

ABSTRACT

Title of Dissertation: FRIENDSHIPS OF HIGH-ACHIEVING
AFRICAN AMERICAN ADOLESCENTS:
RELATION TO ETHNIC IDENTITY AND
ACHIEVEMENT VALUES

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The academic achievement of African American adolescents is a national concern for educators and researchers especially since current reports depict the underachievement of African American students as continuing to lag behind their European American peers. Determining what factors within the school environment that contributes to the achievement gap and how it can be reduced remains an important issue in alleviating disparities seen in educational achievement and attainment. This study examined the relation between

characteristics of the close friendships of high-achieving African American adolescents and students' identity development and motivation in school.

Data were collected from 217 high-achieving African American students within 10th to 12th grade from 5 public and private high schools. Each student self-reported on their ethnicity, gender, parents' education level, grade, FARMs, GPA, perceived teacher support (emotional, academic, and instrumental support), their perception of their ethnic identity, and their perception of their achievement values. Through the use of nomination procedures, students also identified their close friends and responded to questions concerning how supportive (emotional, academic, and instrumental support) they each were. Results from multiple regression analyses showed that the provision of instrumental support from close friends related to the exploration process of the high-achieving students' ethnic identity. In addition, there was a strong relation between the ethnic identity of close friends and that of the individual. Furthermore, although friend support was not a significant predictor of achievement values, demographic (mother's education level, grade, and FARMs) and control (teacher support) variables predicted students' importance and utility of school respectively. These findings add to the literature on age and socioeconomic status as they relate to student's motivation to achieve. Overall, this study provides some evidence highlighting ways in which close friendships might relate to the self-development of high-achieving African American adolescents. This study provides a starting point for additional ways in which to explore how peer processes relate to the academic behaviors of high-achieving African American adolescents.

FRIENDSHIPS OF HIGH-ACHIEVING AFRICAN AMERICAN ADOLESCENTS:
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Dedication

To Miss Lola Pearl who is the
epitome of determination
and believes that anyone can learn
once they are given the opportunity.

Acknowledgements

Please bear with me as the difficulty in this section is finding the right words to express the deep feelings I have for each person that helped me through this process. It truly took a village to get to this point.

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Onward!

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Chapter 1: Introduction

The academic achievement of African American adolescents continues to be of major concern for educators and researchers. Specifically, a central interest in the field has been to understand the underachievement of African American students as their performance continues to lag behind their European American peers (Anderson, 2012; Davis-Kean & Jager, 2014; Fisher, 2000). For example, Darling-Hammond (2010) reported that in 2005 the average 12th grade African American adolescent's reading level was equal to that of an 8th grade European American. The research on this issue is voluminous, with researchers exploring various cognitive and non-cognitive factors such as genetics, intelligence, and home or school environment as impacting academic success (Murrell, 2009; Noguera, 2016; Ryan, 2001). For example, some researchers suggest that characteristics of the school (e.g., class size, teacher's competency, low resources) may be the issue with regard to low academic performance of African American students (Davis-Kean & Jager, 2014).

Recently, scholars have increased their exploration of non-cognitive factors such as the social relationships students engage in within the school context to explain the processes causing the achievement gap to occur (e.g., Booker, 2004; Darenbourg & Blake, 2014; Syed, Azmitia, & Cooper, 2011; Wright, 2011). Of these relationships, scholars indicate that adolescents' peer relationships play a significant role in the developmental processes students go through (Rubin, Burkowski, & Parker, 1998). Brown, Herman, Hamm, and Heck (2008) believe this to be especially true for ethnic minorities, such as African Americans, as the type of interaction they have with their peers may be driven by their ethnicity. Ethnic minorities are more likely to select peers

that they are similar to with regard to perceived ethnic background (Brown, Herman, et al., 2008; Hamm, 2000), as these friendships provide a protective environment for enhancing students' ethnic pride and well-being (Noguera, 2003). Thus, these peers, over time, are likely to become more similar in beliefs and behaviors and develop strong affective ties.

When studying the relation between the peer group and African American adolescents' achievement, numerous researchers have concentrated on the negative peer experiences that tend to place this ethnic group at risk for academic failure. For example, researchers have looked at peer victimization (e.g., Fitzpatrick, Dulin, & Piko, 2009; Graham, 2006; Juvonen, Graham, & Schuster, 2003; Seaton, Neblett, Cole, & Pristein, 2013), peer harassment (e.g., Bucchianeri, Eisenberg, & Neumark-Sztainer, 2013; Eisenberg, Neumark-Sztainer, & Perry, 2003; Graham & Juvonen 2002; Nansel et al., 2001), and peer discrimination (e.g., Brody et al., 2006; Dotterer, McHale, & Crouter, 2009; Fisher, Wallace, & Fenton, 1999; Neblett, Philip, Cogburn, & Sellers, 2006; Pahl & Way, 2006; Tynes, Umaña-Taylor, Rose, Lin, & Anderson, 2012) as explanations for low levels of achievement. They suggest that a lack of support for academic success, negative stereotyping, and peer discrimination for performing academically negatively shapes a student's valuing of academic success or the development of their identity.

Among the theories guiding research on African American adolescents' peer experiences, researchers frequently cite Ogbu's (1986) cultural-ecological perspective (e.g., Archer-Banks & Behar-Horenstein, 2012; Ford, Grantham, & Whiting, 2008; Fryer, 2006; Worrell, 2014) and use it as the foundation for much of the discussions on the ethnic identity development, motivation, and academic achievement of African American

students. The major premise of Ogbu's theory is that African American students may choose to underachieve or disidentify with academics since being successful in school may not be seen as a cultural norm that is valued by members of this ethnic group.

Graham and Taylor (2002) postulate this occurs because trying to succeed in school is considered a mainstream value (i.e., valued by European Americans); thus, attempting to perform well in school will threaten the social identity of African American students. As a result of this, African American students may show indifference or negatively view the importance and utility of school, and thus, lack the motivation to achieve academically. Also, students who decide to go against the norm may endure harassment from their same-ethnic peers for choosing to be successful. This may lead to a decrease in African American adolescents' sense of belonging to their ethnic peers which, in turn, negatively shapes their ethnic identity or decreases their feelings of connectedness to their ethnic group (Noguera, 2003). Taken as a whole then, according to Ogbu, to fit in with their African American peers, some students must adopt the negative behavior of not performing academically.

Although theories such as Ogbu's illustrate the identity and achievement issues some African American adolescents face, there are some limitations within the literature worth noting. Prominent within the literature is the belief that for ethnic minorities to succeed in school, they must adopt a "raceless" identity (Fordham, 1996; Mickelson, 1990; Ogbu, 2003). This means high-achieving African American students would employ a strategy of minimizing their connection to their ethnic group so as to pursue academic success. However, several researchers argue that adopting strong ethnic pride and identity promotes academic achievement and educational attainment (e.g., Harris & Marsh, 2010;

Hemming, 1998). These students are able to perform better because they have developed a high sense of self allowing them to overcome any negative experiences they may encounter in the school environment (Miller, 1999). Some scholars even report that African American adolescents distancing themselves from their cultural heritage may lead to these students developing psychological problems (e.g., Arroyo & Zigler, 1995; Chavous et al., 2003). For these reasons, it is essential to understand the development of African American adolescents' identity, as how student's feel with regard to their ethnic background strongly relates to educational outcomes.

Another limitation that needs to be addressed is the consistent attention given to negative peer experiences. The constant attention on how peers negatively interact with African American adolescents within school setting tends to paint a picture of a peer context that places African American adolescents at a deficit (Wiggan, 2014). What about the positive experiences these students encounter with their peers (even their close friends) and the positive benefits that may result from this? Spencer-Beale (2006) asserts that too often, theorists underexamine the positive developmental processes of these ethnic minorities and overemphasize risk factors or their negative experiences. As a result, much scholarship on this topic tends to relay an incomplete picture of the unique contextual experiences this ethnic group encounters within the school system. Several researchers contend that focusing on student academic success versus deficit is a more appropriate frame for studying African American students' education experiences (Flowers, 2015; Gibson, 2005; Palmer & Gasman, 2008). This highlights the crucial need for research on the positive contribution of social relationships with regard to academic retention and attainment.

An additional issue is that many scholars have assumed, defined, or classified the peer group of African American adolescents as consisting solely of same-ethnicity peers (e.g., Brown, Herman, et al., 2008; Fordham & Ogbu, 1986; Hamm, Brown, & Heck, 2005). However, others have called into question this assumption. On the one hand, the occurrence of cross-ethnicity friendships is believed to be less likely in comparison to same-ethnicity friendships and may be less intimate (Kao & Joyner, 2004). Aboud, Mendelson, and Purdy (2003), however, argue cross-ethnic friendships can be just as beneficial as same-ethnicity ones because cross-ethnic friends may be expected to fulfill similar social, emotional, and instrumental resources as same-ethnic friends. Also, cross-ethnic friendships are becoming more prevalent as the diversity of the United States increases (McGill, Way, & Hughes, 2012). Despite this possibility, most studies that have explored ethnicity within the context of social relationships at school have looked at the ethnic composition of the classroom/school, or dyadic relationships rather than exploring friendship quality based on same or cross ethnic friendship groups (e.g., Bellmore, Witkow, Graham & Juvonen, 2004; Echols & Graham, 2013; Goldsmith, 2004; Risi, Gerhardstein, & Kistner, 2003). This tendency underscores the need for additional research focused on ethnicity and quality of friendships.

To reiterate, negative outlooks have dominated the research on African American students' social relationships and the role the peer group plays in shaping academic performance. As a result of this, there is an essential need for more positive perspectives. With this in mind, the current study focuses on the positive aspects of high-achieving African American adolescents' social relationships and their identity development and motivation to achieve. In particular, I focused on the peer group as a positive support

system and model of positive behaviors. Drawing from the literature on friendships and cliques, and on the distinctions brought forth by Brown (1989), I define the peer group as a set of close friends that the individual hangs out with the most in the same grade at school (but not necessarily as a cohesive group), and aim to determine how this particular set of friends is associated with students' ethnic identity and achievement values. In the subsequent sections, I briefly explain why it is important to focus on high-achieving African American adolescents. Following this, I preview the theoretical frameworks and conceptual model that guided this study, including relevant theories, definitions, and findings from studies that explored friendships, ethnic identity, and achievement values (a detailed discussion presented in chapter 2). Finally, I describe the current study and the guiding research questions (with predictions).

Theoretical Background and Conceptual Model

This section contains a brief overview of the theoretical background that guided this study. It is divided into five subsections. The first briefly explains the rationale behind the need to focus on high-achieving African American adolescents. Next, is an overview of the literature on peer relationships specifically focusing on friendships, peers as a support system, and peers as models. This will be followed by a brief discussion of the literature on ethnic identity. In this section, I concentrate on the theoretical model used to guide the conceptualization and measurement of ethnic identity in African American adolescents. The fourth subsection presents the theoretical framework for examining achievement values. Finally, in the last subsection I present the conceptual model developed to guide this research as well as a brief explanation of the predicted relations between aspects of friendship, ethnic identity, and achievement values.

The Need to Study High-Achieving African American Adolescents

A recurring theme within research is that African American adolescents are underrepresented as high-achieving students and overrepresented within special education populations (Milner, 2003). Research, also, has emphasized the negative experiences of African American adolescents within the realm of leading to low academic achievement (Vega et al., 2012). This disproportionate focus on low achievement and school failure, however, creates a lower set of expectations for African American students' achievement (Fries-Britt, 1998). Continuing to elaborate on factors relating to underachievement of students and minimalizing the focus on the success of high-achieving students may perpetuate a deficit approach for understanding the experience of African American adolescents. Understanding the viewpoints of high-achieving minority students, however, may very well help to improve our understanding of achievement, as well as provide strategies to improve the school success of the broader minority student population (Wiggan, 2014). Thus, research is needed on the social and other non-cognitive factors that may provide insight on how to improve ethnic minority student's academic achievement.

In the hopes of understanding the academic performance of African American adolescents, many scholars have mainly used the comparative framework approach. This involves treating ethnicity as an independent variable and comparing African American students' performance to that of their European American counterparts (Graham, Taylor, & Ho, 2009). Such comparisons, however, tend to present the behavior of the ethnic majority (European Americans) as the norm that the other ethnic group (African Americans) should meet (Cokley & Moore, 2007). In turn, this comparison may lead to

conclusions that African American students have deficiencies even before entering the school environment (Quick & Shipley, 2004).

Furthermore, the comparative framework approach assumes that the same factors will predict achievement in both ethnic groups, for example, experiences of high-achieving European Americans will be the same as African American students when in fact this may not be the case. Scholars have shown that the experience of African Americans within the school context does not completely mirror that of their European American counterparts; ethnic minority groups are often treated differently within school environments (Bonner & Murray, 2012; Fisher, 2000; Taylor, 1994). Thus, usage of the comparative approach may ignore the development of culturally specific attitudes and beliefs across ethnic groups.

With these factors in mind, studying achievement within diverse African American student populations may lead to a more comprehensive picture. Even more, focusing on a smaller and distinct subgroup, such as high-achieving students, may provide, as Fries-Britt (2000) proclaims, “a tremendous insight into how students learn and how to create environments to improve their intellectual development” (p. 55). Thus, placing attention on high-achieving African American students may lead to gaining beneficial information that may be adaptable to other African American adolescents.

Conceptualization of the Peer Context

The peer group is defined as a set of individuals that interact with each other through a mutual give-and-take relationship (Rubin et al., 1998). These relationships occur within the peer context that the individual is immersed in, which is multifaceted and encompasses different levels of interaction such as within dyads, cliques, or crowds

(Brown, 1989; 2004). Brown (1989) defines cliques as small groupings of friends who hang out with each other, in turn, developing close friendships. He suggests these cliques may be viewed as an adolescent's friendship group. On the other hand, Brown defines crowds as reputation-based peer groups incorporating peers that an individual may or may not spend much time with. With this in mind, the current study draws from the literature that concentrates on the peer group conceptualized as a set of close friends, that is, cliques. Since the study focuses on the individual's perception of who they consider to be their close friends, the cohesion of the group (whether everyone within the group are friends with each other, thus, creating identifiable friendship groups) was not assessed.

Within the diverse peer context, there are various ways by which peers mold an adolescent's behavior. In Brown's (2008) review of the processes of peer influence, he highlights what he refers to as multiple modes of peer influence that may dictate how peer relationships unfold over time. One mode he discusses (and is a focus of this study) is categorized as displaying social support for an individual and is seen through expressions of encouragement or cheering someone on to engage in healthy, beneficial activities. Adolescents in supportive peer relationships who perceive that their classmates care and like them and value academics may have a more positive outlook on academics, that is, they may engage in positive aspects of school life (Wentzel, 2003). They may, also, accept values that contribute in a positive way to the overall functioning of the peer group (Wentzel, Baker, & Russell, 2009).

How researchers conceptualize social support has varied, from looking at general social support (e.g., Dennis, Phinney, & Chuateco, 2005; Somers, Owens, & Piliawsky, 2008; Wentzel & McNamara, 1999) to assessing different dimensions of social support

(e.g., Faircloth & Hamm, 2011; Malecki & Demaray, 2003; Wentzel, 1998, 2003; Wentzel, Battle, Russell, & Looney, 2010; Witherspoon, Schotland, Way, & Hughes, 2009) (which will be discussed in Chapter 2). In the current study, I conceptualized perceived social support from peers as a multidimensional construct to include academic, emotional, and instrumental/informational support.

The other mode of peer influence central to this study is that of behavioral display. This mode involves one individual exhibiting attitudes and behaviors that are desired by another who then emulates those same attitudes and behaviors (Brown, Bakken, et al., 2008). For example, adolescents might adopt the behaviors of friends who they value or admire through observational learning or social reward and punishment (Bandura, 1963). In this manner, the individual learns what is considered standard behavior from the members of their peer group, leading to the development of friendship homophily which is the attitudinal and behavioral similarities observed among friends (Kandel, 1978). According to Kandel, homophily may be based on selection effects (affiliating with peers who already possess similar values and attitudes) or socialization effects (tendency for attitudes and behaviors to become similar over time).

Researchers have yet to empirically demonstrate whether the development of friendship homophily results from socialization or selection effects, however, it is assumed in this study that modeling does occur within the context of friendships and similarities among friends are due, in part, to socialization effects. Backing this assumption is Bandura's (1986) report that students who view their friends as valuing and engaged in academic tasks are likely to form similar positive attitudes and beliefs. Similarly, although Wentzel, Barry, and Caldwell (2004) did not test modeling directly,

their results show that students with initially low prosocial behaviors (in comparison to their friends) increased such levels through associating with prosocial friends. With this conceptual framework on peer relationships outlined, I will now move into briefly discussing the theories on the development and measurement of ethnic identity.

Ethnic Identity

Ethnic identity is defined as “one’s sense of belonging to an ethnic group and the part of one’s thinking, perceptions, feelings, and behavior that is due to ethnic group membership” (Rotheram & Phinney, 1987, p. 13). The concept of ethnic identity has evolved from traditional theories, specifically those of developmental and social psychologists, on identity formation (Erikson, 1968) and social identity (Tajfel & Turner, 1986). Erikson’s concept of identity and its formation focuses on the achievement of an identity during adolescence and contends that an individual has attained an identity once they have completed the process of search (grappling with questions about beliefs) and commitment (resolving crisis by accepting particular goals, beliefs). According to Erikson, failure in doing so may result in identity confusion and despair for the adolescent. Erikson views adolescence as a time of self-exploration and the formation of an identity as a life-long process, as the individual is continuously taking in aspects of the self that may change across contexts and over time.

Shifting from identity development based on the individual (i.e., Erikson’s work) to identity development based on group membership, social identity theory suggests that an individual’s level of identification with a social group increases when the individual faces situations where he or she perceives a threat and when views himself or herself as a minority (Turner, 1982). Tajfel (1986), in his conceptualization of social identity theory,

defines ethnic identity as the ethnic component of one's self-concept and Phinney (1992) builds on this to argue that a positive self-concept is molded by the sense of belonging the individual feels based on his membership and knowledge about his social group. Social identity theory also focuses on the attitudes and feelings that accompany the sense of belonging to the ethnic group (Roberts et al., 1999). This sense of belongingness or emotional support directly relates to the development of an identity because support figures act as "identity agents", that is, as individuals with an active role in the development of adolescents' identities (Syed et al., 2011).

Phinney (1992) developed one of the well-known models explaining the development of an ethnic identity, extending the theories of Erikson and Tajfel. Her model posits that adolescents pass through a linear process composed of three distinct stages when acquiring their ethnic identity, beginning with the unexamined stage and ending with an achieved ethnic identity. In the unexamined stage, young adolescents have not actively explored nor been exposed to ethnic issues that relate to being a member of their ethnic group (Roberts et al., 1999); at this point, they may lack interest, have given little thought to their ethnicity, or (as Erikson proposed) not yet experienced a crisis. From here, adolescents enter into the exploration stage where they start actively seeking information about their ethnic heritage as well as learn about the significance of their ethnic background to the development of their own personal identity. Finally, a firm commitment follows the exploration stage where the adolescent experiences a strong attachment to their ethnic group, and values their ethnic identity which is now incorporated into their personal identity.

In the current study, I used Phinney's model as my guiding framework and conceptualized ethnic identity of African American adolescents based on the components of exploration and commitment. According to Phinney's model, exploration is the behavioral component of one's ethnic identity as it focuses on the effort that the individual makes to learn about their ethnic background. The commitment component, on the other hand, is the affective component as it focuses on the attachment the individual has developed to their ethnic group. I will elaborate on these components and the measurement of ethnic identity in Chapter 2. Next, I will briefly discuss achievement values.

Achievement Values

The expectancy-value theory developed by Eccles and colleagues (1983) denotes achievement motivation as connected to students' expectancies for success and the value they assign to being successful in academics (Berndt & Miller, 1990; Wigfield & Eccles, 2002). The expectancy for success aspect of the expectancy-value theory concerns a student's belief about how well they will do on a certain task (Wigfield & Eccles, 2002; Wigfield, Tonks, & Klauda, 2009). The values aspect of this theory refers to how a task meets the different needs of a given individual. Thus, while the expectancy dimension revolves around the likelihood of obtaining a specific achievement outcome, the values aspect centers on the perceived usefulness, importance, and attractiveness of achievement-related activities (Taylor & Graham, 2007).

Expectancies and values have been consistently studied together and significant findings have highlighted not only that these constructs are distinct, but also, that they uniquely influence aspects of achievement motivation (Eccles & Wigfield, 2002; Meece,

Wigfield, & Eccles, 1990; Wigfield & Eccles, 2000). For example, some studies have shown expectancies for success (but not values) to be a significant predictor of academic performance (e.g., Meece et al., 1990), while others have found values to predict choice and persistence of achievement behaviors (Wigfield & Eccles, 2000). Over the years, researchers have learned a great deal about expectancies for success yet values remain understudied (Taylor & Graham, 2007; Wigfield & Eccles, 2000). Finally, some researchers consider values to be more rooted in cultural and social experiences or contexts (Taylor & Graham). For these reasons, I focused on the values dimension of the expectancy-value theory to conceptualize achievement values. To understand the persistence and motivation of high-achieving African American adolescents, it is important to focus on a belief that may be tied into their cultural context.

In conceptualizing achievement values, Eccles (1983) proposed four major components: attainment value or importance, intrinsic value, utility value or usefulness, and cost. Attainment value is the importance of doing well on a task and can be related to identity issues, that is, a task is only viewed as important when it is central to a person's sense of self (Wigfield & Cambria, 2010). Intrinsic value relates to the enjoyment a person receives from engaging in a task. Utility value refers to how a task may fit into an individual's future goals or plans; for instance, doing well in school may fulfill a requirement to get into college. Finally, cost relates to the negative consequences that are associated with engaging in a task. In the current study, the achievement values components of relevance are importance and utility values. From the standpoint of student motivation, less is known about how importance and utility values relate to the social context (specifically friendships) and ethnic minorities (specifically, African

American adolescents) (Eccles & Wigfield, 2002). This factor as well as a more detailed discussion on achievement values will be examined in Chapter 2.

Based on the research discussed, in the following section, I present the conceptual model which guided the current study and highlight the predicted relations between modes of peer influence, ethnic identity, and achievement values.

Conceptual Model

The conceptual model illustrated in Figure 1 features my three areas of interest: friendships, ethnic identity, and achievement values. This subsection contains an overview of how each construct is conceptualized and briefly explains the predicted relations between the modes of peer influence, the components of ethnic identity, and the achievement values (depicted as pathways in the model).

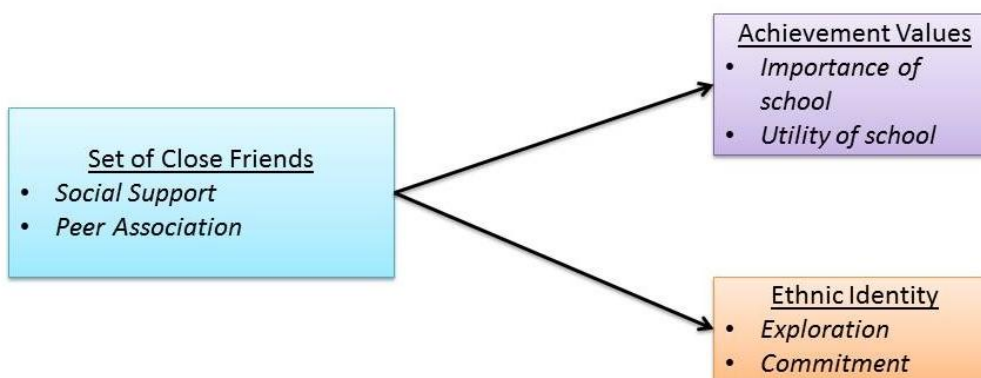


Figure 1. Conceptual model of the relation between the set of close friends, achievement values, and ethnic identity

Friendship is the central antecedent of interest for this study. From the extensive review conducted by Brown, Bakken, et al. (2008), it is clear that friends can impact the academic behaviors and identity formation of adolescents in numerous ways. As

previously stated, the modes of peer influence examined in the current study are social support and models of specific behaviors as provided by close friends.

Malecki and Demaray (2003) define social support as an individual's perception of the supportive behaviors exhibited by others who are considered to be a part of that person's social network. As previously stated, social support has been conceptualized as general support or viewed based on various dimensions; thus, this study focused on social support from peers based on specific dimensions of academic, emotional, and instrumental/informational. Wentzel (1994) defines academic peer support as the perceived peer concern for learning and emotional peer support as the perception that one's peers care about them as a person. Finally, Malecki and Demaray (2003) defined instrumental/informational peer support as perceived helping behaviors such as loaning money or giving time or providing advice.

Figure 2 illustrates the predicted relation between perceived social support from peers and the components of ethnic identity and achievement values. I predicted that the dimensions of academic, emotional, and instrumental/informational support would relate positively to each component of achievement values, that is, importance of school and utility of school (depicted as pathway A), while only emotional and instrumental/informational support would relate positively to each component of ethnic identity, that is, exploration and commitment (depicted as pathway B). These predictions were based on the notion that feeling supported by one's peers impacts one's academic behaviors (Fan, 2011) and that feeling support and a sense of belonging may relate to the formation of a positive ethnic identity (Branscombe, Schmitt, & Harvey, 1999). Therefore, studying these dimensions of social support would help to illustrate how

supportive peer behaviors are associated with achievement behaviors and identity development. It should be noted that research centered on the association between peers and achievement values or ethnic identity of African American adolescents, especially high-achieving subset of adolescents, is limited. Thus, this study will add to what is currently known and build a better understanding of the benefits of peers as a support system for this ethnic group.

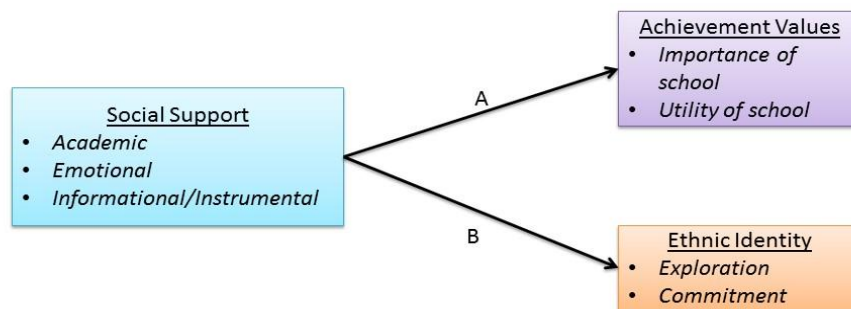


Figure 2. Conceptual model depicting the relation between social support from peers and components of ethnic identity and achievement values.

Figure 3 depicts how the second mode of peer influence (peer modeling) is conceptualized in this study as well as its relation to the outcome variables. As previously stated, peer modeling is defined as direct communication of expected behaviors and values through multiple mechanisms. Since the design of this study was not suited for capturing the developmental process involved in showing that peer modeling has occurred (a factor to be discussed in Chapter 2) it was indirectly measured.

In the current study, it was predicted that the set of close friends' scores on ethnic identity (exploration & commitment) and achievement values (importance & utility) would positively predict individuals' scores on the same variables (depicted as pathway A in Figure 3). In addition, I explored whether the ethnic composition of this set of friends (all of same-ethnicity versus, predominantly African American, mixed ethnicity, or other ethnicity) interact with this predicted relation (depicted as pathway B in Figure 3).

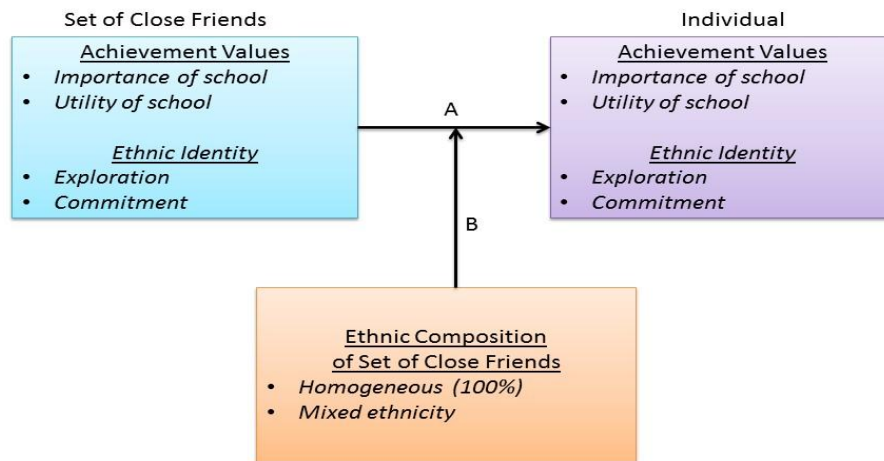


Figure 3. Conceptual model depicting the relation between friendship group, components of ethnic identity and achievement values, and ethnic composition of friendship group.

The outlined predictions are based on research highlighting how peers may shape each other's behaviors as well as how ethnicity is a contributing factor. Over time, peers act as important role models as they communicate messages about their own values and are sources of information that adolescents draw from to develop an idea about him or herself thus molding an understanding of who they are (Brown, Herman, et al., 2008;

Fan, 2011). Also, as previously stated, having the same ethnicity may be an important attribute in friend selection. Ethnic minorities may seek friends who are of the same ethnicity as a way to affirm their identity as a member of their ethnic group (Hamm et al., 2005; McGill et al., 2012). Some researchers suggest same-ethnic friendships to be of higher quality in comparison to cross-ethnic (e.g., Kao & Joyner, 2004; McGill et al., 2012; Schneider, Dixon, & Udvari, 2007). However, the literature on this factor is limited and inconclusive (Graham, Munniksma, & Juvonen, 2014).

Assumptions of the model. I make a few assumptions with this conceptual model. First, the model focuses solely on peers defined as a set of nominated close friends and as a result, it does not depict other sources such as dyadic best friend relationships or crowd affiliation. It also assumes two modes of influence when in fact there could be many. The model also assumes the pathway of influence is unidirectional even though the possibility exists that the individual is the one shaping the values and the beliefs of their friends. Finally, this model assumes that African American students have experienced something during their adolescent period to trigger the search process of discovering what their ethnic background means to them. This means that their ethnicity is considered to be a salient factor to them (when in actuality it may not be at that moment).

The Current Study

In summary, this study focused on how two modes of peer influence (provision of social support and peers as models) were separately related to components of high-achieving African American adolescents' ethnic identity (exploration and commitment) and achievement values (importance and utility). I conceptualized social support as a

multidimensional construct and peer modeling as the similarities seen between the students and the close friends they hang out with the most in the same grade at school. My aim was to understand how these two aspects of one's peer relationships relate to the exploration and commitment components of ethnic identity and to a student's perception of the importance and utility of school.

The current study was correlational in nature and explored the relation between the variables of interest. It has the potential to add to the body of literature that focuses on peer relationships and experience of high-achieving African American adolescents in several ways. First, because so little quantitative research has focused on the positive experiences of African American adolescents (and even far less on high-achieving African American students), it is essential to explore the positive role peers play in the development of ethnic minorities' ethnic identity and achievement values. Most research has addressed issues related to negative experiences triggered by the race or ethnicity of African American adolescents; exploring the positive experience of this subgroup, however, may help in gaining a better understanding of ways to maintain and increase the number of students classified as high-achieving.

Second, by exploring the ethnic identity and motivation of African American adolescents, this study will help establish culturally relevant information on this ethnic group. In their recent review, Brechwald and Prinstein (2011) encouraged researchers to explore cultural issues relating to ethnic minorities with respect to friendship processes. They argued that the school experience of African American adolescents is complex and the literature pertaining to the school context was developed on samples that consisted mainly of middleclass European American adolescents. Thus, they note that the

experience of one ethnic group might not explain that of the other. The effort of this study, then, was to establish an appropriate theoretical foundation that reflects the experiences of African American students, thus, addressing some of the deficits in the literature.

Data were collected from students in 10th to 12th grade of high school. I selected these grades because a normative increase in ethnic exploration and belongingness is expected to have occurred for adolescents at this age (Kiang, Witkow, Baldelomar, & Fuligni, 2010). Also, older adolescents report having more intimate and supportive close friendships than younger adolescents (Berndt, 1992), and these students tend to have stable achievement values (Wigfield & Wagner, 2005). Using traditional methods for classifying students as high-achieving, students were categorized as such if their unweighted grade point average (GPA) was a 3.0 or above at the time of the study. I gathered information from students through the use of surveys in which they provided self-report information about their perceived peer social support and the close friends with whom they associate with at school. All participants also provided information about their beliefs regarding their ethnic identity and achievement values. This study was cross-sectional and non-experimental since the focus was on establishing a relation between the variables of interest, not determining causation.

Research Questions

The three research questions that guided this study all centered on the close friendships of high-achieving African American adolescents and how they relate to two student outcomes: ethnic identity and achievement values. Studying these two outcomes will help expand our understanding of what is occurring within the peer context to shape

the academic performance of African American adolescents. The research questions are as follows:

1. How do perceptions of social support from close friends relate to components of ethnic identity?

I expected perceived social support from close friends (measured as emotional and instrumental/informational support) to be positively related to the components of ethnic identity (exploration and commitment). Academic support was not included as there is no theoretical explanation for predicting how this dimension might be related to one's ethnic identity.

2. How do perceptions of social support from close friends relate to achievement values?

I expected perceived social support from close friends (measured as academic, emotional, and instrumental/informational support) to be positively related to components of achievement values (importance and utility of school).

3. How does the set of close friends' ethnic identity and achievement values predict individual's ethnic identity and achievement values? How does the ethnicity of these close friends moderate the relation between the group of nominated friend's and the individual's scores on components of ethnic identity and achievement values?

Although this two part question was exploratory in nature, I expected the set of close friends' scores would predict the individual's scores on the two components of ethnic identity and achievement values. Also, I expected individuals with friends who are all of the same ethnicity to have the strongest relation in

comparison to those whose friendship group is predominately African American, have mixed set of ethnicities, or of other ethnicities.

Definition of Key Terms

1. **Peer group:** conceptualized as a friendship group where peers are referenced as close friends that the individual hangs out with the most in the same grade at school.
2. **Academic support:** the perceived peer concern for learning (Wentzel, 1994).
3. **Emotional support:** the perception that one's peers care about them as a person (Wentzel, 1994).
4. **Instrumental/informational support:** helping behaviors such as loaning money or giving time or providing advice (Malecki & Demaray, 2003).
5. **Peer association:** how similar an individual is to their nominated close friends on the stated outcome variables (achievement values and ethnic identity).
6. **Achievement values:** the perceived importance, attractiveness, and usefulness of achievement-related activities (Eccles & Wigfield, 2002).
 - a. Components of achievement values:
 - i. **Importance of school:** the extent to which students place significance on doing well and succeeding in school (Fuligni, Witkow, & Garcia, 2005).
 - ii. **Utility of school:** the extent to which students believe that school is useful for their present and future lives (Fuligni, et al., 2005).
7. **Ethnic identity:** the degree to which a person is aware of, knowledgeable about, and committed to the ethnic and cultural heritage of his or her ethnic group (Phinney, 1989).

- a. Components of ethnic identity:
 - i. **Exploration:** the efforts to learn about or understand the history, practices, and beliefs of ethnic group and implications of membership in that ethnic group (Phinney & Ong, 2007; Roberts et al, 1999).
 - ii. **Commitment:** the extent to which person has achieved a secure and confident sense of his/her ethnic identity; clear feelings of belonging to one's ethnic group, together with positive attitudes and pride in the group (Phinney & Ong, 2007; Roberts et al, 1999).
8. **High-achieving:** students with an unweighted grade point average (GPA) of 3.0 and above.

Chapter 2: Review of the Literature

Extensive literature has been dedicated to illustrating the underachievement of African American adolescents within the school system (e.g., Bergin & Cooks, 2002; Fordham & Ogbu, 1986; Wiggan, 2008). To explain why these students underperform in school, most of these studies focused on the negative social experiences of African American students (e.g., racism, discrimination, or negative stereotyping). This discourse is important especially when attempting to understand the achievement disparity seen between European American and African American students (Ellington & Frederick, 2010). As a result of this emphasis on negative social experiences, few studies have been conducted on high-achieving African American students despite the call made by many scholars contending that studying this subgroup of students will aid in countering negative societal messages about African American students' intellectual abilities (Andrews, 2009; Perry, 2003). Indeed, the few studies sampling high-achieving African American students highlight different social aspects of the school environment that may be associated with the academic success of these students. For example, Walker (2006) reported the peer group as being a feature of the school environment essential to the mathematics achievement of African American students, thus, showing how academically supportive friends are important to the academic success of high-achieving adolescents.

The current study explored the peer group of high-achieving African American adolescents as positively shaping the development of their ethnic identity and achievement motivation, that is, their valuing of school. By focusing specifically on the mechanisms through which friendships (an aspect of the peer group) shape one's ethnic

identity and how one views the importance and usefulness of school, we may be able to shed light on the non-cognitive factors significant to the academic success of African American students. Researchers have illustrated, with large samples of mostly European American adolescents, the positive role peers may play within the school context and how this particular social group impacts the academic behaviors of students. However, there are few quantitative studies involving African American students, especially high-achieving ones. Also, very little work addresses how peers have any bearing upon the ethnic identity development and achievement values of this understudied group. In this study, therefore, I address these main gaps within the literature: the peer group environment of high-achieving African-American adolescents, the role of peers in their ethnic identity development, and the influence of peers on their achievement values. Also, I make the distinction between the type of peer group I focus on so as to understand how a specific set of peers play a significant role in African American students' lives, and, in turn, expand the literature on friendships.

