic identity serves as one potential mechanism for ethnic identity socialization.

Parental socialization experiences are also instrumental in African American children's racial identity development. For example, racial socialization is prevalent among the majority of African American families. Approximately 35-80% of African American families have reported engaging in racial socialization practices with their children at some point (Hughes, Rodriguez, Smith, Johnson, Stevenson, & Spicer, 2006). Racial socialization serves as a process through which parents help their children to become aware of and potentially internalize their ethnic and cultural heritage. Higher levels of parental racial socialization have also been associated with beneficial cognitive and socioemotional outcomes. Specifically, parental messages related to racial pride and self-esteem have been related to an improvement in cognitive performance and a reduction in externalizing problems among African American 3-and 4-year olds (O'Brien Caughy, O'Campo, Randolph, & Nickerson, 2002). The results suggest that familial experiences are central to African American ethnic/racial identity development.

Other studies have also highlighted the impact of parental ethnic socialization practices on ethnic identity development. In a study with adolescents of Asian, Indian,

Chinese, Filipino, Vietnamese, and Salvadoran descent (mean age of 15.5 years) residing in the United States, Umaña-Taylor, Bhanot, and Shin (2006) found that the familial context explained 50% of the variance related to ethnic identity achievement across ethnic groups, which suggests the overarching influence of families in ethnic identity development. They concluded that family context, which consisted of parental ethnic socialization practices, was "critical to all groups for adolescents' ethnic identity formation" (p. 407). Similarly, in a study with Mexican-origin adolescents residing in the United States (age range from 13 to 19 years), Umaña-Taylor and Fine (2004) found that adolescents that reported fewer family members residing in the United States were more likely to report higher levels of ethnic identity socialization. They concluded that familial ethnic socialization positively influenced Mexican adolescents' ethnic identity formation. In a separate study with 187 Latino adolescents (mean age of 14.61) (66% of the sample's parental country of origin was Mexico, 25% from El Salvador, and 9% from Guatemala), Supple et al. (2006) found that encouragement from family members to participate in cultural activities and socialize with same ethnic group members was a strong predictor of adolescent ethnic identity exploration. The findings from these studies suggest that parental socialization and family context serve a central role in ethnic identity development.

Peer group. Peers also play a pivotal role in ethnic identity development. Specifically, peers are powerful socialization "agents," which contribute beyond the influence of family, school, and neighborhood to children's social, emotional, and cognitive well-being and adjustment (Rubin, Bukowski, & Parker, 1998). Phinney,

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Romero, Nava, and Huang (2001) found that among adolescents of Armenian, Vietnamese, and Mexican descent residing in the United States (mean age of 14 years), same ethnic group peer interaction was significantly related to ethnic identity development. The authors hypothesized that interaction with same-ethnic peers provides a means to express and reinforce ethnic identity. Similarly, Ontai-Grzebik and Raffaeilli (2004) found that self-identified Latino college students (mean age of 22.5 years) that had previously dated a Latino and spoke Spanish with friends had higher levels of ethnic identity exploration and achievement relative to those that didn't. Thus, peer interaction with same ethnic group members serves as a conduit to express and experience ethnic identity.

Theorists have further examined the mechanisms that contribute to an individual's sense of belonging to their ethnicity. Social identity theory (Tajfel, 1981) posits that ethnic identity is related to an individual's feelings or attributions towards their group membership. In other words, feeling part of one's ethnic group is positively reinforcing. Social identity theory further posits that an individual's self-esteem is related to their sense of group membership. A sense of ethnic group belonging is of particular importance for Latino boys. Oyserman, Brickman, Bybee, and Celious (2006) found that ethnic connectedness is positively related to adolescent Latino boys' (mean age of 13.4 years) academic outcomes. Specifically, Latino adolescent boys who felt that they "looked" Latino (endorsed the item, "I look like a member of my racial-ethnic group") were more likely to choose school-focused peers and perform better academically than those who did not feel that they "looked" Latino. The findings suggest that physical

markers of in-group belongingness (e.g., appearance) help Latino boys' academic performance by providing them with a sense of connection to school focused peers. Thus, ethnic group membership is positively related to academic outcomes for Latino adolescent males.

Other studies have explored the trajectory of an adolescent's sense of belonging to a group over time. In a longitudinal study with 400 early (mean age of 11.28 years old) and middle (mean age of 14 years old) Latino American, African American and European American adolescents, Elizabeth-French et al. (2006) studied trajectories of ethnic identity development. Among the Latino American adolescents, 26% self-identified as Puerto Rican, 36% as Dominican, and 37% as "other" Latino. Among the Latino American adolescents, 34.7% were born outside the United States. Among the European American adolescents, 20% self-identified as nonethnic White, 43% as Italian, 15% as Greek, and 22% as "other" European group. The authors found that group self-esteem or sense of belonging and attachment to ethnic group was likely to increase across all ethnic groups during early and middle adolescence. African American and Latino American students exhibited the greatest amount of change in group esteem. In contrast, the European American students demonstrated the most stable group esteem. The authors indicated that it was expected for the European American students to demonstrate higher levels of group esteem because they were the racial majority and also had opportunities to compare themselves to members of other ethnic and racial groups. In addition, during the study, the middle adolescent cohort transitioned from homogenous middle schools to ethnically diverse high schools, which was associated with an increase in group esteem.

The authors suggested that the change in school ethnic composition may have represented an encounter, triggering the onset of active exploration.

School ethnic composition. Other studies have further evaluated the impact of school ethnic composition on ethnic identity development. In a study with Black, Hispanic, and Caucasian high school youth (mean age of 13.97 years) (race and ethnicity were determined based on participants' report of their parents' race or ethnicity), Elizabeth-French, Seidman, Allen, and Aber (2006) found that the transition to high school was related to idiosyncratic trajectories for Black and Hispanic identity development. Specifically, the transition to high school was described as a "race consciousness" experience (e.g., begin to think about who they are and what their race means to them) for Blacks but not by Hispanics. The authors speculated that the transition to high school was not reported by Hispanics as an "ethnicity consciousness-raising experience" because of their ability to share a common language (e.g. Spanish), which provided them with a sense of cultural unity. Nevertheless, both Black and Hispanic students reported increases in group self-esteem during the transition to a multicultural urban high school. Thus, this study suggests that the ethnic composition of the school setting impacts ethnic identity development.

In a separate study with 135 urban low income Black and Latino (62% self-identified as Puerto Rican, 29% Dominican, and 9% other Latino) middle adolescents (mean age of 15.1 years at time 2 and mean age of 18.3 years at time 5) residing in the United States, Pahl and Way (2006) examined the impact of ethnicity, gender, and immigrant status on ethnic identity exploration and affirmation. They found that ethnic

identity exploration peaked by mid-adolescence and declined after 10th grade for both

Black and Latino participants. Moreover, Latino adolescents experienced a faster

deceleration of exploration over time, suggesting that they "progressed towards the

resolution of the identity crisis at a faster rate than their Black peers" (Pahl & Way, 2006,

p. 1411). In addition, Latinos maintained higher levels of affirmation than Blacks. It

should also be noted, however, that neither gender nor immigrant status were related to

ethnic identity trajectory. The authors hypothesized that the lower levels of exploration

and higher levels of affirmation for Latinos was associated with their surrounding school

and neighborhood context. Specifically, Latinos may have not experienced a necessity to

undergo as much exploration of the meaning of their ethnic identity because Latino

adolescents represented the majority ethnic group both at school and in their

neighborhood. Consequently, they were able to rely on support from same-ethnic peers.

The results highlight the impact of the adolescent's school context on ethnic identity

development.

 Neighborhood. In addition to family, peer, and school influences, the

neighborhood context also shapes racial/ethnic socialization processes. In a study with

200 African American children (mean age of 6.59 years), O'Brien Caughy et al. (2006)

found that a negative neighborhood climate (i.e., low socio-economic status, social

disorganization) moderated the relation between parental socialization practices and child

outcomes. Specifically, a negative neighborhood climate was associated with parental

socialization messages that emphasized racism and mistrust. Moreover, the negative

social climate was also associated with internalizing problems and reduced cognitive

performance. In a similar vein, Supple et al. (2006) found that high levels of

neighborhood risk (i.e., the extent to which adolescents perceived their neighborhood as

characterized by a high degree of risk) and low levels of parental involvement moderated

the relation between family ethnic socialization and ethnic identity development. The

authors suggest that the outcome of parental efforts to promote cultural pride may be

contingent on the surrounding neighborhood environment. The findings from both

studies shed light on the impact of broader contextual influences (e.g., neighborhood) on

racial/ethnic identity development.

Gender. Gender also impacts ethnic socialization processes and ethnic identity

development. In African American and Latino cultures, females are perceived as being

responsible for conveying cultural values and traditions (Adams & LaFromboise, 2001,

as cited in Pegg & Plybon, 2005; Phinney, 1990, as cited in González, Umaña-Taylor, &

Bámaca, 2006). Similarly, research with early adolescent ethnic minority youth indicates

that girls tend to have significantly higher levels of ethnic identity exploration than boys

(Plybon, 2001; Spencer, Icard, Harachi, Catalano, & Oxford, 2000). Parental

socialization of ethnic identity might also differ by adolescent gender. For example, in a

study with 98 biethnic adolescents (one European American parent and one Latino

parent), González et al. (2006) found that males with a Latina mother were more likely to

report higher levels of familial ethnic socialization than females. The term Latino in this

study was used in reference to those of Mexican, Central American, South American,

Caribbean, and Spanish descent. González et al. concluded that because Latino males are

expected to be the authority figures in the family, mothers invest more time in socializing their sons about their culture.

Operationalizing Ethnic Identity Models: The Multigroup Ethnic Identity Measure (MEIM)

As previously mentioned, the development of ethnic identity is a central component of an adolescent's sense of self. Moreover, ethnic identity has been associated with positive adjustment outcomes among adolescents. Consequently, it is critical to understand how ethnic identity is measured among adolescents. Drawing from Erikson (1968) and Marcia's (1966) identity development theories, Phinney's (1992) *Multigroup Ethnic Identity Measure* (MEIM) was designed to measure the components of ethnic identity across different ethnic groups. The MEIM as it was originally developed with adults, is a 20-item questionnaire with four subscales: (1) Affirmation and Belonging, (2) Ethnic Identity Achievement, including exploration and resolution of identity issues, (3) Ethnic Behaviors and Practices, and (4) Other Group Orientation. Affirmation and sense of belonging is the positive feelings and attitudes towards one's group. Ethnic Identity Achievement refers to the secure sense of self, which is the optimal outcome of the identity formation process. It is conceptualized as ranging from lack of exploration and commitment to evidence of both exploration and commitment. Ethnic Behaviors and Practices is the degree of participation in cultural activities. Lastly, Other Group Orientation refers to attitudes towards and interactions with other ethnic groups. It should be noted, however, that Other Group Orientation is considered conceptually distinct from ethnic identity. Nevertheless, Phinney (1992) hypothesized

that these constructs are shared across all ethnic groups. Thus, Phinney conceptualized ethnic identity as a general phenomenon with common characteristics within and across ethnic groups.

It should be noted that the measurement of ethnic identity does not necessarily parallel the aforementioned theoretical interpretations. For example, we are unaware of any studies that have successfully operationalized the stages of ethnic identity development with adolescent samples. Studies have attempted to operationalize ethnic identity status based on an overall MEIM composite score (Bracey, Bámaca, & Umaña-Taylor, 2004; Martinez & Dukes, 1997; Phinney, 1992; Roberts et al., 1999). The use of a MEIM composite score, however, was unable to differentiate between individuals in the Foreclosed (low exploration, high commitment) and Moratorium (high exploration, low commitment) stages of identity development. Phinney (1989) used structural interviews to place 64 adolescents (age range 15 to 17) into one of the identity stages (Diffuse, Foreclosed, Moratorium or Achieved). Approximately 21% of participants were reliably placed in the Achieved status and 23% in Moratorium status. The coders were unable, however, to reliably place the remaining 53% of the sample in one of the two lowest stages (Diffusion and Foreclosed). Consequently, these two stages were combined into an "unexamined ethnic identity category" where the remaining 53% of the sample was placed.

Several studies have examined the psychometric properties of the MEIM with college participants. Phinney and Alipuria (1990) examined ethnic identity development with 196 undergraduates (mean age of 19.7 years) from four ethnic groups (Asian

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American, African American, Hispanic American, and Caucasian). Specifically, they assessed and compared Phinney's hypothesized factors of Ethnic Identity Exploration and Commitment across these groups. In this study, Ethnic Identity Exploration was termed "Ethnic Identity Search." They found that African Americans reported significantly greater Ethnic Identity Search scores than Hispanic Americans, Asian Americans, and Caucasians. Ethnic Identity Commitment, however, did not differ significantly by ethnic group. They also found that participants that deemed their ethnic identity important relative to other identity areas (e.g., political orientation) were more likely to have explored and made a commitment to their ethnic identity relative to those participants that didn't deem ethnic identity important. The study demonstrated fair psychometric properties for Ethnic Identity Search (alpha = .69) and Commitment (alpha = .59) subscales. The authors, however, did not assess reliabilities of these scales within ethnic groups nor did they conduct factor analyses to assess their structure. Consequently, the findings are unclear regarding the MEIM structure as well as its application to specific ethnic groups.

Factor analytic work with high school and college students indicated that the MEIM is composed of two factors, (1) Ethnic Identity, which is composed of Affirmation/Belonging, Ethnic Identity Achievement, and Ethnic Behaviors or Practices subscales and (2) Other Group Orientation. Phinney (1992) demonstrated satisfactory psychometric properties in a high school (417 participants, mean age = 16.5 years) and college (136 participants, mean age of 20.2 years) multiethnic (Asian American, African American, Hispanic, and Caucasian) sample. Exploratory factor analyses conducted with

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each sample yielded a two factor solution, Ethnic Identity and Other Group Orientation. For the high school sample, Ethnic Identity and Other Group Orientation accounted for 20% and 9.1% of the variance, respectively. For the college sample, Ethnic Identity and Other Group Orientation accounted for 30.8% and 11.4% of the variance, respectively. For both samples, there were good reliability measures for Ethnic Identity (alpha = .81 for high school sample and alpha = .90 for college sample) and Other Group Orientation (alpha = .71 for high school sample and alpha = .74 for college sample). Further, reliability coefficients were obtained for the Ethnic Identity subscales, which were Affirmation/Belonging (alpha = .75 for high school sample and alpha = .86 for college sample), and Ethnic Identity Achievement (alpha = .69 for high school sample and alpha = .80 for college sample). Theoretically, ethnic identity achievement is expected to change (increase) with age and thus explains the higher reliability scores for college participants relative to the high school participants (Phinney, 1989). The reliability coefficients, however, were not calculated for Ethnic Behaviors or Practices because reliability cannot be calculated with a two item subscale.

Cross-sectional analyses indicated that college participants scored higher on Ethnic Identity Achievement subscale than high school participants, which suggests a developmental trend. For both samples, correlations among the subscales of Ethnic Identity factor (Identity Achievement, Affirmation/Belonging, and Ethnic Behaviors) were statistically significantly, suggesting a single construct of ethnic identity composed of multiple intercorrelated components. The Ethnic Identity Exploration and Commitment factors, however, did not emerge as distinct factors for either sample, as

originally hypothesized by Phinney (1992). Moreover, Phinney's Ethnic Identity

Achieved subscale presupposes that the adolescent has both explored and committed

towards his or her ethnic group. Phinney and Tarver (1988) hypothesize that a

committed adolescent can either be in the committed or foreclosed (e.g., committed to an

identity without personal exploration) stage of identity development. They suggest that

future studies should differentiate between these two aspects of commitment. Based on

these findings, it remains unclear whether the MEIM taps into these two dimensions of

ethnic identity for adolescents.