In this chapter, I first discuss the literature on peer relationships with specific attention placed on research addressing friendships. In addition, I highlight findings on the two modes of peer influence pertinent to this study: social support and peer modeling. As previously stated, very few studies examining the characteristics, quality, and consequences of peer relationships exists exclusively on African American adolescents. As Way and Chen (2000) assert, most theories do not reflect the experiences of a large percentage of the adolescent population since studies tend to focus solely on White, middle-class adolescents. Because of this, I will, at times, have to draw from findings

with samples consisting mainly of European Americans (but with substantial number of African American students included) or other ethnic minorities (e.g. Latinos).

The next section is a review of the literature on ethnic identity and African American adolescents. The aim of this section is to highlight the theory and model of ethnic identity development conceptualized by Phinney (1996) and her colleagues, and how it has been used to study African American adolescents. Her work serves as the foundation on which I built my conceptualization and measurement of ethnic identity in the current study. A focus on ethnic identity is important for understanding friendships and achievement related behaviors since one's ethnic identification may shape who students associate with (i.e., other African American adolescents who may or may not have similar views on achievement). Following this discussion, the next section reviews the literature on Eccles' (1983) expectancy-value theory that guides my conceptualization of achievement values. This section will include how achievement values, specifically importance and utility values, have been measured in previous studies and lays the groundwork for how I will define and measure achievement values. Furthermore, in each section I highlight the gaps or major limitations within the literature.

African American Adolescent's Friendships:

Context for Social Development

The peer context is complex as it constitutes different levels and mechanisms through which friends interact and potentially influence each other's behaviors. To develop a theoretical framework for conceptualizing how peers contribute to each other's academic behaviors, it is crucial to highlight the key aspects of peer relationships that relate to the current study. In doing so, I first, acknowledge the importance of peers

during adolescence (the developmental period critical to this study). Second, I distinguish how the peer group has been conceptualized within the literature and emphasize the research that refers to friendships or close friendships (the aspect of the peer context that is the main focus of this study). Third, I review the modes of peer influence discussed by Brown (2008). I elaborate on the specific modes of provision of social support and peer modeling which will help establish the particular context in which I examine peer relations. In addition, I summarize the research findings that relate to friendships and academic behavioral outcomes.

Importance of Peers during Adolescence

Adolescence is seen as the time in an individual's life when they begin conceptualizing an idea of who they are in a more abstract and differentiated manner (Harter, 1998). To do so, adolescents engage in social comparison to others such as their peers (Masten et al., 1995). Concurrently, dramatic transformations may occur during this developmental period leading to cognitive, biological, and social changes eventually shaping an individual's social relationships (Dijkstra & Veenstra, 2011; Steinberg & Morris, 2001). Focusing on the cognitive changes, Piaget (1952) states that adolescence is when one is first able to engage in perspective taking, abstract thinking, meta-cognitive thinking, and role taking. Meanwhile, the major biological change that occurs involves physical changes including an increase in the production of hormones, specifically sex hormones, leading to sexual maturation.

For the purposes of this study, however, the most important changes are the social ones. With regard to the social changes (which tend to be influenced by the biological and cognitive factors), personal relationships become more diverse and peer relationships

can become more significant for the individual (Steinberg & Morris, 2001). For example, the organization of the peer group changes as adolescents' interest in the opposite sex leads to same-sex crowds intermingling and becoming mixed-sex crowds (Dijkstra & Veenstra, 2011). Similarly, cognitive changes, such as the acquisition of the skills necessary for perspective taking, emerge during adolescence and lead to cooperative social exchanges with peers.

As a result of these social changes, the adolescent peer context becomes important for the choices that adolescents make regarding achievement in school (Crosnoe, Riegler-Crumb, Field, Frank, & Muller, 2008; Cunningham, Corpew, & Becker, 2009; Gutman, Sameroff, & Eccles, 2002; Holland, 2011; Ryan, 2001) and, thus, has a major impact on adolescent's lives (Wentzel, 2009). Interactions with friends tend to shape the behaviors of members within the peer group (Rubin et al., 1998), in turn, developing a specific peer culture (Corsaro & Eder, 1990) that defines the accepted and expected behaviors of its members (Brown, Bakken, et al., 2008; Crosnoe & Kirkpatrick-Johnson, 2011; Steinberg & Morris, 2001). In an educational context, the influential nature of peers has stirred major concerns due to the fact that peers do not always model behaviors conducive to learning (Brown, 1989; Brown, Bakken, et al., 2008; Ladd, Herald-Brown, & Kochel, 2009). Nevertheless, in some cases, the positive relationship that adolescents have with their peers may lead them to engage and excel in academics (Brown, 2004; Ryan, 2001; Wentzel, 2005).

Conceptualizing the Peer Environment

To understand the processes through which peers interact and shape each other's behaviors, it is important to explore the peer context and how it is conceptualized. The

peer group is defined as a set of individuals who interact with each other through a mutual give-and-take relationship (Rubin et al., 1998). Experiences with one's peers tend to occur in a diverse social context composed of several interconnected levels (Brown, 1989, 2004; Rubin et al., 1998). Brown (2004) summarizes at least three levels in which individuals navigate their peer relationships: *dyads*, *cliques*, and *crowds*. Dyadic relationships revolve around interaction between two individuals. This type of peer relationship has been conceptualized within the literature as the relationship between a pair of individuals such as two friends (e.g. best friend relationships), a couple (i.e., romantic relationships), or a bully and their victim (Dijkstra & Veenstra, 2011).

Cliques, meanwhile, are defined as small groupings of friends who hang out with each other and, in turn, develop close friendships (Brown, 1989). This level of peer relationships may be viewed as an adolescent's friendship group as it includes a set of individuals who voluntarily interact with each other on a regular basis (Brown, 2004). Adolescents within this type of friendship group may vary in their level of closeness, duration, and mutual regard or affection, and, as noted by Brown, these friendship groups may be tight-knit or include a central core of members and a set of marginal associates who interact with other members less frequently.

Such variations in the composition of cliques, thus, make it essential for researchers to decide on how they will define or operationalize friendship groups. Researchers have predominantly used the social cognitive mapping (SCM) procedure developed by Cairns and his colleagues (1985) to decipher groups or sets of friends within classrooms or schools. The SCM method utilizes peer nominations based on student responses to questions, such as, "who do you hang out with the most?" or "who

do you see hanging out together a lot?” Researchers have successfully used the SCM procedure to analyze dyadic and social group relationships such as cliques (e.g. Brown & Dietz, 2009; Cairns, Leung, Buchanan, & Cairns, 1995; Kindermann & Gest, 2009; Rubin et al., 1998), and to determine group characteristics such as cohesiveness and the centrality of an individual within the group (Kindermann, Zimmer-Gembeck, & Duffy, 2010). A key feature of cliques as identified by the SCM method is reciprocity (i.e., both individuals nominating each other as friends).

Many scholars continue to debate whether reciprocity in friendship nominations should be a requirement for defining friendships (Brown & Dietz, 2009). Some argue that requiring reciprocity may place researchers at a disadvantage as some students will be excluded from the final sample (Berndt & McCandless, 2009), which may result in, for example, decrease in statistical power and representativeness of the sample. Newcomb and Bagwell (1995) offer further support for using unilateral friendships (friendships acknowledged by one individual) versus reciprocated friendships. In their meta-analysis of 82 studies on children’s friendships, and associated outcomes, Newcomb and Bagwell found that mutual friends (friendships with reciprocity) and unilateral friends have similar effect sizes. They explored quality of children’s friendships based on categories such as positive engagement, conflict management, and task activity and found reciprocated/mutual friends and unilateral friendships to be similar in comparison to non-friend dyads (e.g. strangers, disliked peers, acquaintances, mutual friends, unilateral friends). Overall, Newcomb and Bagwell concluded that reciprocity may not be an essential element of friendships.

Finally, with respect to friendship levels, the last classification is *crowds*, defined as reputation-based groups incorporating peers that an individual may or may not spend much time with (Brown, 1989; 1990). Crowds contain a large number of individuals who are similarly stereotyped into a specific grouping (e.g., “jocks”, “nerds”, “popular”, or “loners”) and who share a set of social characteristics such as activities, clothing, interests and so forth. Brown (1989) stresses that individuals within cliques develop their norms and values from within the group (by virtue of similarities among friends); the norms of crowds, on the other hand, are imposed upon the members of the group by individuals who are on the outside (i.e., all adolescents who play sports are viewed as “jocks”). Brown also asserts that cliques and crowds differ in that cliques are based on social interaction patterns (thus, friendship groups) while crowds are based on personal interests or abilities (thus, reference groups). In summary, the peer group structure varies depending on the level of interaction that individuals engage in. Since the current study focused on a set of close friends, I draw from the literature that discusses cliques or close friendships.

Another characteristic of friendships that is a focus of this study is the identity of friends. “Identity of friends” refers to the personal characteristics of one’s friends (Hartup, 1996). This can, in turn, lead to similarities between friends, explained either through socialization or selection effects. Selection effects are viewed as similarities between friends derived from the tendency among individuals to choose associates who resemble themselves (Hartup & Stevens, 1997). For adolescents attending schools that are of mixed ages, races, and socioeconomic statuses, friends may be more similar to one another than non-friends on such characteristics (Hartup & Stevens). Socialization

effects, by contrast, refer to similarities between friends that emerge over time through interacting with each other. Details on socialization and selection effects will be discussed later in this chapter. Overall, research investigating friendships based on the theories discussed above have highlighted the contribution of peer interactions to adolescent's intellectual, social, and affective development. The current study drew from the theories examining provision of support and characteristics of friends (similarity between friends).

Modes of Peer Influence

In Brown, Bakken, et al.'s (2008) review of the multiple mechanisms of peer influence, they discuss what they refer to as "multiple modes of peer influence" that dictate how peer relationships may unfold over time. The most recognized mode is "peer pressure" or effort to impose or encourage certain behaviors. This mode is conceptualized either in a negative (effort to impose undesired attitudes or behaviors on someone) or positive (encouragement or cheering someone on to engage in healthy activities) light. The positive aspect of peer pressure is based on previous work by scholars on friendship quality, that is, friends fulfilling socio-affective needs (e.g., being supportive) (Berndt & McCandless, 2009; Hartup & Stevens, 1997; Parker & Asher, 1993). Along with peer pressure, the second mode of influence which is also commonly explored is "behavioral display" which involves one peer displaying behaviors desired by another. This mode is based on Bandura's (1986) social learning theory and, when being conceptualized, is sometimes connected to friendship characteristics, that is, similarities observed between friends.

A third mode referred to as “antagonistic behaviors” includes negative behaviors ranging from teasing to more aggressive actions such as bullying. The final two modes are “behavioral reinforcement” (encouraging or rewarding actions that individual is already engaging in) and “structuring opportunities” (creation of situation, such as, an unsupervised house party to facilitate certain behaviors like underage drinking without necessarily imposing or encouraging it). In this study, I focused on two positive modes of influence: having a positive impact on one’s peers through the provision of social support and behavioral display in the form of peer modeling.

Peers as support system. Social environments that are sensitive to adolescents’ developmental needs foster behaviors that relate to achieving in school (Wang & Eccles, 2012). Bronfenbrenner (2005) proposes in his bio-ecological theory that these social environments encompass proximal processes such as interpersonal relationships and social support that may shape individual’s developmental outcomes. Supportive relationships, especially from the peer group, have significant effects on an adolescent’s level of social and academic engagement within school (Kindermann, 2007; Wang & Eccles, 2012). Adolescents in supportive peer relationships who perceive that their classmates care and like them (i.e., perceive high levels of social support) and value academics may have a more positive outlook on themselves and on academics (Gaylord-Harden, Ragsdale, Mandara, Richards, & Petersen, 2007; Wentzel, 2003).

The definition of the construct social support has varied over the years. Recently, in his review on social support, Vietze (2011) conceptualized this construct as the assistance provided in the form of advice, information, emotional sustenance, material resources, or exchange of reassurance through relationships. Social support encompasses

three distinct dimensions: source of support (peers, parents, teachers), type of support (academic, instrumental, emotional), and quality of support (helpful, easy to understand) (Richman, Rosenfeld, & Bowen, 1998; Tardy, 1985; Vietze, 2011). Malecki and Demaray (2003) conceptualize perceived social support from peers as the student's belief that their peers care or love them, that their peers provide advice or information, and that peers provide their time, resources, and financial support when needed.

Focusing specifically on types of support, the dimension of academic support has been conceptualized as the perception that peers in school want the individual to learn or care about how much they learn (Wentzel, 1994). Instrumental/informational support refers to the availability of physical assistance or aid in understanding a problem (Fleming & Baum, 1986). It has also been defined as helping behaviors such as loaning money, giving time, or providing advice (Malecki & Demaray, 2003). Emotional support from peers has been conceptualized as the student's perception of whether or not their peers care about their feelings (Wentzel, 1994). Some even argue that perceived emotional support may be the most important dimension of support (House, 1981; Langford, Bowsher, Maloney, & Lillis, 1997), especially since in assessment procedures that call for one to describe supportive acts, emotional ones tend to be reported more often than others. Langford et al. (1997) argue that instrumental/informational is distinguishable from emotional support based on the concrete aid that the individual provides (e.g., giving financial assistance). Meanwhile, emotional support refers to the benefits associated with having someone to turn to for reassurance or comfort (Fleming & Baum).

Further examining the dimension of emotional support, some researchers suggest that the construct of “sense of belongingness” overlaps with this type of support. A sense of belonging is defined as the extent to which a student feels supported emotionally by others within their social environment (Goodenow, 1993). Perceiving a high sense of belongingness might evoke an abundance of positive affect (such as feelings of happiness) (Baumeister & Leary, 1995), while those perceiving a lack of belongingness may experience an abundance of negative affect (anxiety, depression, or loneliness) that has the potential to result in negative social and academic behaviors. Within the peer context, a sense of belonging is the perception that an individual fits in with their friends and is fostered by a feeling of attachment or connectedness to these individuals (Witherspoon, Schotland, Way, & Hughes, 2009). According to Alexander-Snow (2010), developing these feelings of inclusion may lead to more satisfying peer relationships, a decrease in academic problems, and lower rates of dropping out.

How researchers measure perceived social support from peers has differed within the abundance of papers published on this topic. Such approaches vary from looking at general social support (e.g., Dennis, Phinney, & Chuanteco, 2005; Dubois, Felner, Brand, Adan, & Evans, 1992; Richman et al., 1998; Rueger, Malecki, & Demaray, 2010; Shin, Daly, & Vera, 2007; Somers, Owens, & Piliawsky, 2008) to measuring different dimensions of social support (Faircloth & Hamm, 2005, 2011; Malecki & Demaray, 2006; Murdock, 1999; Patterson & Pahlke, 2010; Wentzel, 1998, 2003; Wentzel, Battle, Russell, & Looney, 2010; Witherspoon et al., 2009). Others have also measured social support as attachment to peers (Gonzales, Cauce, Friedman, & Mason, 1996; Ma & Huebner, 2008). Regardless of the specific method used, these varied approaches to

measuring social support overall help to highlight the utility of social support from peers to adolescent social and academic development.

When examining the perceived social environment at school, other social relationships may also be associated with students' academic outcomes. One such social relationship is between students and their teachers. Multiple studies have shown high quality teacher-student relationships might promote academic success and school adjustment as teachers contribute to the development of social motivational processes in classroom contexts (Juvonen & Wentzel, 1996; Wentzel, 2013; Wentzel & Wigfield, 1998). The perception that your teachers care and like you may foster an environment that is conducive to being successful in school (e.g., Wang & Eccles, 2013; Wentzel et al., 2010) and may motivate students to become more involved or engaged in academic activities (Birch & Ladd, 1997; Wentzel & Wigfield, 1998). Teachers also create situations that either support or discourage the adoption of motivational goals (Wentzel, 2013). When teachers are taught to provide students with warmth and support and set clear expectations for students' classroom behaviors, their students develop a stronger sense of belongingness, increase display of socially competent behaviors, and show academic gains (Fletcher, 2012; Wentzel, 2002, 2004, 2013). Thus, in light of the beneficial role teachers may play, I controlled for the influence that this type of relationship may have on friendships, ethnic identity, and achievement values.

According to extant literature, there are significant gender differences one should be aware of when studying the social context of adolescents within school. The gender of an individual may shape the behavior of adolescents and the intimacy level of friendships (Newman, Lohman, & Newman, 2007; Rose & Smith, 2009). Maccoby (1990) states that

girls are reported to be more interpersonally oriented and Rueger et al. (2008) assert that gender differences exist especially with regard to perceived social support from peers. Girls may desire more nurturing behaviors from their friends in comparison to boys. For instance, some research has shown girls to report perceptions of higher levels of emotional support from peers in comparison to boys (e.g., Furman & Buhrmester, 1992; Rueger et al., 2008; Wang & Eccles, 2013). Also, scholars have found boys' friendships to be less intimate and based more on activities (e.g., playing sports) in comparison to girls (Newman et al., 2007). Again, much like teacher-student relationships, gender could influence friendships and academic outcomes. Thus, I controlled for gender as my aim in this study is to report mean differences in achievement values, ethnic identity, and friendships.

Two other factors should be noted since they may also result in significant mean differences: socioeconomic status (SES) and age. Focusing on SES, individuals within low socioeconomic bracket are at risk of academic failure due to limited resources and opportunities that are available to these students (Ferguson, 2002; Malecki & Demaray, 2006). Low-wealth communities pose a significant risk to African American adolescents' schooling since many of their schools face challenges, such as, attracting teachers with the credentials and training that matches the educational and developmental needs of their students (Hamm et al., 2013). Overall, researchers report SES as a significant predictor of academic achievement for minority youth (e.g. Mickelson, 1990; Mickelson & Greene, 2006; Strayhorn, 2009). For instance, Strayhorn found high-SES African American males to have high educational aspirations in comparison to their low-SES counterparts.

Moving on to age and how it may lead to group differences, some scholars argue that there may be a relation between age and motivation and identity development. Wigfield, Tonks, and Klauda (2009), for example, report research showing age differences with respect to change in achievement values (from childhood to adolescence). Not only does age relate to motivation, but, also to development of one's identity. In Phinney's (1992) review on ethnic identity development, she noted there is stability in one's ethnic identity once the individual reaches the developmental period of emerging adulthood. Although the above research indicates that SES and age may contribute to changes in academic behaviors, little is known with regard to late adolescence. With the knowledge that SES and age may be contributing factors to the relations between friendships, achievement values, and ethnic identity, I controlled for grade (as a proxy for age) and SES differences in this study.

Empirical findings regarding perceived social support and academic outcomes.

Documented in Table 1 (in Appendix C) is a summary of research studies centered on the relation between perceived peer social support and different academic outcomes. Due to the limited studies that have explored the relation between social support and the outcome variables related to this study (ethnic identity and achievement values) as well as with samples of high school students, I broadened my search so as to highlight the overall beneficial role having peers as a support system plays in African American adolescents' lives. The PsychINFO database was the main search engine used for finding relevant empirical articles. Also, I sought out relevant studies referenced within articles that came up in my initial search. In order to conduct my review, I created a list of keywords related to specific ethnic group, developmental period, and conceptualization

of the term social support. These key words were: *African American, Black, adolescent/ce, high school, middle school, friend/ship, social support, peer attachment, emotional support, sense of belonging, academic support, instrumental/informational support, tangible help, academic achievement, and ethnic minorities*. Initially, my search resulted in about 80 studies; however, once studies with samples that did not include a substantial amount of African Americans (at least 9%) or other ethnic minorities, studies not published in peer-reviewed English language journals, and studies that were not academically related (e.g., looked at substance abuse, problem behaviors, sexual activity and so forth) were excluded, only 22 studies remained.

Most of the studies reviewed had students respond to questions referring to perceived social support from their classmates; only two studies asked students about their close friends (Mariano, Going, Schrock, & Sweeting, 2011; Somers et al., 2008) and one asked about their best friend (Nelson & DeBacker, 2008). The sample sizes ranged from a qualitative study with 8 students to a longitudinal study of 1479 students. The majority of the studies reviewed were correlational in nature with only one (Wang & Eccles, 2012) longitudinal design (across 3 years) and three short-term longitudinal studies (across a school year) (Dubois et al., 1992; Faircloth & Hamm, 2011; Gonzales et al., 1996). Most studies either included only African American students or had these students as the numeric majority in the sample. All reported quantitative studies used Likert-type self-report scales. With regard to SES, most studies used parental income as an indicator of SES of the students. In approximately 60% of these studies, participants were sampled solely from low SES communities or the numeric majority of the sample was from low SES background.

As previously stated, the conceptualization of social support has varied in terms of either measuring global support or examining the dimensions of this construct. Most studies in this review measured perceived social support at a global level (Dennis et al., 2005; Gaylord-Harden et al., 2007; Gutman et al., 2002; Hall & Brassard, 2008; Shin et al., 2007; Somers et al., 2008; Wang & Eccles, 2012). Such measures include the Michigan Study of Adolescent Life Transitions measure (MSALT; Eccles & Barber, 1993), with items such as “When you have a social or personal problem at school, how often can you depend on friend to help you out”, as well as the Inventory of Parent and Peer Attachment scale (IPPA; Armsden & Greenberg, 1987), with items such as “My friends are concerned about my well-being”. By contrast, the few studies examining dimensions of social support used measures such as the Classroom Life Measure (CLM; Johnson, Johnson, Buckman, & Richards, 1985), which features items for emotional support such as “My peers care about my feelings”, and the Children and Adolescents Social Support Scale (Malecki, Demaray, & Elliott, 2003), which features items for instrumental support such as “My peers take time to help me solve my problems”.

Based on the significant and positive correlations (ranging from .09 to .44) reported in these studies, perceived social support from peers is positively related to academic outcomes such as academic achievement (measured as GPA) and motivation (such as, interest, valuing, and goal pursuit), as well as identity-related outcomes such as ethnic identity and self-esteem. Notably, academic support was shown to be a significant predictor of motivation outcomes, for example, goal pursuit (Wentzel, 1994) and math motivation (Leaper, Farkas, & Brown, 2012) and emotional support a significant predictor of motivation outcomes such as social goal pursuit (Wentzel et al., 2010).

In addition, the qualitative studies reviewed offer examples of different types of supportive behaviors (Ellington & Frederick, 2010; Kenny et al., 2007; Walker, 2006). For example, based on student responses from interviews conducted with a small sample of 9th to 12th grade Latino and African American students, Walker found some students reporting either their peers or friends cheered them on when they did well on exams (emotional support) or assisted with problems whenever they did not understand (instrumental support). Finally, the effect sizes reported in some of the quantitative studies reviewed were mostly R-squared (R^2) values and those that found social support to be a significant predictor had R^2 ranging from .06 to .65 (with $p < .05$ to .001), indicating small to moderate effects.

Peer as models. Along with support from peers, the other mode of peer influence central to this study is that of behavioral display. This involves one individual exhibiting attitudes and behaviors that are desired and emulated by another (Brown, Bakken, et al., 2008) or peer modeling. The process of modeling draws from social learning theory (Bandura, 1963), which states that, within the school context, adolescents might adopt behaviors of their peers that they value or admire through modeling, social reward and punishment, and behavioral reinforcement. The observer internalizes the specific modeled acts into schemas that define the context for interpreting and performing these modeled actions (Hartup, 2009); thus, the individual learns from members within their peer group what is considered acceptable behavior.

The importance of modeling as a mechanism of peer influence was established through experimental studies examining the degree to which children self-rewarded after completing an experimental task once they observed the self-reinforcing behavior of a

peer (Altermatt, 2012; Berndt & Murphy, 2002). Bandura (1986) noted that children are much more likely to learn from peers that they observe if they have a positive relationship with those peers; therefore, observational learning from a peer is enhanced by the type of relationship experienced. Thus, associating with friends with whom one has a high level of intimacy, may expose an individual to academic-related behaviors or help them learn about who they are, a process facilitated through peer feedback (Brechwald & Prinstein, 2011; Wentzel & Caldwell, 1997). Through this process, students may accept the norms and values that their friends emulate, and internalize them as specific behavioral standards. Adherence to these norms diminishes the chances of receiving negative sanctions such as disapproval from one's friends (Brown, 1989; Kao & Joyner, 2004).

It should be noted that the mechanism of modeling depends on the openness of the adolescent to influence from their peers (Brown, Bakken, et al., 2008). This basic principle of social learning theory means that an individual cannot model a behavior if they fail to attend to it. Peer influence is not an automatic process; it depends on the individual perceiving the behavior and recognizing it as worthy of emulation. The openness of the adolescent to influence from peers is also connected to how salient peers are to the individual (Brechwald & Prinstein, 2011; Brown, Bakken, et al., 2008). As Bandura (1977) puts it: "within any social group some members are likely to command greater attention than others...attention to models is channeled by their interpersonal attraction" (p. 7). This means that if the adolescent admires their peers and feels they matter to them then they are more likely to emulate them or adopt similar behaviors or attitudes.

As discussed, the individual learns from members within his or her peer group what is considered standard or acceptable behavior. This has been highlighted in research findings supporting the notion that individuals imitate their peers' school-related behaviors, in turn, shaping their own scholastic activities (Ladd et al., 2009). This factor may lead to the development of friendship homophily, which refers to similarities in attitudes and behaviors of friends. Some homophily theorists believe that similarities seen in peers may be based on the tendency of individuals to affiliate with others who already exhibit similar behavioral attributes referred to as selection processes (Brechwald & Prinstein, 2011; Cohen, 1977; Kandel, 1978; Ladd et al., 2009). Alternatively, others believe homophily may result from socialization processes where individuals who associate with each other become similar over time.

Selection and socialization processes are not considered to be mutually exclusive as both processes could play a part in the development and maintenance of friendships (Kandel, 1978). Researchers, however, have yet to distinguish empirically whether it is selection or socialization that leads to similarities seen between peers (Brechwald & Prinstein, 2011; Ryan, 2000). A future direction for researchers is to empirically decipher when and how each process unfolds within the peer environment. Despite this uncertainty, researchers have established findings highlighting both processes occurring within the peer context and being associated with the similarities seen between an individual and their friends in their levels of motivation and academic adjustment (Véronneau & Vitaro, 2007). For example, Bandura (1986) reported that students who view their friends as valuing and engaging in academic tasks are likely to form similar positive attitudes and beliefs. In addition, although Wentzel, Barry, and Caldwell (2004)

did not test modeling directly, their results showed that students with initially low prosocial behaviors (in comparison to their friends) increased such levels through associating with prosocial friends.

In all, whether by socialization or selection process, an adolescent gains a source of social capital once they enter into a friendship with an academically-oriented peer (Crosnoe, Cavanagh, & Elder, 2003). The student grows their social, psychological, and instrumental resources: social support and modeling of prosocial behavior, emotional support for the meeting of challenges, friends' knowledge and skills related to schooling and academic subjects, and exposure to larger academically-oriented social networks (Crosnoe, 2000).

The discussion thus far highlights the process of associating with peers and the potential impact of such association on the adolescent; however, ethnicity is a key construct that may interact with this relation. Researchers consistently report that there is a greater preference for individuals to hang out with peers of same ethnicity (e.g., Brown, Herman, et al., 2008; Kistner, Metzler, Gatlin, & Risi, 1993; Syed & Juan, 2012). Moreover, for ethnic minorities, strong feelings of ethnic pride may be fueled by friendships with individuals who are from the same ethnic group (Hamm, 2000). Kiang, Witkow, Baldelomar, and Fuligni, (2010) reported findings that highlight the positive association between having same-ethnic peers and one's feelings of ethnic belongingness and exploration. Although their findings were based on research on Latinos, they argued that the exploration process may be facilitated more with peers with similar ethnic background. Likewise, in drawing from the homophily literature, Syed and Juan assert

that individuals from the same peer group may be similar in the development of their ethnic identity (a concept that they found some support for in their research).

However, Hamm, Brown, and Heck (2005) report that African American adolescents who may be considered high achievers among their peers of the same ethnic group, find themselves isolated from these peers in classrooms. Thus, these high-achieving adolescents may form friendships with other-ethnic peers. Although some scholars assert that cross-ethnic friendships may not be as beneficial to the individual as same-ethnic ones (e.g., Kao & Joyner, 2004), Aboud, Mendelson, and Purdy, (2003) argue this may not be the case since close friendships serve the same purpose regardless of the ethnicity of the individual. One should note that the evaluation of the impact of having same-ethnic versus other ethnicity friends on academic outcomes has mainly been at the dyadic (e.g., best friend relationships) or peer group level (e.g., crowd affiliation or classroom ethnic composition) rather than at the clique level. With these factors in mind, I conceptualized ethnicity as a key construct that may interact with the relation between associating with peers and development of ethnic identity and achievement values. I do so by taking into consideration the ethnicity of the close friends that are nominated by the individual and explore how their ethnicity interacts with the similarities seen in students' ethnic identity and achievement values.

Empirical findings regarding peer modeling and academic outcomes. Outlined in Table 2 (in Appendix C) is a summary of the research studies centered on exploring peer modeling and different outcomes. To reiterate, for the current study, I did not directly assess modeling. I did, however, define associating with peers as an indicator that modeling has taken place. Studies that have explored peers as positive models for African

American adolescents are very few; therefore, similar to the review conducted on perceived social support, I included studies with a substantial number of African Americans as well as samples that included other ethnic minorities. As with the previous search, I used the PsychINFO database and created a list of keywords: *African American, Black, adolescent/ce, high school, middle school, friend/ship, similarity, ethnic minorities, peer modeling, peer association, and academic achievement*. I also evaluated studies that were cited in articles relevant to my review. Initially, my search resulted in 50 studies. However, once I implemented limitations similar to my previous search, only 14 studies remained.

In the majority of the studies reviewed, best friend nominations were used to reference the peer group of the students. The sample size of the studies ranged from a qualitative study with 16 students (Kenny et al., 2007) to a longitudinal study utilizing 2494 students (Hamm, 2000). All of the quantitative studies used Likert-type self-report scales. There was an equal division between the studies reviewed being either correlational in nature or longitudinal. Most studies, however, featured European Americans as the main ethnic group represented in their sample, with only one study focusing solely on African American adolescents (Hamm, Lambert, Agger, & Farmer, 2013). With regard to SES, the majority of studies were conducted in urban regions with two studies reporting data from rural regions (one with African Americans as the major ethnic group represented in the community). Finally, only three studies focused on students in high school (Hamm, 2000; Kenny et al., 2007; Stewart, 2008).

To conceptualize the peer group, the majority of researchers in the studies reviewed used the social cognitive mapping (SCM) method developed by Cairns and

Cairns (1994). As previously stated, this method entails students nominating friends who they hang out with the most or who they see hanging out together the most. Only one quantitative study did not rely on such methods; Nelson and DeBacker (2008), instead, asked students about their perception of how important school was to their best friend. Overall, these studies highlight the significance of students' peers to academic outcomes. These studies [either with a longitudinal (Antonio, 2004; Hamm et al., 2010; Hamm et al., 2013; Véronneau & Dishion, 2011) or correlational design (Hamm, 2000; Nelson & DeBacker, 2008; Syed & Juan, 2012; Wentzel & Caldwell, 1997; Wilson, Karimpour, & Rodkin, 2011)] found a significant and positive relation between peer association and academic outcomes.

For example, with their sample of rural 6th grade students, Hamm et al. (2010) found that students who were members of a peer group displaying more favorable norms toward effort and achievement had higher levels of valuing of school when assessed by the end of the school year. Also, Syed and Juan (2012) found with their sample of college students that participants who were ethnic minorities scored similarly to friends that were of the same ethnicity with regard to ethnic identity (with $r = .35, p < .05$). In all, these studies help to emphasize how associating with friends positively relates to academic outcomes.

Gaps within the Literature

The above review of the literature suggests that friends can play a beneficial role in adolescents' lives both as support systems and as models. Researchers have shown how associating with peers may lead to positive social and academic behaviors. However, there are several limitations within the literature that need to be addressed, specifically in

relation to the conceptualization of the peer group, assessment procedures, and sample selection.

With regard to conceptualizing the peer group, most researchers utilize nomination procedures (e.g., Antonio, 2004; Hamm et al., 2011; Nichols & White 2001; Wentzel & Caldwell, 1997) to assess dyadic interactions or group affiliation, a step also employed to look at same-ethnicity and cross-ethnicity dyadic relationships (Aboud et al., 2003). Also, at times, the reference group for the peer group of African American adolescents has been assumed or measured to consist solely of same-ethnicity peers (Brown, Herman, et al., 2008). However, as previously stated, peer relationships encompass different levels in which peers interact with each other (dyadic, close friendships, crowd affiliation).

Despite this, looking at close friendships beyond the dyadic level has been understudied with African American adolescents. Thus, research on the peer context of ethnic minorities with a specific reference group needs to be conducted. Yip, Douglass, and Shelton (2013) help to highlight this need by noting the theoretical difference between passive (being surrounded by) and active (interacting with) contact with same-ethnicity individuals. Each type of contact varies in the impact on adolescents since actively socializing with someone tends to have a stronger association with the behavior of an individual versus just being around them. Therefore, researchers should take into consideration these factors and embark on exploring the ethnic composition and conceptualization of the peer group of African American adolescents beyond dyads and crowds.

Switching to assessment procedures, surveys are the main method used for collecting data. Students, for example, respond to questions on their perception of how supportive their peers are with Likert-type scales. However, when evaluating the content of these measures, one will see that many researchers are inconsistent in which group they are referencing; that is, many times they may state the focus is on the peer group, but, ask students about their best friend or closest same-sex friend. For example, in their study on peer support and math achievement, Gutman et al. (2002) used a measure for peer support that merged students' perception of support from their friends and from other students in school. As previously stated, close friendships tend to be embedded within peer groups and the interactions between close friends and relationships at the peer group level should be treated differently (Laursen, 2010). Furthermore, results from Wentzel and Caldwell (1997) indicate that friendships and peer networks tend to predict different things (e.g., reciprocated friendships predict prosocial behavior while group membership predicts academic achievement). Ultimately, students do make differentiations with reference to their peers (close friends versus someone in the same school) (Rueger et al., 2010). There needs to be consistency in the assessment of what peer group level is measured.

Another limitation of previous research relates to the sample selection within these studies. Most studies that have explored friendships and how they relate to the development of an adolescent have incorporated samples that feature either majority European American students or African American students from low-income backgrounds. Data derived from such studies is limited in the generalizability to other African American adolescents. Since the cultural values of one's ethnic group make a

significant difference in the friendship patterns of ethnic minority adolescents (Way, Cowal, Gingold, Pahl, & Bissessar, 2001) what researchers find with a European American sample may not be applicable to African Americans.

Similarly, since each social class has a cultural perspective that is passed on to individuals within that environment (Walpole, 2008) adolescents within an impoverished environment may adopt a cultural perspective that does not see the advantage of being academically successful. Little research, however, has been dedicated to the examination of within-group variability with respect to ethnicity and socioeconomic status, leaving some unanswered questions: *Is it the cultural beliefs of individuals within socioeconomic status groups or beliefs of this specific ethnic group that may support academic success? Are students emulating other students based on cultural values and norms associated with their socioeconomic status or ethnic group?* Relations between peer processes and academic outcomes should take into consideration SES and ethnicity.

Another shortcoming with regard to sample selection is that few studies have explored peer processes beyond middle school students. Ladd et al. (2009) argue that it is important to investigate when and how peer processes emerge within classrooms and develop across the full adolescence spectrum, that is, beyond early or middle adolescence. They note that the characterization of the quality and timing of friendships needs more detail, as in how it is transformed by schooling or the role that age may play as a factor. As previously stated, quality of friendships differs across developmental periods (e.g., childhood to adolescence). However, limited research has explored late adolescence (Parker & Gottman, 1989; Véronneau & Vitaro, 2007).

In summary, research has shown to an extent that friendships during adolescence are important and that mechanisms exist (e.g., provision of social support and peer association) through which peers may play a positive role in the academic behaviors of others. However, several understudied areas remain, especially with regard to ethnic minorities. A discussion of how this study addresses these issues will be presented later in this chapter. Next, is a review of the literature that discusses ethnic identity with specific attention placed on findings relating to African American adolescents and academic achievement.

Ethnic Identity: Theory and Application to African American Adolescents

The growing increase in the number of ethnic minorities within the United States has led to a corresponding increase in research dedicated to understanding issues related to the social and academic lives of these individuals (Aboud & Doyle, 1993; McGill et al., 2012; Phinney, 1990) with some researchers concentrating on the role of ethnic identity in ethnic minorities' lives. Attitudes toward one's ethnic group and background play a crucial part in the psychological functioning of ethnic minorities, and many researchers continue to stress the importance of ethnic identity in adolescent development (Umaña-Taylor et al., 2014). However, many areas remain understudied, including the relationship between the friendships of African American adolescents and their ethnic identity. In this section, I discuss the meaning of "identity", which is important for establishing the conceptualization of ethnic identity. Next, I present the theory behind ethnic identity focusing specifically on Phinney's model (which guided the current study). This discussion will be followed by an examination of the measurement of ethnic

identity and a summary of the major findings applicable to African American adolescents and achievement.

What is Identity?

Before one can grasp the concept of ethnic identity, it is important to understand what identity is and how it is formed. Identity is defined as the multidimensional self-concept of an individual (Oyserman & Destin, 2010). Broadly speaking, identity incorporates a sense of group membership and an emerging sense of self and purpose in life (Syed, Azmitia, & Cooper, 2011). An individual's identity may incorporate perceptions of the personal traits that make one unique as well as social comparison to other individuals, and social aspects of the self that are tied to membership in a particular group (Brewer, 2001). In their review on the socialization of adolescent identity, Adams and Marshall (1996) theorized five main functions of identity: (1) providing the structure for understanding who one is, (2) providing meaning and direction through commitments, values, and goals, (3) providing sense of personal control and free will, (4) striving for consistency, coherence, and harmony between values, beliefs, and commitments, and (5) enabling the recognition of potential through a sense of future possibilities, and alternative choices. In all, identity reflects social influences and active self-construction in creating what is important to defining the self.

Identity development is not considered to be a solo process as it is carried out within important social contexts (Syed et al., 2011). This means the molding of one's self-concept results from various social interactions and from the development of key interpersonal relationships (e.g., parents, teachers, and peers relationships). Also, Harter (1998) reports that during adolescence, and through the socialization process, an

individual begins to develop a conceptualization of who they are in a more abstract and differentiated manner. This leads to the development of “multiple selves” crossing different domains. For most ethnic minorities, the socialization process may include learning about what his or her ethnic or cultural background means to him or her (Rotheram & Phinney, 1987). This knowledge may result in forming an ethnic identity, which is crucial to the psychological well-being of ethnic minorities (Smith & Silva, 2011).

It is important to note that for ethnic minorities such as African Americans, there are multiple identities that develop over time. This includes both their ethnic identity and their racial identity. Ethnic and racial identity both draw upon the person’s conception of herself or himself as a member of a social group, however, ethnic identity is based on one’s ethnicity (an ascribed or self-identified affiliation typically based on aspects of one’s family heritage, shared language, culture, or nationality), while racial identity is based on one’s race (an ascribed category of persons with shared genetic, biological, and physical features) (Wakefield & Hudley, 2007). Both identity dimensions imply claiming membership in the group and placing some degree of positive or negative affect onto it (Ashmore et al., 2004; Schwartz et al., 2014).

The research conducted specifically on racial identity notes that this aspect of one’s identity is laden with issues of power, privilege, and racism (Markus, 2008; Williams, Tolan, Durkee, Francois, & Anderson, 2012). Thus, when researchers wish to understand how individuals, such as, African American adolescents, shape their identities in response to an oppressive and highly racialized society as well as due to direct experiences of racial discrimination, racial identity is the construct that they prefer to

study (Cokley, 2007; Hall & Carter, 2006; Helms 2007). Also, racial identity theories are intended to describe group specific development in a particular sociopolitical context (Helms 2007), while the underlying theme of ethnic identity is conformance to ethnic culture rather than exposure to racism (Phinney 1992). With the historical development of these different constructs in mind, this review and the conceptualization and measurement of identity is based on the ethnic identity of African American adolescents. Although racial identity relates to one's psychological well-being (e.g., Sellers, Copeland-Linder, Martin, & Lewis, 2006; Sellers, Rowley, Chavous, Shelton, & Smith, 1997; Scottham, Sellers, & Nguyen, 2008), the positive framework in which this review is based on is driven by research that explores the ethnic category of this ethnic group.

Conceptualization of Ethnic Identity in Adolescence

In recent years, researchers have begun to focus on social aspects of identity that incorporate collective or group identification (e.g., Cerulo, 1997; Phinney & Ong, 2007; Smith & Silva, 2011). One such aspect is ethnic identity which is defined as a self-ascribed affiliation to a particular ethnic group based on aspects of family heritage, shared language, culture, or nationality (Wakefield & Hudley, 2007). Scholars have researched this construct extensively and many have based their own investigations on Phinney's (1992) work. Like many other theorists who study identity, Phinney's conceptualization of ethnic identity is based on the tenets of Erikson's (1968) psychosocial theory and Tajfel and Turner's (1986) social identity theory.

Erikson's Psychosocial Theory. The theoretical basis for many theories on identity formation has relied heavily on Erikson's work. His conception of identity focuses on the achievement of an identity during the adolescent time period. An

individual is thought to attain an identity once they complete the process of search/exploration (grappling with questions about beliefs) and commitment (resolving crisis and accepting particular goals, beliefs); failure to complete this may result in identity confusion and despair for the adolescent. This means that the individual will lack clarity about who they are and what their role is in the world (Phinney, 1993). Erikson views adolescence as a time of self-exploration whereas the formation of an identity is a life-long process as the individual is continuously taking in aspects of the self that may change across contexts.

According to Erikson, adolescence provides the ideal opportunity for individuals to develop their sense of identity. Adolescents have yet to encounter many of the responsibilities expected of adults; therefore, they are able to try out various commitments in, for example, professions, before eventually adopting a sense of who they are (Patterson, Sochting, & Marcia, 1992). Extending Erikson's work, Marcia (1980) developed four identity statuses that result from the process of identity formation; these four statuses are based on whether or not exploration (looking at different alternatives to learn more about oneself) or commitment (selecting what defines oneself) has occurred. They are: *identity diffusion* (no exploration, no commitment), *identity foreclosure* (no exploration, commitment), *moratorium* (exploration, no commitment), and *identity achievement* (exploration, commitment). An individual is not likely to explore all identity domains at once; therefore, one may see an adolescent actively explore one dimension while the other remains unexamined (Tatum, 1997). According to Tatum, ethnic minorities are more likely to be actively engaged in exploration of their ethnic identity during adolescence.

Tajfel Social Identity Theory. The concept of social identity is based on the idea that an individual is characterized by the social features defining his or her membership in a group (Deschamps & Devos, 1998). Social identity is viewed as the categorization of the self-concept into more inclusive social units such that “I” becomes “we” (Brewer, 1991). An individual may perceive herself as similar to others of the same background (e.g., ethnicity) but different, to an extent, from members of other groups. Social identity theory suggests that the level of identification with a social group increases when one is faced with situations where one perceives a threat and when one views oneself as a minority. Overall, social identity “plays an important role in the connection that individuals feel with groups, in their wish to distinguish themselves from others, and in group behavior such as the more positive treatment of members of one’s own group as opposed to members of other groups” (van Laar, Derks, Ellemers, & Bleeker, 2010, p. 602).

Tajfel (1986), in his conceptualization of social identity theory, defined ethnic identity as the ethnic component of one’s social identity and viewed it as one of the components of the self-concept of an individual. A positive self-concept is molded by the sense of belonging the individual feels based on their membership in and knowledge of their social group (Phinney, 1992). Social identity theory also focuses on the attitudes and feelings that accompany the sense of belonging to the ethnic group (Roberts et al., 1999). This sense of belongingness or emotional support that the individual experiences from, for example, friends or parents in turn, directly relates to the development of an identity. In this way, these support figures act as “identity agents”, that is, as individuals with an active role in the development of adolescents’ identities (Syed et al., 2011).

Phinney's Three-Stage Model. Extending the identity development work of Erikson and Tajfel, Phinney proposed a three-stage progression model explaining how adolescents form their ethnic identity. In her research, Phinney (1993) developed an empirically validated model applicable to multiple ethnic groups, thus addressing major limitations of previous theories at the time. Phinney proclaims that the development of one's ethnic identity occurs in stages and through a linear process. This process takes place over time as people explore and make decisions about the role of ethnicity in their lives (Phinney, 1990).

First, in the unexamined stage, early adolescents have neither actively explored nor been exposed to the ethnic issues that relate to being a member of their ethnic group (Roberts et al., 1999). At this point, the individual may lack interest, have given little thought to their ethnicity, or (as Erikson might hypothesize) not yet experienced a crisis. Next, in the exploration stage, the adolescent starts actively seeking information about his or her cultural heritage, background, as well as the significance of that information as it relates to their own personal identity (Phinney, 1993). This search period is an integral part of the process of developing one's ethnic identity (Holcomb-McCoy, 2005). Lastly, a firm commitment follows the exploration stage and entails the individual committing to his or her ethnic group, embracing and valuing his or her ethnic identity which is now incorporated into their personal identity.

Measurement of Ethnic Identity and Major Research Findings

Based on her theory, Phinney developed the Multigroup Ethnic Identity Measure (MEIM) to assess ethnic identity. The initial validation of the scale included three subscales: affirmation and belonging, ethnic identity exploration, and ethnic behaviors

(Phinney, 1990). However, Roberts, Phinney and colleagues (1999) conducted an exploratory factor analysis that resulted in a revised structure of the MEIM where it became a two factor structure: *commitment* and *exploration*, thus, paralleling Phinney's model of ethnic identity.

Exploration is the first component of ethnic identity and is defined as the degree to which one engages in actively learning about their ethnic group (Roberts et al., 1999). Specifically, exploration is conceptualized as "seeking information and experiences relevant to one's ethnicity" (Phinney & Ong, 2007, p.272) and may involve numerous activities such as reading and talking to people, attending cultural events, and so forth. Torres, Yznaga, and Moore (2011) assert that individuals high in exploration tend to be inquisitive and have an interest in gaining knowledge about their heritage and the culture attached to their ethnic group.

Commitment is the second component of ethnic identity and is connected to the sense of belonging that one feels towards their ethnic group. Commitment is considered to be the most important component of ethnic identity as it indicates both a strong attachment and personal investment in one's ethnic group (Phinney & Ong, 2007; Roberts et al., 1999). This component is viewed as the "subjective sense of belonging to an ethnic group and the feelings and attitudes that accompany this sense of group membership" (Phinney, Romero, Nava, & Huang, 2001, p. 136).

More recently, Phinney and Ong (2007) conducted a confirmatory factor analysis that led to the new revised version of the MEIM. This version contains 6 items instead of the previous 12 items and retained the two component structure of the scale. Overall, the MEIM provides a concise measure that researchers can use to determine not only the

strength and security of an individual's ethnic identity but also the degree to which ethnic identity has been achieved. In addition, studying exploration and commitment as distinct constructs provides some understanding with regard to the underlying processes driving the development of an ethnic identity (Torres et al., 2011).

Empirical findings regarding ethnic identity and academic outcomes.

Documented in Table 3 (in Appendix C) is a summary of research studies that explored the relation between ethnic identity and different outcomes. As previously stated, few studies have examined the relation between the peer group or friendship and ethnic identity. My aim with this review was to illustrate what researchers have focused on with respect to positive experiences of African American adolescents within the school system using Phinney's model and measure. Similar to previous sections, I broadened my search to include samples that comprised of a substantial number of African Americans and other ethnic minorities (e.g. Latinos) and I used the PsychINFO database guided by a list of keywords: *African American, Black, adolescent/ce, high school, middle school, Phinney, MEIM, ethnic minorities, ethnic identity, ethnic background, peers, ethnicity, and academic achievement*. Also, I reviewed studies that were cited in articles that were found to be relevant for my review. Initially, my search resulted in 80 studies; however, once I applied filters, such as, excluding studies that were clinical, family oriented (e.g. family relationships, parental racial socialization, acculturation), focused on other identities (e.g. racial, gender), focused on negative psychological variables (e.g., depression, stress), dissertations, or assessed negative peer experiences (e.g. stereotyping, discrimination, peer harassment), only 22 studies remained.

Illustrated in Table 3 are the remaining studies which focus on academic outcomes. The sample sizes in these studies ranged from a correlational study with 131 students (Bennett, 2006) to a longitudinal study utilizing 2494 students (Hamm, 2000). The majority of studies was correlational in nature and had African Americans as the numeric minority in their sample. All reported quantitative studies used Likert-type self-report scales to assess outcome variables. With regard to SES, most studies were conducted in urban regions and with low-income students (either indicated by parent's income or based on the community reported in the study). Finally, most of the studies reviewed either featured participants who were in college or sampled students from both middle and high school.

In these studies, the prevailing methodology used to analyze ethnic identity was the creation of composite scores by merging both subscales of the ethnic identity measure. This resulted in researchers measuring ethnic identity as a global construct in which high scores indicate a strong ethnic identity or strong identification with one's ethnic group (Phinney, Ferguson, & Tate 1997). Studies employing this strategy focused on academic and psychological outcomes, such as self-esteem (Lorenzo-Hernandez & Ouellette, 1998; Phinney, Cantu et al., 1997; Phinney, Ferguson et al., 1997; Sieger & Renk, 2007; Worrell, 2007), academic self-concept (Cokley & Chapman, 2008), self-efficacy (Kerpelman, Eryigit, & Stephens, 2008), and GPA (Adelabu, 2008; Kerpelman et al., 2008; Ong, Phinney, & Dennis, 2006). All these studies found positive associations between each variable and ethnic identity. For example, Lorenzo-Hernandez and Ouellette found a positive correlation as high as $r = .70$, $p < .001$ with their subsample of African American college students.

The few studies that focused on the association between characteristics of peer relationships and ethnic identity also found positive and significant findings (a key relation depicted in conceptual model in Figure 2.). In these studies, peer interactions were conceptualized either as social support (Shin et al., 2007), friend similarity (Syed & Juan, 2012), school connectedness (Prelow, Bowman, & Weaver, 2007), bicultural competence (Bennett, 2006), or intergroup attitudes (Phinney et al., 2001; Phinney et al., 2007) and were positively correlated (ranging from $r = .10$ to $.70$) with ethnic identity. For example, Shin et al. measured ethnic identity as a global construct and found a positive correlation with peer social support ($r = .27, p < .01$) in their 7th and 8th grade sample of ethnic minorities (54% Latinos). Using the MEIM scale, Phinney et al., (2007) created four ethnic identity statuses (diffusion, foreclosure, moratorium, and achieved) based on Marcia's (1966) ego identity model and classified individuals within the achieved status if they scored high on both subscales. Their results showed that African American students had the highest proportion of achieved status (85% of the sample) and those within this status had high other-group orientation (meaning they enjoyed spending time with people from other ethnic groups). The range of the reported R^2 in these quantitative studies was from .05 to .41; such values indicating small to medium effects.

Gaps within the Literature

The above review has highlighted the research on ethnic identity and the experiences of African American adolescents. Although findings indicated that a positive relation may exist between ethnic identity and various academic and psychological outcomes, significant issues still need to be addressed. These limitations mainly relate to measurement issues and the type of social relationships studied. With regard to types of

social relationships, influences outside of the family, such as peer influence, have received minimal attention even though friendships are critically important especially during adolescence (Korenienko, Santos, & Updegraff, 2015; Umaña-Taylor et al., 2014). Peers are significant socializing agents within the school context, and there are many avenues through which students interact with each other and learn about their ethnicity (either directly or indirectly) (Kao & Vaquera, 2006). However, the role of a positive peer context remains understudied and researchers need to expand their understanding of the peer group beyond just, for example, discrimination or peer harassment.

Along with this narrow focus, issues also remain regarding how ethnic identity is measured. As highlighted in Table 3, most studies have combined the subscales of the MEIM to assess global ethnic identity. The rationale researchers have provided for this practice varies with some wishing to understand only overall ethnic identity of the individual while others believe that since the subscales are highly correlated, this warrants the testing of a one-factor model (e.g., Yoon, Jung, Lee, & Felix-Mora, 2012). However, theoretically, ethnic identity is a multifaceted construct that has two key components. Studies have shown exploration and commitment may have differing developmental courses and relate to different psychological outcomes (e.g., Lee & Yoo, 2004; Pahl & Way, 2006; Umaña-Taylor et al., 2014), thus calling into question this practice of combining subscales. Schwartz et al. (2014) assert that if researchers continue to inconsistently measure ethnic identity (i.e., not based on subscales) they may actually increase the confusion regarding how exactly this concept should be examined. Thus, researchers should aim to examine each component separately, as the achievement of a secure ethnic identity is driven by one's experiences and each component may make

separate contributions to the underlying structure of ethnic identity (Phinney & Ong, 2007).

In all, the research conducted by Phinney and others show that ethnic identity is a multidimensional construct and points to a positive and significant relation between ethnic identity and academic outcomes. However, there are key issues, such as the lack of attention on positive peer interactions and the conceptualization of ethnic identity as multidimensional (yet assessed as a global construct), that need to be addressed when studying the development of ethnic identity. Next, I provide a review of the literature that discusses achievement values, with specific attention placed on findings relating to African American adolescents.

Achievement Values and African American Adolescents

A substantial body of literature has explored the motivation of African American adolescents. However, most of these studies explore motivational explanations for underachievement of these students (Darensbourg & Blake, 2013; Graham, 1994, 2009). For instance, multiple theorists have attributed the underachievement of African Americans to devaluing of school or academic disidentification (Darensbourg & Blake, 2013; Osbourne, 1995, 1997, 1999; Voelkl, 1997). Anthropologists such as Ogbu (1986) argued that pursuing academic success is not seen as valuable because it is associated with European American culture but not with that of African Americans. However, as previously stated, these explanations are based on limited empirical support and inconsistent findings. Therefore, positive achievement values may be a promising branch of motivation to explore for understanding the achievement of African American adolescents.

To this end, the aim of this next section is to review the literature pertaining to achievement values and how it has been measured. First is a discussion of the main theoretical framework for achievement values that pertains to the current study: expectancy-value theory. Following this is a summary of the research findings pertaining to the two components of achievement values related to this study: importance and utility of school.

Development of Achievement Values Theory: Brief Historical Overview

The expectancy-value model developed by Eccles and her colleagues (1983) on achievement motivation explores the reasons why an individual chooses to engage in a task (Linnenbrink-Garcia & Fredricks, 2008). This theoretical model has its roots in the writings of Atkinson (1957), whose seminal work developed the first formal model of expectancy-value in order to clarify achievement-related behaviors such as striving for success, persistence, and choice among tasks (Wigfield et al., 2009). Atkinson defined expectancy for success as an individual's projected probability of being successful on a task (ranging from zero to one) and task value as the relative attractiveness of achieving a task (Wigfield et al., 2009). Eccles later used Atkinson's definitions to guide her conceptualization of these constructs. However, Eccles and her colleagues' work differs from that of Atkinson's in that they broadened the definitions of expectancy for success and values so as to connect it to broader psychological, cultural, and social determinants (Wigfield & Cambria, 2010). Eccles, thus, defined expectancy for success as a student's belief about how well they will do on a certain task and task value as how a task meets different needs of an individual (Eccles & Wigfield, 2002).

With regard to the achievement values aspect of this model, Eccles (1983) proposed four major components: attainment value or importance, intrinsic value, utility value or usefulness, and cost. Attainment value is the importance of doing well on a task and may deal with issues relating to one's identity, that is, a task is only viewed as important when it is central to a person's sense of self. Intrinsic value describes the enjoyment a person receives from engaging in a task. Utility value refers to how a task may fit into an individual's future goals or plans: for instance, doing well in school may be useful for fulfilling a requirement to get into college. Finally, cost relates to the negative consequences that are associated with engaging in a task. Eccles and Wigfield (1995) argue that intrinsic, importance, and utility are best conceptualized as the attracting characteristics that impact the positive valence of a task. Cost, however, reflects negative factors, such as anxiety or anticipated failure, which affect the negative valence of the activity. In the current study, I focused on only two aspects of achievement values. Since my interest was on positive experiences within the school context, I did not assess cost. Furthermore, because the intrinsic component of achievement values centers on the individual's internalized affective reasons for valuing a task (Wentzel & Wigfield, 1998), I also did not assess intrinsic value in this study. Rather, I focused on attainment and utility, as these factors are potentially associated with social concerns.

Major Findings on Achievement Values and Social Relationships

The expectancy-value theory acknowledges the importance of social influencers on the achievement values of adolescents (Fan, 2011), particularly with regard to parents, whose involvement in student's academic lives is widely evidenced as an important contributor to academic success of students (Eccles, Adler, Kaczala, 1982; Walker, 2006;

Wentzel, 1998). However, it is also essential to consider peer relationships and how they play a role in students' motivation to achieve. As adolescents develop their independence from their parents, they increase the amount of time they spend with their peers (Brown, 2004) and, as they engage in similar activities and build more intimate relationships with their peers, the opinions, beliefs, values and behaviors of those peers become increasingly influential (Brown, 1989; Fan 2011).

There is a body of work focused on peers and African American adolescents' valuing of school. Graham and her colleagues (1998) introduced a nomination technique that avoids using self-report measures on attitudes towards school in order to diminish social desirability effects. Their approach to measuring achievement values involves participants selecting classmates who fit various behavioral descriptions. Graham et al. believed that by identifying the characteristics of peers whom adolescents admire, respect, and want to be like, we will be able to learn something about the characteristics adolescents may value. Findings from their first study found that middle school African American females valued academic effort and success, while African American boys valued low-achievers. The follow-up to the initial study also highlighted grade related and gender related shifts in valuing school (Taylor et al., 2007). For example, results from their study showed that by grade 7, ethnic minority males showed an increase in nominating low-achieving male classmates.

The work outlined above is a creative way to explore achievement values of adolescents. Despite the promise in this approach, however, as noted by Taylor et al. (2007), this measure requires additional development with respect to its construct validity. Another limitation to note is the ability to generalize findings since responses

would be restricted to the specific characteristics that are assessed. There may be other salient characteristics of peers that the adolescents may value that may be overlooked with this type of procedure. With this in mind, the approach to the following review included a focus on previous research that incorporated the conceptualization and measurement of achievement values based on Eccles (1983) decades of work developing and measuring this construct.

Empirical findings regarding achievement values and academic outcomes. In Table 4 (in Appendix C) is the summary of research studies that explored the relation between achievement values and different outcomes. My approach with this review was to illustrate what researchers have focused on with respect to achievement values (importance and utility of school) among African American adolescents. Similar to previous sections, I used the PsychINFO database, reviewed studies cited in relevant articles, and included some multiethnic samples that may have similar motivation and achievement patterns as African Americans (e.g., Black Canadians and Latinos). Broadening the number of ethnic groups helps to highlight the association between peer relationships and achievement values. The keywords used for my search were: *achievement values, importance of school, usefulness of school, utility value, attainment value, valuing academics, peers, African American, late adolescence, Eccles, ethnic minorities, high school, academic achievement.* My initial search resulted in 46 empirical articles. I filtered out studies that did not focus on attainment/importance and utility values, excluded ethnic minorities from their sample, only had childhood sample, or lacked a peer relationship reference. This resulted in only 17 remaining studies.

Shown in Table 4 are studies correlational in nature and focused on either perceived peer support for academics (Fan, 2011; Leaper et al., 2012; Smith, Scheider, & Ruck, 2005; Vitoroulis et al., 2012), social support from peers (Somers et al., 2008; Wang & Eccles, 2013), social acceptance (Perreira, Fuligni, & Potochnick, 2010), or sense of belongingness (Faircloth & Hamm, 2005; Goodenow & Grady, 1993). With samples ranging from 7th grade to 12th grade of high school, these studies showed that support from peers positively correlates with importance and utility value of school; the correlations ranged from $r = .11$ to $.55$ (with $p < .05$ to $.001$).

For example, with their sample of African American 9th graders, Somers et al. (2008) found a positive correlation between their measure of importance of school success and classmate social support. Similarly, sampling 7th to 9th grade students (32% African Americans), Goodenow and Grady (1993) observed correlations as high as $r = .55$, $p < .001$, between perception of friends valuing academics and individual's valuing doing well in school. Also, using scores from 10th graders who participated in the Educational Longitudinal study, Fan (2011) found a positive relation between student's utility value and perceptions of how important academics are to friends. They also found statistical support for academic values of friends as a predictor of student's utility value. The R^2 's reported ranged from $.23$ to $.65$, demonstrating moderate effect sizes. Overall, these studies support the notion that social factors such as peer relationships are associated with students' achievement values.

Gaps within the Literature

Overall, this review has highlighted the positive relation between achievement values and academic outcomes. However, a few limitations should be addressed with

respect to sample selection, social context, and assessment procedures. Theories such as expectancy-value have been, as Graham and Taylor (2002) argue, intrapersonal in their focus (e.g., individual needs and beliefs) when, in fact, the context for developing achievement-related views is very interpersonal. As a result, the social context, especially with regard to the peer group, has been understudied. To reiterate, peers play a pivotal role in the molding of academic behaviors of an individual; however, researchers need to more systematically explore the peer context and understand how peer processes shape the achievement values of adolescents.

With regard to sample selection, African Americans have been understudied and some researchers have taken the approach of comparing ethnic groups (mainly African American versus European Americans) on motivation variables. However, while comparative research plays a significant role in understanding what variables may be more important for a particular ethnic group, this approach has not substantively helped in advancing our understanding of motivational processes in ethnic minority populations (Graham, 1994; Graham & Taylor, 2002). Thus, researchers should explore various groupings of African American adolescents especially within different SES backgrounds (low, middle, and upper class) and academic standing (e.g., high achievers) in order to develop a better understanding of motivation as it relates to ethnic minorities.

Finally, in examining the assessment procedures taken by many researchers, one sees a tendency for researchers, when analyzing data, to combine the different components of achievement values into one overall values variable. But, as previously stated, achievement values consist of various components. For example, if results show students to have high achievement values, is it that they understand the importance of

school or is it that their level of interest is high? Such key information is lost when researchers merge these constructs; thus, it would be beneficial to know which component is most relevant, especially if one wishes to develop interventions based on these findings.

General Summary

In conclusion, the overall review of the literature has highlighted the potential for friendships to positively shape the academic behaviors of individuals. Although research on high-achieving African American adolescents is limited, findings based on a positive framework and samples of ethnic minorities help to illustrate the relation between modes of peer influence, ethnic identity, and achievement values. Also, based on the review of the literature, we see how researchers have studied the concepts of ethnic identity and achievement values. However, the approaches taken by these scholars have led to certain areas being understudied or all together neglected. The current study aims to address some of these concerns.

First, recurring issues related to the peer environment of African American adolescents reflect assumptions concerning the composition of friendship groups and the continuous examination of the negative experiences of these adolescents. The aim of the current study, then, was to more comprehensively understand close friendships [examining specific characteristics of the peer group (provision of support and peer modeling)] of these adolescents and to provide a specific reference group (close friends within same school and grade) to conceptualize how friends positively shape these students. In doing so, I stepped away from the typical practice of examining constructs such as discrimination or harassment, not because exploring negative experiences is not

important, but because we need to develop a broader picture of the peer environment of African American adolescents.

Second, an understudied area in research on ethnic identity is how peers play a role in its development. As previously stated, scholars have focused mainly on parental influence, which is expected since parents are the first socializing agents that an individual interacts with on a daily basis. However, adolescent students are surrounded by their friends for the majority of the day at school and seek these individuals to meet various needs. Furthermore, friends become models of behaviors that adolescents may emulate. The current study builds on what is currently known about how social relationships shape the development of an ethnic identity, and further explores the relation between close friends and multiple components of ethnic identity.

Finally, there is much to gain from looking at the friendships of high-achieving students, as the applicability of the information garnered may help other African American students succeed within school and develop a healthy understanding of who they are. However, in my search for empirical studies that have studied this subgroup of individuals, I was left with only a handful. There were, on the other hand, qualitative studies that provided various illustrations of how peers shape ethnic identity and achievement values. The current study provides quantitative information that will help understand the experience of being a high-achieving African American within high school.

Chapter 3: Methods

In this chapter, I discuss the methods of the current study. This involves a description of the participants, design, procedures, and measures for this study. The research method I chose was determined by my research questions and a review of current literature. The following are the research questions that were the foundation of this study:

1. How do perceptions of social support from close friends relate to components of ethnic identity?

I expected perceived social support from close friends (measured as emotional & instrumental/informational support) to be positively related to the components of ethnic identity (exploration & commitment). Academic support was not included in the analysis as there is no theoretical explanation for predicting how this dimension might be related to one's ethnic identity.

2. How do perceptions of social support from close friends relate to achievement values?

I expected perceived social support from close friends (measured as academic, emotional, & instrumental/informational support) to be positively related to components of achievement values (importance & utility of school).

3. How does the set of close friends' ethnic identity and achievement values predict individual's ethnic identity and achievement values? How does the ethnicity of these close friends moderate the relation between the group of nominated friend's and the individual's scores on components of ethnic identity and achievement values?

Although this two part question is exploratory in nature, I expected the set of close friends' scores would predict the individual's scores on the two components of ethnic identity and achievement. Also, I expected individuals with friends who are all of the same ethnicity to have the strongest relation in comparison to those whose set of friends are predominately African American, have mixed set of ethnicities, or of other ethnicities.

Participants

African American adolescents classified as high-achieving and their close friends who were all enrolled in 10th to 12th grade of high schools located within the Mid-Atlantic region of the US were targeted for this study. Having an unweighted grade point average (GPA) ≥ 3.0 was used as the classification criterion for labeling students as high-achieving. This was in line with traditional approaches by past researchers who explored the academic and social factors impacting high-achieving African American adolescents (Carter, 2008; Graham & Erwin, 2011; Griffin, Allen, Kimura-Walsh, & Yamamura, 2007; Harper, 2008; Sanders, 1997; Wiggan, 2008). A total of 325 high school adolescents participated in this study of which 217 were classified as high-achieving African American adolescents. The analyses for this study focused on the high-achieving African American sample.

I used two approaches to determine the number of students I would recruit for this study. First, I conducted a power analysis using the G Power*3.1 analysis tool (Faul, Erdfelder, Buchner, & Lang, 2009). I used the conventional values set by Cohen (1988) to calculate power which are f^2 values of small (.02), medium (.15), and large (.35) effect sizes. I set the program to "F family of tests" and used the setting for statistical test of

“linear multiple regression with fixed model and R^2 increase”. I conducted an a priori power analysis to determine sample size by using $\alpha = .05$, power of .80 and .90, and the previously mentioned effect sizes. With 9 or 10 control variables [gender, grade level, free reduced lunch, mother’s education level, mother’s occupation, father’s educational level, father’s occupation, and teacher support (emotional, instrumental, and/or academic depending on the research question)] and testing for either two or three predictor variables (since this also varied depending on research question), I conducted power analyses with 11 and 13 total predictors to help determine sample size. Based on the aforementioned criteria, using total of 9 predictors, a small effect would need a sample of $N = 485$, medium $N = 68$, and large effect $N = 33$. For a regression model with a total of 13 predictors, a small effect would need a sample of $N = 550$, medium $N = 78$, and large effect $N = 37$.

The second approach I took to determine my sample size was to review the R^2 values which were reported in the studies that I reviewed. I examined the reported R^2 values from a sample of empirical studies that examined the relation either between social support, ethnic identity, or motivation and outcome variables (academic related). These researchers found statistical significance with samples ranging from 120-579 and reported R^2 values indicating effect sizes small to medium (e.g., Antonio, 2004; Cokley & Chapman, 2007; Kerpelman et al., 2008; Prelow et al., 2005). Thus, my targeted sample size was 500 students. Ultimately, I aimed for a sample size that would allow me to have sufficient power. However, due to the sampling limitations that occurred (e.g., availability of students) I did not meet the aforementioned targeted sample size (a limitation discussed in chapter 5).

Tables 5, 6, and 7 illustrate the N's and percentages for the demographic information on the students and schools that participated. It should be noted that in Table 6 for the African American sample, 138 nominated friends were also high-achieving African American students (i.e., part of the targeted sample), therefore, there is overlap with regard to the information on friends and that of the high-achieving sample.

Table 5.

Number of Participants and Distributions across selected Demographic Variables: High-Achieving African American Adolescents Sample

		N	Percentage
Gender	Male	89	41
	Female	128	59
Grade	10 th	53	24
	11 th	78	36
	12 th	82	38
	Missing	5	2
Mother's Educational level	High School Diploma	33	15
	Some College	28	13
	Two Year College	10	5
	Four Year College	62	29
	Graduate School	77	36
	Other	4	1
	Missing	3	1
Father's Educational level	High School Diploma	27	12
	Some College	32	15
	Two Year College	5	2
	Four Year College	61	28
	Graduate School	73	35
	Other	4	1
	Missing	15	7
FARMS	Yes	72	33
	No	141	65
	Missing	4	2

Note: N's ranged from 202 to 217

Table 6.

Number of Participants and Distributions across selected Demographic Variables: Nominated Close Friends Sample

		N	Percentage
Ethnicity	Black or African American	161	66
	White, Caucasian, or European American	11	5
	Asian or Asian American	19	8
	Hispanic or Latino	30	12
	Mixed: Parents from two different ethnic groups	22	8
	Missing	1	1
Gender	Male	96	39
	Female	149	60
Grade	10 th	70	29
	11 th	86	35
	12 th	84	34
	Missing	5	2
Mother's Educational level	High School Diploma	38	16
	Some College	28	11
	Two Year College	10	4
	Four Year College	78	32
	Graduate School	78	32
	Other	6	1
	Missing	7	1
Father's Educational level	High School Diploma	31	13
	Some College	31	13
	Two Year College	12	5
	Four Year College	68	28
	Graduate School	74	30
	Other	7	3

	Missing	22	9
FARMS	Yes	79	32
	No	162	66
	Missing	4	2

Note: For the African American sample, 138 nominated friends were also part of the high-achieving African American sample; *N*'s ranged from 235 to 245

Table 7.

Information on Schools that Participated

School	Type of School	Number of HAA in Sample (%)	Total Enrollment in School	Percentage AA in School
A	Public	22 (10%)	1500	22%
B	Public	78 (36%)	2100	25%
C	Public	11 (5%)	1900	5%
D	Private	98 (45%)	225	79%
E	Private	8 (3%)	145	12%

Note: *N* = 217; HAA= High-achieving African American sample; AA = African American

The following is a brief description of the schools that participated in this study. The information provided is based on school data collected from 2014-2015 academic year:

- School A: Students are accepted through a lottery system into this public high school. There are four academy programs that incorporate rigorous academic coursework and explore career pathways: Academy of Finance, Business Management and Marketing (part of the National Academy Foundation); International Baccalaureate (IB) Program; Renaissance Academy; and the Academy of Visual and Performing Arts. The ethnic composition of the school is 44% Hispanics/Latinos, 21% Black/African American, and 20% European American. This school is located in a suburban residential area in the mid-Atlantic region with approximately 1500 students enrolled; 44% of students participate in FARMs.
- School B: This public high school is located in a suburban residential area in the mid-Atlantic region with approximately 2100 students enrolled. This school offers a program referred to as The Signature Academies that provides students with advanced study and research experiences in, for example, technology and communication. Each of the 11 career focused signature strands offer 3 or 4 year sequences of rigorous, technology infused coursework which culminates in a 12th grade “capstone” experience. This involves post-secondary classes, guided research projects, and internships. This school is diverse with ethnic breakdown as follows: 36% Hispanic, 27% Black/African American, 24% White/European American, and 9% Asian American. Approximately 44% of the students participate in FARMs.

- School C: This public high school is located in a suburban residential area in the mid-Atlantic region with approximately 1900 students enrolled. Overall, 69% of the student population is European American, followed by 13% Asian American, 10% Hispanics, and 5% African American. On average, about 95% of students are accepted into college. Less than 5% of the student population participates in FARMs.
- School D: This is a small private Seventh-day Adventist college preparatory school with approximately 225 students enrolled and is located in a suburban residential area in the mid-Atlantic region. The majority of students are Black/African American (79%), with 10% Mixed, and 7% Hispanic.
- School E: This is a small private Seventh-day Adventist college preparatory boarding school with approximately 145 students enrolled. White/European Americans make up 65% of the student population and 12% are Black/African Americans. This school is also located in a suburban residential area in the mid-Atlantic region.

Design

This study was correlational in nature and was a single shot evaluation of student's perceptions of their social relationships and how they relate to their ethnic identity and achievement values. The main goal was to explore the relation between these variables and not to establish causal directions.

Procedures

The first step in data collection was securing permission from school districts to recruit students from high schools under their jurisdiction. I contacted five districts of

which one gave authorization. Once approval was given, I contacted multiple principals via email and telephone in order to gain access to students in the public high schools. Also, principals of local private schools were contacted via email to gain access to students. Once principals gave their approval, I collaborated with each to devise a recruitment strategy that was appropriate for the time constraints and restrictions placed by the district. The data collection process differed in each school. The following is an outline of the data collection process:

1. School A: The principal restricted the researcher to recruit students only during lunch period which is scheduled for approximately 40 minutes each day. The researcher walked around the school's campus and approached students. The majority of students were clustered in groups or sitting with another student. Once approached, the researcher gave a brief description of what the study was about and then asked the students if they had a GPA ≥ 3.0 , if they were in 10th, 11th, or 12th grade, and if they were willing to participate. Students were given consent forms to take home to their parents and when they returned these forms signed, they then completed the survey. The researcher collected the consent forms from students and distributed surveys to them to be completed. Once finished, the researcher asked the students to introduce her to the friends that they nominated. The researcher, then, recruited their friends to also participate in the study. Similar process was followed of having students gain consent from their parents before participating. Once consent was received, students completed the same survey as their high-achieving African American friends.