Multigroup Ethnic Identity Measure and Early Adolescents

Although the MEIM has demonstrated stability and reliability across late

adolescent (16-19 years) and early adult ethnic minority groups, its factor structure and

other psychometric properties may not be as sound for early adolescents. Several studies

have examined the MEIM's psychometric properties with ethnic minority early

adolescent samples. Roberts et al. (1999) examined the psychometric properties of the

14-item MEIM (not including Other-Group Orientation subscale) with a multiethnic

(African American, Mexican American, Chinese American, Indian American, Pakistani

American, Vietnamese American, European American, and Pacific Islander) middle

school sample (5,423 participants, median age of 12.9 years) residing in the United

States. Ethnic group membership was determined via participant self-identification of

ethnicity. The sample was 18.5 % Latino and 22.8% African American. Exploratory

factor analyses indicated a two factor solution, which explained 51.2% of the total

variance. The first factor explained 41.6% of the variance and was termed "Affirmation,

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Belonging, and Commitment." The first factor was composed of seven items, including

five from Phinney's (1992) original Affirmation/Belonging subscale. The last two items

came from Phinney's original Ethnic Behaviors and Ethnic Identity Achievement

subscales. The second factor explained 9.6% of the variance and was termed

"Exploration factor." The second factor was composed of five items, including three

from Phinney's (1992) original Ethnic Identity Achievement subscale and two from

Phinney's (1992) original Ethnic Behaviors subscale. The obtained results indicated the

data best fit the aforementioned two factors, "Affirmation, Belonging, and Commitment,"

and "Exploration," across varied ethnic groups. Moreover, the internal consistency of the

first factor ranged from .81 to .89 across ethnic groups. The second factor, however,

demonstrated less internal consistency across groups, ranging from .55 to .73.

Multigroup confirmatory factor analyses with the three largest ethnic groups (European

American, African American, and Mexican American) demonstrated similar factorial

structures for African American and Mexican American groups, but not for the European

American group. In fact, the European American group scored significantly lower than

the other ethnic groups on the MEIM. The data however, were cross-sectional and the

authors indicated that future studies are needed to replicate these findings and to continue

to study the developmental trajectory of ethnic identity formation in ethnic minority

youth.

Spencer et al. (2000) also examined the psychometric properties of the MEIM

with 1,812 monoracial (self-identified as White, African American, Native American,

Asian Pacific Islander, and Hispanic) and 372 multiracial (self-identified with two or

more racial or ethnic groups, including African American/Native American, African American/Hispanic, African American/White, Native American/White, Asian Pacific Islander/White, Hispanic/White, Black/Native American/White) early adolescents (mean age of 12.85 years). The sample was 4.8% Latino and 22.7% African American. A principal component factor analysis yielded a two factor solution, termed "Identification" and "Exploration," respectively. Similar to Roberts et al.'s (1999) findings, a confirmatory factor analysis yielded a two factor structure, which consisted of Phinney's (1992) Affirmation/Belonging items that loaded onto the first factor, termed "Identification," and Phinney's Ethnic Identity Achievement and Ethnic Behavior items that loaded onto the second factor, termed "Exploration." It should be noted that the first factor consisted of items from Phinney's Affirmation/Belonging and Ethnic Identity Achievement subscales. The authors expected that "ethnic identity achievement would result in affirmation of an individual's race/ethnicity" (Spencer et al., 2000, p. 378) and thus interpreted the first factor as "Identification." The second factor, however, consisted of items from Phinney's original Ethnic Identity Achievement and Ethnic Behaviors subscales, which reflect spending time to find out about one's ethnic group, participating in cultural activities and was thus interpreted as Exploration. Reliability coefficients for Identification and Exploration for the entire sample were .84 and .76, respectively. The MEIM also demonstrated good reliability (alpha = .81 for entire sample, ranged from .82 to .86 for monoracial groups and from .79 to .88 for the multiracial groups), for the Affirmation and Belonging subscale (alpha = .81 for entire sample, ranged from .75 to .81 for monoracial groups and from .70 to .82 for the multiracial groups), and the Ethnic

Identity Achievement subscale (alpha = .72 for entire sample, ranged from .64 to .80 for monoracial groups and from .65 to .82 for the multiracial groups).

Spencer et al. (2000) further examined the two-factor model (Identification and Exploration) via a multigroup confirmatory factor analyses across three groups (monoracial White, monoracial minority, and multiracial). A confirmatory factor analysis determined that the two-factor model was a satisfactory fit for the entire sample (CFI = .93). Moreover, the multigroup confirmatory factor analysis of the two-factor model was tested for equivalence across the three groups. The unconstrained model was a significantly better fit to the data than the constrained model. Further, the Lagrange Multiplier chi-square test indicated that the multiracial and White groups were not equivalent in the following factor loadings/items: pride in ethnic group, feeling good about ethnic group, belonging to ethnic group, understand what ethnic group means to me, and clear sense of ethnic group. Spencer et al. (2000) also conducted ethnic and gender group analyses. They found that White students scored significantly lower on overall ethnic identity and the two subscales relative to monoracial and multiracial participants. They also found that girls scored significantly higher on Exploration than boys.

Yancey, Aneshensel, and Driscoll (2001) examined the applicability of an abbreviated form of the MEIM (MEIM-S) with 847 multiethnic (African American, Asian American, Latino, and Caucasian) early adolescents (mean age of 14.5 years). The sample was 56.4% Latino and 11.9% African American. They found that the data best fit a two-factor structure across all ethnic groups. Specifically, a principal component factor

analysis yielded a two-factor solution, termed "Ethnic Participation" and "Ethnic Affirmation and Belonging." The absence of detectable differences in the variance-covariance matrices of the MEIM-S items further supported this factor structure. Ethnic Participation was composed of four items and reflected "a strong behavioral commitment to the culture of origin" (Yancey et al., 2001, p. 1999). Ethnic Affirmation and Belonging was composed of six items and related to feelings about one's ethnicity. Reliability coefficients for Participation and Ethnic Affirmation and Belonging for the entire sample were .71 and .81, respectively. Moreover, the MEIM demonstrated good reliability (alpha = .83 for entire sample, ranged from .78 to .83 across groups). For the entire sample, average participant score on Affirmation and Belonging was larger than for Participation. However, there was greater variation (i.e., larger standard deviation values) on Participation than on Affirmation and Belonging, which suggests that positive sentiments do not necessarily lead to group behaviors. The authors hypothesized that this discrepancy may have reflected adolescent's lack of access to social resources (e.g., ethnic clubs and organizations). For example, although an adolescent may feel a strong attachment to his/her ethnic group, he/she may not have access to ethnic social groups. The authors concluded that similar measurement properties were found across African Americans, Latinos, and Asian Americans, which suggests that the MEIM-S is suitable for interethnic and intraethnic group comparisons. The absence of detectable differences in the variance-covariance matrices of the MEIM-S items further suggests that the MEIM-S measures the same underlying construct of ethnic identity across ethnic groups (Yancey et al., 2001). The Caucasian participants, however, did score significantly lower

than African Americans, Latinos, and Asian Americans on the Participation subscale and significantly lower than African Americans on the Affirmation and Belonging subscale. The authors suggest that these differences may be related to social desirability bias and/or differences in interpretation of scale items.

Studies with African American early adolescent samples have also failed to support Phinney's (1992) conceptualization of ethnic identity. For example, in a longitudinal study with 294 early African-American adolescent participants (mean age of 12.8 at time 1 and mean age of 13.7 at time 2), Plybon (2001) evaluated the structural properties of Phinney's and Roberts et al.'s (1999) versions of the MEIM. Phinney's version of the MEIM consisted of a 20-item scale, which consisted of a seven-item Ethnic Identity Achieved subscale, five-item Ethnic Identity Affirmation and Belonging subscale, two-item Ethnic Behaviors subscale, and six-item Other Group Orientation subscale. Roberts et al.'s version of the MEIM consisted of a 12-item scale, which consisted of a seven-item Affirmation, Belonging, and Commitment factor and a five-item Exploration factor. Both Phinney's and Roberts et al.'s versions demonstrated good reliabilities (alpha = .82 and .83, respectively). Phinney's Ethnic Behaviors subscale and Roberts et al.'s Ethnic Identity Exploration subscale, however, demonstrated less than adequate reliabilities (alpha = .31 and .64, respectively). Confirmatory factor analysis determined that Roberts et al.'s two factor model (Commitment and Exploration) demonstrated an adequate fit for the data (CFI = .90 at Time 1 and CFI = .84 at Time 2). Conversely, Phinney's model demonstrated a poor fit for the data (CFI = .80 at Time 1 and CFI = .74 at Time 2). Interestingly, confirmatory factor analysis revealed Roberts et

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al's Ethnic Identity Commitment factor to be identical in item composition to Spencer et al's (2000) Exploration factor. The results suggest that Ethnic Identity and Exploration can be measured with Roberts et al.'s version of the MEIM. In addition, Roberts et al.'s two-factor construct demonstrated a better fit for girls than boys. The findings further suggest that African-American girls engage in the ethnic identity formation process earlier than boys.

Other factor analytic studies have also determined that the MEIM, as it was originally conceptualized by Phinney (1992), is not an adequate measure of ethnic identity for early African American adolescents. Pegg and Plybon (2005) evaluated two versions (Roberts et al., 1999; Yancey et al., 2001) of the two-factor MEIM (Ethnic Identity Exploration and Commitment) with 134 early adolescent African American females (mean age of 11.91). Roberts et al.'s version of the MEIM consisted of a 12-item scale, which consisted of a seven-item Affirmation, Belonging, and Commitment factor and a five-item Exploration factor. Yancey et al.'s version of the MEIM consisted of a 10-item scale, which consisted of a four-item Ethnic Participation factor and a six item Ethnic Affirmation and Belonging factor. Both Roberts et al. (1999) and Yancey et al.'s (2001) Ethnic Identity Commitment subscales demonstrated adequate reliability (alpha = .74 and .71, respectively) whereas their Ethnic Identity Exploration subscales demonstrated poor reliability (alpha = .44 and .40, respectively). They found that both Ethnic Identity Commitment and Exploration fit the data well as part of Robert et al.'s (1999) two-factor model of ethnic identity (CFI = .93) whereas Ethnic Identity Exploration and Commitment did not fit the data well as part of Yancey et al.'s two-

factor model of ethnic identity (CFI = .84). Unfortunately, because both models had

different item-level compositions and different covariance matrices, direct comparisons

could not be made between the models. Nevertheless, the results did not support the

MEIM as it was originally conceptualized by Phinney. The findings, however, suggest

that Robert et al.'s two-factor MEIM is an adequate measure of Ethnic Identity

Exploration and Commitment for early African-American adolescent youth.

In summary, the findings from various studies suggest that the MEIM taps into

unique constructs (Exploration and Commitment) for early ethnic minority adolescents

(Pegg & Plybon, 2005; Roberts et al. 1999; Spencer et al., 2000; Yancey et al., 2001) (see

Table 1).

The aforementioned studies with early minority adolescents suggest that the

MEIM does not measure a unitary "global ethnic identity" construct, as originally

hypothesized by Phinney (1992). Also, the reliability coefficients in studies with early

ethnic minority adolescents are lower relative to studies with older ethnic minority

adolescents and early adults. Theoretically, ethnic identity is expected to increase with

age and thus explains the higher reliability scores for older adolescents relative to early

adolescents (Phinney, 1989). Further, during early adolescence, advances in cognitive

development in combination with the transition from elementary to middle school likely

stimulate exploration of one's own ethnic group membership. It is also possible that

cognitive processes may mediate ethnic identity formation in early adolescence. During

this period, the adolescent's thinking becomes more abstract, which enables the

exploration of what their ethnicity means to them (Phinney, 1990). Consequently, it is

possible that ethnic identity development manifests differently in early adolescents than for older adolescents and young adults.

MEIM Validity

Not only has the literature examined the reliability and factor structure of the MEIM, but studies have also assessed the validity of the MEIM as well. A review of 12 studies (college and high school samples) that incorporated the MEIM concluded that the MEIM exhibited a "moderate degree of construct and criterion related validity" (Ponterotto, Gretchen, Utsey, Stracuzzi, & Saya, 2003, p. 502). Specifically, the MEIM demonstrated moderate to strong internal consistency levels across high school and college samples (mean alpha of .86). The MEIM has also been correlated with measures of parallel constructs, including acculturation and self-esteem (Cuéllar, Nyberg, Maldonado, & Roberts, 1997; Umaña-Taylor et al., 2003). Ponterotto et al. (2003) note, however, that the correlations across the reviewed studies exhibited small to medium effects. In a similar vein, Umaña-Taylor, Diversi, and Fine (2003) suggest that future research should longitudinally investigate how socialization processes influence the development of ethnic identity and self-esteem. Consequently, future research needs to examine the convergent validity of the MEIM with these constructs among early adolescent samples.

Convergent MEIM Validity: Psychological Outcomes

Both Tajfel's (1981) social identity theory and Phinney's (1989) ethnic identity theory highlight the general benefit of an individual's sense of belonging to a particular group to aspects of psychological development. Consistent with these theories, ethnic

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identity scores are associated with indices of psychological health. McMahon and Watts (2002) found that higher levels of ethnic identity were related to decreases in anxiety amongst African American youth (age range of 10 to 15 years). The researchers noted that the findings were limited by the cross-sectional nature of the research design and the low percent of variance explained by the analysis. The researchers further indicated that future studies should employ longitudinal efforts to evaluate the impact of ethnic identity on psychological well-being. Similarly, in a study with 180 Asian Indian adolescents (mean age of 15.97 years) and 180 European American adolescents (mean age of 16.06 years), Farver, Xu, Bhadha, Narang, and Lieber (2007) found that lower levels of ethnic identity were related to increases in anxiety symptoms amongst European American adolescents. The findings from both studies suggest that adolescents who achieve a degree of ethnic identity are buffered versus adjustment difficulties (e.g., anxiety symptoms) irrespective of ethnic background.

Convergent MEIM Validity: Aggression and Attitudes towards Fighting

Although the literature on aggressive attitudes and violent behavior among ethnic minority youth is well established, less is known regarding the relation between ethnic identity, aggression, and attitudes towards fighting. Despite the paucity of research in this area, a several studies have begun to shed light on the relation between ethnic identity and antisocial attitudes and behavior. In a study with 50 African American adolescents (mean age of 12.4 years), Jagers and Mock (1993) found that a stronger endorsement of Afrocentric values (e.g., spirituality and communalism) predicted lower levels of aggression and delinquent behaviors. In a separate study with 209 African

American adolescents (grades 5-8), McMahon and Watts (2002) found that higher levels of ethnic identity were related to fewer beliefs supporting aggression and aggressive behaviors. Similarly, in a study with 330 African American and Latino early adolescents (age range of 10 to 13 years), Arbona, Jackson, McCoy, and Blakely (1999) found that ethnic identity accounted for unique variance in African American adolescents' nonfighting attitudes. Interestingly, ethnic identity did not account for unique variance amongst Latino adolescents. The authors hypothesize that acculturation level and generational status may have mediated the relation between ethnic identity and nonfighting attitudes. Nevertheless, the findings from these studies suggest that a strong sense of ethnic identity buffers against antisocial attitudes and behaviors.

Statement of Problem and Proposed Study

Although we have learned quite a bit regarding the relationship between ethnic identity and youth outcomes, we know relatively less regarding the development of ethnic identity during the middle school years. For example, the literature with urban adolescent samples suggests that the MEIM taps into unique constructs (Exploration and Commitment). However, research is needed to further validate the applicability of the MEIM in early rural adolescent samples. The literature with urban adolescents further suggests that factors such as gender and school ethnic/racial composition influence ethnic identity development. Research is also needed to further evaluate the factors that contribute to the stability and change of ethnic identity for early rural adolescents. Few if any, longitudinal studies have examined the psychometric properties of the MEIM exclusively with early rural minority adolescents.

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There are four main objectives of the current study. First, the proposed study will assess the structural properties of the MEIM in a sample of adolescents living in a rural area. More specifically, the factor structure of the MEIM will be determined via a confirmatory factor analysis. Second, the convergent validity of the MEIM will be examined. Third, ethnic identity will be examined developmentally. Specifically, individual trajectories of ethnic identity Exploration and Commitment will be modeled. Last, factors related to ethnic identity stability and change during early adolescence will be identified.