2. School B: The principal, along with a school counselor, generated a list of all the students who met the criteria for the study, that is, African American students with $GPA \geq 3.0$. These students were gathered during non-instructional period and were briefed about the study. They were given consent forms to take home to be signed by their parents. Once forms were returned to the school counselor, students with permission were gathered again during non-instructional period to complete the survey. The researcher compiled a list of all the friends who were nominated by the targeted students. Those students who were listed and had not taken the survey (i.e., not high-achieving African American students) were, then, recruited for the study. The same procedure for the targeted students was followed for the friends that were recruited for the study (i.e., parental consent, completion of survey).
3. School C: The acting principal gathered a list of the students who met the criteria for the study. These students were sent home with a description of the study and a consent form for their parents to sign (if they were willing to participate). Two days were designated for data collection which occurred during the students' lunch period. Also, the researcher was restricted to recruiting only the targeted students due to the limited timeframe (two days for collecting data). Students with signed consent forms showed up during lunch period and completed the surveys.
4. School D: The principal and the school chaplain designated one day for data collection. Before that date, consent forms along with a description of the study were sent home with the students. All students who had permission to participate

in the study were gathered during the morning period that is designated for chapel service to participate in the study.

5. School E: A group of students from this high school came to a local college campus and were recruited to participate in the study. These students were on this campus for a school trip for seniors to visit local colleges. Since students were 18 years of age, parental consent was not needed. Once students provided their assent they completed the survey. The researcher did not have access to some of the friends that were nominated by the students who participated since they were not on the school trip to the college campus.

This study was presented to all participants as a survey of their social relationships and their personal beliefs. All students were briefed on confidentiality and told that their participation was voluntary and they could withdraw at any point in time during the study. All surveys had unique identification codes that were used so as to protect the identity of students, thus, ensuring confidentiality. Personal information was collected at the beginning of the study but all identifying information (i.e., student's names) was removed and only the unique codes used in the database. These codes were used to match survey information of students who were nominated to their nominees for data analysis.

Measures

For this study, I used surveys to collect self-reported data from students (see Appendix A for a detailed list of items). Students reported on their ethnicity, gender, socioeconomic status (parents education level, parents occupation, and FARMs), and GPA. All measures have been previously used in research and were well-established

within the literature. Students nominated three to five of their close friends in the same grade at school and self-reported on their perceived peer and teacher emotional, academic, and instrumental/informational support, their perception of their ethnic identity, and their perception of their achievement values. In the following subsections I explain each measure and the strategies used for data analysis. Internal consistency reliabilities (Cronbach alphas, α) for each measure are listed in Table 8.

Friendship nominations.

Close friends. Students were instructed to write down the first and last name (if known) of three to five of their close friends in the same grade at school. It should be noted that a ranking system was not in place, therefore, regardless of the order, there was no inference of rank or level of importance (e.g., best friend or closest friend). For example, if Teresa was nominated first and Kevin second, the assumption was that for the purpose of this study, she was considered equal in rank to Kevin. Students were also asked to report on their friend's ethnicity. For each nominated friend, students indicated whether or not that specific friend was of the same ethnicity (circle *yes* or *no*) and recorded the ethnicity of their friend (if different). A prompt was included for students to reference each nominated close friend when responding to questions that specifically asked about perceived social support from close friends.

Social support from close friends.

Academic support. This dimension of social support is defined as the perceived peer concern for learning (Wentzel, 1994). To assess academic support, an adaptation of the subscale from the Classroom Life Measure (CLM) developed by Johnson, Johnson, Buckman, and Richards (1985) was used. This four item subscale included response

options on a 5-point frequency scale and ranged from *never* (1) to *always* (5). Students rated each of their close friends that they nominated using items, for example, (Close friend #1) “cares about how much I learn” or “makes me feel good about my ideas”. In previous research, internal reliability (Cronbach’s alpha) (α) ranged from .67 to .81 (Johnson et al., 1985; Patrick, Ryan, & Kaplan, 2007; Wentzel, 1998). Scores on this scale were calculated by averaging the sum of all item ratings across friends.

Emotional support. This dimension of social support is defined as the perceived feeling that peers care about one as a person (Wentzel, 1994). Similar to academic support, an adaptation of the subscale of CLM was used to measure emotional support. This five item subscale included response options on a 5-point frequency scale and ranged from *never* (1) to *always* (5). Responses were adapted to reflect the specific friend that students should reference when responding to each item, that is, the close friends that were nominated. Students rated each of their close friends that they nominate using items, for example, (Close friend #1) “makes me feel good about myself” or “cares about my feelings”. In previous work, internal reliability (Cronbach’s alpha) (α) ranged from .78 to .88 (Johnson et al., 1985; Patrick et al., 2007; Wentzel, 1998; Wentzel, Battle, Russell, & Looney, 2010). Scores on this scale were calculated by averaging the sum of all item ratings across friends.

The CLM was developed over 10 years ago with factor analyses conducted on samples of students within North America ranging from 1st to 12th grade (Bertucci, Johnson, Johnson, & Conte, 2012). Researchers have successfully used this measure to either assess academic peer support (e.g., Patrick et al., 2007; Wentzel, 1994), emotional support (e.g., Patrick et al., 2007; Wentzel, 1994; Wentzel, et al., 2010), and overall

perceived peer support, that is, combining emotional and academic support (e.g., Johnson et al., 1985; Van Ryzin, 2011; Van Ryzin, Gravely, & Roseth, 2009; Wentzel, 1998, 2003). With the implementation of this scale, low to high positive correlations (ranging from $r = .14$ to $.69$) have been found with academic outcomes such as interest, prosocial goal pursuit, academic achievement, teacher support, and social efficacy.

Instrumental/informational support. This final dimension of social support is defined as helping behaviors such as loaning money or giving time; providing advice (Malecki & Demaray, 2003). To assess instrumental/informational support, a subscale was used from the Child and Adolescent Social Support Scale (CASSS) developed by Malecki, Demaray, and Elliot (2003). Six items were used to measure this dimension of social support and included response options adapted so as to mirror that of the previous rating scale used for academic and emotional support, that is, a 5-point frequency scale that ranged from *never* (1) to *always* (5). Students rated each of their close friends that they nominated using items, for example, (Close friend #1) “gives me good advice” or “takes time to help me with my problems”. Scores on this scale were calculated by averaging the sum of all item ratings across friends.

Currently, the internal consistency reliability (Cronbach’s alpha) (α) scores reported have reflected the source of support (parent, teacher, close friend) rather than the type of support (appraisal, emotional, instrumental/informational). Malecki and Demaray (2006) reported evidence for test-retest reliability for all subscales and confirmed the five-factor structure for source of support and four-factor structure for type of support through factor analyses. With regard to criterion validity, Malecki and Demaray (2002) report convergence on constructs such as self-concept and social skills.

Ethnic identity.

Exploration. Exploration is a component of ethnic identity defined as seeking experiences and information relevant to one's ethnicity (Phinney & Ong, 2007).

Exploration was assessed using a subscale of the revised version of the Multigroup Ethnic Identity Measure (MEIM-R) (Phinney & Ong, 2007). Three items were used to assess exploration and included response options that were on a 4-point frequency scale ranging from *strongly disagree* (1) to *strongly agree* (4). Sample items included "I have often done things that will help me understand my ethnic background better" and "I have often talked to other people in order to learn more about my ethnic group". In previous work, internal consistency reliability (Cronbach's alpha) (α) for this scale ranged from .71 to .87 (Cano et al., 2012; Phinney & Ong, 2007; Torres & Ong, 2010; Yoon, 2011). Scores on this scale were calculated by averaging the sum of all item ratings.

Commitment. Commitment is the other component of ethnic identity, defined as clear feelings of belonging to one's ethnic group, together with positive attitudes and pride in the group (Phinney & Ong, 2007). Commitment was also measured using the subscale of the MEIM-R with three items that included the same response options. Sample items included "I have a strong sense of belonging to my own ethnic group" and "I understand pretty well what my ethnic group membership means to me". In previous work, internal consistency reliability for this scale ranged (α) from .71 to .91 (Cano et al., 2012; Phinney & Ong, 2007; Torres & Ong, 2010; Yoon, 2011). Scores on this scale were calculated by averaging the sum of all item ratings.

Phinney and Ong (2007) demonstrated adequate fit indices for the correlated two-factor structure of the MEIM-R with a comparative fit index (CFI) = .98, standardized

root mean square residual (SRMR) = .05, and a root mean square error of approximation (RMSEA) = .04. They suggest either using a total score of ethnic identity or subscale scores. Phinney and Ong argue that ethnic identity is best construed as entailing two distinct components that make separate contributions to the underlying structure of ethnic identity; thus, examining these subscales allows researchers to capture the development of an individual's ethnic identity. In addition, researchers have reported differing findings when comparing the subscales of ethnic identity (with the MEIM and the revised version) (e.g., Greene, Way, & Pahl, 2006; Romero & Roberts, 1998, 2003; Torres & Ong, 2010; Torres, Yznaga, & Moore, 2011). For example, Torres et al. (2011) found (using the MEIM-R) ethnic identity-exploration to moderate the relation between perceived work-academic discrimination while ethnic identity-commitment moderated the relation between covert discrimination and distress. Also, Greene et al. (2006) (using the MEIM) found ethnic identity commitment to buffer the relation between discrimination and self-esteem, while ethnic identity exploration was found to worsen this relation. Thus, it is important to look at the components of ethnic identity when exploring the relation between constructs.

When using Phinney's model and scale for measuring ethnic identity, there are three main ways that researchers have assessed this concept: (1) cluster analysis, using the subscales to form 4 categories, (2) summation of scores to garner a total score to reflect a global ethnic identity, and (3) composite scores for each component. Researchers interested in understanding ethnic identity as it pertains to the identity statuses described by Marcia (1980) (foreclosure, diffusion, moratorium, and achievement) have used cluster analyses with scores from the MEIM/MEIM-R to categorize students within one

of the aforementioned statuses (e.g., Phinney & Chavira, 1992; Yip, 2014). For studies focused on the overall strength of ethnic identity or degree to which it is achieved, combining the two subscales meets such requirements (e.g., Yoon, Jung, Lee, & Felix-Mora, 2012). For addressing the different implications of exploration and commitment, analysis of these components separately is the necessary procedure (e.g., Torres et al., 2011). For the current study, I was interested in the relation between support from close friends and the different components of ethnic identity; therefore, my assessment strategy was to look at each component separately.

Achievement values.

Importance of school. This component of achievement values is conceptualized as the extent to which students place significance on doing well and succeeding in school (Fuligni et al., 2005). To measure importance of school, Fuligni et al.'s (2005) Value of Academic Success Scale (VASS) was adapted for this study. Students were asked "How important the following things are" and reported on the six items of this measure. Response options were on a 4-point frequency scale ranging from *not important* (1) to *very important* (4). Sample items included "That you do well in school" and "That you go to college after high school". In previous work, internal consistency reliability ranged from .83 to .90 (Costigan & Dokis, 2006; Fuligni, 1997; Fuligni et al., 2005; Perreira, Fuligni, & Potochnick, 2010). Scores on this scale were calculated by averaging the sum of all item ratings.

The VASS was originally adapted from Eccles' (1983) scale and has shown good internal consistency across various ethnic groups (Kiang & Fuligni, 2010). Smith, Scheider, and Ruck (2005) reported Cronbach's alpha of .87 with their sample of Black

Canadian students ranging in ages from 11 to 22 years old. Tseng (2004) found $\alpha = .82$ to $.86$ with a sample of immigrants of Asian, Latin American, African/Afro Caribbean, and European backgrounds. Test-retest reliability information has not been reported for the VASS. With the implementation of this scale, researchers have found moderate correlations ($r = .19$ to $.35$) with constructs such as peer support, ethnic identification, and meaning of life (Costigan & Dokis, 2006; Fuligni et al., 2005; Smith et al., 2005; Vitoroulis et al., 2012).

Utility of school. This second component of achievement values is conceptualized as the extent to which students believe that school is useful for their present and future lives (Fuligni et al., 2005). To assess importance of school, three items from Eccles (1983) scale were adapted which included response options on a 4-point frequency scale ranging from *not at all useful* (1) to *very useful* (4). Sample items included “Right now, how useful do you find things you learn in school to be in your everyday life” and “In the future, how useful do you think the things you have learned in school will be in your everyday life”. In previous works, internal consistency reliability ranged from $.64$ to $.77$ (Fuligni et al., 2005; Huynh & Fuligni, 2008; Kiang & Fuligni, 2010; Perreira et al., 2010; Winston, Eccles, Senior, & Vida, 1997). Scores on this scale were calculated by averaging the sum of all item ratings.

Originally, Eccles developed this scale to assess students’ subjective task values with respect to math achievement. Path analyses were conducted to directly test the researcher’s theoretical model that specified direct and indirect relations among variables of interest. From these analyses, Eccles et al. (1983) found value in math (which included importance, intrinsic, and utility value) to be predictive of student’s intention to take

more math courses and related to student's self-concept of math ability. Many researchers have adapted Eccles scale so as to assess other domains such English, studying, and overall usefulness of school (e.g., Bong, 2001; Conley, 2012; Fan, 2011; Winston et al., 1997). Findings from these studies show utility value to be positively related to constructs such as behavioral engagement, effort, self-efficacy, future course enrollments, academic values of peers, and academic achievement (e.g., Berndt & Miller, 1990; Bong, 2001; Conley, 2012; Fan, 2011; Watt, 2004; Winston et al., 1997) with correlations ranging from $r = .21$ to $.72$.

Ethnic background.

Ethnicity. Students self-reported on their ethnicity. A list of ethnicities was provided and students circled whichever one applied to them.

Academic achievement.

High-achieving. Students with an unweighted grade point average (GPA) ≥ 3.0 were classified as high-achieving for this study. Students self-reported on their GPA by writing down what they thought their GPA was. Students recruited from one school had to receive permission from their parents first in order to report on their GPA. If their parents did not give them permission, then, these students only had the option of selecting from the following: mostly "A's", mostly "B's", and so forth. If they reported "All B's" and above (e.g., "All A's and B's"), students were classified as high-achieving. The final sample consisted of 217 high-achieving African American adolescents.

Control variables.

Gender. Students self-reported on whether they were male or female (coded as 0 and 1 respectively).

Grade level. Students reported whether they were in 10th, 11th, or 12th grade. This was coded as follows: 10th grade = 0, 11th grade =1, and 12th grade = 2.

Socioeconomic status (SES). The following indicators were used to assess student's SES:

1. *Free lunch status.* This was used as one of the indicators of student's SES. This information was collected from students where they responded to a question that asked whether they have ever participated in the program. This was coded as either participated in the free lunch program at their school (Yes = 1) or did not participate in the free lunch program at their school (No = 0). For students who selected "Not sure" for this item on the survey, their information was treated as missing data (n = 5).
2. *Parents' education level.* This was used as another indicator of student's SES. Students self-reported on the highest level of education of their mother and father or their legal guardians. A list was generated of all levels of education and students were instructed to circle the one that applied. It was coded as follows: High School Diploma/GED = 0, Some College =1, Two year College =2, Four year College = 3, Graduate School = 4. This list can also be found in Appendix A (Measures)
3. *Parents' occupation.* This is the last indicator of student's SES. Students self-reported on the occupation of their mother and father or legal guardian. They were instructed to describe the position to the best of their knowledge. This indicator, however, was not used for analysis due to the large amount of missing data as well as issues with information provided

by participants (vague information reported e.g., “works at a hotel”) which made it difficult to accurately decipher the occupation of their parents.

Teacher social support. Similar to social support from close friends, the dimensions of academic, emotional, and instrumental/informational support were used to assess social support from teachers. Academic support (4 items) and emotional support (4 items) were measured with the CLM subscales. Items for teacher subscales corresponded closely to that of the peer subscales. Academic support is defined as the perceived support for learning while emotional support is defined as the perception that the student’s teachers care about them as a person (Wentzel, 1994). Sample items included “My teachers care about my feelings” and “My teachers want me to do my best school work”. Internal consistency reliability reported from other studies ranged from $\alpha = .64$ to $.86$ (Patrick et al., 2007; Van Ryzin, 2011; Wentzel, 1998; Wentzel et al., 2010).

Instrumental/informational support is defined as helping behaviors such as giving time or providing advice (Malecki & Demaray, 2003). This dimension was measured using 6 items from the subscale of the CASSS. Sample items included “My teachers show me how to do things” and “My teachers spend time with me when I need help”. As previously mentioned, internal consistency reliability statistics reported on this measure have focused on the source (teacher, close friend) of support rather than the type of support (instrumental/informational, appraisal).

Table 8.

Scale Descriptions and Internal Consistency Reliabilities (Cronbach Alphas)

	Scale	Number of Items	Scale Range	Sample Mean (SD)	Reliability (α)
Peer Social Support	Academic: <i>Classroom Life Measure (CLM; Johnson, Johnson, Buckman, & Richards, 1985)</i>	4	<i>Never (1) to Always (5)</i>	4.15 (.836)	.86
	Emotional: <i>Classroom Life Measure (CLM; Johnson, Johnson, Buckman, & Richards, 1985)</i>	5	<i>Never (1) to Always (5)</i>	4.61 (.530)	.78
	Instrumental: <i>Child and Adolescent Social Support Scale (CASSS; Malecki, Demaray, & Elliot, 2003)</i>	6	<i>Never (1) to Always (5)</i>	4.42 (.653)	.85
Ethnic Identity	Exploration: <i>Multigroup Ethnic Identity Measure-Revised (MEIM-R; Phinney & Ong, 2007)</i>	3	<i>Strongly disagree (1) to Strongly agree (4)</i>	3.16 (.715)	.81
	Commitment: <i>Multigroup Ethnic Identity Measure-Revised (MEIM-R; Phinney & Ong, 2007)</i>	3	<i>Strongly disagree (1) to Strongly agree (4)</i>	3.41 (.619)	.83
Achievement Values	Importance: <i>Value of academic success scale (VASS) (Fulgini, Witkow, & Garcia, 2005)</i>	6	<i>Not important (1) to Very important (4)</i>	3.51 (.470)	.77
	Utility: <i>(Eccles, 1983)</i>	3	<i>Not at all useful (1) to Very useful (4)</i>	2.58 (.738)	.78
Teacher Social Support	Academic: <i>Classroom Life Measure (CLM; Johnson, Johnson, Buckman, & Richards, 1985)</i>	4	<i>Never (1) to Always (5)</i>	4.15 (.773)	.84
	Emotional: <i>Classroom Life Measure (CLM; Johnson, Johnson, Buckman, & Richards, 1985)</i>	4	<i>Never (1) to Always (5)</i>	3.35 (.827)	.79
	Instrumental: <i>Child and Adolescent Social Support Scale (CASSS; Malecki, Demaray, & Elliot, 2003)</i>	6	<i>Never (1) to Always (5)</i>	3.85 (.805)	.89

Note: N 's ranged from 209 to 325; For the support variables only data for the high-achieving African American sample was used; SD = Standard deviation

Chapter 4: Results

This study examined the relation between characteristics of the close friendships of high-achieving African American adolescents and these students' identity development and motivation in school. Specifically, this study explored how two modes of peer influence (provision of social support and peer modeling) relate to students' components of ethnic identity (exploration and commitment) and components of achievement values (importance and usefulness/utility of school).

In this chapter, I present the findings of the current study. First, I describe findings concerning the descriptive results, variability, normality and linearity of the data, followed by my approach to handling missing data, and bivariate correlations. Next, I provide the results of the confirmatory factor analysis that was conducted to statistically verify that the theoretical models for each construct were represented within the data as distinct constructs. I then discuss the steps taken to address the assumptions that need to be met for conducting regression analyses. Finally, I conclude with the findings for the three research questions.

Descriptive Results

This section provides an overview of how the independent and dependent variables were calculated as well as the means and standard deviations. For the emotional, academic, and instrumental support variables, the targeted sample of high-achieving African American adolescents ($N = 217$) provided the data for these constructs. This means the information they reported on the surveys was used to calculate the scores for each dimension of support. The scores for the first three friends were averaged to create a composite score for each dimension of support. This decision was made because

of the large percentage of missing data for friend nominations beyond three friends; that is, relatively few students nominated 4 or 5 friends (discussed in the section on missing data). For friends' ethnic identity (exploration and commitment) and achievement values (importance and utility), the first three friends' data that were available were also used. Data for these constructs were provided directly from the friends that were nominated. This means these students' friends reported on their exploration, commitment, importance of school, and utility of school. Similar to the social support variable, their scores were averaged to create a composite score for friends' exploration, commitment, importance, and utility.

In Table 9 is a summary of the means and standard deviations for the independent and dependent variables.

Table 9.

Means and Standard Deviations of Independent and Dependent Variables

	Variables	Mean	Standard Deviation	Range
Target Student Reported	Friend Emotional Support	4.55	.501	2.47-5.00
	Friend Academic Support	4.15	.715	1.58-5.00
	Friend Instrumental Support	4.36	.579	2.67-5.00
	Individual_Exploration	3.22	.664	1.00-4.00
	Individual_Commitment	3.48	.552	1.00-4.00
	Individual_Importance	3.53	.439	1.83-4.00
	Individual_Utility	2.55	.769	1.00-4.00
Friend Reported	Friend_Exploration	3.23	.453	2.11-4.00
	Friend_Commitment	3.45	.375	1.89-4.00
	Friend_Importance	3.58	.262	2.83-4.00
	Friend_Utility	2.50	.427	1.56-3.44

Note: *N*'s for support variables, individual commitment and exploration, and individual importance and utility variables ranged from 188 to 217; For friend commitment and exploration and friend importance and utility *N*'s ranged from 83 to 90.

Outliers and Normality

The first step in my data analysis was to inspect the data for outliers and determine if variables were normally distributed. Hair, Black, Babin, Anderson, and Tatham, (2006) report that for scores to be considered outliers, the standardized values of these variables need to exceed a value of ± 4.0 . For my data, each continuous variable was standardized and then I examined the minimum and maximum values. As shown in Table 10, three variables had an absolute value greater than 4 indicating the presence of outliers. In addition, two variables had values that were close to this threshold (-3.59 and -3.87). I then examined the skewness and kurtosis of the continuous variables to gain a better understanding of the distribution of the data.

Kurtosis is a measure of the “peakedness” of a distribution (Hair et al., 2006). If values are near zero, this indicates a shape close to normal; values between ± 1 to ± 2 are considered good for most psychometric uses. Values that are large and negative indicate a very flat distribution while high positive values indicate a very “pointed” distribution. Skewness measures the extent to which a distribution of values deviates from symmetry around the mean. If values are zero, then one has a symmetric distribution: having positive values indicate a greater number of smaller values (i.e., responses from participants at the lower end of the scale), and negative values indicate a greater number of larger values (i.e., responses from participants at the higher end of the scale). Similar to the kurtosis benchmark, values between ± 1 to ± 2 are acceptable indicators of normality.

Initial analyses of kurtosis and skewness showed one variable to have kurtosis of 2.149 (Friends’ commitment) thus falling outside of the benchmark. After examining

outliers, one individual's score was deleted, as it was determined to be an outlier (the student responded with all 1's) that significantly affected the skewness and kurtosis. In addition, since the data were negatively skewed with values approaching the maximum value in the aforementioned benchmark, I used a transformation of squaring continuous variables so as to treat for skewness. This is the recommended method for transforming data that is negatively skewed (Hair et al., 2006; Lomax & Hahs-Vaughn, 2007).

Illustrated in Table 11 are the new standardized values for each continuous variable; all variables met the aforementioned criteria of being less than ± 2 for skewness and Kurtosis and ± 4 for presence of outliers, now indicating an approximately normal distribution.

Table 10.

Skewness and Kurtosis of Independent and Dependent Variables before Deletion of Outlier and Transformation of Data

	Variables	Minimum	Maximum	Skewness	Kurtosis
Target	Friend Emotional Support	-4.156	.900	-1.347	1.577
Student	Friend Academic Support	-3.593	1.186	-.810	.126
Reported	Friend Instrumental Support	-2.928	1.099	-.982	.245
	Individual_Exploration	-3.348	1.169	-.602	-.280
	Individual_Commitment	-4.481	.9445	-1.152	1.654
	Individual_Importance	-3.874	1.061	-1.099	1.110
	Individual_Utility	-2.036	1.866	-.060	-.578
Friend	Friend_Exploration	-2.469	1.705	-.490	-.422
Reported	Friend_Commitment	-4.167	1.466	-1.051	2.419
	Friend_Importance	-2.855	1.600	-1.159	1.154
	Friend_Utility	-2.222	2.205	-.027	-.547

Note: *N*'s for support variables, individual commitment and exploration, and individual importance and utility variables ranged from 188 to 217; For friend commitment and exploration and friend importance and utility *N*'s ranged from 83 to 90; Standard error for Skewness ranged from .166 to .264 while for Kurtosis ranged from .330 to .503.

Table 11.

Skewness and Kurtosis of Independent and Dependent Variables after Deletion of Outlier and Transformation of Data

	Variables	Minimum	Maximum	Skewness	Kurtosis
Target	Friend Emotional Support	-3.583	.956	-1.096	.494
Student	Friend Academic Support	-2.811	1.289	-.498	-.719
Reported	Friend Instrumental Support	-2.552	1.186	-.727	-.328
	Individual_Exploration	-2.426	1.277	-.207	-1.045
	Individual_Commitment	-3.232	1.022	-.650	-.396
	Individual_Importance	-3.208	1.142	-.031	.746
	Individual_Utility	-1.553	2.223	-.337	-.419
Friend	Friend_Exploration	-2.175	1.897	-.207	-.653
Reported	Friend_Commitment	-3.454	1.611	-.650	.554
	Friend_Importance	-2.701	1.727	-.754	.746
	Friend_Utility	-1.880	2.528	.556	-.419

Note: *N*'s for support variables, individual commitment and exploration, and individual importance and utility variables ranged from 188 to 216; For friend commitment and exploration and friend importance and utility *N*'s ranged from 83 to 90; Standard error for Skewness ranged from .166 to .264 while for Kurtosis ranged from .330 to .503.

Missing Data Analysis

The second step in my analysis was to conduct a missing data analysis so as to check for patterns of missingness, that is, whether or not data were missing completely at random (MCAR) or missing not at random (MNAR) (McCartney, Burchinal, & Bub, 2006). As is common when collecting data, especially with the usage of methods such as paper surveys, there are many instances where participants do not respond to all items. For this study, the main reason for missing data was that students skipped over an item (or multiple ones) while taking the survey.

To address missing data, I examined the overall pattern of missingness. This was done by conducting Little's test for MCAR (Little, 1988; Little & Rubin, 1987). If the data is considered to be MCAR, the missingness is considered "ignorable" since it is likely that it will not bias the sample, and imputations can be performed. A non-significant finding of Little's test indicates that the data can be considered MCAR (Hair

et al., 2006). For this study, results from the Little's test ($\chi^2 = 160.834, p = .190$) indicated that the data could be considered MCAR.

With data classified as MCAR I used the Multiple Imputation (MI) method for my correlation and regression analyses for research questions 1 and 2. In comparison to listwise deletion (where only students that completed all variables of interest are included), MI yields more unbiased results since more student responses are captured in the data analysis. Also, MI has been shown to provide more accurate parameter estimates and standard errors in comparison to listwise deletion (Hair et al., 2006). With MI, multiple versions of the dataset are produced, each containing its own set of imputed values in place of missing data for each variable. When statistical analyses are performed, the parameter estimates for all of the imputed datasets are pooled. Estimations of the values are based on the information available within the data set. During each imputation, the missing values are imputed and at the end of the imputations the values are averaged together to take into account the variance of the missing values. To conduct MI, I used the default setting in IBM SPSS and set imputations to 10. The method for MI (i.e., how missing values will be imputed) was set to automatic where the software scans the data and uses the monotone method if the data shows a monotone pattern of missing values. A monotone pattern exists when you can order the variables such that, if a variable has a nonmissing value, all preceding variables also have nonmissing value. All control, dependent, and independent variables were included in MI process.

For the third research question, only a subsample of high-achieving African American adolescents' data were used due to issues with the amount of missing data from participants, that is, data on the friends that the targeted sample nominated. As previously

mentioned, friends that were nominated by the targeted sample (high-achieving African American students) were recruited to participate, however, not all of these students were willing to take part in the study or the researcher did not have access to these students (e.g., restricted to only having targeted sample participate since only two days for data collection). Therefore, due to these data collection issues, there was missing data on friends' ethnic identity and achievement values. For example, for the social support construct, the targeted sample may have nominated four friends (Teresa, Kevin, Crystal, and David); however, for ethnic identity and achievement values constructs, data may only be available from Kevin, Crystal, and David. As previously mentioned, a ranking system was not in place, therefore, the assumption is that the friends that these students mentioned on the surveys were nominated at random, that is, not based on "best friend" or "closest friend" status.

Table 12 provides information on the data that were available with regard to information from nominated friends for research question 3. Of the 217 high-achieving African American students within the sample, there were 41 students (19%) for whom information was not available on any of their friends (i.e., data from friends not collected). From the remaining students, only 52% ($n = 90$) of the students had information available on at least three friends, that is, friends' scores on the components of ethnic identity (exploration and commitment) and the components of achievement values (importance and utility). Also, of the 90 students with friends' data, $n = 81$ of these students had data available on their first three friends (e.g., information from Teresa, Kevin, and Crystal). Therefore, data from the next available friend was used (e.g., data from Kevin, Crystal, and David) for those 9 students in the subsample. The

limitations and implications of using a subsample and missing data issues are discussed further in chapter 5.

Utilizing missing data approaches, such as, multiple imputations, to treat for missing data for research question 3 would result in half of the data being imputed; therefore, the conservative approach was to use only data that were available on those with at least three friends and select listwise deletion in the subsequent correlation and regression analyses.

Table 12.

Count of Available Data on Nominated Friends

		Count					
		No Data	1 Friend	2 Friends	3 Friends	4 Friends	5 Friends
	1	1	2				
# of	2	6	7	2			
Friends	3	15	12	20	15		
Nominated	4	3	16	8	8	7	
	5	16	10	18	20	28	12

Note: $N = 217$ High-achieving African American students; Each cell represents a count of how many students had information from the friends they nominated, for example, the number of students who had information from all five friends they nominated = 12 students.

Confirmatory Factor Analysis (CFA)

Next, I conducted a series of confirmatory factor analyses to statistically verify the theoretical models for each construct, thus, corroborating that the three dimensions (emotional, academic, and instrumental/informational) of social support (close friends and teacher), two components (exploration and commitment) of ethnic identity, and two components (importance and utility of school) of achievement values are represented within the data as distinct constructs. To execute this analysis and examine the expected relations between these constructs, I used LISREL software (Jöreskog & Sörbom, 2007)

version 9.20 to perform CFAs. To account for missing data within the dataset, I used Maximum Likelihood estimation (ML). This method uses all of the available data to estimate model parameters and is recommended for treating missing data (Enders, 2013).

As previously mentioned, social support (close friends and teachers) was measured using subscale of the Classroom Life Measure (for emotional and academic support) while the subscale from Child and Adolescent Social Support Scale was used for instrumental support (close friends and teachers). The Multigroup Ethnic Identity Measure-Revised was utilized to measure ethnic identity (exploration and commitment) and the Valuing Academic Success Scale and Eccles' scale were used to measure achievement values (importance and utility respectively). Since different scales were used to measure dimensions of the social support construct and components of achievement values, as well as, a unique sample completing these scales (especially, ethnic identity measure), it was necessary to conduct CFAs for these constructs.

The three dimensions of social support (academic, emotional, and instrumental), the two components of ethnic identity (exploration and commitment) and the two components of achievement values (importance and utility) were expected to relate to each other. Based on these assumptions, I allowed the constructs to covary (Hair et al., 2006) and each error term associated with items that have parallel stems, were allowed to covary as well. For example, in Figure 4 (in Appendix B), for social support of close friends error terms E2 and E4 were set to covary in the analysis.

Illustrated in Figures 4-7 (in Appendix B) are the models for each variable (social support-close friends, social support-teachers, ethnic identity, and achievement values) that were run using CFA. Three test statistics were used to examine the fit of the imposed

two factor (ethnic identity-exploration and commitment; achievement values-importance and utility) and three factor (emotional, academic, & instrumental support for both friends and teachers) models. Hair et al. (2006) established the following guideline to determine acceptable goodness-of-fit:

1. With $N > 250$, observed variables < 12 : χ^2 statistics with non-significant p-values ($p > .05$), RSMEA $< .07$, and CFI $\geq .92$
2. With $N > 250$, observed variables < 30 but > 12 : χ^2 statistics likely to have significant p-values ($p = 0.000$), RSMEA $< .07$, and CFI $\geq .92$

Chi-Square is the most common method of evaluating goodness-of-fit. It is an absolute fit index and smaller values indicating non-significance denotes a good fit.

RMSEA is a parsimonious fit index that is least affected by sample size (Hoe, 2008). For this index, values less than .07 indicate good fit. Finally, CFI is an incremental index and is insensitive to model complexity and is among the most widely used indices where values greater than .90 are associated with a good fitting model.

Illustrated in Table 13 are the results of the factor analyses for each construct. For each one, I tested models based on the measures used as well as the hypothesized three factor models for social support and two factor models for ethnic identity and achievement values. Based on the fit indices guidelines previously described, all two-factor and three-factor models met CFI criteria, (however, only achievement values model met the RMSEA threshold) and each model had significant χ^2 results.

Although these results did not meet all of the outlined criteria for models to be considered a good fit, Hair and colleagues note that values for RMSEA that fall below .10 are typical and overall are considered to be acceptable, therefore, social support

constructs were considered acceptable fit. Also, Phinney and Ong (2007) conducted multiple comparative analyses to examine the fit of the two-factor theoretical model of ethnic identity. The implications of their analyses are that ethnic identity, as assessed by their measure (MEIM-R) is best thought of as consisting of two factors, exploration and commitment, which are distinct processes that make separate contributions to the underlying structure of ethnic identity. With this in mind, I continued my analyses with ethnic identity as two components, thus, keeping each construct based on the dimensions or components outlined. The implications of this decision are discussed in Chapter 5.

Table 13.

Goodness-of-Fit Results: Friend Social Support, Ethnic Identity, Achievement Values, and Teacher Social Support

	Model	χ^2 / df	RSMEA	CFI
1. Friend Academic & Emotional Support	Correlated Two-Factor	85.47/ 24	.09	.95
2. Friend Instrumental Support	One-Factor	29.32/ 7	.10	.98
3. Friend Social Support	Correlated Three-Factor	252.19/ 83	.08	.93
1. Replica of Phinney's Model	Correlated Two-Factor	56.98/ 8	.13	.94
2. Alternative Model	Correlated Two-Factor w/error covariance	40.69/ 6	.13	.95
1. Utility	One-Factor	Perfect fit		
2. Importance	One-Factor	24.03/ 5	.11	.97
3. Achievement Values	Correlated Two-Factor	47.83/ 22	.06	.97
1. Teacher Academic & Emotional Support	Correlated Two-Factor	65.99/ 17	.09	.96
2. Teacher Instrumental Support	One-Factor	17.25/ 8	.06	.99
3. Teacher Social Support	Correlated Three-Factor	247.87/ 71	.09	.94

Note: The sample used in Phinney & Ong's (2007) analysis was $N = 241$.

Correlation Analysis

Next, I ran correlation analyses to examine the relation between the independent and dependent variables for this study. To examine the relation between the predictor variables (friend emotional, academic, and instrumental support) and outcome variables

[individual's ethnic identity (exploration & commitment) and achievement values (importance & utility)] a bivariate Pearson correlation with multiple imputations (to address missing data) was run with 10 iterations. The results of this analysis are shown in Table 14. Notable correlations were the positive and significant relation between friend's emotional support and individual's ethnic identity (exploration) as well as instrumental support and ethnic identity (exploration and commitment). However, none of the support variables correlated significantly with any of the components of achievement values.

To examine the relation between the predictor variables [friends' ethnic identity (exploration and commitment) and achievement values (importance and utility)] and outcome variables [individual's ethnic identity (exploration & commitment) and achievement values (importance & utility)], a bivariate Pearson correlation was also run with listwise deletion implemented to treat for missing data (as previously discussed). Notable positive and significant correlations were found between friends' exploration and individual's exploration, friends' importance and individual's importance, and finally, friends' utility and individual's utility scores (see Table 15.). However, the correlation between friends' commitment and individual's commitment was non-significant.

Summary tables of the correlation analyses with all variables included (i.e., independent variables, dependent variables, and control variables) are presented in Table 28 and Table 29 in Appendix C.

Table 14.

Correlation Matrix of Predictor and Outcome Variables

		1	2	3	4	5	6	7
Target Student Reported	1. Friend Emotional Support	1						
	2. Friend Academic Support	.67***	1					
	3. Friend Instrumental Support	.72***	.77**	1				
	4. Individual_Exploration	.14*	.31***	.30**	1			
	5. Individual_Commitment	.14	.10	.16*	.48***	1		
	6. Individual_Importance	.10	.11	.12	.12	.20**	1	
	7. Individual_Utility	.03	.07	.01	.14*	.29**	.18**	1

Note: $N = 217$ High-achieving African American students; *** $p < .001$; ** $p < .01$; * $p < .05$; pooled multiple imputation data

Table 15.