Study Aims and Hypotheses

Aim 1: Structural properties of the MEIM. Prior work has demonstrated that a two-factor solution is most appropriate for early adolescents (Pegg & Plybon, 2005; Roberts et al. 1999; Spencer et al., 2000; Yancey et al., 2001). Based on these findings, it is hypothesized (hypothesis 1) that a two-factor model (Exploration and Commitment) will fit the data for this rural group of adolescents. It is further hypothesized (hypothesis 2) that the two-factor model will demonstrate stability over time and be a satisfactory fit for the entire sample from Time 1-Time 7. In addition, it is hypothesized that the two-factor model will demonstrate stability across Caucasian, African American, and Latino participants (hypothesis 3). Figure 1 and Table 1 present Roberts et al.'s two-factor model and the items that correspond to Exploration and Commitment, respectively.

Aim 2: Individual trajectories of ethnic identity. It is hypothesized (hypothesis 4) that race or ethnicity will be associated with change in ethnic identity development.

Specifically, Latino and African-American early adolescents will experience greater increases of ethnic identity Exploration than Caucasian early adolescents.

Aim 3: Factors related to ethnic identity stability and change during early adolescence. It is hypothesized (hypothesis 5) that gender will be associated with change in ethnic identity development trajectories. Specifically, female adolescents will display higher levels of ethnic identity Commitment than male adolescents. It is also hypothesized (hypothesis 6) that the ethnic composition of the school setting will be associated with ethnic identity development trajectories. Specifically, because Latino adolescents represent the majority ethnic group at school, we expect Latino adolescents to display less of an increase of ethnic identity Exploration relative to African-American adolescents.

Aim 4: MEIM convergent validity. Prior studies have demonstrated that ethnic identity is associated with decreases in anxiety symptoms, aggressive attitudes, and aggressive behaviors (Arbona et al., 1992; Jagers & Mock, 1993; McMahon & Watts, 2002). Based on these findings, it is hypothesized (hypothesis 7) that ethnic identity will be related to decreased anxiety symptoms, aggressive attitudes, and non-violent attitudes for the entire sample.

Method

Participants

The sample for this study was drawn from a larger longitudinal investigation focusing on violence prevention efforts with an early adolescent sample residing in rural Florida (Farrell, Valois, Meyer, & Tidwell, 2003). Participants were students at eight rural Florida middle schools who entered the sixth grade in the fall of 1998. The study employed a quasi-experimental design, whereby four schools were assigned to an intervention condition and four schools to a control condition.

The sample consisted of three cohorts of middle school students. Data were collected from a total of 8,146 participants across three cohorts. Of these, 2,451 were excluded because of missing data (e.g., only one time point or less with data). The final sample size was 5,695 (1,781 participants comprised Cohort 1, 2,136 comprised Cohort 2, and 1,778 comprised Cohort 3). The final sample consisted of students from both the intervention and control conditions. The sample was 53 % Caucasian, 24% Latino, 15% African American, and 8% Other. The median age of the students at the control schools at the start of the sixth grade was 11.3 years. The median age of the students at the intervention schools at the start of sixth grade was 11.4 years. The majority of the students at the schools were eligible for the federal free or reduced school lunch program. Approximately 29% of the participants were children of migrant workers and 32% lived in homes where English was not the primary language (Farrell, Valois, Meyer, & Tidwell, 2003).

For Cohorts 1 and 2, data were collected at five time points. For Cohort 1, data were collected at fall and spring of 6th grade, spring of 7th grade, spring of 8th grade, and fall of 9th grade. For Cohort 2, data were collected at fall and spring of 6th grade, fall of 7th grade, spring of 7th grade, and fall of 8th grade. For Cohort 3, data were collected at three time points (fall and spring of 6th grade, fall of 7th grade) (see Table 2).

Table 2. *Data collection for Cohorts 1, 2, and 3.*

Cohort	Fall 6	Spring 6	Fall 7	Spring 7	Fall 8	Spring 8	Fall 9
1	X	X		X		X	X
2	X	X	X	X	X		
3	X	X	X				

Ethnic Identity. Ethnic identity was measured using Phinney's (1992) 20-item MEIM (see Appendix A), which consists of four subscales: Affirmation and Belonging (5 items), Ethnic Identity Achievement (7 items), Ethnic Behaviors and Practices (2 items), and Other Group Orientation (6 items) (see Appendix A). Each question on the MEIM is rated on a 4-point Likert scale from *strongly agree* to *strongly disagree.* Scores range from 1= *low* to 4 = *high*, whereby high scores indicate strong ethnic identity. Sample items include, "I am happy that I am a member of the group I belong to" and I have a strong sense of belonging to my own ethnic group." This measure has a reported reliability, as assessed by Cronbach's alpha, ranging from .81-.84 with early adolescents (Roberts et al., 1999; Spencer et al., 2000; Yancey et al., 2001). For the entire sample,

reliability of the entire scale across Times 1-7, as assessed by Cronbach's alpha, ranged from .79-.87.

Revised Children's Manifest Anxiety Scale (RCMAS). The RCMAS (Reynolds & Richmond, 1978) is a 28-item scale that assesses anxiety symptoms (see Appendix B). This measure has a reported reliability, as assessed by Cronbach's alpha, of .84 with early adolescents (McMahon & Watts, 2002). For the entire sample, reliability of the scale for Times 1 and 7, as assessed by Cronbach's alpha, ranged from .89-.91.

Weinberger Adjustment Inventory (WAI). The WAI is an 84-item scale (see Appendix C) that assesses self-restraint (e.g., impulse control and suppression of aggression) and emotional distress. This measure has a reported reliability, as assessed by Cronbach's alpha, of .91 with early adolescents (Weinberger & Schwartz, 1990). For this study, the 8-item Impulse Control, 7-item Suppression of Anger, and 12-item Emotional Restraint subscales were used. For the entire sample, reliability of the scale for Times 1 and 7, as assessed by Cronbach's alpha, ranged from .79-.81.

Attitudes Towards Violence. The Attitudes Towards Violence Scale (Farrell, Meyer, & White, 2001) is an 8-item scale that asks respondents how they feel about various violent and nonviolent methods for resolving conflict (see Appendix D). This measure has a reported reliability, as assessed by Cronbach's alpha, of .73 with early adolescents (Farrell, Meyer, & White, 2001). For the entire sample, reliability of the scale for Times 1 and 7, as assessed by Cronbach's alpha, ranged from .76-.86.

Attitudes Supporting Nonviolence. The Attitudes Supporting Nonviolence Scale (Farrell, Meyer, & White, 2001) is a 5-item scale that assesses favorable attitudes toward

nonviolence (see Appendix E). This measure has a reported reliability, as assessed by Cronbach's alpha, of .73 with early adolescents (Farrell, Meyer, & White, 2001). For the entire sample, reliability of the scale for Times 1 and 7, as assessed by Cronbach's alpha, ranged from .73-.79.

Procedure

For Cohorts 1 and 2, data were collected via a battery of measures that participants completed at five time points. For Cohort 3, data were collected at three time points. Participants took home a consent form that explained the study to their parents. Parents were asked to sign the form and return it to school if they refused for their child to participate in the study (e.g., passive consent). If youth assented to participate, youth were administered a battery of measures that included both outcome measures and measures of mediating variables. Measures were administered by research assistants blind to treatment conditions. Participants were administered self-report surveys during homeroom or a class period designated for testing. Participants were aware that their responses would remain confidential. Students that chose not to participate were asked to return the blank test booklets. Participants that missed the testing days were assessed on make-up days. The RIPP intervention consisted of an 18-lesson violence prevention curriculum for sixth grade students with booster lessons for seventh and eighth grade students (Farrell & Meyer, 1997).

Data Analysis Plan

Preliminary Analyses

      Preliminary data examination and descriptive statistics were conducted on all study variables at Times 1-7. Only participants that had data for at least two time points were used in the analyses. Means and intercepts were estimated on the basis of full information maximum likelihood (FIML) when data were missing. FIML procedures estimate model parameters from all of the available information relevant to each parameter (e.g., fits the covariance structure model directly to the available raw data available for each participant). In other words, FIML procedures utilize all cases within a dataset, including missing data. FIML is a preferred method of imputation because it employs an iterative process to provide prediction of missing data values. In turn, this reduces the biases associated with missing data patterns and ensures that estimates are fairly accurate despite missing data. In general, when less than 50% of the overall data are missing at random, the parameter estimates and their standard errors can be considered to be unbiased (Cheung, 2007).

      Aim 1. It is hypothesized (hypothesis 1) that a two-factor model (Exploration and Commitment) will fit the data for this rural group of adolescents. It is further hypothesized (hypothesis 2) that the two-factor model will demonstrate stability over time and be a satisfactory fit for the entire sample from Times 1- 7. In addition, it is hypothesized that the two-factor model will demonstrate stability across Caucasian, African American, and Latino participants (hypothesis 3).

A confirmatory factor analysis (CFA) was conducted with the entire sample to determine whether Roberts et al.'s (1999) two-factor model of the MEIM is a satisfactory fit for the entire sample at Times 1-7 (see Table 9). A CFA was also conducted with the entire sample to determine whether a one-factor model of the MEIM is a satisfactory fit for the entire sample at Times 1-7.

CFA is a structural equation modeling technique used to determine the goodness of fit between a hypothesized model and the sample data. CFA allows the specification of causal relationships between observed variables and latent constructs while simultaneously accounting for item-level measurement error (Tabachnick & Fidell, 2007). Each indicator had a freely estimated factor loading on the factor that it reflects but was constrained to zero on the other factor loading. Correlations between the two hypothesized factors (Exploration and Commitment) were estimated. Reliability coefficients for both factors were also evaluated.

Table 3. *Ethnic Identity Exploration and Commitment items based on Roberts et al.'s*

(1999) two-factor model.

Ethnic Identity Exploration	Ethnic Identity Commitment
1. I have spent time trying to find out more about my ethnic group, such as its history, traditions, and customs.	3. I have a clear sense of my ethnic background and what it means for me.
2. I am active in organizations and social groups that include mostly members of my own racial group.	6. I am happy that I am a member of the group that I belong to
5. I think a lot about how my life will be affected by my ethnic membership.	11. I have a strong sense of belonging to my ethnic group
13. To learn more about my racial background, I have often talked to other people about my ethnic group.	12. I understand pretty well what my ethnic group membership means to me in terms of how I relate to my own group and other groups.
16. I participate in cultural practices of my own group, such as special food, music, or customs.	14. I have a lot of pride in my ethnic group and its accomplishments.
	18. I feel a strong attachment toward my own ethnic group.
	20. I feel good about my cultural or ethnic background

A chi-square test, comparative fit index (CFI), and root mean square error of approximation (RMSEA) were used to assess the goodness of fit of each model. A chi-square test indicates the difference in fit between a proposed restricted model and a completely saturated model. A non-significant chi-square p value would suggest that the data adequately fit the model (Tabachnick & Fidell, 2007). The CFI compares the fit of the measured model relative to an independence model. A CFI value of greater than .90 is indicative of a good fit. The RMSEA estimates the lack of fit in a model compared to a perfect model. A value of .06 or less is indicative of a good-fitting model relative to the model degrees of freedom (Hu & Bentler, 1999).

The two-factor model was found to have a satisfactory fit for the entire sample. A multigroup confirmatory factor analysis (MGCFA) was conducted with the Caucasian, African American, and Latino participants across waves 1-7 . MGCFA evaluates whether a set of indicators assesses the same latent variables in different groups (Vandenberg & Lance, 2000). Specifically, MGCFA tested for evidence of multigroup invariance or equivalence. A constrained and unconstrained model were compared. The Caucasian group was selected as the reference group and comparisons were made between the Caucasian group to both the African American and Latino groups.

Aims 2 and 3. It is hypothesized (hypothesis 4) that race/ethnicity will be associated with change in ethnic identity development. Specifically, Latino and African-American early adolescents will experience greater increases of ethnic identity Exploration than Caucasian early adolescents. It is hypothesized (hypothesis 5) that gender will be associated with change in ethnic identity development trajectories.

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Specifically, female adolescents will display higher levels of ethnic identity Commitment than male adolescents. It is also hypothesized (hypothesis 6) that the ethnic composition of the school setting will be associated with ethnic identity development trajectories. Specifically, because Latino adolescents represent the majority ethnic group at school, we expect Latino adolescents to display less of an increase of ethnic identity Exploration relative to African-American adolescents.

To determine ethnic identity trajectories, individual growth curve modeling procedures were employed. Individual growth curve modeling includes components at two levels. The level 1 submodel describes how individuals change over time and the level 2 submodel describes how these changes vary across individuals (Singer & Willett, 2003). For hypotheses 4 and 6, at level 1, each participant's change in ethnic identity Exploration was represented by an individual growth trajectory with a unique set of parameters. At level 2, these individual growth parameters were the outcome variables, which represented the average trajectory of ethnic identity Exploration in the population. For hypothesis 5, at level 1, each participant's change in ethnic identity Commitment was represented by an individual growth trajectory with a unique set of parameters. At level 2, these individual growth parameters were the outcome variables, which represented the average trajectory of Commitment in the population.

To assess the average growth in ethnic identity over three years (from sixth to eighth grade) in the population, an unconstrained linear growth model was implemented with the predictor time (grade and semester) at level 1. In turn, this model partitioned

and quantified outcome variation across both participants and time (Singer & Willett, 2003).

To evaluate between-group racial/ethnic differences on Exploration (hypotheses 4 and 6), a constrained model investigated between-person differences on ethnic identity trajectories. The predictor time (grade and semester) was included at level 1. The variable ethnic identity Exploration was included at level 2. Within this model, Exploration was measured by a single scale with loadings fixed at 1.0, and error variances based on the reliability and variance of the measure. Stated differently, the latent variable's variability was partitioned into variance derived in the latent variable and variance associated with measurement error. In turn, the total score was based on the observed variable and the latent variable's unexplained variance, which was modeled by incorporating the reliability and variance (Hayduk, 1987). In turn, ethnic group differences in Exploration growth trajectories were evaluated.

To evaluate gender differences in Commitment (hypothesis 5), a separate constrained model investigated gender differences on ethnic identity trajectories. The predictor time (grade and semester) was included at level 1. The variable gender was included at level 2. Within this model, Commitment was measured by a single scale with loadings fixed at 1.0, and error variances for each manifest variable based on the reliability and variance of the measure (Hayduk, 1987). In turn, gender differences in ethnic identity Commitment growth trajectories were evaluated.

Aim 4. To evaluate the MEIM's convergent validity (hypothesis 7), correlations were conducted to examine the relation between ethnic identity Exploration and

Commitment, anxiety, and attitudes towards aggression at Time 1 (sixth grade) and Time

7 (ninth grade).

Results

Descriptive Statistics

Descriptive data for all study variables were examined. Table 4 presents the means, standard deviations, and Cronbach's alpha for all of the study variables. Alpha coefficients across Times 1-7 for Exploration and Commitment ranged from .66-.84 and from .80-.91, respectively. Table 5 presents the bivariate correlations among all study variables. Exploration and Commitment were significantly positively correlated across Times 1-7. Exploration and Commitment correlations ranged from .17-.74 across Times 1-7. Tables 4 and 5 were based on the final sample size of 5,695 participants.

Table 4. *Means, standard deviations, and alpha levels for all study variables.*

Measure	Mean	SD	α
E (T1)	10.76	3.43	.66
E (T2)	11.00	3.64	.72
E (T3)	11.01	3.91	.77
E (T4)	11.10	3.80	.77
E (T5)	10.97	4.20	.84
E (T6)	11.58	3.75	.77
E (T7)	11.29	3.77	.80
C (T1)	12.25	4.40	.80
C (T2)	12.59	4.81	.85
C (T3)	12.77	5.15	.87
C (T4)	12.85	5.14	.88
C (T5)	12.96	5.60	.91
C (T6)	13.22	5.03	.87
C (T7)	13.22	5.13	.89
RCMAS (T1)	10.52	6.50	.89
RCMAS (T7)	9.61	7.31	.91
WAI (T1)	97.72	19.27	.79
WAI (T7)	94.68	20.17	.80
ASV (T1)	19.48	6.44	.78
ASV (T7)	20.61	6.84	.86
ASNV (T1)	15.47	3.71	.73
ASNV (T7)	14.36	3.63	.77

Note. T1 = Time 1; T2 = Time 2; T3 = Time 3; T4 = Time 4; T5 = Time 5; T6 = Time 6; T7 = Time 7; E = Exploration; C = Commitment; WAI = Weinberger Adjustment Inventory; ASV = Attitudes Supporting Violence; ASNV = Attitudes Supporting Nonviolence

Table 5. *Bivariate correlations among all study variables.*

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1	E (T1)	-																			
2	E (T2)	.30	-																		
3	E (T3)	.31	.47	-																	
4	E (T4)	.27	.37	.38	-																
5	E (T5)	.25	.34	.41	.44	-															
6	E (T6)	.28	.29	.33	.32	.37	-														
7	E (T7)	.30	.26	.29	.31	.38	.31	-													
8	C (T1)	.48	.21	.21	.24	.21	.22	.28	-												
9	C (T2)	.18	.57	.34	.24	.30	.32	.31	.33	-											
10	C (T3)	.16	.26	.67	.28	.26	.36	.46	.58	.61	-										
11	C (T4)	.19	.22	.25	.66	.37	.33	.34	.43	.49	.55	-									
12	C (T5)	.12	.23	.29	.29	.74	.27	.39	.39	.45	.48	.51	-								
13	C (T6)	.14	.24	.24	.27	.45	.28	.41	.48	.44	.43	.39	.44	-							
14	C (T7)	.17	.21	.27	.29	.34	.38	.33	.31	.38	.41	.34	.39	.41	-						
15	R(T1)	.01	.05	.10	.08	.05	.08	.11	.05	.21	.33	.16	.11	.19	.20	-					
16	R(T7)	.05	.09	.03	.11	.06	.11	.09	.21	.22	.16	.09	.07	.22	.03	.01	-				
17	W (T1)	-.14	-.14	-.16	-.07	-.11	-.26	-.21	-.18	-.14	-.17	-.47	-.33	-.34	-.35	-.22	-.21	-			
18	W (T7)	-.07	-.13	-.18	-.12	-.20	-.10	-.17	-.17	-.17	-.23	.47	-.26	.40	.41	.33	.29	-.30	-		
19	A (T1)	.01	.01	.10	.02	.04	.16	.09	.17	.11	.19	.05	.06	-.49	-.30	-.33	-.21	-.22	-.21	-	
20	A (T7)	-.07	.04	.06	-.03	.01	.05	.09	.16	.11	.17	.07	.17	-.31	-.51	.42	.33	.36	.31	.33	-
21	AN (T1)	-.01	-.13	-.13	-.08	-.15	-.23	.14	-.17	-.10	.18	.02	-.02	.40	.19	.42	-.31	.31	.33	.29	.20
22	AN (T7)	-.05	-.12	-.12	-.11	-.24	-.13	.17	-.18	-.21	-.20	.03	.04	.29	.41	.25	-.31	.31	.27	.28	.25

Note. T1 = Time 1; T2 = Time 2; T3 = Time 3; T4 = Time 4; T5 = Time 5; T6 = Time 6; T7 = Time 7; E = Exploration; C = Commitment; R = Revised

Children's Manifest Anxiety Scale; W = Weinberger Adjustment Inventory; A = Attitudes Supporting Violence; AN = Attitudes Supporting Nonviolence;

Descriptive Statistics for Entire Sample (Attrition)

On average, students participated in 2.45 time points of data collection. Several analyses were conducted to determine whether participant attrition (e.g., non-response at time points) resulted in a final sample that was different than the original sample. Attrition likely occurred due to absentees, school transfers, and/or non-participation on the questionnaires (Farrell, Valois, Meyer, & Tidwell, 2003).

A dummy variable was used to classify participants into three groups: Group 1 completed measures at two time points ($n = 1,886$ or 33.1%), Group 2 completed measures at three time points ($n = 2,205$ or 38.7%), and Group 3 completed measures at four or five time points ($n = 1,604$ or 28.2 %). To determine whether there was an overall response bias as a function of group membership, seven separate multivariate analyses of variance (MANOVA) examined whether the groups differed on the study variables at Times 1-7.

A MANOVA identified two significant differences in means by group at Time 1. Specifically, compared to those with more complete data (e.g., Groups 2 and 3), participants with fewer waves of data (e.g., Group 1) reported higher levels of ethnic identity Commitment $F (2, 1324) = 14.63$ $p < .01$ and attitudes supporting violence $F (2, 1324) = 15.92$ $p < .01$. At Time 2, participants with fewer waves of data (e.g., Group 1) reported higher levels of ethnic identity Commitment $F (2, 1341) = 7.40$ $p < .01$. At Time 3, participants with fewer waves of data (e.g., Group 1) reported higher levels of ethnic identity Commitment $F (2,1178) = 9.73$ $p < .01$ and ethnic identity Exploration $F (2, 1178) = 4.79$ $p < .01$. At Time 4, no significant differences between groups were

obtained. At Times 5 and 6, no significant differences between groups were obtained. At Time 7, participants with fewer waves of data (e.g., Group 1) reported higher levels of attitudes supporting violence F (2, 998) = 5.44 $p < .01$ and lower levels of attitudes supporting nonviolence F (2, 998) = 3.28 $p < .05$.

Because the effect sizes were small between groups across time points, these differences did not pose a serious risk to data analyses, especially in light of the use of FIML estimation. Table 6 presents the means, standard deviations, and effect sizes by group for study variables at Times 1-7.

Table 6. *Means, standard deviations, and effect sizes by group for all study variables.*

Variable	Group 1 M	Group 1 SD	Group 2 M	Group 2 SD	Group 3 M	Group 3 SD	F	h_p^2
E (T1)	10.96	3.64	10.49	3.46	10.39	3.36	2.95	.01
E (T2)	11.13	3.97	10.95	3.77	10.69	3.52	1.29	.00
E (T3)	11.95	3.69	11.78	3.85	10.90	3.71	4.79	.01
E (T4)	12.09	3.95	11.59	3.64	11.34	3.75	2.02	.01
E (T5)	11.22	3.68	11.47	3.72	11.13	3.96	.49	.00
E (T6)	11.11	3.70	11.49	3.70	11.10	3.88	.78	.01
E (T7)	11.03	3.68	10.98	3.66	11.01	3.78	.89	.00
C (T1)	13.21	4.66	11.96	4.33	11.85	4.34	11.49	.02
C (T2)	13.95	5.44	12.93	4.91	12.58	4.87	7.40	.01
C (T3)	14.07	5.00	13.57	5.44	12.21	4.52	9.73	.02
C (T4)	13.74	5.34	13.41	4.99	12.80	5.01	2.24	.01
C (T5)	13.65	5.21	13.44	5.03	12.52	5.13	2.64	.01
C (T6)	13.61	5.09	13.78	5.01	13.01	4.98	2.78	.01
C (T7)	13.75	5.01	13.89	5.09	13.91	5.02	2.33	.00
RCMAS (T1)	10.67	6.63	10.31	6.37	10.61	6.47	.39	.00
RCMAS (T7)	9.65	7.01	9.63	7.26	9.41	7.39	.07	.00
W (T1)	94.57	18.93	96.87	20.69	101.59	17.97	12.51	.02
W (T7)	89.91	21.70	93.74	19.99	99.33	19.11	9.62	.03
ASV (T7)	20.66	6.46	19.12	6.27	18.62	6.35	10.81	.02
ASV (T7)	22.00	6.96	20.40	6.93	19.52	6.64	5.44	.02
ASNV (T1)	14.90	4.01	15.62	3.69	15.92	3.42	7.48	.01
ASNV (T7)	13.81	3.82	14.31	3.61	14.82	3.49	3.28	.01

Note. T1 = Time 1; T2 = Time 2; T3 = Time 3; T4 = Time 4; T5 = Time 5; T6 = Time 6; T7 = Time 7; E = Exploration; C = Commitment; W = Weinberger Adjustment Inventory; ASV = Attitudes Supporting Violence; ASNV = Attitudes Supporting Nonviolence; RCMAS = Revised Children's Manifest Anxiety Scale;

Descriptive Statistics (by Gender)

Table 7 presents the means, standard deviations, and effect sizes by gender at Times 1-7. A MANOVA identified four significant differences in means by gender at Time 1. Specifically, boys reported higher levels of ethnic identity Commitment $F(1, 1324) = 7.89$ $p < .01$ and attitudes supporting violence $F(1, 1324) = 98.07$ $p < .01$ and girls reported higher levels of anxiety symptoms $F(1, 1324) = 31.53$ $p < .01$ and attitudes supporting nonviolence $F(1, 1324) = 42.77$ $p < .01$. At Time 2, boys reported higher levels of ethnic identity Commitment $F(1, 1341) = 12.01$ $p < .01$. At Times 3 and 4, boys reported higher levels of ethnic identity Commitment $F(1, 1178) = 11.51$ $p < .01$; $F(1, 1178) = 5.08$ $p < .05$. At Times 5 and 6, no significant gender differences were obtained. At Time 7, boys reported higher levels of ethnic identity Commitment $F(1, 998) = 11.73$ $p < .01$ and attitudes supporting violence $F(1, 998) = 87.17$ $p < .01$. In contrast, girls reported higher levels of attitudes supporting nonviolence $F(1, 998) = 78.75$ $p < .01$ and anxiety symptoms $F(1, 998) = 19.54$ $p < .01$.

Table 7. *Means,standard deviations, and effect sizes by gender for all study variables.*

Variable	Boys M	Boys SD	Girls M	Girls SD	F	d
E (T1)	10.71	3.56	10.54	3.44	.75	.05
E (T2)	11.10	3.84	10.77	3.70	2.39	.11
E (T3)	11.53	3.79	11.21	3.77	1.36	.08
E (T4)	11.59	3.60	11.55	3.86	.03	.01
E (T5)	11.44	3.70	11.17	3.87	.74	.07
E (T6)	11.57	3.79	11.44	3.90	.88	.12
E (T7)	11.62	3.88	11.56	3.81	.91	.09
C (T1)	12.73	4.65	12.00	4.30	7.89	.16
C (T2)	13.69	5.29	12.68	4.89	12.00	.20
C (T3)	13.72	5.21	12.52	4.82	11.51	.24
C (T4)	13.64	5.06	12.85	5.05	5.08	.16
C (T5)	13.97	5.11	12.52	5.05	11.73	.29
C (T6)	13.88	5.01	12.65	4.98	11.88	.28
C (T7)	13.94	5.21	12.79	4.88	12.09	.24
RCMAS (T1)	9.43	6.23	11.49	6.55	31.53	.32
RCMAS (T7)	8.06	6.75	10.70	7.40	19.54	.37
W (T1)	91.84	18.09	102.26	19.15	90.35	.20
W (T7)	92.10	18.10	101.12	16.11	91.49	.21
ASV (T1)	21.34	6.47	17.83	5.88	98.07	.57
ASV (T7)	23.30	6.29	18.27	6.52	87.17	.37
ASNV (T1)	14.74	4.16	16.12	3.20	42.77	.79
ASNV (T7)	12.94	3.57	15.48	3.28	78.75	.74

Note. T1 = Time 1; T2 = Time 2; T3 = Time 3; T4 = Time 4; T5 = Time 5; T6 = Time 6;
T7 = Time 7;E = Exploration; C = Commitment; W = Weinberger Adjustment Inventory;
ASV = Attitudes Supporting Violence; ASNV = Attitudes Supporting Nonviolence;
RCMAS = Revised Children's Manifest Anxiety Scale;

Multivariate Normality and Outliers

Examination of the univariate distributions of ethnic identity Commitment and

Exploration values revealed normality (e.g., no skewness or kurtosis values greater than

or less than 1) across time points. In addition, scores on the other study variables that

exceeded a *z*-score of 3.29 were recoded with the raw score equivalent of a *z*-score of

3.29 to reduce the impact of potential outliers (Tabachnick, & Fidell, 2007).

Aim 1: Two-factor CFA at Time 1

A confirmatory factor analysis (CFA) with FIML was conducted with the entire

sample to determine whether Roberts et al.'s (1999) two-factor model of the MEIM was a

satisfactory fit at Time 1 (fall of 6th grade). A CFA analysis via Mplus tested this model

(Muthén & Muthén, 2006). Analyses of Roberts et al's two-factor model indicated that

the data fit the model adequately at Time 1, χ^2 (53, N = 4,210) = 909.94, p < .01; CFI =

.92; RMSEA = .06. Because the chi-square test is extremely sensitive to large sample

size, a significant chi-square *p* value is likely a byproduct of the large sample size used in

this analysis and not indicative of poor fit. In other words, the power of the chi square

test to detect very minor deviations from a perfect fit is high. Consequently, the chi-

square test alone is not an adequate measure of model fit when a large number of

participants are used. RMSEA and CFI, however, are less sensitive to large sample size

and thus provide a less biased measure of model fit (Marsh, Balla, & McDonald, 1988).

All factor loadings for Exploration were significant and ranged from .49-.54. All

factor loadings for Commitment were significant and ranged from .49-.66. The two

factors were moderately correlated with each other, *r* =. 71, p < .01. The Cronbach's

alpha for Exploration and Commitment were .66 and .80, respectively. Table 8 presents

fit indices and item loadings for Roberts et al's two-factor model at Time 1.

Table 8. *Fit indices, items, and factor loadings for Roberts et al's two factor model at*

Time 1.

χ^2	df	CFI	RMSEA	
909.94	53	.92	.06	
Item			E	C
1. I have spent time trying to find out more about my ethnic group, such as its history, traditions, and customs.			**.54**	-
2. I am active in organizations and social groups that include mostly members of my own racial group.			**.50**	-
5. I think a lot about how my life will be affected by my ethnic membership.			**.49**	-
13. To learn more about my racial background, I have often talked to other people about my ethnic group.			**.58**	-
16. I participate in cultural practices of my own group, such as special food, music, or customs.			**.51**	-
3. I have a clear sense of my ethnic background and what it means for me.			-	**.49**
6. I am happy that I am a member of the group that I belong to.			-	**.58**
11. I have a strong sense of belonging to my ethnic group.			-	**.55**
12. I understand pretty well what my ethnic group membership means to me in terms of how I relate to my own group and other groups.			-	**.63**
14. I have a lot of pride in my ethnic group and its accomplishments.			-	**.66**
18. I feel a strong attachment toward my own ethnic group.			-	**.64**
20. I feel good about my cultural or ethnic background.			-	**.66**

Note: CFI=Comparative Fit Index, RMSEA=Root mean square error of approximation

One and two-factor CFA at Times 1-7

A confirmatory factor analysis (CFA) with FIML was conducted with the entire

sample to determine whether a one factor model of the MEIM was a satisfactory fit at

Times 1-7. A CFA was also conducted with the entire sample to determine whether

Roberts et al's (1999) two-factor model was a satisfactory fit at Times 1-7. Analyses of both models indicated that there was a difference in model fit at Times 1-5. Specifically, Roberts et al.'s two-factor model was a better fit to the data at Times 1-5 and at Time 7. However, there was no significant difference in model fit at Time 6 (per the CFI and RMSEA indices). Moreover, Roberts et al's and the one-factor model did not fit the model adequately at Time 6 (CFI = .85 and RMSEA = .12 for both models). Table 9 presents fit indices for the one and two-factor models at Times 1-7.

Table 9. *Fit indices for the one and two-factor models at Times 1-7.*

Model	DF	χ^2	CFI	RMSEA	p
1 FM (T1)	54	1445.89	.87	.08	<.01
2 FM (T1)	53	1331.55	.92	.07	<.01
Difference in Fit (T1)	1	114.34	.05	.01	<.01
1FM (T2)	54	1936.40	.88	.09	<.01
2 FM (T2)	53	1331.55	.92	.07	<.01
Difference in Fit (T2)	1	604.85	.04	.02	<.01
1 FM (T3)	54	1427.33	.89	.10	<.01
2 FM (T3)	53	848.25	.94	.07	<.01
Difference in Fit (T3)	1	579.09	.05	.03	<.01
1 FM (T4)	54	1520.43	.87	.11	<.01
2 FM (T4)	53	1015.88	.92	.09	<.01
Difference in Fit (T4)	1	504.55	.05	.02	<.01
1 FM (T5)	54	899.49	.88	.12	<.01
2 FM (T5)	53	615.12	.92	.10	<.01
Difference in Fit (T5)	1	284.37	.04	.02	<.01
1 FM (T6)	54	726.10	.85	.12	<.01
2 FM (T6)	53	521.29	.85	.12	<.01
Difference in Fit (T6)	1	284.37	.00	.00	>.05
1 FM (T7)	54	486.63	.88	.11	<.01
2 FM (T7)	53	345.85	.92	.09	<.01
Difference in Fit (T7)	1	140.78	.04	.02	<.01

Note: 1FM=One Factor Model; 2FM=Two Factor Model; DF=Degrees of Freedom; CFI=Comparative Fit Index, RMSEA=Root mean square error of approximation

Multigroup Confirmatory Factor Analysis (MGCFA): Factorial Invariance at Times 1-7

Because Roberts et al.'s (1999) two-factor model was found to have a satisfactory

fit for the entire sample at Times 1-5 and at Time 7, a MGCFA with FIML was

conducted with the Caucasian, African American, and Latino participants to determine

evidence of multigroup invariance or equivalence. Specifically, a MGCFA will

determine if the same pattern of fixed and free factor loadings (e.g., same two factor

model) is applicable between groups at Times 1-7.