Correlation Matrix of Predictor and Outcome Variables using Subsample

		1	2	3	4	5	6	7	8
Friend Reported	1. Friend_Exploration	1							
	2. Friend_Commitment	.55***	1						
	3. Friend_Importance	-.19	-.07	1					
	4. Friend_Utility	.01	-.04	.07	1				
Target Student Reported	5. Individual_Exploration	.25*	.11	-.21	-.23*	1			
	6. Individual_Commitment	.19	.17	-.15	-.13	.43***	1		
	7. Individual_Importance	-.19	-.15	.39***	.13	-.13	.06	1	
	8. Individual_Utility	.07	-.02	.01	.30**	-.03	.17	.11	1

Note: n 's ranged from 78 to 90 High-achieving African American students; a subsample of these students was used for analysis due to amount of missing information on friends that were nominated by targeted sample; *** $p < .001$, ** $p < .01$, * $p < .05$

Multiple Linear Regression Analysis

The first step to conducting a multiple linear regression involves checking that all assumptions are met. For my analyses I, again, used IBM SPSS Statistics version 22. The assumptions I examined were linearity, independence of residuals, normality, and homoscedasticity. As previously noted, all continuous variables were transformed to treat for skewness, normality, and presence of outliers within the data.

Independence of Residuals and Linearity. These assumptions were assessed through an examination of the residuals and partial regression plots. A pattern on the residual plots that is not random suggests violation of these assumptions. Linearity implies that a given value of X always varies by one unit in relation to the outcome Y. If this is violated, then a non-linear (e.g., quadratic or exponential) relationship exists and transformation of the data may be needed. The independence assumption applies to the estimation of errors. This means that for all (i,j) pairs of observations, there is no information contained in the error estimation for case i that could aid in approximating the error estimation for case j . Presented in Figures 8-21 (in Appendix B) are the residual plots that each show linearity between the independent and dependent variables; thus, no additional transformations were necessary. Also, for each variable the points fell in a random pattern, indicating that the independence assumption was met.

Normality. For this assumption, normality of error terms are checked by using normal probability plots of the residuals. Violation of the normality assumption may be the result of outliers and result in imprecision in the partial slopes and the coefficient of determination (Lomax & Hahs-Vaughn, 2007). Figures 22 to 25 (in Appendix B) show the normal probability plots for exploration, commitment, importance, and utility

outcome variables. For these variables, the plots show that there were no violations of the assumption of normality.

Homoscedasticity. The final assumption is homogeneity of variance. This requires that the conditional distributions of outcome variables have the same constant variance for all values of X; that is, the dependent variable should exhibit equal levels of variance across the range of predictor variables. Homoscedasticity is desirable because the variance of the dependent variable being explained should not be concentrated in a limited range of the independent variable (Hair et al., 2006). One can examine this assumption by again looking at residual plots. Ideally, plots should not be diamond-or cone-shaped. If the homogeneity assumption is violated, estimates of the standard errors are larger, and the conditional distribution may be non-normal. As depicted by the pattern in the residual plots (Figures 8-21), this assumption was not violated.

Since all of the above assumptions were met, I proceeded with the multiple regression analyses. For each analysis, gender, socioeconomic status (FARMs, mother and father education level), grade level, and teacher support (academic, emotional, and instrumental/informational) were entered in the models as control variables using the continuous variables that were transformed and standardized. I used simultaneous regression approach so as to test the effects of my independent variables on my dependent variables.

Research Question 1: How do perceptions of social support from close friends relate to components of ethnic identity?

For this question, I was interested in whether students' perception of their close friends' provision of emotional and instrumental/informational support predicted

students' ethnic identity (exploration and commitment) (illustrated in Figure 2). As previously stated, close friends emotional support correlated significantly with the exploration component while instrumental support correlated significantly with both components (refer to Table 14). Although both support dimensions did not correlate with both components of ethnic identity, I continued with the hypothesized regression analyses in order to examine whether my control variables have any bearing on the relation between my independent and dependent variables. For these analyses, teacher academic support was not included as a control variable since there was no theoretical reason for this type of support to relate to any components of ethnic identity.

Results of the analyses showed the full model for predicting the exploration component to be significant but not for the commitment component [$F(9, 207) = 2.932, p < .05$ and $F(9, 207) = 1.509; p = .146$ respectively]. Also, as shown in Table 16, instrumental support from close friends was a positive and significant individual predictor of individual's exploration controlling for grade level, parents education level, FARMs, gender, teacher support, and friend emotional support. For the regression analysis of commitment component, however, none of the predictor variables were significant (see Table 17). Interestingly, teacher instrumental and teacher emotional support were significant predictors of individual's exploration (positively and negatively respectively). Interpretation of such findings is presented in the discussion section (chapter 5).

Finally, diagnostic statistics that checked for multicollinearity (a situation in which the independent variables are highly correlated) were examined. The occurrence of multicollinearity negatively impacts the results from regression analyses because the

predictor variables would have “overlapping” predictive power; thus, leading to regression models that fit the data well but none of the predictor variables have significant individual predicting ability (Ho, 2006). Testing for multicollinearity involves selecting Tolerance and Variance Inflation Factor (VIF) statistics when running regression analyses in SPSS software. A Tolerance value is an indication of the percentage of variance in the predictor that cannot be accounted for by the other predictors. Values less than .10 merit further investigation. VIF measures how much the variance of the estimated regression coefficients are inflated as compared to when the predictor variables are not linearly related. Values greater than 10 are of concern and merit further investigation. Values for Tolerance and VIF are not reported when conducting regression analyses with multiple imputation; therefore, I examined the values reported in each of the 10 iterations. Tolerance values ranged from .40 to .95 while VIF values were from 1 to 3, thus indicating that multicollinearity was not an issue for these analyses.

Table 16.

Summary of Simultaneous Regression Analysis for Exploration as Dependent Variable

Variables	Individual_Exploration		
	<i>B</i>	<i>SE</i>	<i>t</i>
Grade	.126	.082	1.537
Highest level education-mother	-.018	.049	-.373
Highest level education-father	.068	.049	1.377
FARMs	.012	.136	.091
Gender	-.118	.133	-.885
Teacher emotional support	-.185	.093	-1.995*
Teacher instrumental support	.195	.086	2.258*
Friend emotional support	-.107	.097	-1.102
Friend instrumental support	.341	.098	3.489***
R ²	.11**		

Note: $N = 217$; *** $p < .001$, ** $p < .01$, * $p < .05$; pooled multiple imputation data

Table 17.

Summary of Simultaneous Regression Analysis for Commitment as Dependent Variable

Variables	Individual Commitment		
	<i>B</i>	<i>SE</i>	<i>t</i>
Grade	-.004	.082	-.045
Highest level education-mother	-.049	.049	-.996
Highest level education-father	.079	.049	1.614
FARMS	-.101	.137	-.740
Gender	-.194	.133	-1.460
Teacher emotional support	-.096	.093	-1.034
Teacher instrumental support	.129	.086	1.492
Friend emotional support	.019	.097	.192
Friend instrumental support	.169	.098	1.725
R ²	.06		

Note: *N* = 217; pooled multiple imputation data

Research Question 2: How do perceptions of social support from close friends relate to components of achievement values?

For this question, I was interested in whether students' perception of their close friends' provision of academic, emotional, and instrumental/informational support predicted students' achievement values (importance and utility of school) (illustrated in Figure 2). As previously stated, none of the dimensions of provision of social support from close friends were significantly correlated with components of achievement values (Table 14.). Nonetheless, I continued with the hypothesized regression analyses with all three support variables in order to examine whether my control variables have any bearing on the relation between my independent and dependent variables. For each analysis, teacher academic, emotional, and instrumental support were included as control variables.

Results of the analyses showed the full models for predicting the importance and utility components were significant. [$F(11, 205) = 4.608, p < .001$ and $F(11, 205) =$

4.272; $p < .001$ respectively]. As illustrated in Table 18, emotional, academic, and instrumental support from close friends did not significantly predict the importance component. However, grade level, FARMs, and mother's educational level were all significant predictors (grade and FARMs negatively, mother's education level positively). For the utility component, only academic support from teachers was a positive and significant predictor (see Table 19). Interpretations of these findings are provided in the discussion section of chapter 5.

Finally, I examined the data for multicollinearity by examining the values for the Tolerance and VIF statistics. As a reminder, Tolerance values less than .10 and VIF values greater than 10 merit further investigation. For these regression models, Tolerance ranged from .30 to .95 and VIF values ranged from 1 to 3, thus, multicollinearity was not an issue.

Table 18.

Summary of Simultaneous Regression Analysis for Importance as Dependent Variable

Variables	Individual Importance		
	<i>B</i>	<i>SE</i>	<i>t</i>
Grade	-.203	.077	-2.625**
Highest level education-mother	.131	.046	2.854**
Highest level education-father	-.023	.047	-.489
FARMs	-.565	.129	-4.378***
Gender	.152	.126	1.213
Teacher emotional support	-.045	.091	-.491
Teacher instrumental support	.073	.104	.702
Teacher academic support	.149	.102	1.465
Friend emotional support	-.039	.094	-.415
Friend instrumental support	.154	.110	1.395
Friend academic support	-.029	.098	-.298
R ²	.20***		

Note: $N = 217$; *** $p < .001$, ** $p < .01$; pooled multiple imputation data

Table 19.

Summary of Simultaneous Regression Analysis for Utility as Dependent Variable

Variables	Individual Utility		
	<i>B</i>	<i>SE</i>	<i>t</i>
Grade	-.124	.086	-1.444
Highest level education-mother	-.035	.051	-.686
Highest level education-father	-.032	.052	-.608
FARMS	-.215	.143	-1.501
Gender	-.082	.139	-.590
Teacher emotional support	.049	.101	.481
Teacher instrumental support	.111	.115	.965
Teacher academic support	.267	.113	2.371*
Friend emotional support	-.073	.104	-.696
Friend instrumental support	-.038	.122	-.311
Friend academic support	.084	.109	.771
R ²	.18**		

Note: $N = 217$; ** $p < .01$, * $p < .05$; pooled multiple imputation data

Research Question 3: How does the set of nominated friends' ethnic identity and achievement values predict individual's ethnic identity and achievement values?

How does the ethnicity of the set of nominated close friends moderate the relation between the set of nominated close friends' and the individual's scores on components of ethnic identity and achievement values?

For the first part of this research question, I was interested in how high-achieving African American students nominated friends' scores on each outcome variable predicted these students' scores on the respective outcome variables (illustrated in Figure 3). As previously stated, only a subsample of the data were used due to issues with missing data.

To address the first part of this question, I used as my predictor variables the composite scores that were created based on the three nominated friends' scores on ethnic identity exploration (Friend_Exploration), ethnic identity commitment (Friend_Commitment), importance of school (Friend_Importance), and utility of school

(Friend_Utility). The dependent variables were the individual's scores on ethnic identity exploration (Individual_Exploration), ethnic identity commitment (Individual_Commitment), importance of school (Individual_Importance), and utility of school (Individual_Utility). As a reminder, from the correlation analysis, positive and significant correlations were found between friends' exploration and individual's exploration, friends' importance and individual's importance, and friends' utility and individual's utility scores (see Table 15).

Next, I regressed each respective score on the individual's scores, that is, Friend_Exploration on Individual_Exploration, Friend_Commitment on Individual_Commitment, Friend_Importance on Individual_Importance, and Friend_Utility on Individual_Utility to predict individual's ethnic identity (exploration and commitment) and achievement values (importance and utility). For each analysis, grade level, gender, and SES (FARMs and parents' educational level) were entered as control variables. Finally, I treated for missing data by selecting listwise deletion for each regression analyses.

Results showed that for the ethnic identity components, none of the full models were significant [$F(6, 77) = 2.089, p = .062$ for exploration and $F(6, 77) = .896; p = .502$ for commitment]. Also, friends' exploration was found to be a significant and positive predictor of individual's exploration (see Table 20), however, there were no significant predictors for the commitment component (see Table 21.). Also, for the achievement values components, the full model for individual's importance was significant [$F(6, 71) = 3.563, p < .01$]. However, as illustrated in Tables 22 and 23, none of the predictor variables were significant for the importance or utility components.

Before proceeding with the second part of this research question, I examined each regression model for multicollinearity. For these regression models, Tolerance ranged from .54 to .89 and VIF values ranged from 1 to 3, thus, multicollinearity was not an issue.

Table 20.

Summary of Simultaneous Regression Analysis for Exploration as Dependent Variable

Variables	Individual_Exploration		
	B	SE	β
Grade	.035	.162	.025
Highest level education-mother	.045	.089	.062
Highest level education-father	-.015	.083	-.022
FARMs	.281	.268	.119
Gender	-.166	.256	-.074
Friend_Exploration	.346	.115	.331**
R ²	.14		

Note: $n = 78$; ** $p < .01$

Table 21.

Summary of Simultaneous Regression Analysis for Commitment as Dependent Variable

Variables	Individual_Commitment		
	B	SE	β
Grade	-.006	.173	-.004
Highest level education-mother	.043	.096	.058
Highest level education-father	.088	.089	.127
FARMs	-.371	.290	-.151
Gender	-.278	.276	-.120
Friend_Commitment	.163	.115	.157
R ²	.07		

Note: $n = 85$

Table 22.

Summary of Simultaneous Regression Analysis for Importance as Dependent Variable

Variables	Individual Importance		
	<i>B</i>	<i>SE</i>	β
Grade	-.201	.148	-.159
Highest level education-mother	.067	.076	.107
Highest level education-father	.016	.071	.028
FARMS	-.412	.229	-.197
Gender	.436	.255	.218
Friend_Importance	.118	.122	.134
R ²	.23**		

Note: $n = 78$; ** $p < .01$

Table 23.

Summary of Simultaneous Regression Analysis for Utility as Dependent Variable

Variables	Individual Utility		
	<i>B</i>	<i>SE</i>	β
Grade	-.103	.155	-.076
Highest level education-mother	-.002	.085	-.003
Highest level education-father	-.038	.079	-.060
FARMS	-.376	.266	-.168
Gender	-.209	.244	-.101
Friend_Utility	.185	.108	.193
R ²	.10		

Note: $n = 84$

For the second part of this research question, I created an interaction term reflecting the ethnic composition of set of close friends to include in each regression model. Ethnic composition (EC) scores were categorical based on the following classifications:

1. Homogeneous- African American ethnic group makes up 100% of the set of nominated friends ($n = 46$)
2. Mixed- African American and other ethnicities make up the set of nominated friends ($n = 44$)

This variable was dummy coded (0, 1) with homogeneous group as the reference group. To create the interaction term, I first mean centered the Friend_Exploration, Friend_Commitment, Friend_Importance, and Friend_Utility variables. Mean centering helps to improve the prediction by reducing the covariances and correlations between the predictor variables and their interaction term, thereby reducing the threat of multicollinearity and increasing the precision of estimates (Afshartous & Preston, 2011; Chatterjee & Simonoff, 2013; Shieh, 2011). Next, I multiplied the mean centered variables with the categorical variable (EC) to create the interaction terms. I then ran regression models with control variables (grade level, gender, parents education level, and FARMs) and mean centered independent variables (Friend_Exploration, Friend_Commitment, Friend_Importance, or Friend_Utility) in step 1, and interaction terms (Friend_Exploration x EC, Friend_Commitment x EC, Friend_Importance x EC, or Friend_Utility x EC) in step 2. Finally, as a reminder, I treated for missing data by selecting listwise deletion for each regression analyses.

The results from these subsequent analyses indicated that none of the interaction terms were significant (Tables 24 to 27). Also, testing for multicollinearity showed Tolerance ranged from .29 to .89 and VIF ranged from 1 to 2, thus, multicollinearity was not an issue for these analyses.

Table 24.

Summary of Multiple Regression Analysis for Exploration as Dependent Variable with Interaction Term

Variables	Individual_Exploration		
	<i>B</i>	<i>SE</i>	β
Step 1			
Grade	.035	.162	.025
Highest level education-mother	.045	.089	.062
Highest level education-father	-.015	.083	-.022
FARMs	.281	.268	.119
Gender	-.166	.256	-.074
Friend_Exploration	.346	.115	.331**
R ²	.14		
Step 2			
Grade	.151	.633	.027
Highest level education-mother	.176	.346	.062
Highest level education-father	-.032	.323	-.012
FARMs	1.277	1.052	.138
Gender	-.258	1.038	-.030
Friend_Exploration	.662	.207	.458**
EC x Friend_Exploration	-.460	.335	-.199
R ²	.16		
R ^Δ	.02		

Note: $n = 78$; ** $p < .01$; EC = Ethnic composition

Table 25.

Summary of Multiple Regression Analysis for Commitment as Dependent Variable with Interaction Term

Variables	Individual_Commitment		
	<i>B</i>	<i>SE</i>	β
Step 1			
Grade	-.006	.173	-.004
Highest level education-mother	.043	.096	.058
Highest level education-father	.088	.089	.127
FARMs	-.371	.290	-.151
Gender	-.278	.276	-.120
Friend_Commitment	.163	.115	.157
R ²	.07		
Step 2			
Grade	-.210	.615	-.040
Highest level education-mother	.070	.340	.026
Highest level education-father	.440	.319	.178
FARMs	-1.578	1.026	-.180

	Gender	-.544	.996	-.066
	Friend_Commitment	.604	.260	.401
	EC x Friend_Commitment	-.668	.365	-.327
R ²		.10		
R ^Δ		.03		

Note: $n = 85$; EC = Ethnic composition

Table 26.

Summary of Multiple Regression Analysis for Importance as Dependent Variable with Interaction Term

Variables	Individual_Importance		
	<i>B</i>	<i>SE</i>	β
Step 1			
Grade	-.201	.148	-.159
Highest level education-mother	.067	.076	.107
Highest level education-father	.016	.071	.028
FARMS	-.412	.229	-.197
Gender	.436	.255	.218
Friend_Importance	.118	.122	.134
R ²	.23**		
Step 2			
Grade	-.579	.424	-.159
Highest level education-mother	.208	.220	.115
Highest level education-father	.039	.203	.024
FARMS	-1.276	.664	-.212
Gender	1.256	.734	.218
Friend_Importance	.394	.271	.279
EC x Friend_Importance	-.334	.306	-.186
R ²	.24**		
R ^Δ	.01		

Note: $n = 78$; ** $p < .01$; EC = Ethnic composition

Table 27.

Summary of Multiple Regression Analysis for Utility as Dependent Variable with Interaction Term

Variables	Individual_Utility		
	<i>B</i>	<i>SE</i>	β
Step 1			
Grade	-.103	.155	-.076
Highest level education-mother	-.002	.085	-.003
Highest level education-father	-.038	.079	-.060
FARMS	-.376	.266	-.168
Gender	-.209	.244	-.101

	Friend_Utility	.185	.108	.193
R ²		.10		
Step 2				
	Grade	-.370	.603	-.071
	Highest level education-mother	-.012	.329	-.005
	Highest level education-father	-.156	.306	-.065
	FARMs	-1.495	1.040	-.174
	Gender	-.784	.943	-.098
	Friend_Utility	.271	.264	.158
	EC x Friend_Utility	.137	.402	.051
R ²		.10		
R ^Δ		.00		

Note: n = 84; EC = Ethnic composition

Overall Summary

The results showed one dimension of friends' social support (instrumental support) to be related to African American adolescents' ethnic identity (exploration), providing some evidence of how support from these students' close friends relate to the development of their ethnic identity. Also, results showed that for these high-achieving African American adolescents, there was no significant relation between the provision of social support from close friends and achievement values. However, there was evidence of demographic variables, for example, mother's education level and FARMs predicting achievement values. Also of interest were the significant findings with respect to teacher support variables. In the regression analyses, teacher emotional support and instrumental support were shown to be significant individual predictors of individual's exploration, while teacher academic support was a positive and significant predictor of the utility component.

The findings of this study also showed that there is some support for peer modeling taking place with respect to the development of one's ethnic identity. As previously mentioned, the aim of research question 3 was to indirectly explore peer

modeling as determined by friends' scores predicting the individual's scores. I found close friends' level of exploration to predict the individual's level of exploration.

However, similar findings were not found for achievement values. Finally, since none of the interaction terms were significant, I conclude that, with this sample, there is no evidence of the ethnic composition of the high-achieving African American students' friendship group shaping the relation between close friends' ethnic identity and individual's ethnic identity as well as between close friends' achievement values and individual's achievement values. Further interpretations of the findings and implications of these results are discussed in chapter 5.

Chapter 5: Discussion

Examining the social relationships of African American adolescents is critical to determining what factors may be beneficial to improving the academic success of these historically underrepresented students. Specifically, exploring the close friendships of African American adolescents helps to shed light on how friendships relate to their academic behaviors. Focusing on high-achieving African American adolescents, the current study explored the relation between friendships, ethnic identity, and achievement values. First, the study analyzed adolescents' perceptions of support from close friends and the relation to students' ethnic identity and achievement values. This was followed by examining the relation between close friends' ethnic identity and achievement values with that of the high-achieving African American adolescents. Finally, a moderation model was tested to examine whether the ethnicity of close friends played a significant role in the relation between friends' ethnic identity and individual's ethnic identity as well as friends' achievement values and individual's achievement values.

In this chapter, I provide a summary and interpretation of my research findings, organized around my three research questions. This is followed by a discussion of the strengths and limitations of this study. Finally, I conclude with future directions to extend the research on achievement motivation, ethnic identity, and friendship processes.

1. How do perceptions of social support from close friends relate to components of ethnic identity?

This section provides a summary of the findings concerning the first research question which focused on the relation between provision of social support from close friends and the ethnic identity of high-achieving African American adolescents. Although

scholars report peers playing a significant role in the ethnic identity development of ethnic minorities, few studies have explored the peer processes that relate to this aspect of their self-development (Korenienko, Santos, & Updegraff, 2015; Umaña-Taylor et al., 2014). This study examined such processes with a subsample of African American students so as to understand the characteristics of their friendships that may be beneficial to their ethnic identity and reasons for pursuing academic success.

One of the peer processes explored in this study is the provision of social support, which was examined as a dimensional construct composed of emotional, academic, and instrumental support. It was expected that there would be a relation between social support from close friends (specifically, emotional and instrumental support) and ethnic identity. Using Phinney's conceptualization and measurement of ethnic identity, this construct was considered as two distinct components: exploration and commitment. Focusing first on the correlation analysis, with this sample, there was a strong and positive correlation between the dimensions of emotional support and instrumental support and the exploration component. Also, a strong and positive correlation was found between the dimension of instrumental support and the commitment component. However, in the subsequent regression analyses, only instrumental support was found to be a positive and significant individual predictor of the exploration component.

As previously stated, instrumental support refers to the availability of physical assistance or aid in understanding a problem (Fleming & Baum, 1986). Also, the exploration component of ethnic identity is defined as the degree to which one engages in active learning about their ethnic group (Roberts et al., 1999), and is referred to as the "behavioral" component of one's ethnic identity (Phinney & Ong, 2007). The findings

from this study provide some indication of how supportive relationships may shape an individual's ethnic identity; the tangible assistance provided by close friends might facilitate the search process one may go through when developing their ethnic identity. However, the items used in the measure for instrumental support were generic so as to capture overall aspects of this type of support (e.g., "Explains things when I don't understand"; see Appendix A); therefore, further investigation with a measure that is specific to this context (ethnic-related) will provide a better understanding of how instrumental support relates to the exploration process of one's ethnic identity. For example, African American adolescents' friends may suggest activities these students could engage in so as to learn more about their ethnic group, such as, joining a cultural club or going to a museum dedicated to African American heritage.

Drawing from the broader literature on attachment theory and identity development, there is an additional way in which to interpret these findings. This area of research notes that an individual with a secure attachment base is more inclined to engage in a search process, that is, go through an exploration stage, in comparison to someone who has an insecure attachment base (Ainsworth, Blehar, Waters & Wall, 1978; Marcia, 1983; Quintana & Lapsley, 1987). A secure base creates the conditions that enable relationship partners (e.g., a child and their mother) to explore the world in a confident way (e.g., child to explore their surroundings with mother as secure base) (Bowlby, 1988). Having a secure base incorporates a high sense of security, support, and trust in the relationship with a particular individual, thus, leading one to have the level of comfort to explore their environment. Exploration represents a behavioral system that functions to help the individual learn about and develop skills in relating to the external world. Thus,

security with a secure base provides the individual with ways in which to cope with the anxiety and worry that comes with the search process. From this theoretical perspective, the high-achieving African American adolescents in this sample might have developed a secure relationship with their close friends, leading to active exploration of their social environment, that is, learning about their ethnic background.

The commitment component, is defined as the extent to which a person has achieved a secure and confident sense of his/her ethnic identity and is viewed as the “affective” component since it is focused on the positive affirmation the individual experiences once they have a strong identification with their ethnic group (Phinney & Ong, 2007; Roberts et al, 1999). In the regression analysis, no significant relation was found between this component and any of the dimensions of social support. An explanation for why this may have occurred is that these students might have already developed a strong commitment; therefore, the need for ongoing support might not be present. In support of this notion, Table 9 shows that the average score for the high-achieving African American adolescents on the commitment component was almost at the maximum value of 4 that one can score on this scale ($M = 3.48$). Thus, these students already had a high commitment to their ethnic group.

Another reason for the non-significant findings may relate to the developmental process of ethnic identity. The commitment one has to their ethnic group is likely to promote further exploration about that particular group (Torres et al., 2011). Some scholars report that exploration may be considered a cyclical and ongoing process that continues throughout the individual’s life (Ong, Fuller, & Phinney, 2010; Parham, 1989; Phinney, 2006). For example, a high-achieving African American adolescent (with a

strong commitment to their ethnic group) who is grappling with college choice [Historically Black College (HBCU) or Predominantly White University (PWI)] may be considering a school based on the extent to which it will allow them to learn more about their ethnicity (HBCU). Therefore, for this high school sample, the high-achieving African American students may be engaged more in activities connected to the identity search process, thus, the reason why instrumental support from close friends related to the exploration component of ethnic identity rather than the commitment component.

Focusing further on the commitment component, there may be additional variables that could be considered as predictors of this aspect of one's ethnic identity. For example, Phinney, Horenczyk, Liebkind, and Vedder, (2001) noted that commitment to an ethnic group may be connected to positive self-evaluation or self-concept. Therefore, it is possible that constructs tied to self-evaluation (e.g., one's capabilities or self-worth) would provide a better understanding of the commitment component. Also, Douglass, Wang, and Yip (2015) recently explored how the salience of one's ethnicity relates to the components of ethnic identity. These researchers found salience (defined as the relevance and significance of ethnicity in a specific situation) to be positively and significantly related to the commitment component. Overall, other features that are specific to the individual may help researchers to further understand the development of the commitment component.

Interestingly, although not a main focus of this study, teacher instrumental support and teacher emotional support were significant predictors of the exploration component. These findings provide evidence of teachers playing a considerable role in the development of high-achieving African American adolescents' ethnic identity.

Relatively little research, however, has been conducted exploring the role teachers play in the development of an adolescent's ethnic identity. Much research that focused on the influential role adults play in adolescents' ethnic identity development examine the parent-child relationship (e.g., Hughes et al., 2006; Marshall, 1996; Phinney & Chavira, 1995). However, drawing from the broader literature on identity development, there are possible explanations for why teacher support was a significant predictor.

First, research on identity and schooling has consistently highlighted the importance of social and instrumental support from families, peers, and teachers, for students' academic success (Cooper, Denner, & Lopez, 1999; Syed et al., 2011). These socializing agents provide both instrumental and socioemotional support that students may rely on to pursue, for example, their academic or social goals and maintain a positive sense of self. Teachers might also act as "identity agents", that is, individuals who play an active role in the development of youths' identities (e.g., ethnic identity). For example, teachers may act as role models for their students especially if they are from the same ethnic background (Zirkel, 2002). Teachers who are of same ethnicity may be conveying messages to students about what it means to be a member of their ethnic group (e.g., behaviors in which one engages in as an African American). This explanation is speculative, as information on the ethnicity of the teachers that students used as a frame of reference (while responding to questions on the survey) is not available (a limitation to be discussed later in this chapter).

Finally, another interpretation of the significant findings related to teacher support mirrors the rationale provided for social support from close friends predicting the exploration component. Specifically, for the high-achieving African American sample,

teachers might be providing an additional secure base for the exploration process or a close affectional tie that serves to provide feelings of security. Teachers that promote mutual respect and trust in the classroom may contribute to students feeling safe and comfortable and creating an environment that is beneficial to adolescents' social functioning (Ryan & Patrick, 2001). These students may have built a trusting relationship with their teachers and feel a strong sense of security. As previously noted, the attachment literature highlights these factors as leading one to explore their environment to develop their identity.

2. How do perceptions of social support from close friends relate to achievement values?

This section provides a summary of the findings concerning the second research question which focused on the relation between provision of social support from close friends and the achievement values of high-achieving African American adolescents. Socially supportive relationships directly promote motivation and subsequent engagement in classroom activities (Wentzel, 1998). For example, Archer-Banks and Behar-Horenstein (2012) note that individuals forge strong relationships with peers who they feel support their goals of being academically successful. Fan (2011) asserts that interacting with peers who relay important information about academic-related behaviors helps to shape an individual's valuing of school. For example, having peers help with homework (instrumental/informational support) and encourage each other to do well in school (academic support) relates positively to adolescents attitudes towards school (Leaper et al., 2012; Vitoroulis et al., 2012).

As previously stated, provision of social support from close friends was examined as a dimensional construct. For this research question, all three dimensions were included in the regression analyses. Although it was expected that each dimension (emotional, academic, and instrumental support) would relate to the components of achievement values (importance and utility), surprisingly, this was not the case; none of the dimensions significantly predicted achievement values. This contradicts the positive relation that some studies have found between peer social support and valuing of school (e.g., Fan, 2011; Leaper et al., 2012; Smith et al., 2005; Vitoroulis et al., 2012). Several studies have shown that a student's perception of their school environment predicts the value that they may attach to school. For example, students who experience emotional support and respect from peers are more likely to attach greater value to learning in school (Roeser et al., 1998; Wang & Eccles, 2012).

One rationale for the non-significant findings relates to the sample size of this study. Some studies that found a positive and significant relation between social support from peers and achievement values had sample sizes ranging from $N = 430$ to 539 (e.g., Goodenow & Grady, 1993; Smith et al., 2005; Vitoroulis et al., 2012). Further exploration with a larger sample of African American adolescents may be warranted to truly decipher if, for these ethnic minorities, supportive relationships relate to their achievement values. Another explanation for the non-significant findings may be the lack of sufficient variability in responses. As previously noted, the data were skewed with most students providing responses at the top of the rating scale (e.g., $M = 3.53$ for importance; maximum value is 4). Since these students are high-achieving, their inclination may be towards viewing school as important and very useful. Thus, the data

collected may not have enough variation in responses since these are academically-oriented students.

Interestingly, there was evidence of demographic variables, such as grade level, mother's education level, and FARMs individually predicting the components of achievement values. In the regression analysis, mother's educational level was a positive predictor, while FARMs (coded with "not participating in FARMs" as reference group) and grade level were negative predictors of the importance component. Influences on motivational processes such as achievement values are likely to include various characteristics such as individual attributes (e.g., age) and socioeconomic status (Eccles 1983; Kaplan, Katz, & Flum, 2012; Wentzel & Wigfield, 2009; Wigfield & Eccles, 2000). For example, Wigfield and Cambria (2010), in their review of the literature on achievement values and developmental stages, report that importance and utility tend to emerge during later developmental stages since adolescents become more aware of themselves and what they plan to do in the future (e.g., excelling in school so as to get into medical school). However, further research is needed within this area since not much has been done examining the importance and utility components within later years of high school.

Drawing from the broader literature focused on demographic factors and academic achievement, extensive research has shown a positive relation to exist between socioeconomic status (SES) and academic achievement (Caro, MacDonald, & Willms, 2009; Gutman et al., 2002; McLoyd, 1998; Sirin, 2005). For example, using mother's educational level as an SES indicator, McLoyd (1998) found significant effects on numerous academic outcomes where students of low SES background performed poorly

in school compared to students of higher economic status. Also, achievement disparities may exist due to the belief system of some students within low SES bracket. For example, Taylor et al. (2007) reported that students of low economic standing are less likely to value school since they tend to believe other factors are placing them at a disadvantage. This includes economic barriers preventing them from moving up the socioeconomic ladder; therefore, being at an economic disadvantage has led some students to develop negative self-views and overall views of school (Graham, 1994). In all, further exploration of SES is warranted to understand more clearly African American adolescents' valuing of school.

Another interesting finding worth noting is the positive and significant relation between teacher academic support and the utility component. Based on the regression analysis, this was the only variable that significantly predicted this aspect of achievement values. This finding is in line with previous research that examined teacher social support and motivation (Goodenow & Grady, 1993; Roeser, et al., 2000; Ryan & Patrick, 2001; Wang & Eccles, 2012; Wentzel, 1998). For example, Roeser et al. (2000) found a positive and significant relation between teacher support and achievement values (intrinsic, importance, and utility combined). Also, findings from Wentzel's (1998) study indicated a positive relation between teacher support (emotional and academic support combined) and her measure of motivation, that is, interest in school. In all, for this sample of high-achieving African American adolescents, having a positive relationship with their teachers enhanced their view of school, that is, helped them to view school as useful.

As noted, various control variables predicted each component of achievement values. This is in line with some of the literature that has explored factors relating to the valuing of academic success. For example, focusing on teacher support, researchers have noted that teachers are the main agents constructing the norms and expected behaviors of students within classroom environment (Ryan & Patrick, 2001). Teachers explicitly communicate messages that may encourage cooperation, sharing knowledge, and other forms of prosocial behavior (Wentzel, 1998, 2002). Also, teacher caring, that is, teachers that demonstrate that they care about their students' learning, and that want to help them learn relates positively to students' motivational beliefs and attitudes (Goodenow, 1993; Patrick, Ryan, & Kaplan, 2007). Examining the items for the utility scale, for example, "In the future, how useful do you think the things you have learned in school will be in your everyday life?" (see Appendix A), one will see that the instructional strategies that teachers employ may relate to the content of these items. Teachers that promote academic behaviors (e.g., doing well in math class) may mold beliefs about school being useful for student's future lives (e.g., able to pursue career in Accounting). Thus, the utility component of achievement values highlights a unique story for the students within this sample.

3. How does the set of close friends' ethnic identity and achievement values predict individual's ethnic identity and achievement values? How does the ethnicity of these close friends moderate the relation between the group of nominated friend's and the individual's scores on components of ethnic identity and achievement values?

Finally, this section provides a summary of the findings concerning the third research question which examined the predictive nature of the close friends' ethnic identity and achievement values on the respective outcome variables, and how the ethnicity of the set of close friends moderated the relation between the friends' and the individual's scores. Findings based on this research question would provide some support that peer modeling has taken place (e.g., if the friends' scores predicted that of the individual). There is some research that supports this hypothesis. For example, Kiuru, Aunola, Vuori, and Nurmi (2007) argue that academically successful students tend to associate with peers who are also motivated to succeed in school and value getting good grades. Also, ethnic minorities are more likely to select peers that they are similar to with regard to perceived ethnic background (Brown, Herman, et al., 2008; Hamm, 2000). Thus, from associating with friends with similar beliefs and values, it is expected that there would be a strong relation between close friends' scores and those of the individual (high-achieving African American adolescents).

Although positive and significant correlations were found between friends' exploration, importance, and utility scores and the respective individual's scores, only friends' exploration was a significant and positive individual predictor of individual's exploration scores in the regression analyses. This finding is in line with what a few studies have found with regard to similarities in ethnic identity between ethnic minorities and their peers. For example, Syed and Juan (2012) found with their sample of college students that participants who were ethnic minorities scored similarly to friends that were of the same ethnicity with regard to ethnic identity (exploration and commitment). As previously noted, ethnic minorities are more likely to select friends that they are similar

to with regard to perceived ethnic background (Brown, Herman, et al., 2008; Hamm, 2000), as these friendships provide a protective environment for enhancing students' ethnic pride and well-being (Noguera, 2003). Thus, close friends, over time, become more similar in beliefs and behaviors and develop strong affective ties. Therefore, the findings from this study support previous research on the friendships of ethnic minorities.

Furthermore, in the regression analyses, none of the interaction terms (ethnic composition by ethnic identity components and ethnic composition by achievement values components) were significant. These non-significant findings indicate that for this sample, there is no support for the belief that the ethnicity of close friends moderates the relation between close friends' scores and individual's scores. Although there were nonsignificant findings, further exploration of ethnicity within this context is warranted as these findings may be due to the small sample size (recall $n = 90$ high-achieving African American adolescents).

Another rationale for why there were no significant findings relate to the moderator term, that is, the classification of the ethnic composition of the set of close friends. Reviewing the literature on friendships and ethnicity, we see variation with regard to how researchers have examined the ethnic composition of the peer group. Most studies have explored ethnic composition at the school/classroom level or within best friend dyads (e.g., Aboud et al., 2003; Bellmore, Nishina, Witkow, Graham & Juvonen, 2007; Kistner et al., 1993; Hamm et al., 2003; Yip, 2013). For example, using the National Longitudinal Study of Adolescent Health dataset, Kao and Joyner (2004), studied cross-ethnic and same-ethnic friendship dyads as well as the ethnic composition of the schools within the sample. Their findings showed that African Americans with

cross-ethnic close friends were least likely to engage in activities with each other in comparison to those with same-ethnic friends.