In the first model (unconstrained), no constraints were imposed on free

parameters (e.g., intercepts, factor loadings, and residual variances across groups).

In the second model (constrained), factor loadings were constrained to be equal across

groups. Chi square difference ($\Delta \chi^2$) and change in CFI (Δ CFI) indices were used to

determine which model produced a better fit. Change in CFI values of .01 or less suggest

factorial invariance. Because a large sample size typically results in a significant chi-

square change value, the change in CFI index is considered a more appropriate criterion.

(Cheung & Rensvold, 2002).

Analyses of both models indicated that the constrained model was more

parsimonious and that the unconstrained model did not improve the fit at Times 1-7.

Table 10 presents fit indices for the unconstrained and constrained models for Times 1-7.

Table 10. *Fit indices for the unconstrained and constrained models at Times 1-7.*

Model	DF	χ^2	CFI	RMSEA	p
UM (T1)	179	998.82	.92	.06	<.01
CM (T1)	197	1026.93	.92	.06	<.01
Difference in Fit (T1)	18	28.11	.00	.00	>.05
UM (T2)	179	1467.30	.91	.07	<.01
CM (T2)	197	1506.17	.91	.07	<.01
Difference in Fit (T2)	18	38.87	.00	.00	<.01
UM (T3)	179	952.42	.93	.07	<.01
CM (T3)	197	973.18	.93	.07	<.01
Difference in Fit (T3)	18	20.76	.00	.00	>.05
UM (T4)	179	1177.62	.91	.08	<.01
CM (T4)	197	1189.39	.91	.08	<.01
Difference in Fit (T4)	18	11.77	.00	.00	>.05
UM (T5)	179	865.06	.90	.10	<.01
CM (T5)	197	875.82	.90	.10	<.01
Difference in Fit (T5)	18	10.76	.00	.00	>.05
UM (T6)	179	792.70	.86	.11	<.01
CM (T6)	197	816.62	.86	.10	<.01
Difference in Fit (T6)	18	23.92	.00	.01	>.05
UM (T7)	179	538.26	.90	.09	<.01
CM (T7)	197	557.43	.90	.09	<.01
Difference in Fit (T7)	18	19.17	.00	.00	>.05

Note: UM=Unconstrained Model; CM=Constrained Model; DF=Degrees of Freedom; CFI=Comparative Fit Index, RMSEA=Root mean square error of approximation

Aim 2: Convergence Problems and Model Misfit

It should be noted that there were convergence problems for the unconstrained and constrained latent growth curve models for Exploration and Commitment constructs. Consequently, we were unable to run these models as outlined by Hayduk (1987) and as initially proposed on p. 49 of this dissertation. Because the literature suggests that it is common practice to model the growth of latent constructs (e.g., Exploration and Commitment) by fitting a univariate latent growth model to composites of the scale's items (Buist, Dekovi Cacute, Meeus, & van Aken, 2002; Johnson, 2002; Mason, 2001; Pahl & Way, 2006; Willett & Keiley, 2000), this study used univariate latent growth models of composites of multiple items (e.g., item means) to analyze the growth of Exploration and Commitment thereby testing between-group racial/ethnic differences on Exploration (hypothesis 4) and gender differences in Commitment (hypothesis 5).

Average Growth in Ethnic Identity Exploration

To assess the average growth in ethnic identity Exploration over three years (from sixth to ninth grade) in this population, a series of unconstrained linear growth curve models were implemented with the predictor time (grade and semester). In addition, the unconstrained growth curve models were conducted to assess average levels of Exploration at 6th grade (initial status). Growth curve analyses were conducted via Mplus by using FIML (Muthén & Muthén, 2006). Because the literature suggests that a non-linear trajectory in Exploration may occur during early adolescence (Elizabeth-French et al., 2006; Pahl & Way, 2006), both linear and quadratic growth models were examined.

The findings from the unconstrained growth model indicated the average level

(initial status) of ethnic identity Exploration in 6th grade to be 2.25 for Caucasian youth,

2.05 for African American youth, and 2.06 for Latino youth. A linear growth curve

model across the seven waves fit the data well, producing a CFI of .93 and a RMSEA of

.03. For the Caucasian group, the mean linear coefficient was significant and positive.

Across ethnic/racial groups, the variances of the intercept and linear coefficient were

significant indicating variability in their values across individuals within each

ethnic/racial group (i.e., heterogeneity in acceleration in Exploration between

individuals).

Table 11. *Fit indices and parameter estimates for Exploration linear growth models.*

Fixed Effect	Unconstrained Model Parameter Estimate (SE)	Constrained Model Parameter Estimate (SE)
Initial status intercept (Caucasian)	2.25* (.01)	2.27* (.01)
Initial status intercept (African American)	2.05* (.03)	2.03* (.01)
Initial status intercept (Latino)	2.06* (.02)	2.04* (.01)
Linear change (Caucasian)	.03* (.01)	.04* (.00)
Linear change (African American)	.01 (.01)	.02* (.00)
Linear change (Latino)	.01 (.01)	.02* (.00)
Variance component for intercept (Caucasian)	.21* (.02)	.21* (.01)
Variance component for intercept (African American)	.19* (.03)	.19* (.03)
Variance component for intercept (Latino)	.14* (.02)	.14* (.02)
Variance component for linear change (Caucasian)	.01* (.00)	.01 *(.00)
Variance component for linear change (African American)	.01* (.00)	.01* (.00)
Variance component for linear change (Latino)	.01* (.00)	.01* (.00)
Fit Indices	-	-
χ^2	157.84	372.44
CFI	.93	.79
RMSEA	.03	.05

Note. *$p < .05$ CFI=Comparative Fit Index, RMSEA=Root mean square error of approximation

Table 12. *Fit indices and parameter estimates for Exploration quadratic growth models.*

Fixed Effect	Unconstrained Model Parameter Estimate (SE)	Constrained Model Parameter Estimate (SE)
Initial status intercept (Caucasian)	2.25* (.01)	NA
Initial status intercept (African American)	2.03* (.03)	NA
Initial status intercept (Latino)	2.06* (.02)	NA
Quadratic change (Caucasian)	.00 (.00)	NA
Quadratic change (African American)	.01 (.01)	NA
Quadratic change (Latino)	.00 (.00)	NA
Variance component for intercept (Caucasian)	.20* (.02)	NA
Variance component for intercept (African American)	.19* (.05)	NA
Variance component for intercept (Latino)	.05 (.03)	NA
Variance component for quadratic change (Caucasian)	.00 (.00)	NA
Variance component for quadratic change (African American)	.00 (.00)	NA
Variance component for quadratic change (Latino)	.00 (.00)	NA
Fit Indices		
CFI	.98	NA
RMSEA	.02	NA

Note. *p < .05 CFI=Comparative Fit Index, RMSEA=Root mean square error of approximation; NA = not applicable
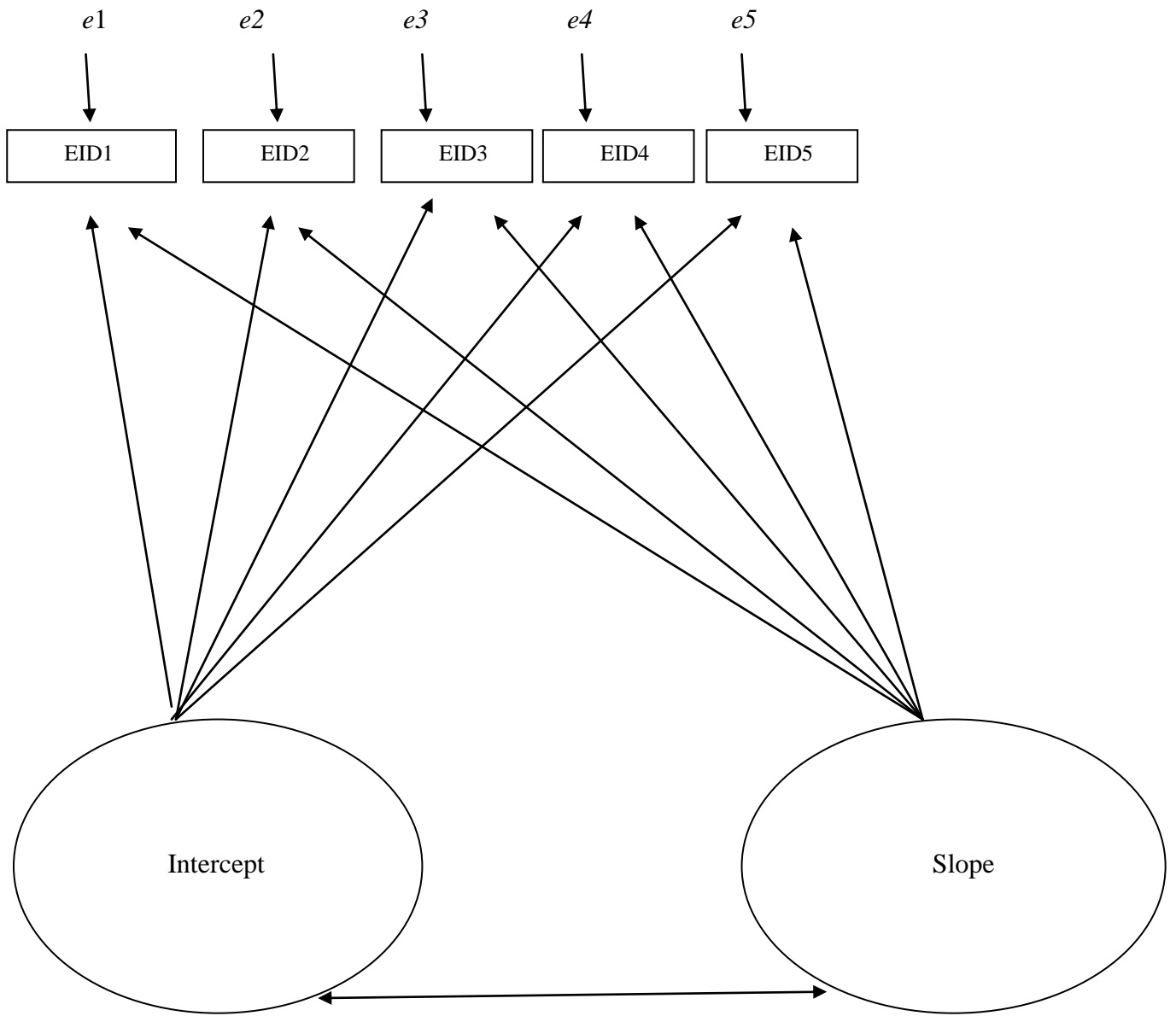
Figure 1. Linear growth curve model representing changes in reported Exploration as a

function of an intercept and linear factor.

Note. EID1 = Composite of Exploration at Time 1; EID2 = Composite of Exploration at
Time2; EID3 = Composite of Exploration at Time 3; EID4 = Composite of Exploration at
Time 4; EID5 = Composite of Exploration at Time 5; EID6 = Composite of Exploration
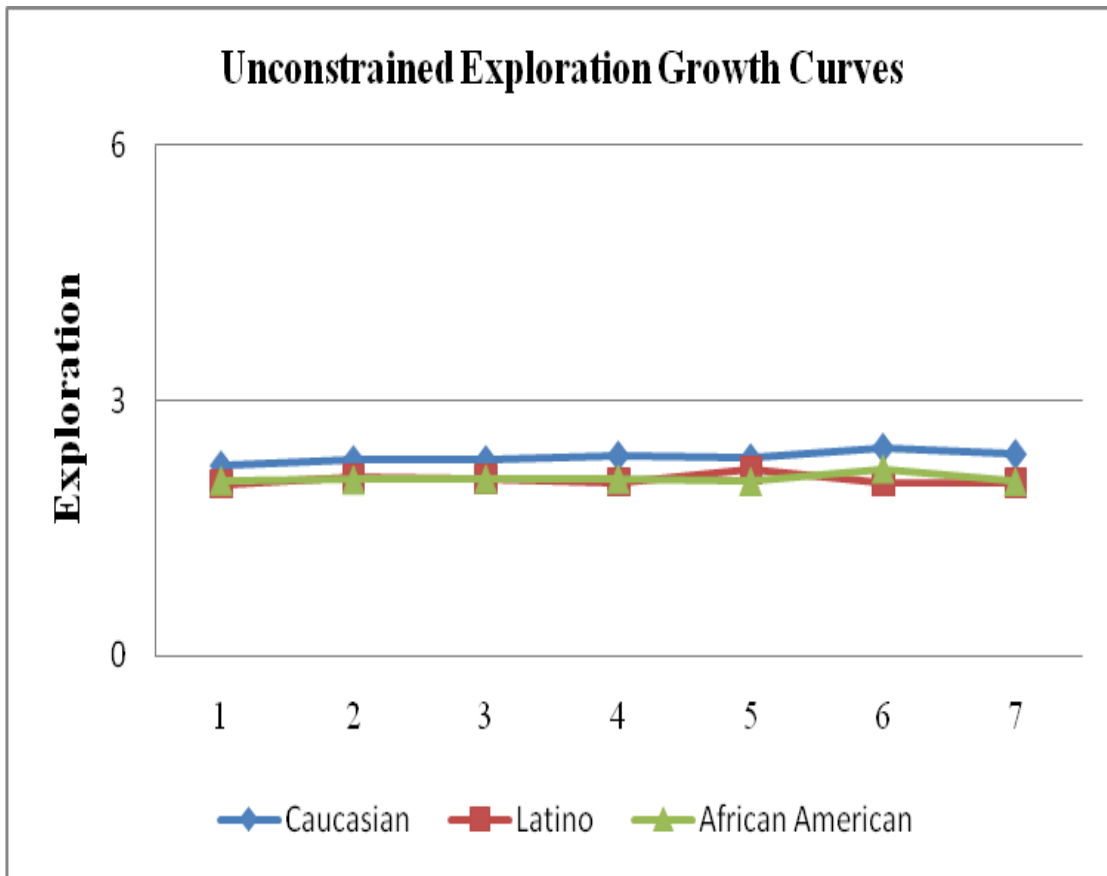at Time 6; EID = Composite of Exploration at Time 7;

Figure 2. Unconstrained growth curves of Exploration for Caucasian, African American, and Latino adolescents.

A quadratic growth curve model across the seven waves also fit the data well, producing a CFI of .98 and a RMSEA of .02. Across ethnic/racial groups, the mean quadratic coefficient was not significant. For the Caucasian and African American groups, the variances of the intercept were significant. However, a statistically significant linear term (e.g., variance component for intercept and linear change, respectively) provided a better fit than the quadratic term for the Caucasian, African American, and Latino youth, and suggested a linear increase in Exploration over time. Thus, the linear term was retained to represent the average growth of Exploration from 6th to 9th grade.

Between-Group Differences in Ethnic Identity Exploration

A series of constrained models were conducted to assess between-person (i.e., racial/ethnic group) differences on ethnic identity Exploration. Specifically, the intercept and linear terms were constrained in order to compare differences in the starting values (initial status) and linear terms across groups, respectively. Chi square difference ($\Delta \chi^2$) and change in CFI (Δ CFI) indices were used to determine which model (unconstrained versus constrained) produced a better fit. Because a large sample size typically results in a significant chi-square change value, the change in CFI index is considered a more appropriate criterion. Change in CFI values of .01 or greater are considered significant (Cheung & Rensvold, 2002).