In his study of friendship diversity of college students, Antonio (2004) used peer nominations to create four friendship groups that were categorized based on variations in homogeneity in ethnicity (i.e., proportion of same-ethnic friends within the group). His classifications were as follows: (1) Homogeneous—the largest racial/ethnic group makes up 100% of the friendship group; (2) Predominantly one race/ethnicity—the largest racial/ethnic group makes up 75–99% of the friendship group; (3) Majority one race/ethnicity—the largest racial/ethnic group makes up 51–74% of the friendship group; (4) No majority—the largest racial/ethnic group makes up 50% or less of the friendship group. Findings from this study showed that for students of color, ethnic diversity (diversity in friendship group) was associated with enhanced educational aspirations. The above examples found some relation between ethnicity and the peer group and points to the need to further explore these constructs. In comparison to the previous studies noted, in the current study, two classifications were used (homogenous group versus mixed) which may be why there were no significant findings. In all, although studies examining the ethnicity of friendship groups and the relation to constructs, such as, ethnic identity and achievement values is minimal, there are a few studies that overall highlight the importance of ethnicity within the school context.

Strengths of Current Study

In summary, the current study found that social support relates to ethnic identity development for high-achieving African American adolescents. Furthermore, the findings from this study also provide some evidence of positive peer modeling occurring with

regard to the development of students' ethnic identity. Friends' ethnic identity, specifically the exploration component, was a significant predictor of individual's ethnic identity (i.e., the exploration component). Although similar relations were not found between social support from close friends and achievement values, as well as between friends' achievement values and individual's achievement values, there was some support for demographic variables (FARMS, mother's education level, and grade) predicting high-achieving African American adolescent's achievement values (specifically, the importance component) as well as teacher academic support predicting utility of school. Overall, the current findings provide some evidence of the beneficial role peers, specifically close friends, play within the school context.

This study contributes to the literature on social relationships, identity development, and motivation in several ways. First, this study informs the body of literature that focuses on non-cognitive factors, that is, social relationships and motivation with regard to understanding academic performance of African American adolescents. Research on the concept of social support has concentrated on assessing this construct as one-dimensional or as a broad concept. Following in the foundational work done by Tardy (1985), Malecki and Demaray (2003) argue that the development of this concept illustrates a multidimensional construct that should be measured based on each. Exploring multiple dimensions of social support provides a clearer picture of the nature of peer relationships within the school context. For example, Wentzel (2005) reported that peers are likely to influence a student's academic behavior (e.g. pursuit of academic goals) if their peers provide instrumental help and emotional support. For this study, I found support for a specific dimension of social support (i.e., instrumental support)

relating to African American adolescents ethnic identity, thus, adding to the literature on supportive relationships and identity development.

In the current study, I referenced a specific peer group that students reported on with regard to provision of social support. To reiterate, the peer context encompasses numerous group configurations. This means that peer relationships include various social contexts such as best friends, cliques, and crowds. Some researchers have failed to be consistent in referencing these particular groups, for example, stating that their focus is on the “peer group” while measuring “best friend” influence (which is not considered a peer group) (see Brown, 1989). Such approaches influence how results may be interpreted. Therefore for this study, I focused on the individuals that a student noted as their close friends that they hang out with the most. This technique allowed for a better understanding of the peer context from a specific point of reference, that is, a set of close friends.

An additional strength of this study is the examination of ethnicity as a moderator of the relation between friends’ and individual’s ethnic identity and achievement values. Scholars report that the ethnic composition of friendship groups plays a significant role in academic and social behaviors of ethnic minorities (Brown, Herman, et al., 2008). Students tend to select friends with whom they have the most in common with, ethnicity being one of the most salient characteristics (de Souza Briggs, 2007). This study examined whether there was an interaction based on the ethnic composition of the set of close friends nominated by the high-achieving African American adolescents. This makes the current study one of the few that have explored ethnicity within the peer context beyond just as a control variable or the ethnic composition of the classroom or school.

However, there were non-significant findings when examining the moderation model for this study. These findings could be interpreted in two ways: (1) ethnicity of friends does not shape the relation between close friends' and the individual's ethnic identity or achievement values, or (2) the sample size was not sufficient enough to explore this relation (recall this analysis was conducted with $n = 90$ students). Focusing on the nominated friends within the sample ($n = 245$), one-way ANOVA analysis showed there was a significant mean difference between students who were same-ethnic friends and those who were other-ethnic friends on each ethnic identity component. Results showed that same-ethnic friends averaged significantly higher exploration [$M = 3.29$, $SD = .645$; $F(1,241) = 7.170$; $p < .05$] and commitment [$M = 3.47$, $SD = .577$; $F(1,240) = 5.272$; $p < .05$] than other-ethnic friends ($M = 3.03$, $SD = .809$) and ($M = 3.28$, $SD = .728$) respectively. Although initial analyses did not find significant interactions, these supplemental findings provide some evidence that the sample size, that is, the use of a subsample of students, may have played a role and that ethnicity of one's friends has the potential to relate to one's identity development.

Finally, this study focused on the positive aspects of African American students' social and academic experiences. Traditional approaches of researchers exploring the school context of African American adolescents involve the use of Ogbu's framework to guide their explanation of the peer relationships of these adolescents. This tends to paint a negative view of education and the adoption of an ethnic identity for African American students as this theory, for example, projects that African American students who choose to be academically-oriented will experience the social cost of lacking acceptance by their peers if they chose to perform well in school (Fuller-Rowley & Doan, 2010). However,

research findings have been mixed with respect to Ogbu's theory (e.g., Ainsworth-Darnell & Downey, 1998; Bergin & Cook, 2002; Harris & Marsh, 2010), along with reports noting that African American students support academic achievement (Horvat & Lewis, 2003). This highlights the need to focus on the positive role peers play when studying the achievement motivation and identity development of African American adolescents. Shifting from exploring negative experiences, such as, peer discrimination and harassment, to focusing on the positive impact of peers (either through showing social support or associating with peers with positive academic behaviors) illustrates the beneficial contribution of peers to academic outcomes.

Limitations of Current Study

Although there are strengths to this study, there are some drawbacks that should also be noted. The limitations of this study relate to the design of the study, data collection procedures, measurement, missing data, sample size, CFA findings, and the extent of the claims that can be made. Pertaining to the design issues, this study focused on exploring the relation between peer relationships, ethnic identity, and achievement values from one single time point (a design that is correlational in nature). This means that causal explanations could not be determined. Overall, most studies that have explored peer influences have relied heavily on correlational designs (Kindermann, 2016). However, illustrating natural effects, such as, the formation of friendship groups through selection or socialization effects depend on the usage of longitudinal designs. Also, longitudinal designs are necessary to sufficiently determine that peer modeling has occurred within the friendship group. Therefore, to develop a more detailed picture that

encompasses the developmental trajectories of peer relationships and motivation or ethnic identity, a longitudinal approach is needed.

Next, with regard to measurement, for this study, the researcher relied heavily on self-reported data from the targeted sample as well as from the friends that these students nominated. For example, the high-achieving African American students self-reported on factors such as who they perceived to be their close friends and their perception of how supportive these friends were. Using a single informant for this type of information is of concern as it has been reported that student's perception of others may be in line with how they view him or herself (Wentzel et al., 2012). Another step that could be taken is to include reports from nominated peers on their perception of how supportive they think they are (e.g., "I care about how _____ feels") so as to validate the student's perception of their friends.

Another limitation relating to measurement involves the opportunity for social desirability to negatively impact the reporting of student's GPA. There is the tendency for students to present a favorable image of themselves on questionnaires (Johnson, Fendrich, & Hubbell, 2002). Socially desirable responding is most likely to occur in responses to socially sensitive questions (e.g., how one is performing academically in school). Therefore, there is the possibility that in order to present oneself in a positive light, students self-reported inflated GPA scores. Unfortunately, due to restrictions placed with regard to access to students' records, this study relied on self-reporting of GPA so as to classify most of the students as high-achieving. Only for two schools (School B and C) can one confidently conclude that the targeted students had GPAs that met the criterion placed for being labelled as a high-achiever since the principals used their records to

select students for the study. Additional sources such as having teachers report which students are high-achieving or the inclusion of additional indicators used to represent high academic performance in school (e.g., enrolled in AP or International Baccalaureate courses) should be considered as indicators of academic performance.

Another cautionary note with respect to the usage of self-report data is the added issue of participants reporting on their parents' occupation. As previously noted, there was a large amount of missing data after coding students' responses. This occurred because these participants provided answers that were extremely vague, for example, "works at a bank", or reported that they did not know what their parents did for a living. This rendered the data on parents' occupation unusable for this study. To capture this indicator of socioeconomic status, it is recommended to rely on parent reports since they will be able to provide accurate information.

How data were collected is also of some concern given the variation in the recruitment and data collection processes across each school. As previously noted, the researcher adapted her data collection procedures so as to meet the restrictions placed both by the school district as well as the principals of the schools where students were recruited. For example, at School A, the principal allowed the researcher to recruit students only during lunch period and restricted the researcher from directly asking students what their GPA was until they received permission from their parents to report such information. However, at School D students could freely respond to the GPA question. The variation in procedures across schools created the opportunity for issues with regard to sampling, generalizability of results, and replication of the study. For example, at School D, students filled out surveys with a large group of the student

population as well as with their friends beside them, while, at School C, students filled out surveys mainly by themselves. This brings into question whether having (or not having) their friends around while completing the surveys had some relation to the information documented in the surveys.

In addition, the limited access to some students created the issue of selective data being available for analysis. For School C as well as the set of students who were recruited on a local college campus (versus at their school), the data from a lot of the friends that the targeted students nominated were not available. This created missing data issues that significantly affected the analysis of research question 3. One must be cautioned when interpreting the findings from this study due to such issues. Information from the students who did not participate may add a completely different story. Are these friends also academically-oriented or are they low-achievers? Do these friends have a strong attachment to their ethnic group or are they still within the exploration process. Valuable information was lost due to the inability to gather data from all friends that the students nominated.

Another issue to discuss is the usage of a two-factor structure with regard to ethnic identity construct. As noted, based on the CFA that was run, all required criteria for each test statistic was not met for the two component structure for ethnic identity (see Table 13 for model fit). The decision was made to continue with the two-factor structure based on a conceptual versus statistical rationale. However, some scholars note that an exploratory factor analysis is the appropriate step one should take to follow-up a poor fitting CFA model since poor fit is an indication of making an incorrect theoretical assumption (Brown, 2015; Hoe, 2006). However, Ong, Fuller, and Phinney (2010) argue

that the ideal step one should take when evaluating the ethnic identity construct is to derive relevant dimensions that have strong empirical ties to the theoretical constructs from which they have been generated. Since the conceptualization and measurement of ethnic identity was based on decades of work conducted by Phinney and colleagues, the two dimension structure was used. Also, a poor fit does not necessarily indicate issues with theoretical conceptualization of the model; this measurement model may vary based on distinct groups (e.g., diverse ethnic groups) (Brown 2015). Therefore, interpretations of CFA findings warrant further exploration with diverse samples to verify Phinney's conceptualization of ethnic identity construct.

Finally, the sample size was 217 high-achieving African American adolescents. This is a small sample size that limits the generalizability of the current findings. This was also a convenience sample; therefore a larger and diverse sample is necessary so as to generalize findings to a broader population of African American adolescents. Overall, the issues highlighted above emphasize the difficulty a researcher may face when conducting a study of this magnitude especially when targeting a unique and specific sample (i.e., high-achieving African American adolescents). The obstacles ranged from gaining access to students (permission from district level and school level) to restrictions on what one could ask the students (e.g., what is their GPA). This ethnic minority population continues to be underrepresented within the literature with regard to academic success, thus, it is essential to continue pursuing research (despite these issues) in order to help improve the academic status of African American students.

Future Directions of Research

In this section, I present the directions that future research may take with regard to understanding the interplay between peer processes, ethnic identity, and achievement values. This includes a discussion of alternative pathways that could be examined within the conceptual model that guided this study, additional friendship characteristics, measurement suggestions, and other sources of support.

Alternative Pathways and Peer Conceptualization

As previously noted, the peer group may be conceptualized at multiple levels: *dyads*, *cliques*, and *crowds*. For the current study, the level of cliques was chosen as a frame of reference for the categorization of the close friends of the targeted sample. The interaction an individual has with friends within their cliques may differ in comparison, for example, to their best friend. Having a trusting, caring, and intimate relationship with a best friend is associated with improved social and emotional adjustment (Buhrmester, 1990; Parker & Asher, 1993). To build on this study, an additional step could be the examination of peer processes across multiple levels of the peer group classification. For example, the inclusion of a focus on a best friend dyad may lead to significant findings with regard to provision of social support and valuing school. This approach may counter the non-significant findings with regard to social support and achievement values since it is possible that another social context, that is the best friend dyad, may have a unique influence on student's motivation in school.

In the conceptual model that guided this study, friendships were examined in a unidirectional manner (see Figures 1. to 3.) where only the influence from close friends on the individual was explored. A next step that this area of research could consider is the examination of how the individual may shape the social and academic behaviors of their

friends. Drawing from the literature on popularity, we learn that individuals viewed as popular are highly liked and may shape the norms and beliefs of the friendship group (Bukowski, 2011). This individual may be seen as the “trendsetter” and as bringing the group together. For high-achieving African American adolescents, the position they have within their clique may be that of an “influencer” or leader setting the stage for the norms and values that may be emulated by their close friends.

An examination of the characteristics of the friends within this sample helps to illustrate this concept. Exploring who was nominated overall as close friends, we see that there was a significant number of high-achieving students who were nominated as close friends ($n = 211$, 86%). Also, one-way ANOVA analyses showed a significant mean difference between high-achieving friends [$M = 3.55$, $SD = .416$; $F, (1,241) = 10.986$; $p < .01$] and average performing friends ($M = 3.28$, $SD = .578$) on the importance component. These findings present additional questions that may be explored. Are high-achieving students selecting friends who are also high-achieving students as close friends or are high-achieving students selecting friends based on similarity in ethnic background and through continuous interaction with each other develop positive academic behaviors, thus, leading to high academic achievement? Examining the influence that these students have on their close friendships may provide key information on how peers shape the achievement values and ethnic identity of each other.

Methods and Statistical Techniques

For the current study, a main focus was on friendships of high-achieving African American adolescents; specifically how friends contribute to the satisfaction of socio-affective needs (level of support). In all, the literature shows that friendships play a significant role in adolescent’s lives. An additional approach would be to explore the

quality or characteristics of these relationships through multiple dimensions or aspects of the relationship (Berndt & McCandless, 2009; Hartup & Stevens, 1997; Parker & Asher, 1993). For example, Parker and his colleagues (1995) proposed friendship quality to include the degree of companionship the relationship provides, its supportiveness, and level of conflict. They examined six qualitative aspects: validation and caring (i.e., the degree to which the relationship is characterized by caring, support, and interest); conflict and betrayal (i.e., the extent to which the relationship is typified by argument, disagreement, annoyance, and mistrust); companionship and recreation (i.e., the extent to which the friends spend enjoyable time together inside or outside of school); help and guidance (i.e., the extent of the friends' efforts to assist one another with routine). Also, Vera et al. (2011) suggested examining student's satisfaction with their peer relationships as it relates to peer characteristics and academic outcomes. In their study of contextual factors predicting adolescent's well-being, they found a positive correlation between satisfaction with friend relationships (e.g., "My friends are great") and ethnic identity. Overall, there are multiple domains and aspects of friendships that could be examined, thus, illustrating how friends shape students' ethnic identity and achievement values.

Not only are there multiple ways in which to explore friendships, but also, in which to explore the construct of achievement values. In this study, the conceptualization and measurement of achievement values was driven by the work conducted by Eccles and her colleagues (1983). The approach taken to understanding this construct was to mirror the conceptualization of achievement values as it has been measured over the years. However, there are other measurement procedures used by some researchers with African American samples. As previously mentioned, the work by Graham and

colleagues (1998) on achievement values utilized a nomination technique in which students select who they admire, respect, and want to be like. Their findings revealed African American females nominating high-achieving students as individuals they admired, thus indicating their valuing of academic achievement. Although this measure has some limitations with respect to validity and generalizability of findings (Graham, 2001; Taylor et al., 2007) it may be used as a stepping stone for further exploration of valuing of school. For example, follow-up questions could ask about specific academic behaviors (e.g., studies hard for exams or pays attention in class) of the individual that they admire.

Another approach researchers could take with respect to identity and African American students is to explore multiple identities. The students within this sample provided various self-descriptions when reporting on their ethnicity. Not only did some students select “African American” on the survey, but they also provided ethnic descriptions that touched on their immigrant background (e.g., Namibian-American). Focusing on students’ identities that relate to their culture may help to further develop our understanding of the academic perspectives of ethnic minority students. This possibility is reflected in some studies that have looked at ethnic or racial identity. Such findings suggest that a strong connection to one’s ethnic identity may act as a protective factor for adolescents (Ong, Phinney, & Dennis, 2006) and that black immigrants identify more with their ethnic identities than their racial identities (Bennett & Lutz, 2009; Waters 1991). In addition, for some African Americans, scholars report high academic achievement to be positively associated with adolescents who have positive view of their racial group (Altschul et al., 2006; Chavous et al., 2003; Quintana, 2007). Therefore, the

educational success of African American students may be tied to the culture that they associate with as well as to their race. Race and ethnicity are distinct constructs that may have varying impact on how individuals view themselves (Wakefield & Hudley, 2007). Thus, exploration of both aspects of identity (racial and ethnic) may add to the literature on identity development of high-achieving African American adolescents.

Further elaborating on ethnic and racial identity, there is a current shift in research to incorporate a focus on both identities when studying ethnic minorities. Recently, Umaña-Taylor and her colleagues (2014) formed the Ethnic and Racial Identity in the 21st Century Study Group and published multiple review articles that discussed the changing perspective on research within the field of identity development. They noted the theoretical complexities of these constructs and provided a synthesis of evolving ways in which to approach studying ethnic and racial identity. A key recommendation from their review is the need to consider the diversity introduced into the process of ethnic and racial development based on migration history. Variability exists within ethnic minority populations where the heading of “Black” includes African Americans, Jamaicans, and Nigerians; thus, it is important to situate one’s identity within the context of other identity domains, that is, both ethnic and racial identities. Examining multiple identities is key since the salience of one’s identity relates to an individual’s psychological well-being.

Another way to build on the current study is to incorporate a mixed method approach. The inclusion of a qualitative approach may yield in depth information that goes beyond just surface patterns (Patton, 2002). Furthermore, qualitative methodologies are ideal for identifying factors and generating new data relevant to populations or groups previously overlooked or understudied (Merchant & Dupuy, 1996). Useful information

can be gained from including qualitative components focused on understanding peer processes, development of ethnic identity, and achievement values. For example, Morrison (2014) found in her study focused on college students of African descent, various ethnic and academic behaviors that these students admired and emulated in their close friends.

Also, through the use of interviews, Wright (2011) was able to show how young African American men developed layered and complex notions of what it means to be a member of their ethnic group, male, and academically successful. The inclusion of questions that, for example, asks students to describe how their friends have been helpful as they learn about their ethnic group would help to gather intricate details about how provision of social support relates to the exploration process. Also, the inclusion of questions that stimulate a discussion on what factors help students to view school as important (e.g., a means through which to hang out with friends) or why they do not view it as such (e.g., do not plan to go to college), may provide additional avenues through which to measure the construct of achievement values.

The mixed method approach can also be applied to investigations of the social support construct, for both teachers and close friends. Looking at the items used to measure, for example, instrumental support from teachers (“My teachers spend time with me when I need help” or “My teachers help me solve problems by giving me information”) (in Appendix A), one will see that these items are broadly based. This means that there is no specific context to use as a frame of reference. For example, “My teachers show me how to do things” may refer to showing students how to cooperate with friends or how to research African American history in the library system. Adding

follow-up questions that address specific contexts (e.g., ethnicity) is the next step to further understanding how instrumental support from teachers relate to student's ethnic identity.

As illustrated in Figure 3, this study included a moderation model to examine how the ethnicity of friends shaped the relation between friends' and individual's ethnic identity and achievement values. Examining the correlations that were found between the components of ethnic identity and achievement values (see Table 14), there were significant and positive correlations between the exploration component and the utility component ($r = .136, p < .05$) as well as between the commitment component and both achievement values components ($r = .203$ & $.290; p < .01$). With the knowledge that previous research has found significant relation between peer support and achievement values, it is projected that there is the possibility of exploring a mediation model with regard to support variables, ethnic identity, and achievement values.

Drawing from the literature on sense of belongingness, we understand that the extent to which students feel accepted, respected, and included within school environments is positively related to their engagement in school and overall motivation to achieve (Goodenow & Grady, 1993; Osterman, 2000). Reverting to our understanding of what each component of ethnic identity represents (behavioral and affective component) we can conclude that the correlation found between the components of ethnic identity and achievement values is valid. It is possible that these students felt a strong connection to their ethnic group through the provision of support. Thus, feeling an overall sense of belongingness to their ethnic group may relate to their valuing of school. In all, this

provides an additional conceptualization of the interplay of peer processes, ethnic identity, and achievement values that could be explored.

Another model worth exploring would include the moderating role that ethnicity may play with regard to support from close friends. Currently, there is an increase in research being conducted exploring the prevalence and importance of cross-ethnic friendships (e.g., Douglass et al., 2015; Echols & Graham, 2013; Graham & Juvonen, 2014). As previously mentioned, there has been a debate on whether cross-ethnic friendships are as beneficial as same-ethnic friendships. With the demographic changes in the population continuing to occur within American schools (U.S. Department of Education, 2009), it is essential to explore how the shift in the ethnic diversity in schools relates to the formation of friendships. In this study, ethnic composition was explored as a moderating variable for the relation between friends' scores and the individuals. However, what if we explored the moderating effect on social support from close friends? Findings from this approach may help to either support or contradict current findings on ethnicity and friendships.

Other Sources of Social Support

In the current study, the focus was on a set of close friends as a source of support for students' achievement values and ethnic identity. Teacher-student and parent-child relationships were beyond the scope of this study. Additionally, although teacher social support was measured, it was only included as a control variable (which, interestingly, predicted students' achievement values and ethnic identity). As a next step for this area of research, the inclusion of additional sources of support across multiple contexts may provide significant information on how supportive relationships play a significant role in student's life. For example, teachers are viewed as a major source of

instrumental/informational support for their students. They also act as socializing agents that students encounter and shape the values and belief system of some students (Wentzel & Asher, 1995).

Also, research has shown maternal support to significantly relate to adolescent's grades (Bean, Barber, & Crane, 2006). The larger body of literature shows how the emphasis on a warm, affective parent-child relationship is an important influence on positive child developmental outcomes, including academic achievement (Gonzales et al., 1996). An additional step would be not only to explore teacher and parental support, but also to examine whether the inclusion of these support systems create an additive or compensatory model. Social support from one's teachers and parents could counteract deficiencies a student may experience within their peer relationship in turn molding positive behaviors (French et al., 2000; Wentzel et al., 2010). Overall, there is some utility in exploring multiple sources of support on the ethnic identity and achievement values of high-achieving African American adolescents.

Further exploring teacher support, in this study, students were prompted to think about their teachers in general and report on their perception of social support from them. Unfortunately, this procedure does not allow for one to decipher who they are specifically referencing when completing the survey. Are students rating all their teachers (which may include teachers they do not have a relationship with) or are they focusing on a few in particular with whom they have built a trusting relationship? A next step within this area is to include a process similar to that of the close friend nomination procedure where students are prompted to think about a teacher that they have a good relationship with and report on their perception of how supportive they are. The type of relationship a student

has with their teachers should relate to how they rate them on the support scale; therefore, it is important to take this into consideration when having students rating their teachers.

Conclusion

Overall, this study provides some evidence highlighting ways in which close friendships might relate to the self-development of high-achieving African American adolescents. First, findings show that the provision of instrumental support relates to the exploration process of the development of these students' ethnic identity. Also, the current study demonstrated that there is a strong relation between the ethnic identity of close friends and that of the individual. Furthermore, although findings were not significant with regard to achievement values, there was support found for demographic variables predicting students' valuing of school. This adds to the literature that has explored how age and socioeconomic status relate to student's motivation to achieve.

It is important to note that the findings from this study are preliminary. The sample was small and causal inferences cannot be drawn due to the design of the study. Nonetheless, this study provides a starting point for additional ways in which to explore how peer processes relate to the academic behaviors of high-achieving African American adolescents. This allows us to gather information that will be beneficial not only to those who are already academically oriented but also to those who may struggle in school. We are able to gain ways in which to help improve their learning environment and hopefully improve their academic performance.

Appendix A: Measures**I. Demographics**

1. What is your ethnicity? Circle the one that applies.
 - a) Asian or Asian American, including Chinese, Japanese, and others
 - b) Black or African American
 - c) Hispanic or Latino, including Mexican American, Central American, and others
 - d) White, Caucasian, Anglo, European American; not Hispanic
 - e) American Indian/Native American
 - f) Mixed; Parents are from two different groups
 - g) Other (write in): _____

2. What is your gender? Circle the one that applies.
 - a) Male
 - b) Female

3. Have you ever participated in the Free/Reduced Lunch program? Circle the one that applies.
 - a) Yes
 - b) No
 - c) Not sure

4. What is the highest level of education completed by your mother/legal guardian? Circle the one that applies.
 - a) High School Diploma/GED
 - b) Some College
 - c) Two year College
 - d) Four year College
 - e) Graduate School
 - f) Other (write in): _____

5. What is your mother's/ legal guardian's occupation _____
(Describe as best as you can)

6. What is the highest level of education completed by your father/legal guardian? Circle the one that applies.
 - a) High School Diploma/GED
 - b) Some College
 - c) Two year College
 - d) Four year College
 - e) Graduate School
 - f) Other (write in): _____

7. What is your father's/ legal guardian's occupation _____ (Describe as best as you can)
8. What is your current GPA? _____
If you are not sure, circle the one that may apply
- a) Mostly A's
 - b) Mostly A's and B's
 - c) Mostly B's
 - d) Mostly B's and C's
 - e) Mostly C's
 - f) Mostly D's
 - g) Mostly F's

II. Social Support from Peers

Emotional and academic support: Classroom Life Measure (CLM; Johnson, Johnson, Buckman, & Richards, 1985) and Instrumental/Informational support: Child and Adolescent Social Support Scale (CASSS; Malecki, Demaray, & Elliot, 2003) (1= *Never*, 5 =*Always*)

Instructions: Think about at least 3 (no more than 5) of your closest friends that attend the same school as you and are in the same grade. List each friend (first and last name) and respond to the following questions. Circle the number that applies to the close friend that is listed.

Close Friend #1: _____

Are they of same ethnicity as you?

1. Yes
2. No. They are _____

	Never	Seldom	Sometimes	Often	Always
1. Thinks it's important to be my friend.	1	2	3	4	5
2. Likes me the way I am.	1	2	3	4	5
3. Cares about my feelings.	1	2	3	4	5
4. Likes me as much as they like others.	1	2	3	4	5
5. Really cares about me.	1	2	3	4	5
6. Cares about how much I learn.	1	2	3	4	5
7. Makes me feel good about my ideas.	1	2	3	4	5
8. Likes to help me learn.	1	2	3	4	5
9. Wants me to do my best schoolwork.	1	2	3	4	5
10. Gives me ideas when I don't know what to do.	1	2	3	4	5
11. Gives me good advice.	1	2	3	4	5
12. Explains things when I don't understand.	1	2	3	4	5
13. Helps me when I need it.	1	2	3	4	5

14. Share his/her things with me.	1	2	3	4	5
15. Takes time to help me solve my problems.	1	2	3	4	5

Close Friend #2: _____

Are they of same ethnicity as you?

1. Yes
2. No. They are _____

	Never	Seldom	Sometimes	Often	Always
1. Thinks it's important to be my friend.	1	2	3	4	5
2. Likes me the way I am.	1	2	3	4	5
3. Cares about my feelings.	1	2	3	4	5
4. Likes me as much as they like others.	1	2	3	4	5
5. Really cares about me.	1	2	3	4	5
6. Cares about how much I learn.	1	2	3	4	5
7. Makes me feel good about my ideas.	1	2	3	4	5
8. Likes to help me learn.	1	2	3	4	5
9. Wants me to do my best schoolwork.	1	2	3	4	5
10. Gives me ideas when I don't know what to do.	1	2	3	4	5
11. Gives me good advice.	1	2	3	4	5
12. Explains things when I don't understand.	1	2	3	4	5
13. Helps me when I need it.	1	2	3	4	5
14. Share his/her things with me.	1	2	3	4	5
15. Takes time to help me solve my problems.	1	2	3	4	5

Close Friend #3: _____

Are they of same ethnicity as you?

1. Yes
2. No. They are _____

	Never	Seldom	Sometimes	Often	Always
1. Thinks it's important to be my friend.	1	2	3	4	5
2. Likes me the way I am.	1	2	3	4	5
3. Cares about my feelings.	1	2	3	4	5
4. Likes me as much as they like others.	1	2	3	4	5
5. Really cares about me.	1	2	3	4	5
6. Cares about how much I learn.	1	2	3	4	5
7. Makes me feel good about my ideas.	1	2	3	4	5
8. Likes to help me learn.	1	2	3	4	5
9. Wants me to do my best schoolwork.	1	2	3	4	5
10. Gives me ideas when I don't know what to do.	1	2	3	4	5
11. Gives me good advice.	1	2	3	4	5
12. Explains things when I don't understand.	1	2	3	4	5
13. Helps me when I need it.	1	2	3	4	5
14. Share his/her things with me.	1	2	3	4	5
15. Takes time to help me solve my problems.	1	2	3	4	5

Close Friend #4: _____

Are they of same ethnicity as you?

1. Yes
2. No. They are _____

	Never	Seldom	Sometimes	Often	Always
1. Thinks it's important to be my friend.	1	2	3	4	5
2. Likes me the way I am.	1	2	3	4	5
3. Cares about my feelings.	1	2	3	4	5
4. Likes me as much as they like others.	1	2	3	4	5
5. Really cares about me.	1	2	3	4	5
6. Cares about how much I learn.	1	2	3	4	5
7. Makes me feel good about my ideas.	1	2	3	4	5
8. Likes to help me learn.	1	2	3	4	5
9. Wants me to do my best schoolwork.	1	2	3	4	5
10. Gives me ideas when I don't know what to do.	1	2	3	4	5
11. Gives me good advice.	1	2	3	4	5
12. Explains things when I don't understand.	1	2	3	4	5
13. Helps me when I need it.	1	2	3	4	5
14. Share his/her things with me.	1	2	3	4	5
15. Takes time to help me solve my problems.	1	2	3	4	5

Close Friend #5: _____

Are they of same ethnicity as you?

1. Yes
2. No. They are _____

	Never	Seldom	Sometimes	Often	Always
1. Thinks it's important to be my friend.	1	2	3	4	5
2. Likes me the way I am.	1	2	3	4	5
3. Cares about my feelings.	1	2	3	4	5
4. Likes me as much as they like others.	1	2	3	4	5
5. Really cares about me.	1	2	3	4	5
6. Cares about how much I learn.	1	2	3	4	5
7. Makes me feel good about my ideas.	1	2	3	4	5
8. Likes to help me learn.	1	2	3	4	5
9. Wants me to do my best schoolwork.	1	2	3	4	5
10. Gives me ideas when I don't know what to do.	1	2	3	4	5
11. Gives me good advice.	1	2	3	4	5
12. Explains things when I don't understand.	1	2	3	4	5
13. Helps me when I need it.	1	2	3	4	5
14. Share his/her things with me.	1	2	3	4	5
15. Takes time to help me solve my problems.	1	2	3	4	5

Questions 1-5: Emotional Support

Questions 6-9: Academic Support

Questions 10-15: Instrumental/Informational Support

III. Ethnic Identity

Multigroup Ethnic Identity Measure-Revised (MEIM-R; Phinney & Ong, 2007) (1 = *Strongly disagree*, 4 = *Strongly agree*)

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 _____

Instructions: Circle how much you agree or disagree with each statement.

	Strongly disagree	Disagree	Agree	Strongly agree
1. I feel a strong attachment towards my own ethnic group.	1	2	3	4
2. I have often done things that will help me understand my ethnic background better.	1	2	3	4
3. I understand pretty well what my ethnic group membership means to me	1	2	3	4
4. I have a strong sense of belonging to my own ethnic group	1	2	3	4
5. I have often talked to other people in order to learn more about my ethnic group	1	2	3	4
6. I have spent time trying to find out more about my ethnic group such as its history, traditions, and customs	1	2	3	4

Subscales: Exploration (Questions 2, 5, & 6) and Commitment (Questions 1, 3, & 4)

IV. Achievement Values

Importance of School: Value of academic success scale (VASS) (Fulgini, Witkow, & Garcia, 2005) (1 = *Not important*, 4 = *Very important*)

Instructions: Circle the number that applies to how important you think the following things are:

	Not Important	Somewhat Important	Important	Very Important
1. That you do well in school.	1	2	3	4
2. That you get good grades.	1	2	3	4
3. That you get an 'A' on almost every test.	1	2	3	4
4. That you go to college after high school.	1	2	3	4
5. That you be one of the best students in your class.	1	2	3	4
6. That you go to the best college after high school.	1	2	3	4

Utility of School: (Eccles, 1983) (1 = *Not useful*, 4 = *Very useful*)

- Right now, how useful do you find things you learn in school to be in your everyday life?
 - Not useful
 - Somewhat useful
 - Useful
 - Very Useful
- In the future, how useful do you think the things you have learned in school will be in your everyday life?
 - Not useful
 - Somewhat useful
 - Useful
 - Very Useful
- How useful do you think the things you have learned in school will be for what you want to be after you graduate?
 - Not useful
 - Somewhat useful
 - Useful
 - Very Useful

V. Social Support-Teachers

Classroom Life Measure (CLM; Johnson, Johnson, Buckman, & Richards, 1985) (1=*Never*, 5=*Always*) and Child and Adolescent Social Support Scale (CASSS; Malecki, Demaray, & Elliot, 2003). Emotional support (1, 2, 6, & 11), Academic support (3, 4, 7, & 10), Instrumental support (5, 8, 9, 12, 13, & 14)

Instructions: Circle the number that applies to how supportive you think your teachers are:

	Never	Seldom	Sometimes	Often	Always
1. My teachers think it's important to be my friend.	1	2	3	4	5
2. My teachers care about my feelings.	1	2	3	4	5
3. My teachers care about how much I learn.	1	2	3	4	5
4. My teachers like to help me learn.	1	2	3	4	5
5. My teachers show me how to do things.	1	2	3	4	5
6. My teachers like me about as much as they like students.	1	2	3	4	5
7. My teachers want me to do my best schoolwork.	1	2	3	4	5
8. My teachers spend time with me when I need help.	1	2	3	4	5
9. My teachers take time to help me learn to do something well.	1	2	3	4	5
10. My teachers like to see my work.	1	2	3	4	5
11. My teachers really care about me.	1	2	3	4	5
12. My teachers make sure I have what I need for school.	1	2	3	4	5
13. My teachers explain things that I don't understand.	1	2	3	4	5

14. My teachers help me solve problems by giving me information.

1

2

3

4

5

Appendix B: Figures

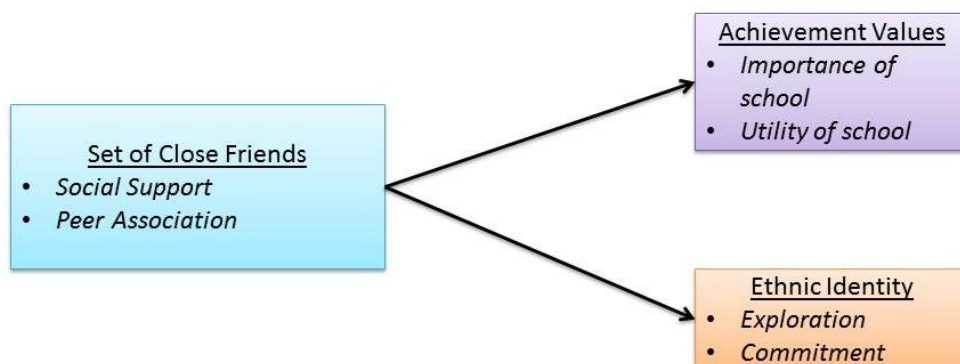


Figure 1. Conceptual Model 1. This figure depicts the relation between constructs of interest, that is, the set of close friends, achievement values, and ethnic identity.

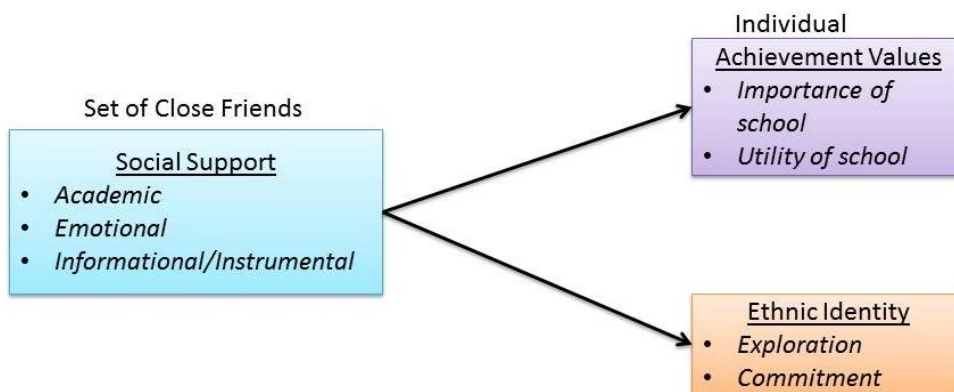


Figure 2. Conceptual Model 2. This figure depicts the relation between social support from close friends and components of ethnic identity (exploration and commitment) and achievement values (importance and utility of school).

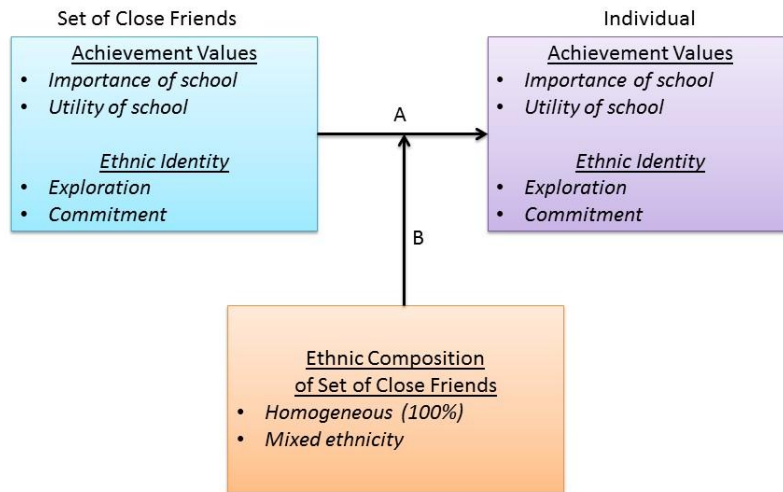


Figure 3. Conceptual Model 3. This figure depicts the relation between group of nominated close friends and individual's components of ethnic identity (exploration and commitment) and achievement values (importance and utility of school), as well as ethnic composition of friendship group interaction.

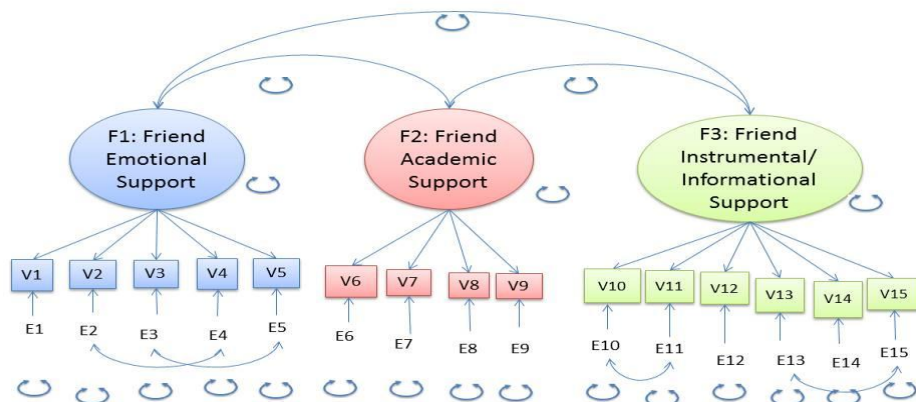


Figure 4. Confirmatory Factor Model for Social Support-Friends. This figure depicts the three-factor model that was run for the factor analysis of social support from close friends.

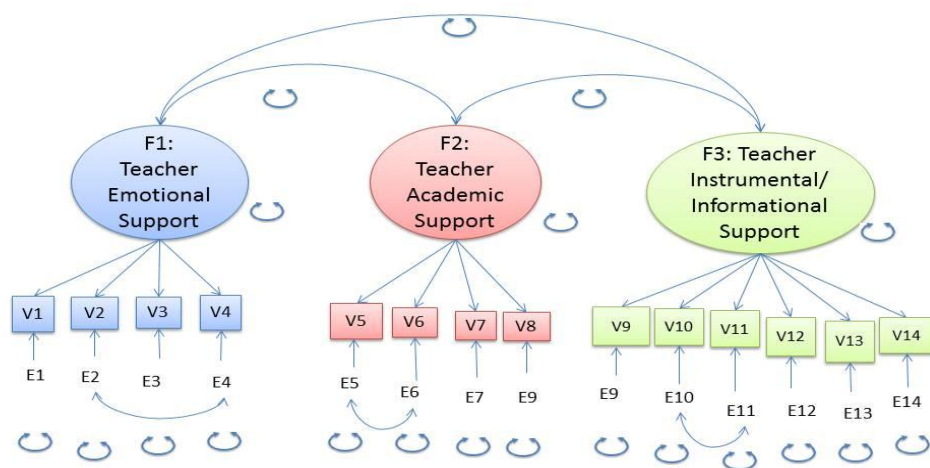


Figure 5. Confirmatory Factor Model for Social Support-Teachers. This figure depicts the three-factor model that was run for the factor analysis of social support from teachers.

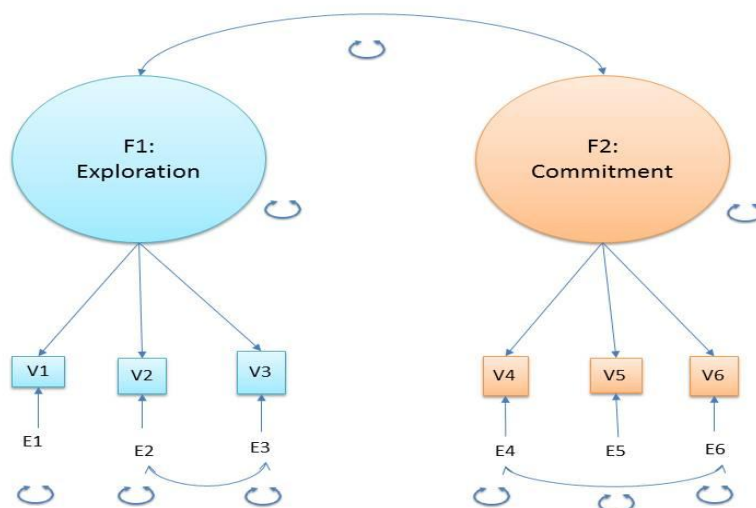


Figure 6. Confirmatory Factor Model for Ethnic Identity. This figure depicts the two-factor model that was run for the factor analysis of ethnic identity.

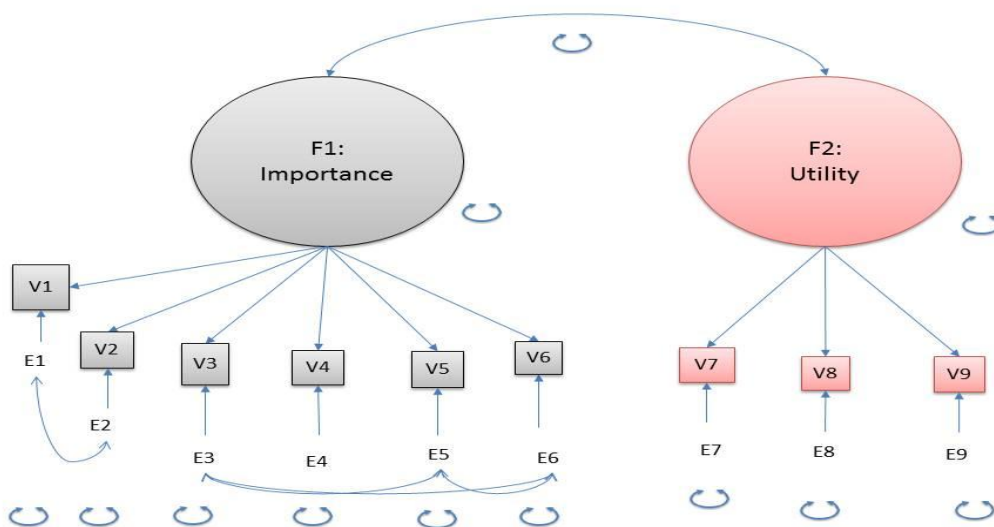


Figure 7. Confirmatory Factor Model for Achievement Values. This figure depicts the two-factor model that was run for the factor analysis of achievement values.

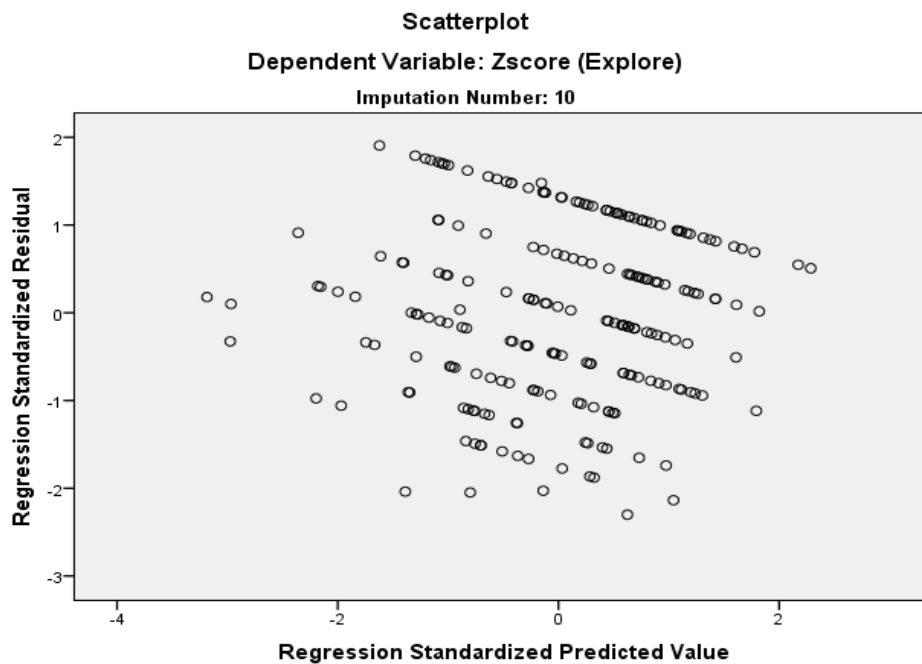


Figure 8. Residual plot. This is a scatterplot of the residuals for exploration component as dependent variable.

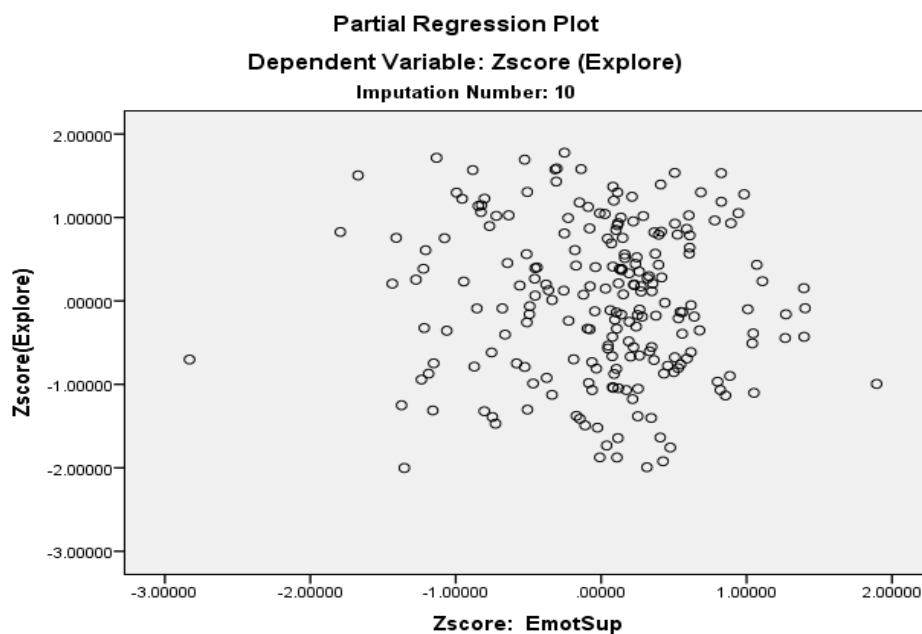


Figure 9. Partial Residual Plot. This is scatterplot of the residuals for the independent variable emotional support from close friends.

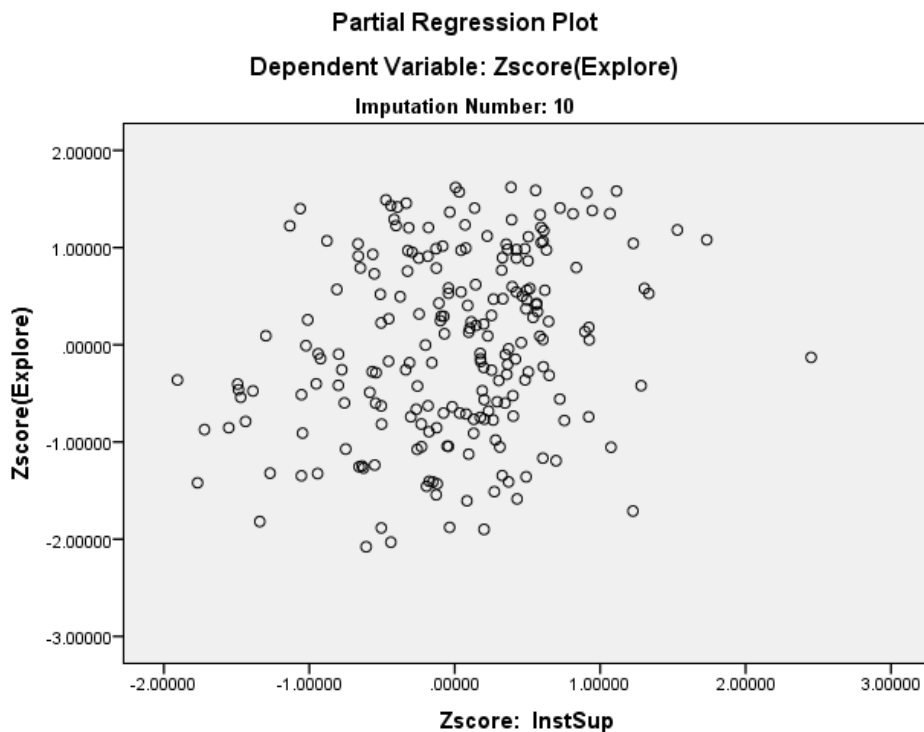


Figure 10. Partial Residual Plot. This is scatterplot of the residuals for the independent variable instrumental support from close friends.

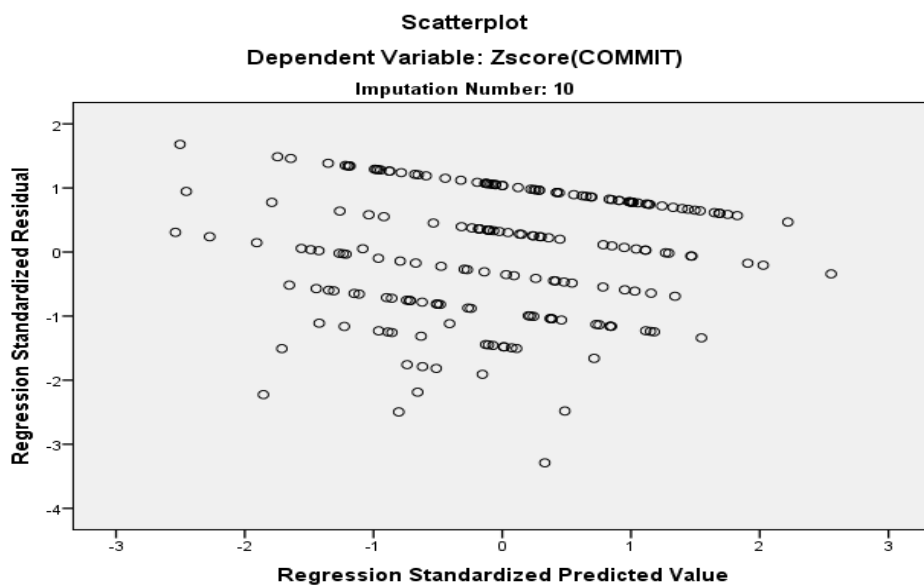


Figure 11 . Residual Plot. This is a scatterplot of the residuals for commitment component as dependent variable.

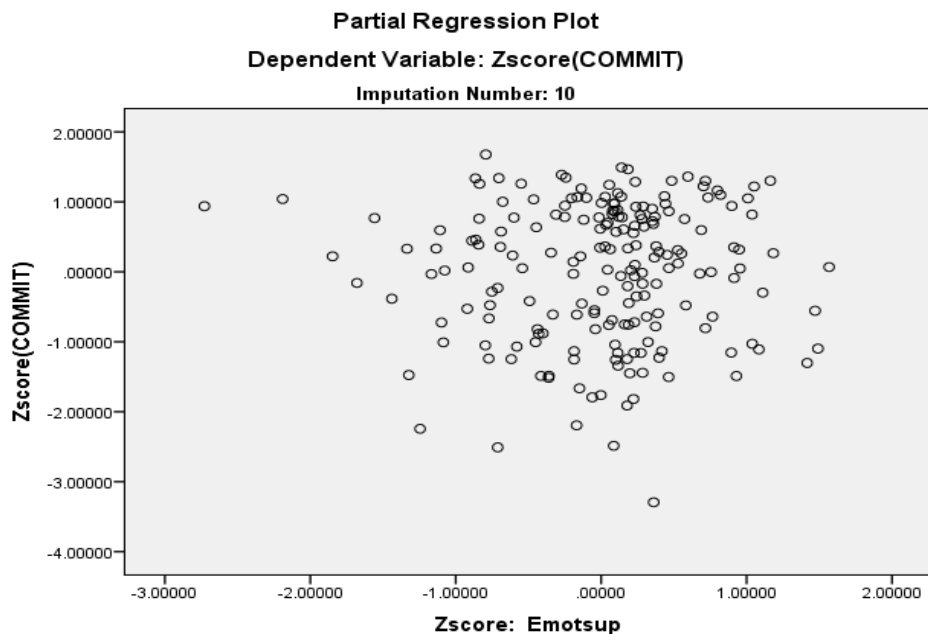


Figure 12. Partial Residual Plot. This is scatterplot of the residuals for the independent variable emotional support from close friends.

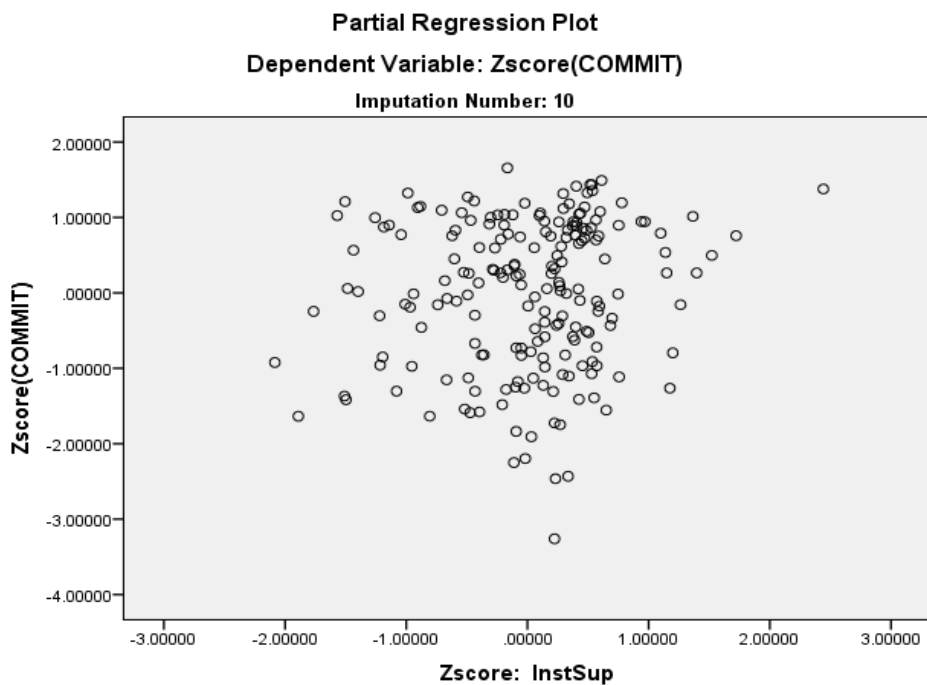


Figure 13. Partial Residual Plot. This is scatterplot of the residuals for the independent variable instrumental support from close friends.

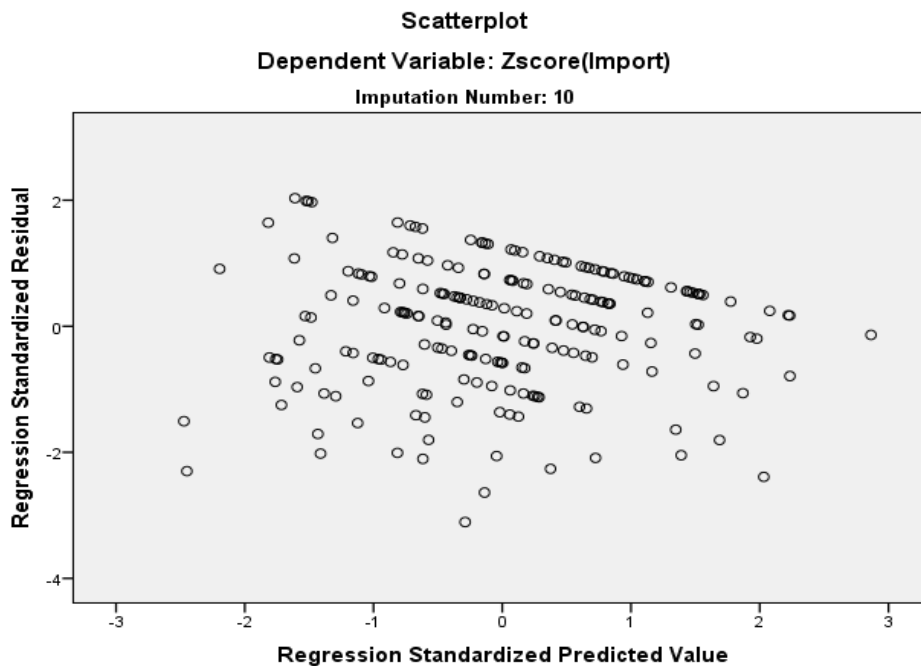


Figure 14. Residual Plots. This is a scatterplot of the residuals for importance component as dependent variable.

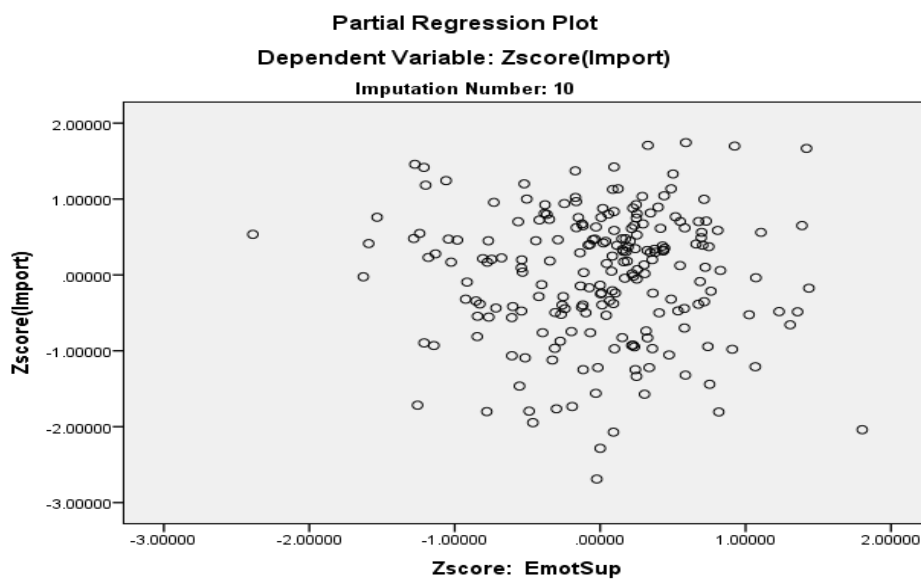


Figure 15. Partial Residual Plot. This is scatterplot of the residuals for the independent variable emotional support from close friends.

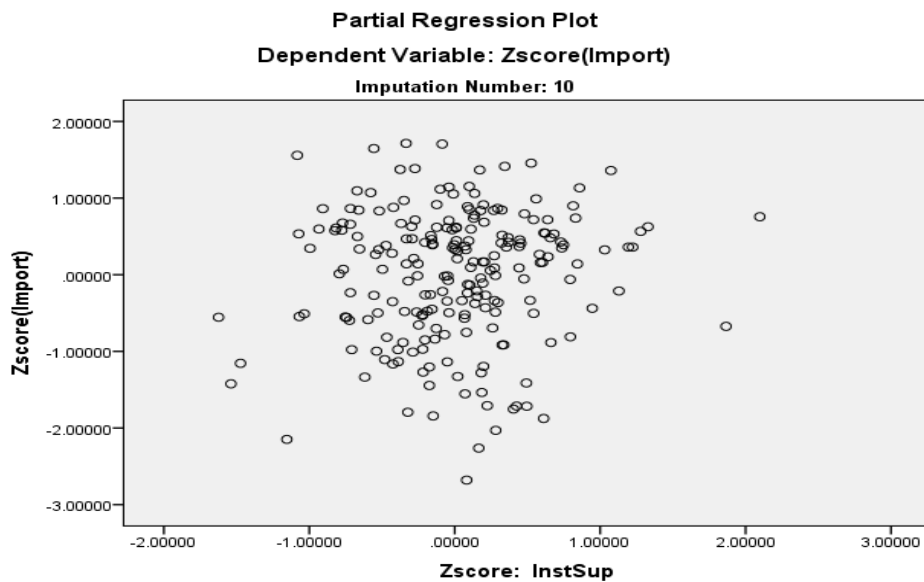


Figure 16. Partial Residual Plot. This is scatterplot of the residuals for the independent variable instrumental support from close friends.



Figure 17. Partial Residual Plot. This is scatterplot of the residuals for the independent variable academic support from close friends.

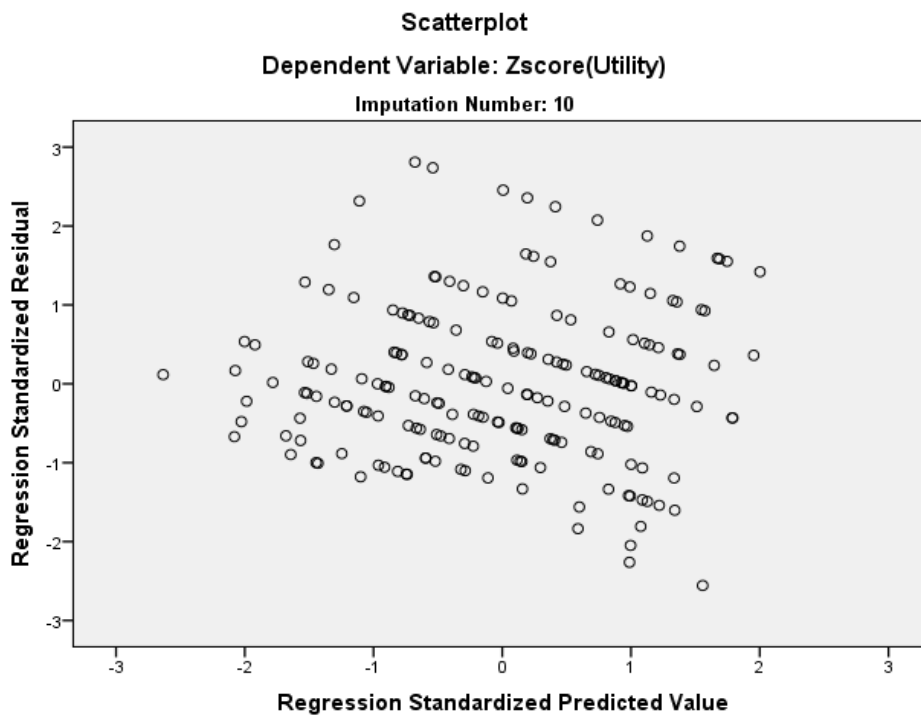


Figure 18. Residual Plot. This is a scatterplot of the residuals for utility component as dependent variable

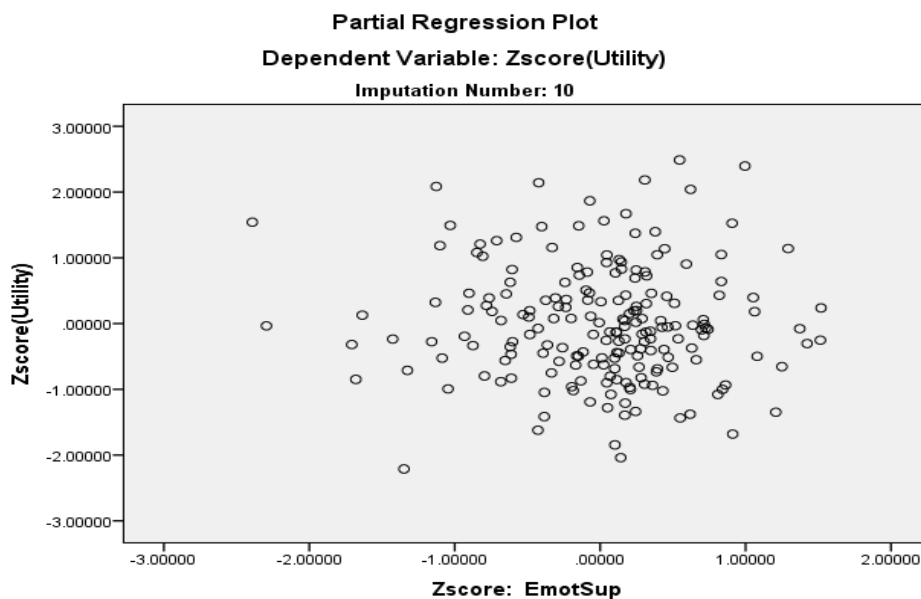


Figure 19. Partial Residual Plot. This is scatterplot of the residuals for the independent variable emotional support from close friends.



Figure 20. Partial Residual Plot. This is scatterplot of the residuals for the independent variable instrumental support from close friends.

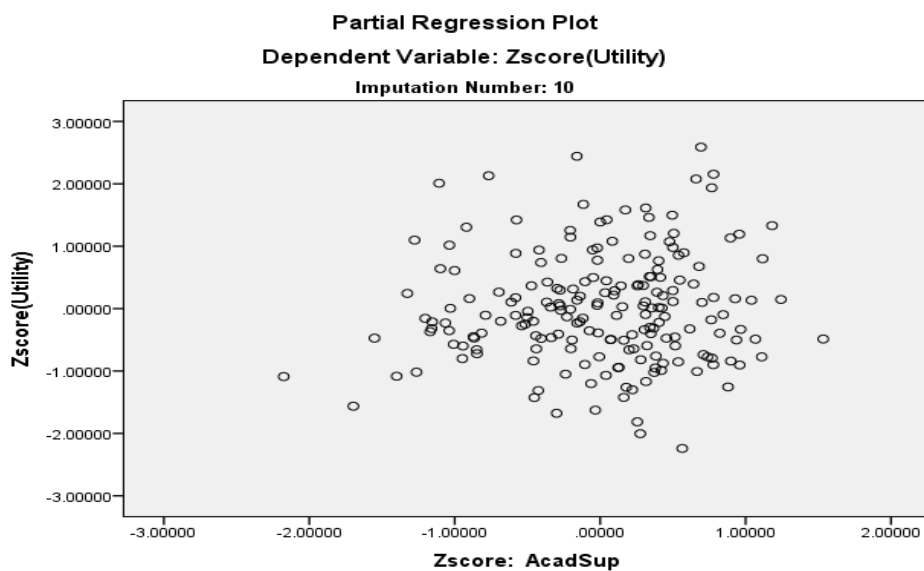


Figure 21. Partial Residual Plot. This is scatterplot of the residuals for the independent variable academic support from close friends.