The results indicated that the additional constraints further resulted in a significant change in CFI value (Δ CFI = .14) and significant chi-square difference value, χ^2 (1, N = 5,142) = 4.6, $p < .001$, suggesting that the constrained model was more parsimonious and

that the unconstrained model did not improve the fit. The ethnic/racial groups did not have a significantly different mean intercept (χ^2 (2, N = 5,142) = 5.9, $p < .05$; Δ CFI = 0; but did have significantly different slope values (χ^2 (2, N = 5,142) = 102.59, $p < .05$; Δ CFI = .06 (see Figure 5). Specifically, Caucasian participants demonstrated a greater increase in Exploration relative to Latino and African American participants. For Caucasian participants, Exploration demonstrated a gradual increase over time. For Latino and African American participants, Exploration demonstrated a gradual increase at Times 5 and 6, respectively, at which point it leveled off.
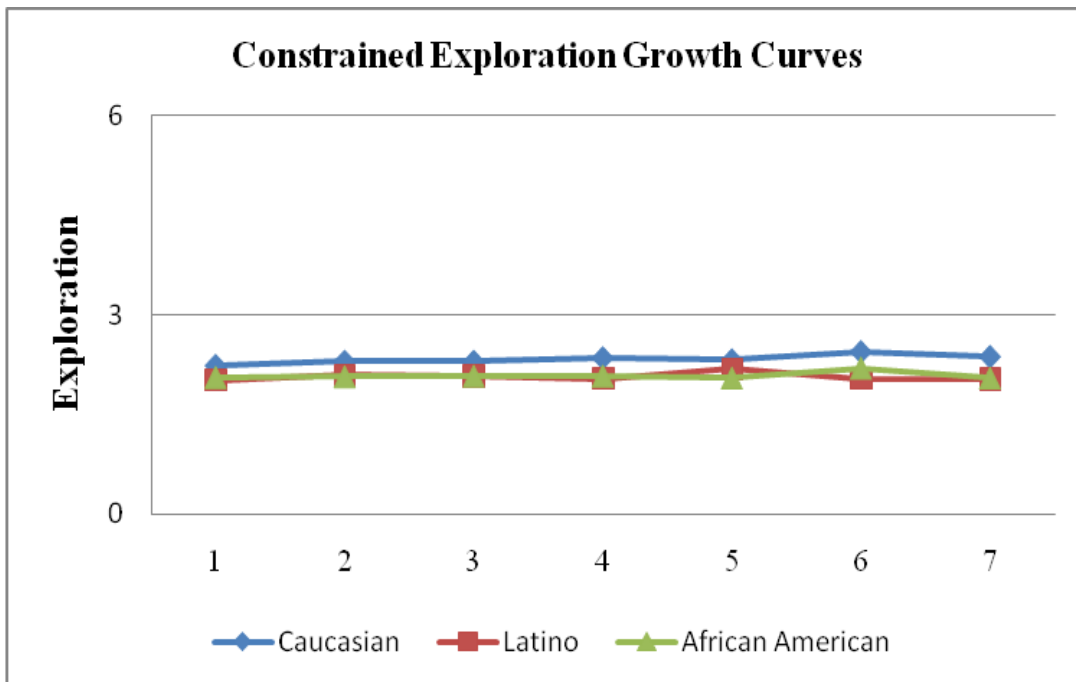

Figure 3. Constrained growth curves of Exploration for Caucasian, African American, and Latino adolescents.

Aim 3: Average Growth in Ethnic Identity Commitment

      To assess the average growth in ethnic identity Commitment over three years (from sixth to ninth grade) in this population, a series of unconstrained linear latent growth curve models were implemented with the predictor time (grade and semester). In addition, the unconstrained latent growth curve models were conducted to assess average levels of Commitment at 6th grade (initial status). Because the literature suggests that a non-linear trajectory in Commitment may occur during early adolescence (Elizabeth-French et al., 2006; Pahl & Way, 2006), both linear and quadratic growth models were examined.

      The findings from the unconstrained growth model indicated the average level (initial status) of ethnic identity Commitment in 6th grade to be 1.81 for boys and 1.74 for girls. A linear growth curve model across the seven waves fit the data well, producing a CFI of .95 and a RMSEA of .03. For both boys and girls, the mean linear coefficient was significant and positive. For both boys and girls, the variances of the intercept and linear coefficient were significant indicating variability in their values across individuals within each gender.

Table 13. *Fit indices and parameter estimates for Commitment linear growth models.*

Fixed Effect	Unconstrained Model Parameter Estimate (SE)	Constrained Model Parameter Estimate (SE)
Initial status intercept (Boys)	1.81* (.01)	1.83* (.01)
Initial status intercept (Girls)	1.74* (.01)	1.73* (.01)
Linear change (Boys)	.04* (.01)	.05* (.01)
Linear change (Girls)	.02* (.00)	.01* (.00)
Variance component for intercept (Boys)	.18* (.01)	.18* (.01)
Variance component for intercept (Girls)	.17* (.01)	.17* (.01)
Variance component for linear change (Boys)	.01* (.00)	.01* (.00)
Variance component for linear change (Girls)	.01* (.00)	.01* (.00)
Fit Indices	-	-
χ^2	134.17	145.11
CFI	.95	.95
RMSEA	.03	.03

Note. *p* < .05

Table 14. *Fit indices and parameter estimates for Commitment quadratic growth models.*

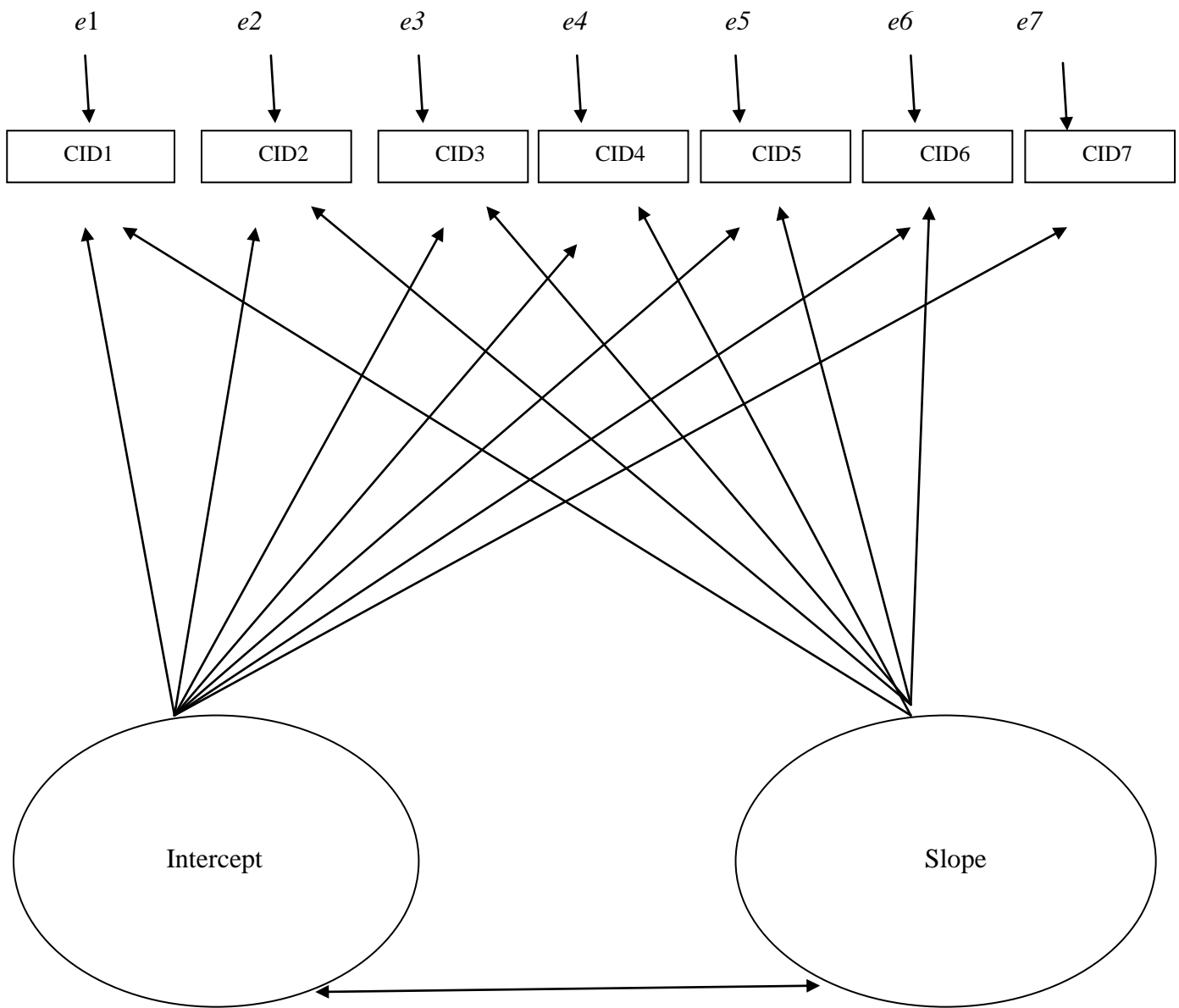| Fixed Effect	Unconstrained Model Parameter Estimate (SE)	Constrained Model Parameter Estimate (SE)
Initial status intercept (Boys)	1.79* (.01)	1.79* (.01)
Initial status intercept (Girls)	1.73* (.01)	1.73* (.01)
Quadratic change (Boys)	-.01* (.00)	-.01* (.00)
Quadratic change (Girls)	.00 (.00)	.00 (.00)
Variance component for intercept (Boys)	.15* (.02)	.15* (.02)
Variance component for intercept (Girls)	.16* (.00)	.16* (.02)
Variance component for quadratic change (Boys)	.00 (.00)	.00 (.00)
Variance component for quadratic change (Girls)	.00* (.00)	.00 (.00)*
Fit Indices	-	-
χ^2	55.36	63.32
CFI	.99	.98
RMSEA	.02	.02

Note. *p < .05

Figure 4. Linear growth curve model representing changes in Commitment as a function

of an intercept and linear factor.

Note. CID1 = Composite of Commitment at Time 1; CID2 = Composite of Commitment at Time2; CID3 = Composite of Commitment at Time 3; CID4 = Composite of Commitment at Time 4; CID5 = Composite of Commitment at Time 5; CID6 = Composite of Commitment at Time 6; CID7 = Composite of Commitment at Time 7;
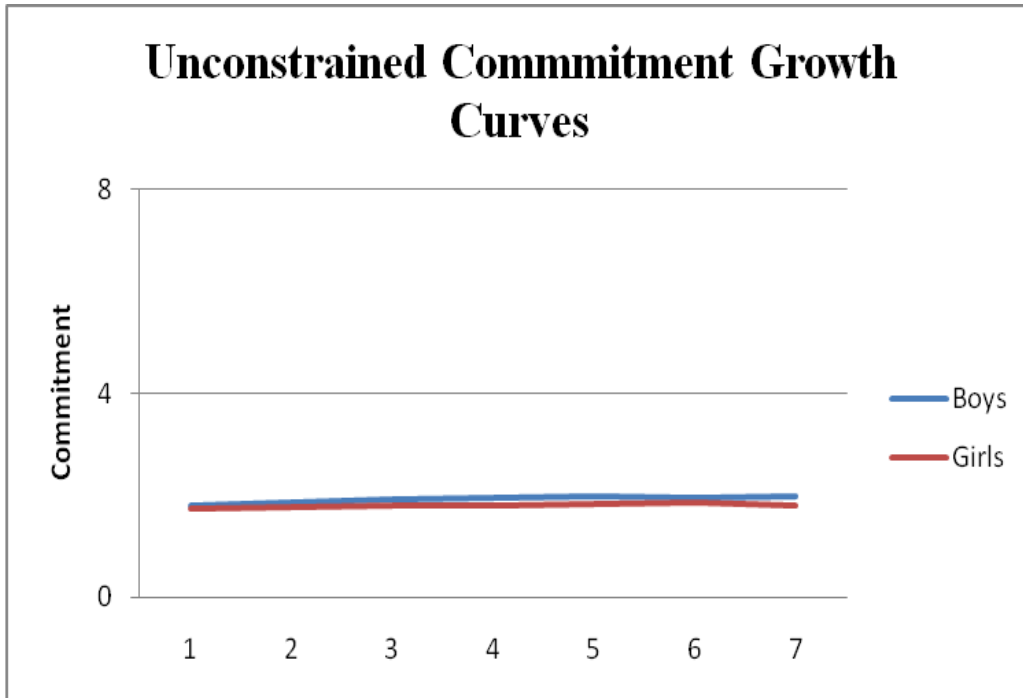
Figure 5. Unconstrained growth curves of Commitment for Caucasian, African American, and Latino adolescents.

A quadratic growth curve model across the seven waves also fit the data well, producing a CFI of .98 and a RMSEA of .02. For boys, the mean quadratic coefficient was significant. For boys and girls, the variances of the intercept were significant. Because there was a statistically significant quadratic term (e.g., variance component for intercept and quadratic change, respectively) and a statistically significant linear term, both were evaluated in constrained analyses for growth of Commitment from 6th to 9th grade.

Gender Differences: Ethnic Identity Commitment

A series of constrained models were conducted to assess between-person (i.e., racial/ethnic group) differences on ethnic identity Commitment. Specifically, the

intercept and linear/quadratic terms were constrained in order to compare differences in the starting values (initial status) and linear/quadratic terms across groups, respectively. Chi square difference ($\Delta \chi^2$) and change in CFI (Δ CFI) indices were used to determine which model (unconstrained versus constrained) produced a better fit. Because a large sample size typically results in a significant chi-square change value, the change in CFI index is considered a more appropriate criterion. Change in CFI values of .01 or greater are considered significant (Cheung & Rensvold, 2002).

Gender Differences: Ethnic Identity Commitment Linear Model

The results indicated that the additional constraints further resulted in a non-significant change in CFI value (Δ CFI = .0) and significant chi-square difference value, χ^2 (1, N = 5,548) = 10.94, $p < .001$. For boys and girls, the mean linear coefficient was significant and positive. The variances of the intercept and linear coefficients were significant, indicating variability in their values across individuals within each gender. Boys and girls did not have significantly different mean intercept (χ^2 (1, N = 5, 548) = 10.94, $p < .001$; Δ CFI = .01 and slope values (χ^2 (1, N = 5, 548) = 12.97, $p < .001$; Δ CFI = .01. Figure 4 presents constrained linear growth curves of Commitment for boys and girls.
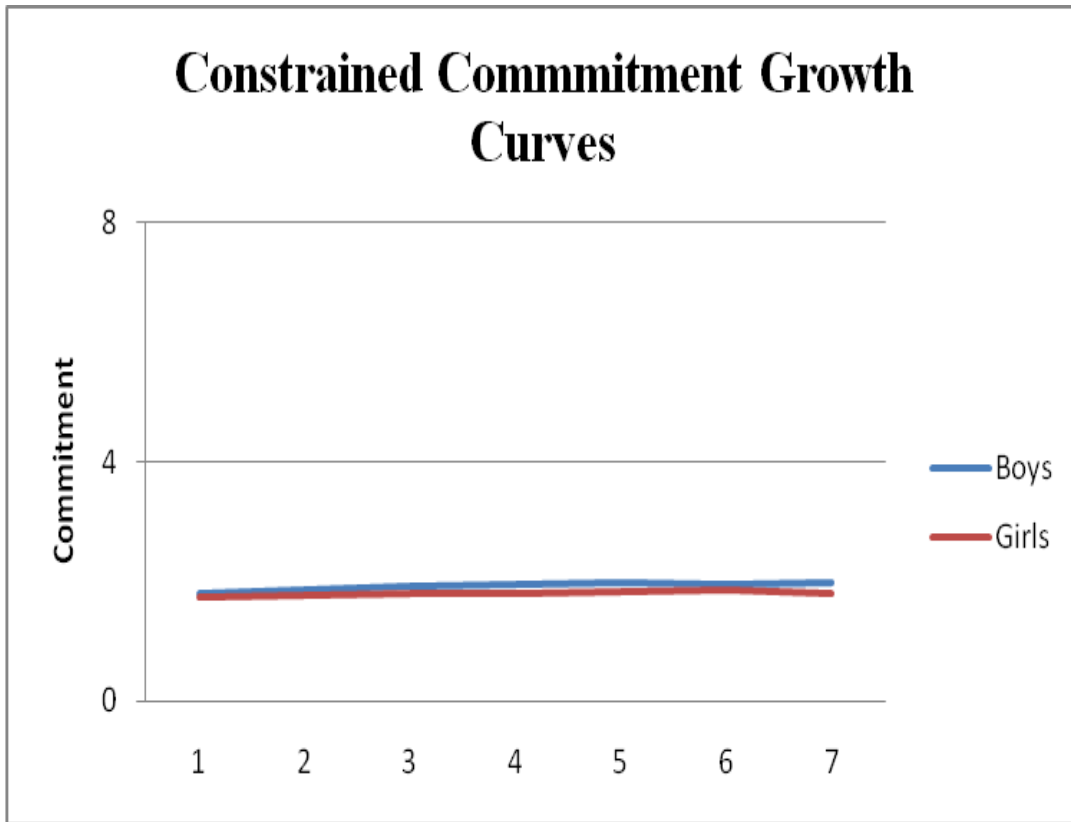
Figure 6. Constrained linear growth curves of Commitment for boys and girls.

Gender Differences: Ethnic Identity Commitment Quadratic Model

The results indicated that the additional constraints further resulted in a non-significant change in CFI value and significant chi-square difference value, χ^2 (1, N = 5,548) = 7.96, $p < .001$, suggesting that the constrained model was more parsimonious and that the unconstrained model did not improve fit. For boys, the mean quadratic coefficient was negative and positive. The variance of the intercept was significant for girls, indicating variability in their values across girls. Boys and girls did not have significantly different mean intercept (χ^2 (1, N = 5, 548) = 1.9, $p > .05$; Δ CFI = .00 and slope values (χ^2 (1, N = 5, 548) = 7.96, $p < .001$; Δ CFI = .00. Figure 9 presents constrained quadratic growth curves of Commitment for boys and girls.
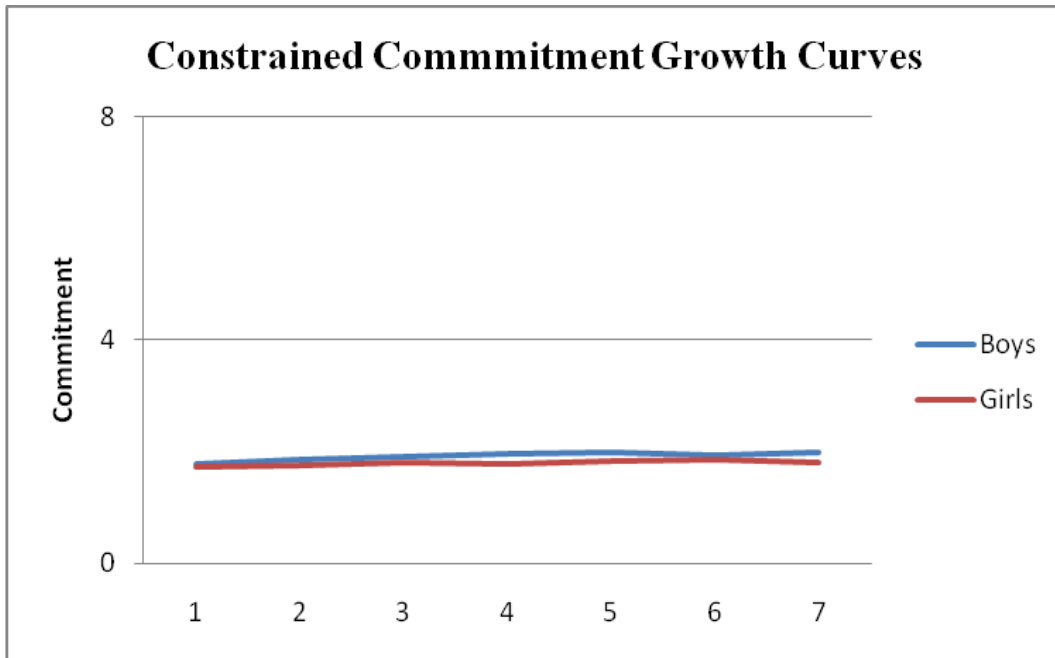
Figure 7. Constrained quadratic growth curves of Commitment for boys and girls.

Aim 4

Correlations were conducted to examine the relation between ethnic identity Exploration and Commitment, anxiety, attitudes towards violence, and attitudes towards nonviolence at Time 1 (sixth grade) and Time 7 (ninth grade) (see Table 3). At Time1, Exploration and Commitment were not significantly correlated with anxiety $r = .01$ and .05, $p > .05$, respectively. Exploration was not significantly correlated with attitudes towards violence $r = .01$, $p > .05$, and Commitment was significantly correlated with attitudes towards violence $r = .17$, $p < .05$. Exploration was not significantly correlated with attitudes towards nonviolence $r = -.01$, $p > .05$ and Commitment was significantly correlated with attitudes towards nonviolence $r = -.17$, $p < .05$.

At Time7, Exploration and Commitment were not significantly correlated with anxiety $r = .11$ and .03, $p > .05$, respectively. Exploration was not significantly correlated

with attitudes towards violence $r = .09$, $p > .05$, and Commitment was significantly

correlated with attitudes towards violence $r = -.51$, $p < .05$. Exploration was significantly

correlated with attitudes towards nonviolence $r = .17$, $p > .05$ and Commitment was

significantly correlated with attitudes towards nonviolence $r = .41$, $p < .05$.

Discussion

The purpose of this study was to (1) assess the factor structure of the MEIM in a diverse sample of rural adolescents, (2) compare between group (Caucasian, African American, and Latino) and gender differences for ethnic identity Exploration and Commitment, respectively, and (3) evaluate the convergent validity of the MEIM in a sample of early adolescents living in a rural area.

MEIM Factor Structure

Using data from a diverse group of rural adolescents, this study found that Roberts et al.'s (1999) two-factor model to have a satisfactory fit for the entire sample at Times 1-5 and at Time 7. In addition, the two-factor model was a better fit to the data at all time points (except Time 6) when compared to a one-factor model. The poor fit at Time 6 suggests that Roberts et al's two-factor model did not adequately capture the data at this wave of data collection. Future studies should assess the two-factor model with rural eighth graders (e.g., 14 year-olds) in order to replicate these findings.

Together, the findings of this study are consistent with earlier research that has demonstrated that the MEIM taps into two factors (Exploration and Commitment) for early adolescents (Pegg & Plybon, 2005; Roberts et al., 1999; Spencer et al., 2000; Yancey et al., 2001) and not the one factor that was originally conceptualized by Phinney (1989). The findings also yielded adequate reliabilities for Commitment across Times 1-7. In contrast, the findings yielded moderate to poor reliabilities (alpha ranged from .66-.80) for Exploration across Times 1-7.

Other studies with early adolescents have also found poor reliability for the Exploration factor (Pahl & Way, 2006; Roberts et al., 1999; Yancey et al., 2001). It is possible that poor internal consistency scores may be a byproduct of "external contextual issues" such as responses that are influenced by the adolescent's social context (Pegg & Plybon, 2005, p. 260). For example, several MEIM items (e.g., item number 2, which states, "I am active in organizations and social groups that include mostly members of my own racial group") may generate answers which are a byproduct of the setting in which the adolescent resides rather than actual exploratory behaviors. Nevertheless, these findings are consistent with Erikson's (1968) theory of identity formation, which suggests that the adolescent strives for a sense of belonging and identification with their peer group. During early adolescence, cognitive development (e.g., development of abstract thinking) coupled with the transition from elementary to middle school likely triggers the exploration of one's own ethnic group membership. Consequently, it is also possible that the poor reliability coefficients in prior studies and the present study are a reflection of this developmental process.

In contrast to early adolescents, studies with adults have demonstrated adequate psychometric properties of the MEIM (e.g., good reliability measures). Specifically, the MEIM demonstrated moderate to strong internal consistency levels across high school and college samples (mean alpha of .86) (Phinney, 1992; Phinney & Alipuria, 1990). Theoretically, ethnic identity achievement is expected to increase with age and thus explains the higher reliability scores for adults relative to early adolescents. Nevertheless, ethnic identity exploration is thought to occur throughout the life span. For

example, adults may re-evaluate the significance and meaning of their ethnic group membership (Phinney, 2006). Future research should explore the factors (e.g., age, ethnic/racial group) that may contribute to a re-evaluation of ethnic identity membership in adulthood.

Multigroup Confirmatory Factor Analysis (MGCFA)

The prediction that Roberts et al's two-factor model will demonstrate stability across Caucasian, African American, and Latino participants was supported. A MGCFA with the Caucasian, African American, and Latino participants across waves 1-7 of data collection suggested multigroup invariance or equivalence. Specifically, the findings from the MGCFA indicated that the same set of indicators assessed the same latent variables (Exploration and Commitment) across ethnic/racial groups. In contrast, Spencer et al. (2000) did not find between-group equivalence for White, monoracial, and multiracial groups in their study. Specifically, they found that the groups differed on the following items, including pride in ethnic group, feeling good about ethnic group, belonging to ethnic group, understand what ethnic group means to me, and clear sense of ethnic group. Similarly, Roberts et al (1999) found similar factorial structures for African American and Mexican American early adolescent groups, but not for the European American group. These authors hypothesized that the weaker factorial structure amongst European Americans may be a byproduct of being the majority group and not feeling as strong of a need to identify themselves ethnically. The results from this study suggest that ethnic identity Exploration and Commitment were salient constructs among all rural youth. Said differently, irrespective of ethnic or racial group

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membership, adolescents in this sample demonstrated these latent constructs. These findings are consistent with Erikson's (1968) theory of identity formation, which posits that identity formation, including the search for a sense of belonging and identification with one's peer group, is a universal feature of adolescent adjustment.

Measurement equivalence is considered a pre-requisite to between-group mean comparisons because the manifest variables should "evoke the same conceptual frame of reference in defining the latent construct for each group" (Vandenberg & Lance, 2000, p. 9). Said differently, MGCFA ensures that the same attributes are measured between groups. In turn, MGCFA is suitable for between-group comparisons on growth trajectories for Exploration and Commitment in subsequent analyses.

Growth Curve Modeling: Ethnic/Racial Group Differences

The hypothesis that Latino and African-American early adolescents will experience greater increases of ethnic identity Exploration than Caucasian early adolescents was not supported. Results of the current study indicated that there was a statistically significant difference in rate of change in Exploration between groups. Specifically, Caucasian participants demonstrated a greater increase in Exploration relative to Latino and African American participants. For Caucasian participants, the average growth trajectory of Exploration was characterized by a gradual increase from 6th to 9th grade. However, for Latino and African American participants, Exploration demonstrated a gradual increase at Times 5 and 6, respectively, at which point it leveled off. In addition, overall mean levels of Exploration and Commitment were slightly less than prior studies with urban samples (Plybon, 2001; Roberts et al., 1999). Future

studies should investigate factors that contribute to lower ethnic identity scores among rural youth.

In contrast to the findings from this study, prior research has found that African American and Latino American early adolescents have exhibited a greater rate of change in ethnic identity relative to Caucasian adolescents (Elizabeth-French et al., 2006; Pahl & Way, 2005). These studies attributed the greater stability in ethnic identity trajectory of the Caucasian participants to the ethnic composition of the students' schools and neighborhoods. Specifically, in both studies, the Caucasian group represented the racial majority and thus did not experience the necessity to undergo as much exploration of the meaning of their ethnic identity.

Although the Caucasian group represented the majority racial group in the present study, it's possible that their neighborhood racial/ethnic composition may have influenced their increase in Exploration. Although the demographic information of the students' neighborhood was not available for this study, it's possible that Caucasian students were not the racial majority in their neighborhoods. This explanation is consistent with social identity theory, which posits that the discrepancy between self and context motivates exploration of the meaning of one's identity (Tajfel, 1981). Thus, the ethnic composition of the Caucasian students' neighborhoods may have accounted for the differences in rate of change in Exploration between groups. It's possible that the Caucasian students were potentially isolated from Caucasian role models and organizations in their community and thus may have not had access to these ethnic identity promoting experiences. This explanation is also consistent with social identity

theory, which posits that ethnic identity develops over time via interactions and exposure to members of the same ethnic group (Tajfel, 1981).

The hypothesis that Latino adolescents will display less of an increase of ethnic identity Exploration relative to African-American adolescents was not supported. The Latino and African American adolescents demonstrated similar trends in Exploration. Prior research has found that the majority ethnic group is more likely to endorse a stable level of ethnic identity exploration. For example, Pahl and Way (2006) concluded that because Latino adolescents represented the majority ethnic group both at school and in their neighborhood and thus experienced "less impetus for questioning the meaning and implications of their ethnic group membership" (p. 1411). As mentioned earlier, although the demographic information of the students' neighborhood was not available for this study, it's possible that African American and Latino students were the racial majority in their respective neighborhoods. Consequently, the ethnic composition of their neighborhoods may have accounted for similar trends in Exploration.

Growth Curve Modeling: Gender Differences

The hypothesis that female adolescents will display higher levels of ethnic identity Commitment than male adolescents was not supported. The results indicated that there were no significant differences regarding starting points or rates of change in Commitment for boys and girls. The findings from previous studies that have investigated gender differences in ethnic identity are mixed. For example, Pahl and Way (2006) did not find gender differences in ethnic identity trajectories during early adolescence. In contrast, other lines of research suggest that early adolescent African

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American females may begin to question their identity earlier in adolescence thanboys (Stevens, 2002). For example, societal expectations (e.g., social beauty, gender role expectations) may trigger an exploration of their identity earlier than boys. They also may be more likely than boys to participate in ethnic customs and be seen as the "carriers of cultural values" (Pegg & Plybon, 2005, p. 251). Thus, girls are more likely to commit to their ethnic identity at an earlier developmental period (e.g., early adolescence) relative to boys.

The literature has also suggested that early adolescent girls tend to have significantly higher levels of ethnic identity exploration than boys (Plybon, 2001; Spencer et al., 2000). Specifically, girls may begin to actively seeking out and understand individuals from the same and other ethnic groups at an earlier stage of development. The researchers in these studies hypothesize that this may be a byproduct of socialization processes. Similarly, in a study with Latino mothers and their daughters, Umaña-Taylor and Yazedjian (2006) concluded that ethnic socialization comprises a normative component of female child rearing across Latino groups.

It's possible that the absence of gender differences was related to parental immigration status. The literature has found a relation between parental immigration status and ethnic/racial socialization messages. Specifically, recent immigrants are more likely to socialize their children regarding their ethnic origin, native language, and traditions when compared to their immigrants who have resided in the U.S. longer (Knight, Bernal, Garza, Cota, & O'Campo, 1993; Umaña-Taylor & Fine, 2004). Although the demographic information of the parents' immigration status was not

available for this study, it's possible that parental immigration status may have accounted

for the absence in gender differences in Commitment.

MEIM Convergent Validity

The hypothesis that ethnic identity will be related to decreased anxiety symptoms

was not supported. The results from the correlational analyses indicated that ethnic

identity Exploration and Commitment were not significantly related to anxiety. In

contrast, prior research has demonstrated a relation between ethnic identity and a

decrease in anxiety symptoms amongst African American and European American

adolescents (Farver et al., 2007; McMahon & Watts, 2002). This is consistent with

Phinney's ethnic identity theory, which suggests that group membership is beneficial to

psychological health.

The hypothesis that ethnic identity will be related to a decrease in attitudes

towards violence and non-violence was supported. The results indicated that ethnic

identity Exploration was not significantly related to attitudes towards violence and

nonviolence. However, the results indicated that ethnic identity Commitment was

significantly negatively related to attitudes towards violence ($r = -.51$) and significantly

positively related to attitudes towards nonviolence ($r = .41$). This finding is supported by

the literature, which indicates that higher levels of ethnic identity are related to fewer

beliefs supporting aggression (Arbona et al., 1999; McMahon & Watts, 2002). The

relation between ethnic identity Commitment and attitudes towards violence and

nonviolence is consistent with Phinnney's (1989) ethnic identity theory, which suggests

that an achieved sense of ethnic identity is accompanied by a sense of belonging to one's

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ethnic/racial group. In turn, a stable sense of ethnic identity results in a secure sense of self and buffers against antisocial outcomes (e.g., attitudes towards violence).

Conclusion

In sum, this is the first study that we are aware of that evaluated the factor analytic structure and developmental trajectory of ethnic identity among early rural adolescents. Consistent with prior research, this study demonstrated that the MEIM taps into two factors (Exploration and Commitment) for early rural adolescents. Moreover, this study demonstrated multigroup equivalence across waves 1-7 of data collection for the Caucasian, African American, and Latino groups. Further, results from the growth curve modeling procedures indicated that Caucasian participants demonstrated a greater increase in Exploration relative to Latino and African American participants. In addition, there were no gender differences in ethnic identity Commitment. Last, consistent with prior research, results from the convergent validity analyses indicated that ethnic identity Commitment was significantly negatively related to attitudes towards violence and significantly positively related towards attitudes towards nonviolence.

The large sample size in the current study allowed for enough power to examine both the factor structure and growth trajectories of ethnic identity development in an early rural adolescent sample. Moreover, it allowed for the study of ethnic/racial group and gender differences in ethnic identity development. In addition, it allowed for the researchers to examine the association between ethnic identity and other theoretically related constructs, such as anxiety and attitudes towards violence and non-violence.

Given the limited literature on the psychometric properties and development of ethnic identity with early adolescent samples, the obtained finings represent a significant contribution.

Strengths and Limitations of Current Study

The methodology lent itself to more sophisticated statistical techniques (e.g., individual growth curve modeling), which allowed the measure of ethnic identity change over time. Said differently, this approach took into consideration the time-structured nature of the data or longitudinal relationship between repeated measures on variables (e.g., Exploration and Commitment) obtained on multiple occasions. The study allowed for individual and aggregate-level growth curves and retained participants with missing data. Further, this technique modeled individual intercepts and slopes when data were missing at random (Singer & Willett, 2003). Growth curve modeling also handled varying number of observations for each participant as well as differences in temporal spacing (e.g., different time intervals between time points) (Bryk & Raudenbush, 1992; Singer & Willett, 2003).

It is important to consider the limitations to this study when interpreting the findings. This study relied exclusively on a self-report ethnic identity measure. An inherent limitation of self-report measures is a social desirability response style. Consequently, it's possible that some participants may have endorsed socially acceptable responses (Kazdin, 2003). Similarly, Yancey et al. (2003) speculated that between-group differences were due to a social desirability bias and/or differences in interpretation of scale items. In addition, a social desirability bias may result in common method variance

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explanations for the obtained findings (e.g., correlations between observed variables may be due to response biases and not actual associations between the constructs studied) (Kendall, Butcher, & Holmbeck, 1999).

The MEIM demonstrated several limitations as it relates to this study. For example, the MEIM yielded moderate to poor reliabilities for Exploration across Times 1-7. The poor reliability scores may reflect answers predicated on the setting in which an adolescent resides (e.g., rural setting) rather than actual exploratory behaviors. In addition, the MEIM operates under the assumption that Commitment implies a positive identification with one's group (e.g., item number 20, which states, "I feel good about my cultural or ethnic background" and item number 6, which states "I am happy that I am a member of the group that I belong to"). Consequently, the MEIM is not necessarily an adequate or congruent measure of ethnic identity Commitment (Umaña-Taylor, Yazedjian, & Bámaca-Gomez, 2004).

The constructs assessed in this study (Exploration and Commitment) were derived as a byproduct of exploratory factor analyses from previous studies. Moreover, the measurement of ethnic identity has not always directly reflected its theoretical underpinnings. For example, no studies shave successfully operationalized the stages of ethnic identity development with adolescent samples. Consequently, the findings from this study represent the validation of an empirically derived scale.

The findings from this study are based on a sample of rural adolescents from a low socioeconomic background. The literature suggests that ethnic identity development may be different for rural early adolescents because of a potential lack of access to social

resources and mainstream ethnic minority models (Carlson, 2006). For example, although an adolescent may feel a strong attachment to his/her ethnic group, he/she may not have access to ethnic social groups. Because the participants in this study resided in a rural area, their unique social/contextual influences may have impacted their ethnic identity development. Consequently, the findings should be generalized with caution to non-rural samples.

The information regarding the nationality or generational status of Latino participants was not readily available for this study. The literature suggests that an individuals' national origin impacts his/her cultural traditions, values, and beliefs. Moreover, among Latinos, there are significant within-group differences, including language use, reasons for migration, income, and region of residence in the U.S. Prior research has highlighted the impact of Latino participant nationality on the psychometric properties of the MEIM (e.g., reliability and validity) (Umaña-Taylor & Fine, 2001). Said differently, the diversity amongst Latinos may influence the reliability and validity of the MEIM. Consequently, it's possible that the psychometric properties of the MEIM may have differed if information relating to participant nationality (e.g., country of origin, language use, and generational status) had been available for this study.

Implications for Future Research & Prevention Intervention

The present study relied exclusively on a self-report scale. Future research may benefit from multiple informant approaches (e.g., qualitative methods with both adolescents and their parents in order to potentially capture a richer and more in-depth understanding of ethnic identity development and its relation to other indices of adjustment). Specifically, a multi-informant multi-method approach may tap into an adolescent's ethnic socialization, parental messages regarding ethnic identity, as well as attitudes of the community.

The present study did not have readily available the nationality or generational status of Latino participants. The literature suggests that there is variability in the reliability and validity of the MEIM depending on nationality group. Future studies should attempt to obtain information regarding the nationality of different Latino sub-groups. Future studies should also attempt to over-sample Latino participants in an effort to provide information regarding the majority and minority Latino groups in the area being studied (Umaña-Taylor & Fine, 2001). In turn, this will expand the literature regarding the within-group diversity among Latinos as well as the psychometric properties of ethnic identity among specific Latino nationalities.

The present study did not find gender differences in ethnic identity Commitment. In contrast, other lines of research suggest that social contextual factors, such as societal expectations and socialization processes, result in early adolescent females questioning their identity earlier in adolescence than boys (Pegg & Plybon, 2005; Stevens, 2002). Moreover, these studies have found that girls may begin to seek out individuals from the

same ethnic group at an earlier stage of development than boys. Consequently, future studies are warranted to evaluate the developmental trajectory of ethnic identity Exploration for girls (as well as boys) during early adolescence.

The present study found that Caucasian participants demonstrated a greater increase in Exploration relative to Latino and African American participants. However, the present study did not investigate between-group differences in Commitment. Other studies have suggested that African American and Latino American early adolescents have exhibited a greater rate of change in ethnic identity relative to Caucasian adolescents (Elizabeth-French et al., 2006; Pahl & Way, 2005). Future studies should specifically evaluate between-group racial/ethnic differences in Commitment during early adolescence.

The findings from this study also have practical implications for prevention programming. The findings from this study suggest that the MEIM is a psychometrically sound instrument for early rural adolescent ethnic minority populations and can be utilized to effectively assess intervention outcomes with this population. In turn, this information can inform the planning and implementation of prevention programs that target ethnic identity constructs with early rural adolescent samples.

Prior intervention programs have demonstrated the value of ethnic identity as a potential buffer against negative outcomes for African American urban females (e.g., alcohol, drug use, and risky sexual activities) (Belgrave, Brome, & Hampton, 2000; Belgrave, Reed, Plybon, Butler, Allison, & Davis, 2004). The findings from this study suggest that ethnic identity should be targeted to promote resilience among adolescent

rural youth as well. Further, we are unaware of prior intervention programs that have targeted ethnic identity development among either (1) Caucasian rural youth or (2) male rural youth. The findings from this study suggest that ethnic identity Exploration and Commitment constructs are integral components of identity formation for both Caucasian and male rural youth. The promotion of cultural values, including ethnic identity development, is a mechanism that should be implemented in the promotion of positive adjustment for these populations.

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Appendices

Appendix A

The Multigroup Ethnic Identity Measure (MEIM)

Source: Phinney, J. S. (1989). Stages of ethnic identity development in minority group adolescents. *Journal of Early Adolescence, 9*, 34-49.

Response format: The following 4-point scale is used for all of the items: (4) *strongly agree*, (3) *agree*, (2) *disagree*, and (1) *strongly disagree*.

Scale Instructions: In this country, people come from many different countries and cultures, and there are many different words to describe the different backgrounds or ethnic groups that people come from. Some examples of the names of ethnic groups are Hispanic or Latino, Black or African American, Asian American, Chinese, Filipino, American Indian, Mexican American, Caucasian or White, Italian American, and many others. These questions are about your ethnicity or your ethnic group and how you feel about it or react to it.

 Please fill in: In terms of ethnic group, I consider myself to be _____

 1- I have spent time trying to find out more about my ethnic group, such as
          its history, traditions, and customs.
 2- I am active in organizations or social groups that include mostly members
          of my own ethnic group.
 3-I have a clear sense of my ethnic background and what it means for me.
 4-I like meeting and getting to know people from ethnic groups other than my own.
 5- I think a lot about how my life will be affected by my ethnic group membership.
 6- I am happy that I am a member of the group I belong to.
 7-I sometimes feel it would be better if different ethnic groups didn't try to mix together.
 8-I am not very clear about the role of race in my life.
 9-I often spend time with people from ethnic groups other than my own
 10-I really have not spent much time trying to learn more about the culture and history of my ethnic group.
 11- I have a strong sense of belonging to my own ethnic group.
 12- I understand pretty well what my ethnic group membership means to me.
 13- In order to learn more about my ethnic background, I have often talked
          to other people about my ethnic group.
 14- I have a lot of pride in my ethnic group and its accomplishments.
 15-I don't try to become friends with people from other ethnic groups
 16- I participate in cultural practices of my own group, such as special food,
          music, or customs.
 17-I am involved in activities with people from other ethnic groups.

18- I feel a strong attachment towards my own ethnic group.
19-I enjoy being around people from ethnic groups other than my own.
20- I feel good about my cultural or ethnic background.

21- My ethnicity is
       (1) Asian or Asian American, including Chinese, Japanese, and others
       (2) Black or African American
       (3) Hispanic or Latino, including Mexican American, Central American, and others
       (4) White, Caucasian, Anglo, European American; not Hispanic
       (5) American Indian/Native American
       (6) Mixed; Parents are from two different groups
       (7) Other (write in): _____

22- My father's ethnicity is (use numbers above)
23- My mother's ethnicity is (use numbers above)

Appendix B

Revised Children's Manifest Anxiety Scale (RCMAS)

Source: Reynolds, C. R., & Richmond, B. O. (1978). What I think and feel: A revised measure of children's manifest anxiety. *Journal of Abnormal Child Psychology, 6*, 271-280.

Response Format: Yes or No

Scale Instructions: The sentences on this form tell how some people think and feel about themselves. Read each sentence carefully, then circle the word that shows your answer. There are no right or wrong answers. Only you can tell us how you think and feel about yourself. Remember, after you read each sentence, ask yourself "Is it true about me?" If it is, circle *yes*. If it is not, circle *no*.

1. I have trouble making up my mind.
2. Often I have trouble getting my breath.
3. I get mad easily.
4. It is hard for me to get to sleep at night.
5. Often I feel sick in my stomach.
6. My hands feel sweaty.
7. I am tired a lot.
8. I have bad dreams.
9. I wake up scared some of the times.
10. I wiggle in my seat a lot.
11. I get nervous when things do not go the right way for me.
12. I worry a lot of the time.
13. I am afraid of a lot of things.
14. I worry about what my parents will say to me.
15. I worry about what other people think of me.
16. My feelings get hurt easily.
17. I worry about what is going to happen.
18. My feelings get hurt easily when I am fussed at.
19. I worry when I go to bed at night.
20. I am nervous.
21. I often worry about something bad happening to me.
22. Others seem to do things easier than I can.
23. I feel that others do not like the way that I do things.
24. I feel alone even when there are people with me.
25. Other children are happier than I.
26. I feel someone will tell me I do things the wrong way.
27. It is hard for me to keep my mind on schoolwork.
28. A lot of people are against me.

Appendix C

Weinberger Adjustment Inventory (WAI)

Source: Farrell, A. D., Meyer, A. L., & White, K. S. (2001). Evaluation of responding in peaceful and positive ways (RIPP): A school-based prevention program for reducing violence among urban adolescents. *Journal of Clinical Child Psychology, 30*, 451-463.

Response Format: All items are preceded by one of the following two stems: "How true is this for you?" and "How often is this true for you?" Items are scored on one of the following stems: (a) 1-False, 2-Somewhat False, 3-Not Sure, 4-Somewhat True, 5-True or (b) 1-Never, 2-Not often, 3-Sometimes, 4-Often, 5-Almost Always.

1. People who get me angry better watch out.
2. I think about other people's feelings before I do something they might not like.
3. I do things without giving them enough thought.
4. When I have the chance, I take things I want that don't really belong to me.
5. If someone tries to hurt me, I make sure I get even with them.
6. I become "wild and crazy" and do things other people might not like.
7. I will cheat on something if I know no one will find out.
8. When I'm doing something for fun, I tend to get carried away and go too far.
9. I make sure that doing what I want will not cause problems for other people.
10. Before I do something, I think about how it will affect the people around me.
11. I lose my temper and "let people have it" when I'm angry.
12. I do things that I know really aren't right.
13. People who get me angry better watch out.
14. If someone tries to hurt me, I make sure I get even with them.
15. If someone does something I really don't like, I yell at them about it.
16. I pick on people I don't like.
17. I say something mean to someone who has upset me.
18. When someone tries to start a fight with me, I fight back.
19. I'm the kind of person who will try anything once, even if it's not that safe.
20. I should try harder to control myself when I'm having fun.
21. I do things without giving them enough thought.
22. I like to do new and different things that many people would consider weird or not really safe.
23. I say the first thing that comes into my mind without thinking enough about it.
24. I stop and think things through before I act.

Appendix D

Attitudes Supporting Violence

Source: Farrell, A. D., Meyer, A. L., & White, K. S. (2001). Evaluation of responding in peaceful and positive ways (RIPP): A school-based prevention program for reducing violence among urban adolescents. *Journal of Clinical Child Psychology, 30*, 451-463.

Response Format: The following 4-point scale is used for all of the items: (4) *strongly agree*, (3) dis*agree somewhat*, (2) *agree somewhat*, and (1) *strongly agree*.

Scale Instructions: These items assess how you feel about disagreements or conflicts with children your age.

1. A guy who doesn't fight back when other kids push him around will lose respect.
2. A guy shows he really loves his girlfriend if he gets in fights with other guys about her.
3. It's O.K. for me to hit someone to get them to do what I want.
4. Sometimes a person doesn't have any choice but to fight. .
5. If I back down from a fight, everyone will think I'm a coward.
6. I feel big and tough when I push someone around.
7. If people do something to make me really mad, they deserve to be beaten up.
8. Sometimes I have only two choices- get punched or punch the other kid first.

Appendix E

Attitudes Supporting Nonviolence.

Source: Farrell, A. D., Meyer, A. L., & White, K. S. (2001). Evaluation of responding in peaceful and positive ways (RIPP): A school-based prevention program for reducing violence among urban adolescents. *Journal of Clinical Child Psychology, 30*, 451-463.

Response Format: The following 4-point scale is used for all of the items: (4) *strongly agree*, (3) dis*agree somewhat*, (2) *agree somewhat*, and (1) *strongly agree*.

Scale Instructions: These items assess how you feel about disagreements or conflicts with children your age.

1.   If I'm mad at someone I just ignore them.
2. Even if other kids would think I'm weird I would try to stop a fight
3. When my friends fight I try to get them to stop
4. There are better ways to solve problems than fighting
5. I try to talk out a problem instead of fighting

Bio

Adam Iglesias was born on November 24, 1980 in Gainesville, Florida. He graduated from Palm Beach Gardens High School in 1999. He received a Bachelor of Arts from the Harriet L. Wilkes Honors College at Florida Atlantic University. He received a Master of Arts in Experimental Psychology from Florida Atlantic University.