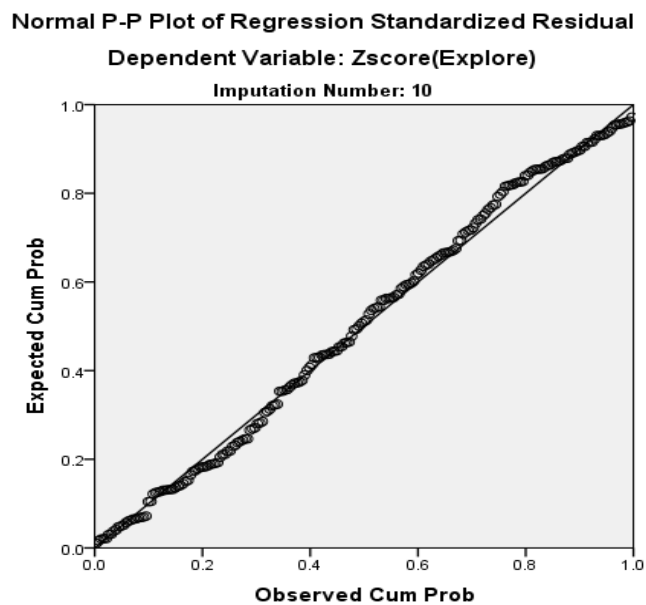


Figure 22. Normal Probability Plot: Exploration component as dependent variable

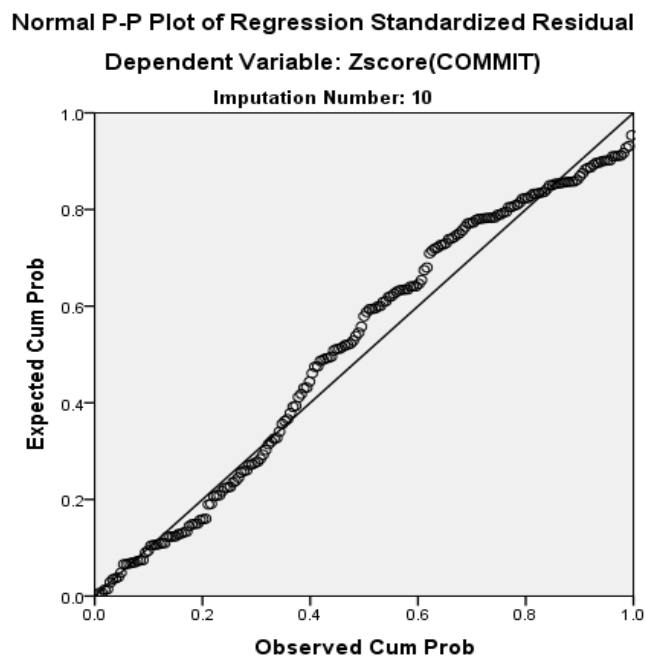


Figure 23. Normal Probability Plot: Commitment component as dependent variable

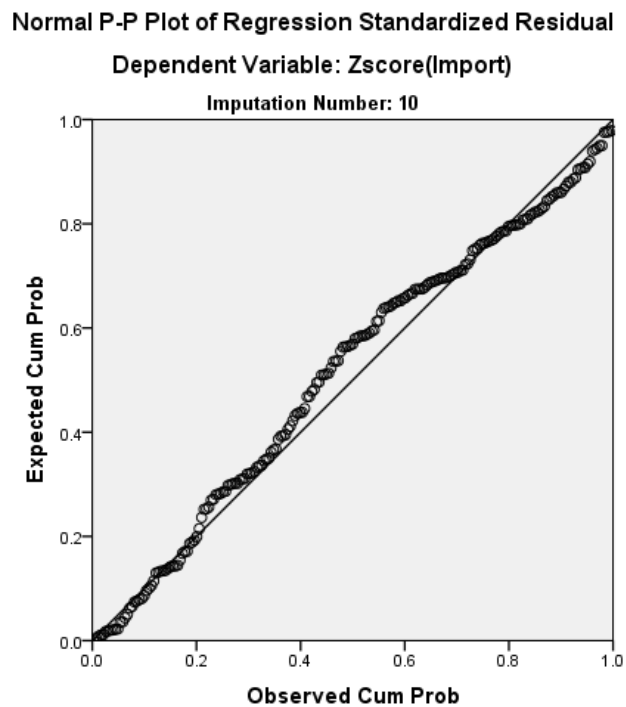


Figure 24. Normal Probability Plot: Importance as dependent variable

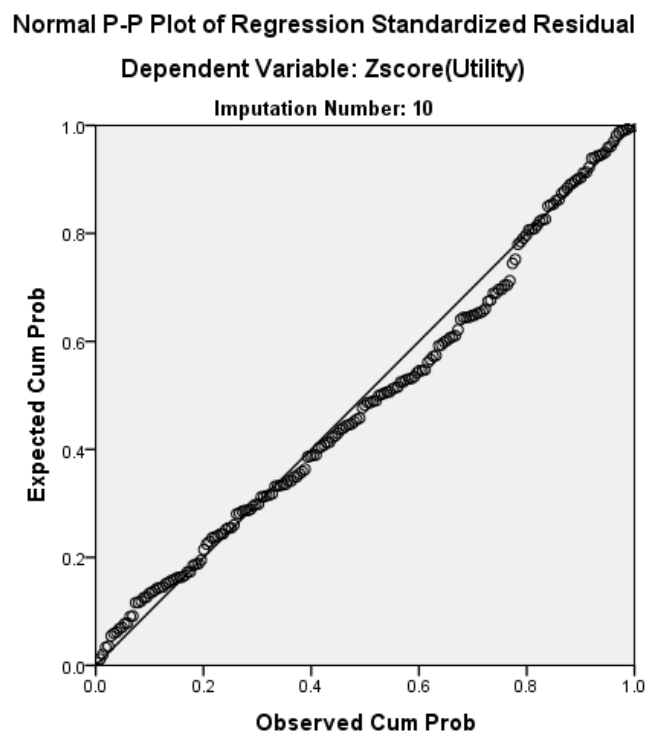


Figure 25. Normal Probability Plot: Utility as dependent variable

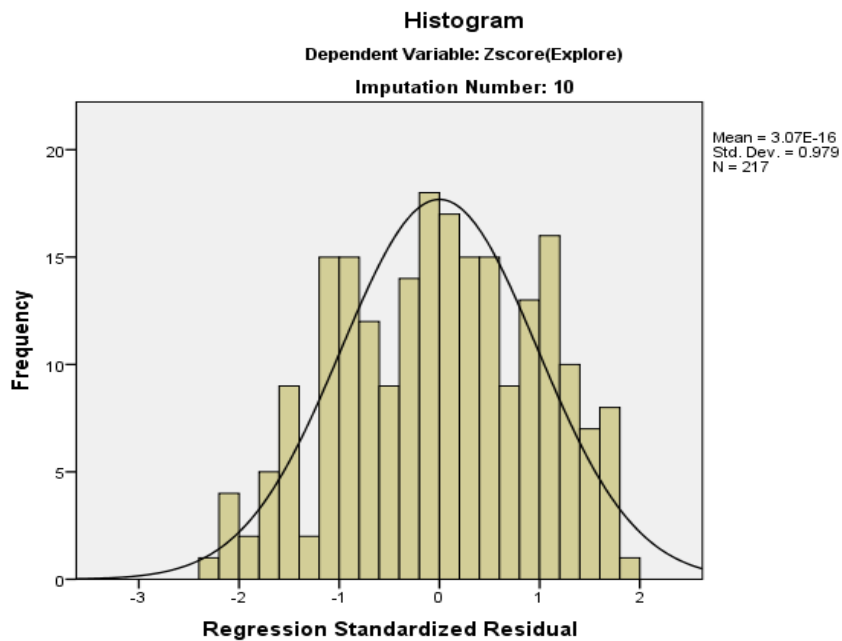


Figure 26. Histogram of Exploration Residuals

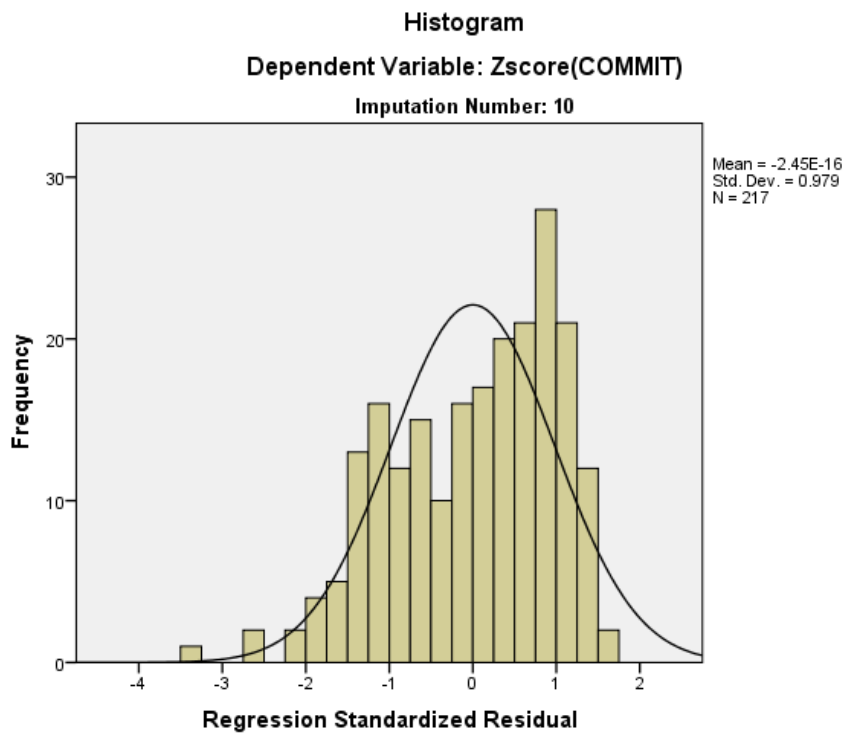


Figure 27. Histogram of Commitment Residuals

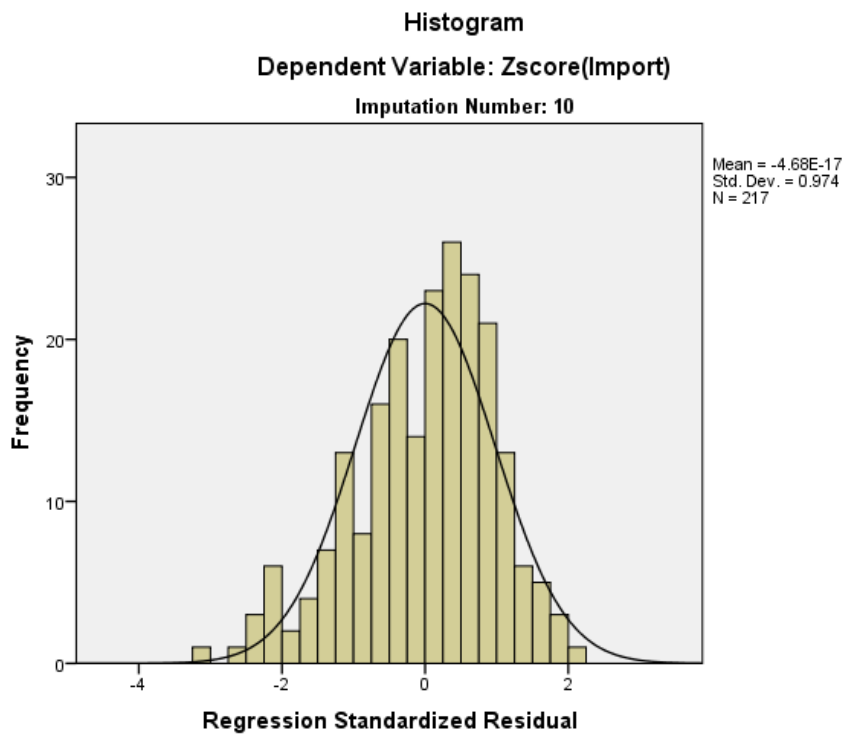


Figure 28. Histogram of Importance Residuals

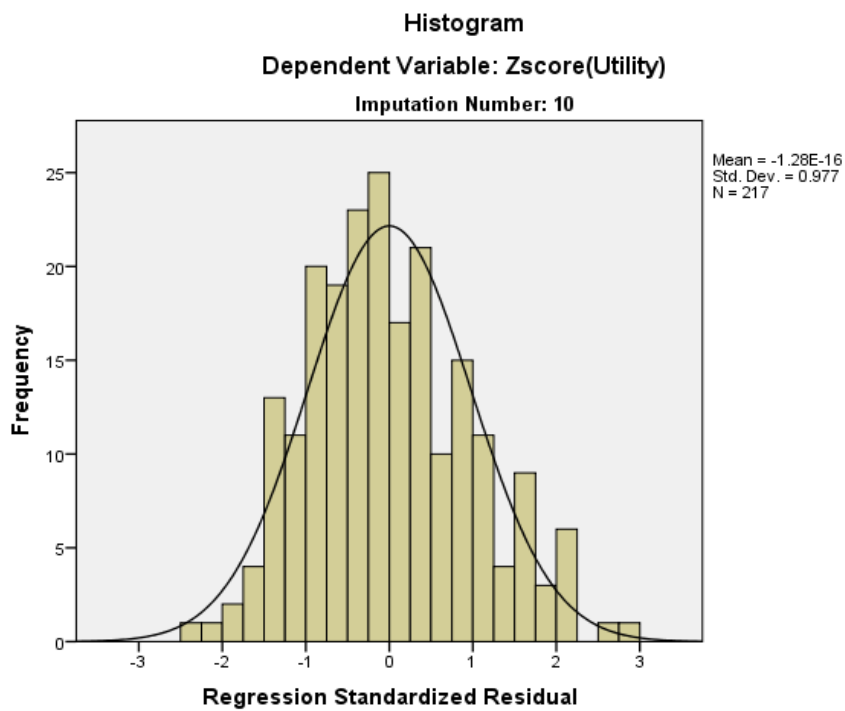


Figure 29. Histogram of Utility Residuals

Appendix C: Tables

Table 1.

Summary of Empirical Studies on Peer Social Support

<u>Article</u>	<u>Sample</u>	<u>Variables and Measures</u>	<u>Design</u>	<u>Reference Group</u>	<u>Results</u>
1. Anderson, Sabatelli, & Kosutic (2007)	N = 1406 57% males Neighborhood youth center Age 12 to 18yrs 51% African America, 37% Hispanic 64% received free and reduced lunch	Self-report Peer social support (PSS): degree of support experienced from peers; The Multidimensional Scale of Perceived Social Support-Friends (MSPSS-Friends) (Canty-Mitchell & Zimet, 2000)	Correlational	Peers (general)	PSS corr w/ achievement motivation ($r = .11, p < .001$), peer self-efficacy ($r = .16, p < .001$), & attitudes towards school ($r = .10, p < .001$) Not sig predictor of achievement motivation or peer self-efficacy
2. Dennis, Phinney, & Chuateco (2005)	N = 100 70% female College sophomores 84% Latino, 16% Asian 43% low SES	Self-report Peer support (PS): single item asking how supportive friends or fellow students are or would be in helping them to deal w/college problems	Correlational	Friend or fellow student	PS corr w/GPA ($r = .23, p < .05$) & college adjustment ($r = .25, p < .01$) Not sig predictor of outcome variables
3. DuBois, Felner, Brand, Adan, & Evans (1992)	N = 166 60% females 61% African American, 39% European American Low income community	Self-report Perceived social support (PSS): Perceived Social Support Scale (PSSS; Procidino & Heller, 1983)	Shortterm Longitudinal	Friends	PSS corr w/ GPA ($r = .22, p < .10$) at time 1 & time 2 ($r = .22, p < .10$) Not sig individual predictor; full model sig $R^2 = .68$
4. Ellington & Frederick (2010)	N = 8	Interviews		Peers	Important to success was peer support aided them academically and socially.

		High-achieving college juniors & seniors; Math majors 19-24 yrs old GPA 3.0 and abv				Having likeminded peers help to cultivate commitment to mathematics Peer community provided students with sense of belonging and moral support to help them persist in their major
5. Faircloth & Hamm (2011)	N = 468 6 th & 7 th graders Math classes 68% African American, 37% European American	Self-report Classroom belonging: general belonging & peer support subscales of Classroom Belonging and Support Scale (Goodenow, 1993) Social cognitive mapping to identify peer group in classroom Self-report	Shortterm longitudinal	Classmates	African American students reported sig higher levels of belonging at Time 2 Being member of multiple networks = to highest lvls of belongingness for AA students	
6. Gaylord-Harden, Ragsdale, Mandara, Richards, & Petersen (2007)	N = 227 7 th & 8 th grade 37% males African American 83% parents had high school degree only Low-income households	Social support (SS): Survey of Children's Social Support	Though longitudinal data combined to retain largest possible sample	Family & peers merged	Males: SS corr w/ self-esteem ($r = .42, p < .01$) & ethnic identity ($r = .35, p < .01$) Females: SS corr w/ self-esteem ($r = .31, p < .01$) & ethnic identity ($r = .18, p < .05$) SEM analysis showed SS to be predictive of EI and SE	
7. Gonzales, Cauce, Friedman, & Mason (1996)	N = 120 7 th and 8 th graders African Americans only	Self-report	Short term longitudinal	Peers (non-specific)	PS corr w/GPA ($r = .25, p < .01$)	

	65% females Median family income bet 25000-30000	Peer support: assessed as attachment to peers; Inventory of Parent and Peer Attachment (IPPA)			PS significant predictor of GPA ($\beta = .23, p < .05$) $R^2 = .27$, f-change sig 3.02 $p < .05$
8. Gutman, Sameroff, & Eccles (2002)	N = 837 MADIC study 7 th grade 48% female African American participants only 20% of sample made less than \$25000, 40% bet 25000-50000	Self-report Peer social support (PSS): Michigan Study of Adolescent Life Transitions (MSALT) measure	Correlational	Friends & students in school (merged)	*PSS corr w/ gender ($r =$.16, $p < .001$) Did not correlate w/ GPA, Math achievement, or risk factors; Full model significant
9. Hall & Brassard (2008)	N = 635 8 th graders Urban, low-income schools 52% male 42% Latino, 20% African American	Self-report Peer support (PS): Receipt of Prosocial Acts subscale of Social Experience Questionnaire (Crick & Grotpeter, 1996)	Correlational	Respond to prompt abt another kid providing support	PS corr w/ achievement (r = .22) for African American in sample PS sig predictor of diffusion identity status & achievement ($\beta = 2.21$ & 2.55, $p < .05$) for African American in sample R^2 for full model = .09 & .06
10. Kenny et al., (2007)	N = 16 62% girls 8 Black (African American, Black Caribbean), 7 Latino/a 9 th grade Urban public school GPA abv 2.58 classified as high achievers	Interviews Emotional support: being emotionally present or expressing confidence in the student Instrumental support: providing assistance		Friends	Some students described friends who provided emotional support toward career goals despite difficulties Several high-achievers distinguished bet friends “good” friends & those who might distract them from their goals

					Some mention of receiving assistance from friends Quote from low achiever: "In class when I don't understand something it is not the teacher who helps me. Sometimes, some students . . . come and tell me, 'you know I know how to do it, let me help you do it'"
11. Leaper, Farkas, & Brown (2012)	N = 579 Females bet 13-18 yrs old 50% Latina, 22% European American, 10% African American 51% mother had high school diploma	Self-report Peer support (PS): Perceived support for English and Math from classmates	Correlational	Classmates	PS corr w/math motivation ($r = .17, p < .001$) PS sig predictor of math motivation ($\beta .17, p < .01$) $R^2 = .51$ w/ R^2 change = .03 (sig)
12. Ma & Huebner (2008)	N = 587 6 th through 8 th grade 45% African American, 43% European American 60% female 51% low SES	Self-report Peer support: assessed as attachment to peers (PA); Inventory of Parent and Peer Attachment (IPPA)	Correlational	Peers	PA corr w/life satisfaction ($r = .34, p < .001$) PA sig predictor of life satisfaction ($\beta = .18, p < .01$); $R^2 = .33$ w/ R^2 change = .30
13. Mariano, Going, Schrock, & Sweeting (2011)	N = 46 Females only Mean age 12 78% African American, 15% European American Large urban region	Self-report Emotional, appraisal, informational, & instrumental social support: CASSS	Mixed methods (qualitative and quantitative)	Close friend & Classmates	Friedman tests showed close friends provided more social support Appraisal support least important
14. Nelson & DeBacker (2008)	N = 253	Self-report	Correlational	Classmates & best friend	Belongingness corr w/ self-efficacy ($r = .346, p <$

	6 th , 7 th , & 9 th grade science class Suburban district 49% males 51% European American, 19% African American	Emotional support: assessed as classroom belongingness; Psychological Sense of School Membership Scale (Goodenow, 1993) Social support from best friend (SSB): Bukowski, Hoza, & Boivin, (1994) friendship quality scale			.05), mastery goals ($r = .306, p < .05$), performance goals ($r = .272, p < .05$), intimacy goals ($r = .422, p < .05$) SSB corr w/ responsibility goals ($r = .293, p < .05$) and best friend valuing academics ($r = .340, p < .05$) SSB sig predictor of responsibility ($\beta = .20, p < .01$); $R^2 = .16$ full model Belongingness sig predictor of mastery ($\beta = .16$), performance ($\beta = .23$) & self-efficacy ($\beta = .23$), $p < .01$ to $.001$; $R^2 = .11$ to $.23$
15. Shin, Daly, & Vera (2007)	N = 132 7 th & 8 th graders 54% Latino, 11% African American Public sch in large Midwest city	Self-report Peer support: Vaux Social Support Record asking about close friends	Correlational	Friends	PS corr w/ ethnic identity ($r = .27, p < .01$)
16. Sieger & Renk (2007)	N = 166 females 55 AA, 12 EA, 25 Hispanic 8 th to 12 th grade Maj income less than 25000	Self-report Social support (SS): Multidimensional Scale of Perceived Social Support	Correlational	Source of support merged (family, friends, significant other)	SS corr w/ ethnic identity ($r = .26, p < .01$) SS corr w/ self-esteem ($r = .35, p < .01$)

17. Smith, Scheider, & Ruck (2005)	N = 430 11 to 22 yrs old Black Canadians Maj low SES	Self-report Academic support: Fuligni scale for peer support for academic success	Correlational	Peers	AS corr w/academic outcomes ($r = .33, p < .001$) AS sig predictor of academic outcomes ($\beta = .12, p < .01$) Full model $R^2 = .65$
18. Somers, Owens, & Piliawsky (2008)	N = 118 African American 63% female 9 th grade Urban public school	Self-report Classmates(CS) & close friends (CFS) social support: CASSS	Correlational	Close friends & Classmates	CS corr w/ educational commitment behavior ($r = .296, p < .01$), GPA ($r = .238, p < .01$) & personal value of education ($r = .313, p < .01$) CFS only w/GPA $r = .229, p < .05$ None sig individual predictor; full model sig for GPA
19. Walker (2006)	N = 21 67% female 52% Latino, 38% Black 9 th through 12 th 14 to 18yrs "B" or above in math class classified as high achievers	Interviews Different types of support emerge from discussions		Peers and friends	Students report working together on math problems when they don't understand Some of their peers congratulate them when they do well None report friends or peers questioning their ethnic identity or suggest they were "acting White"

20. Wang & Eccles (2012)	N = 1054 to 1479 52% female 54% African American, 36% European American Wave 1 (7 th grade), wave 2 (9 th grade), & wave 3 (11 th grade) Mean income bet 45000-50000	Self-report Peer support: MSALT	Longitudinal	Friends	School identification, ($r = .09, p < .05$) Valuing of learning ($r = .11, p < .001$) School engagement ($r = -.10, p < .01$) Further analysis separating sample into positive & negative peers Positive association between peer social support and school compliance for the group with positive peers ($\beta = .036, p = .06, d = 0.42$)
21. Wentzel (1994)	N = 475 6 th and 7 th graders 52% male 68% European American, 23% African American Predom working-class community	Self-report Emotional (ES) & academic support (AS): CLM	Correlational	Classmates	ES corr w/pursuit of prosocial goals ($r = .38, p < .001$) & social responsibility goals ($r = .30, p < .001$) AS corr w/pursuit of prosocial goals ($r = .44, p < .001$) & social responsibility goals ($r = .34, p < .001$) AS sig predictor of academic social goal pursuit ($\beta = .31$ & $.24$) $R^2 = .19$ and $.20$ for full model
22. Wentzel, Battle, Russell, & Looney (2010)	N = 358 6 th , 7 th , & 8 th graders Suburban middleclass	Self-report	Correlational	Classmates	ES corr w/ interest ($r = .26, p < .001$) & social

50% female 75% European American, 22% African American	Emotional support (ES): CLM	goal pursuit ($r = .39, p < .001$)
	Instrumental support (IS) (assessed as help): Friendship Quality Questionnaire	IS corr w/ interest ($r = .17, p < .01$) & social goal pursuit ($r = .32, p < .001$)
		IS sig predictor of interest; ES sig predictor of social goal pursuit ($\beta = -.21$ & $.27$)
		$R^2 = .55$ and $.39$ for full model

Table 2.

Summary of Empirical Studies on Peer Modeling

Article	Sample	Assessment of Modeling	Design	Reference Group	Results
1. Antonio (2004)	N = 426 Juniors in college who were surveyed as freshmen in first wave of data collection Diverse public university in CA White & students of color	Self-report Racial diversity of friendship group calculated Socialization effect	Longitudinal data sampled	Friendship group (2 or more nominated); best-friends on campus	Students of color: diversity in friendship grp assoc w/ enhanced aspirations Group intellectual self-confidence sig predictor of individual intellectual self-confidence ($\beta = .21$)
2. Hamm (2000)	N = 2494 69% European American, 10% African American 9 th to 12 th grade	Self-report Friendship nominations: 5 closest school friends; matched to nominated best friend	Correlational	Best friend	$R^2 = .238$ full model Comparison bet ethnic groups showed European Americans more similar to nominated friends on ethnic identity & academic orientation than African Americans

	African Americans from low or working-class and middleclass backgrounds	Dyad differences scores to determine similarity			Similarity low for African Americans on academic orientation
3. Hamm, Lambert, Agger, & Farmer (2013)	N = 237 5 th , 6 th , & 7 th graders Rural low SES African Americans	Self-report Perceived norms for effort & achievement: (Hamm et al., 2010); high scores signify norms more supportive of effort & achievement Social status :peer nominations Coie, Dodge, & Coppotelli (1982) SCM (Cairns et al., 1985) to identify social networks	Longitudinal	Kids hang out with at school	Social network norms for effort & achievement were calculated as mean of individual group members' scores African American students were members of social networks that with norms for effort & achievement; maj of these networks could be characterized as strongly promoting of effort & achievement at the fall & spring
4. Hamm, Schmid, Farmer, & Locke, (2010)	N = 1741 6 th grade Rural community 54% female 59% European American, 26% African American	Self-report and teacher report Peer group affiliation: SCM (Cairns et al., 1985) where students wrote down who hung out with whom (Cairns, Perrin, & Cairns, 1985)	Longitudinal	Kids I hang around with	Students in peer grps w/more favorable norms toward effort and achievement increased their school valuing over sch yr Greater peer group valuation of schooling resulted in improvement to members' own valuation of school Students in groups w/ more positive norms for School belonging increased in their sense of belonging over the school year
5. Holland (2011)	N = 49 93% African American College students	Interviews w/ retrospective view points		Peers and friends mentioned	Students reported peers that they spent the most time w/ advocated for academic

	70% female Avg GPA 2.93 Avg age 19 Graduated high sch from large urban district				engagement & also had plans to pursue high education Students generally reported that interacted w/peers who positively influenced their academic choices & goals Many respondents who became involved w/ college prep programs did so because of relationships w/ friends
6. Kenny et al., (2007)	N = 16 62% girls 8 Black (African American, Black Caribbean), 7 Latino/a 9 th grade Urban public school GPA abv 2.58 classified as high achievers	Interviews Mentioning of friends (non-specific, i.e, best friend or general friends)		Friends	Friends described as positive influence but for only medium & high achievers Quote from high-achiever: <i>“if you have good friends, they would be like, ‘Ah, go to college. I am going to college’. . . . So, you want to go”</i>
7. Nelson & DeBacker (2008)	N = 253 6 th , 7 th , & 9 th grade science class Suburban district 49% males 51% European American, 19% African American	Self-report Perception best friend valued academics (AV): adapted Voelkl (1996) scale	Correlational	Classmates & best friend	AV corr w/self-efficacy ($r = .205, p < .05$), mastery goals ($r = .370, p < .05$) & performance approach ($r = .150, p < .05$) AV sig predictor of mastery & responsibility goals ($\beta .35$ & $.33$)
8. Nichols & White (1999)	*No ethnic breakdown N = 230 Age range 13 yrs-18yrs	Self-report Cliques based on nominations of friends hang	Correlational	Friends	$R^2 = .23$ for both full models Students w/ clique affiliation had high math achievement compared to those unattached

9. Padilla-Walker & Bean (2009)	<p>12% free and reduced lunch 52% males Enrolled in low track (59%) & regular track algebra classes N = 1659 57% female 41% Hispanic, 47% European American, 11% African American Avg age 16 yrs old 51% live w/ both parents</p>	<p>around w/ together in class; K-mean cluster analysis to determine peer clusters</p> <p>Self-report</p> <p>Positive indirect peer association (PIPA): positive peer values or interests</p> <p>Positive peer pressure (PPP): Direct pressure from peers toward positive behavior</p>	Correlational	Peers	<p>Floater had high achievement in comparison to those w/ single clique affiliation</p> <p>PIPA & PPP sig predictors of self-esteem and social initiative ($\beta = .07$ to $.41$, $p < .05$); $R^2 = .15$ & $.05$</p>
10. Stewart (2008)	<p>N = 11999 Second wave of NELS Maj enrolled in 10th grade 70% European Americans, 12% African Americans</p>	<p>Self-report</p> <p>Association w/positive peers: how important is it to engage in positive education-oriented behaviors among peers or friends hang out with</p> <p>Self-report</p>	Correlational	Peers or friends	<p>Positive peer corr w/gpa ($r = .06$, $p < .05$)</p> <p>Association w/positive peers sig predictor of GPA ($\beta = .09$, $p < .01$)</p>
11. Syed & Juan (2012)	<p>N = 107 pairs of friends Public university 56% female 63% ethnic minority (maj Asian Americans)</p>	<p>Dyads of either ethnic minority-ethnic minority, white –white, or ethnic minority –white</p>	Correlational	Friend	<p>Friends showed similarity in exploration and commitment.</p> <p>Ethnic composition of dyads moderated similarity in identity where EM-EM scores corr but didn't for other pairings</p>
12. Veronneau & Dishion (2011)	<p>N = 1278 6th followed to 8th grade Suburban region 55% females</p>	<p>Participants brought same-gender friend</p> <p>Self-report</p> <p>Best friend nominations: Social Nomination Questionnaire (Coie, Terry, Zakriski, &</p>	Longitudinal	Best friend	<p>Friends' school engagement was a significant predictor of a positive change in individual's academic achievement when other two measures of friends'</p>

	78% European American, 22% ethnic minorities	Lochman, 1995)			characteristics were not entered in the model, $\beta = .07$, $SE = .03$, $p < .01$
13. Wentzel & Caldwell (1997)	From study 1 N = 213 6 th graders Working-class community 52% female 70% European American, 23% African American	Self-report Reciprocated friendship: best friend nominations Peer group membership through cluster analysis	Longitudinal	Best friend	Reciprocated friendship sig predictor for GPA ($\beta = 3.98$) for girls Grp membership sig predictor of GPA for both ($\beta = 3.03$ & 2.72) $R^2 = .54$ & $.66$ for full model
14. Wilson, Karimpour, & Rodkin (2011)	N = 775 4 th and 5 th graders 49% African American, 34% European American Small to moderate size urban regions	Self-report Peer groups: social cognitive mapping (SCM) method (Cairns & Cairns, 1994) Cohesion: SCM create corr for each dyad w/in class; median corr for each dyad w/in grp	Correlational	Peers in classroom	AA performed better in math and reading when they belonged to higher achieving peer groups

Table 3.

Summary of Findings on Ethnic Identity

Article	Sample	Measures	Ethnic Identity	Design	Results
1. Adedabu (2008)	N = 661 58% females 19% rural, 82% urban	Self-report	Combined & subscales: Exploration	Correlational	EI: corr w/GPA ($r = .22$, $p < .01$)

	African American adolescents 7 th , 9 th , 11 th , & 12 th grade Avg GPA 2.48	MEIM: alphas ranging from .64 to .84	& Commitment		Exploration: corr w/GPA ($r = .13, p < .01$) Commitment: corr w/GPA ($r = .24, p < .01$) EI sig predictor of GPA; $R^2 = .05$
2. Bennett (2006)	N = 131 African Americans 14-19 yrs old 8 th to 12 grade 63% female 48% lived w/one parent	Self-report MEIM; alpha .71 Bicultural: interactions w/ members of other ethnic groups	Combined	Correlational	EFA testing: Bicultural competence direct effect on EI
3. Chapell & Overton (2002)	N = 330 African Americans 62% female 6 th , 10 th , 12 th , & college undergrads Public middle sch, high sch, & university 70% -80% low income students at sch	Self-report MEIM; alpha=.78	Combined	Correlational	High EI students outscored low EI students on reasoning performance, $p < .01$ Effect size =.13 (small)
4. Cokley & Chapman (2008)	N = 274 African American College students 79% female HBCU Age range 17-41yrs old	Self-report MEIM; alpha = .73 High score indicates strong ethnic identity	Combined	Correlational	EI corr w/academic self- concept ($r = .35, p < .001$), othergrp orientation ($r = .40, p < .001$), devaluing ($r = -.41, p < .001$), & caring faculty ($r = .27, p < .001$) Path analysis: caring faculty direct effect on EI
5. French, Seidman, Allen, & Aber (2006)	N = 420 Early & middle adolescents	Self-report	Group – esteem	Longitudinal	Group-esteem increased over time but not

	64% females 35% African American, 29% Latino, & 36% European American Schools w/ high lvl of poverty Followed for 3 yrs	Adaptation of Phinney interview Group-esteem alpha = .71 Exploration alpha = .76	& Exploration		exploration for early adolescents Both grp-esteem & exploration increased over time for middle adolescents
6. Gaylord-Harden, Ragsdale, Mandara, Richards, & Petersen (2007)	N = 227 7 th & 8 th grade 37% males African American 83% parents had high school degree Low-income households	Self-report MEIM; alpha = .81 Perceived family & peer social support (SS)	Commitment only	Longitudinal study w/scores merged	EI corr w/SS ($r = .35, p < .01$), self-esteem (SE) ($r = .28, p < .01$) & for males; EI corr w/SS ($r = .18, p < .05$) for females SEM analysis: SS predict EI
7. Hamm (2000)	N = 2494 69% European American, 10% African American 9 th to 12 th grade African Americans from low or working-class and middleclass backgrounds	Self-report MEIM; alphas not reported Similarity bet dyads on ethnic identity	Combined	Longitudinal	Similarity bet African American adolescents & nominated friends on EI was not predicted *Found similarity w/ Asian Americans and European Americans
8. Kerpelman, Eryigit, & Stephens (2008)	N = 374 59% female African Americans only 7-12 th graders Rural county; 33% family income less than \$20, 000 * high achievers based on amt of 's & B's reported	Self-report MEIM; alpha = .88 Parental academic support	Combined	Correlational	EI corr w/ self-efficacy ($r = .27, p < .01$), mother support ($r = .36, p < .01$), father support ($r = .26, p < .01$), future educ orientation ($r = .35, p < .01$) & grades ($r = .20, p < .01$) *Did not corr w/age EI predict future education orientation; $R^2 = .41$, R- change = .28

9. Lorenzo-Hernandez & Ouellette (1998)	N = 207 Community college students 17-59 yrs 15% African Americans, 85% Hispanic 53% income below \$9,999	Self-report MEIM; alpha= .85	Combined	Correlational	EI corr w/SE ($r = .46, p < .01$ & $.70, p < .01$ for African Americans)
10. Ong, Phinney, & Dennis (2006)	N = 123 68% females Urban university Latino freshmen at beginning of study 82% Mexican American Avg age 18 yrs 55% low SES background	Self-report MEIM; alpha =.91 High score indicates strong ethnic identity	Combined	Longitudinal	*CFA to test 1-factor model which showed adequate fit. EI corr w/SES ($r = .21, p < .05$), GPA ($r = .18, p < .05$), & family support ($r = .19, p < .05$) EI interact w/ relation bet low-SES and GPA where weakened the relation
11. Phinney, Cantu, & Kurtz (1997)	N = 669 High school students 14-19 yrs old 35% African American, 55% Latino Maj of participants parents either worked skilled job or had some college education	Self-report MEIM; alpha= .83 High score indicates strong ethnic identity	Combined	Correlational	African Americans: EI corr w/ Self -esteem ($r = .17, p < .01$), & w/ American identity ($r = -.14, p < .05$) EI sig predictor of SE for African American
12. Phinney, Ferguson, & Tate (1997)	N = 547 8 th & 11 th graders 24% African American, 40% Latinos Middle and working class communities	Self-report MEIM; alpha range =.79-.81 High score indicates strong ethnic identity	Combined	Correlational	$R^2 = .09$ full model EI predict in-grp attitudes

13. Phinney, Jacoby, & Silva (2007)	N = 713 67% females College freshmen Avg age 18 yrs old 65% Latino, 23% African American Urban region	Self-report MEIM; (high/low) Exploration alpha = .83 Commitment alpha = .89	Exploration & Commitment *Created statuses based on Marcia's model	Correlational Combined	African America: 85% achieved status Those w/ diffused or foreclosed status lower intergrp attitudes Mexicans interaction more w/same peers than other grps EI corr w/ in-grp interaction for Armenians ($r = .63, p < .001$), Vietnamese ($r = .52, p < .001$), & Mexican ($r = .26, p < .05$) Path analysis: In-grp peer interaction predict EI for all ethnic grps
14. Phinney, Romero, Nava, Huang (2001)	N = 216 60% female 37% Armenian, 41% Mexican adolescents	Self-report MEIM; alpha = .84 In-grp peer interaction: frequency of interaction w/ peers from own ethnic group	Combined	Correlational	Mexicans interaction more w/same peers than other grps EI corr w/ in-grp interaction for Armenians ($r = .63, p < .001$), Vietnamese ($r = .52, p < .001$), & Mexican ($r = .26, p < .05$) Path analysis: In-grp peer interaction predict EI for all ethnic grps
15. Prelow, Bowman, & Weaver (2007)	N = 206 54% African American & 46% European American 58% female 13-19 yrs old 59% of African American participate in free reduced lunch	Self-report MEIM; alpha = .83 for African American Sch connect: feel connected to school, teachers, schoolmates	Combined	Correlational	For African Americans EI corr w/ sch connect ($r = .18, p < .10$)
16. Shin, Daly, & Vera (2007)	N = 132 7 th & 8 th graders 54% Latino, 11% African American	Self-report MEIM; alpha = .84 Peer support: social support	Combined	Correlational	EI corr w/ PS ($r = .27, p < .01$)

17. Sieger & Renk (2007)	N = 166 females 55% African Americans, 25% Hispanic 8 th to 12 th grade Maj income < \$30000	Self-report MEIM; alpha = .84 Social support (SS): source of support merged (family, friends, significant other)	Combined	Correlational	SS corr w/ EI ($r = .26, p < .01$) & self-esteem ($r = .35, p < .01$)
18. Smith et al., (1999)	N = 100 67% African American 51% 12 yrs old 59% female 53% FARMS	MEIM; alpha = .76 Exploration = .66 Commitment = .60	Combined & subscales: Exploration & Commitment	Correlational	EI corr w/ Self-esteem ($r = .29, p < .01$) and self-efficacy ($r = .51, p < .01$) Belonging subscale corr w/ Self-esteem ($r = .37, p < .01$) and self-efficacy ($r = .47, p < .01$)
19. Syed & Juan (2012)	N = 107 pairs of friends Public university 56% female 63% ethnic minority (maj Asian Americans)	Self-report MEIM; alpha = .78 exploration and .90 commitment High score indicates strong ethnic identity Dyads of either ethnic minority-ethnic minority, white –white, or ethnic minority –white	Exploration & Commitment	Correlational	Friends showed similarity in exploration and commitment. Ethnic composition of dyads moderated similarity in identity where EM-EM scores corr but didn't for other pairings
20. Torres, Yznaga, & Moore (2011)	N = 397 Latino adults Age range 18-79 yrs 75% females 88% income < \$20,000	Self-report MEIM-R; alphas Exploration = .81 Commitment = .88	Exploration & Commitment	Correlational	EI-E $r = .14$ w/ work academics racism EI-C $r = .10$ w/ work academics racism

					Regression analysis show moderating effect
21. Whitehead, Ainsworth, Wittig, & Gadino (2009)	N = 571 9 th graders 14-15 yrs old 49% male 25% Asian American, 24% European American, & 19% Latino	Self-report MEIM; Commitment alpha= .88 Exploration alpha= .68 Ingrp & outgrp attitudes	Exploration & Commitment	Correlational	*model testing Commitment mediate relation between exploration & ingrp warmth
22. Worrell (2007)	N = 319 58% female Summer program Academically talented 9% African American, 54% Asian America, 29% European American, & 8% Hispanic Maj middle to upper middle class	Self-report MEIM; alpha from .68 to .89 OGO: willingness to interact w/ and learn abt other ethnic grps	Combined	Correlational	African American grp: EI and OGO predict GPA with medium effect sizes EI predict self-esteem with small effect size EI contribute to 20% of variance in school GPA
23. Yoon, Jung, Lee, & Felix-Mora (2012)	N = 334 60% Mexican American, 40% Asian American 60% females Agr range 18-55yrs 66% of sample income < \$40, 000	Self-report MEIM-R; alphas = .90 (Mexicans) & .84 (Asians) Social connectedness: sense of closeness and belonging to mainstream society and ethnic community	Combined	Correlational	Mexicans: EI corr w/social connectedness in ethnic community ($r = .44, p < .01$) Asians: EI corr w/social connectedness with mainstream society and in ethnic community ($r = .22, p < .05$ & $r = .24, p < .01$)
24. Yip (2014)	N = 354 13 to 16 yrs old 12% African American, 25% Hispanic, 34% Asian 63% females	Self-report MEIM; Commitment alpha= .87 Exploration alpha= .74	Exploration & Commitment *Created statuses	Correlational	Both subscales corr w/positive mood ($r = .12$ & $.16, p < .05$ & $.01$)

34% did not know highest lvl of education completed by mother	based on Marcia's model	EI development statuses created using K mean clusters
		Those in moratorium cluster had high EI awareness

Table 4.

Summary of Empirical Studies on Achievement Values

Article	Sample	Measure	Design	Results
1. Ceballo, McLoyd, & Toyokawa (2004)	N = 262 mother-child pair African American 7 th & 8 th grade Lower working-class community	Self-report Adolescent educational values: importance & utility merged (Eccles 1983); α .73	Correlational	Corr w/ses indicator ($r = .15, p < .05$) In HLM SES predictor of values
2. Faircloth & Hamm (2005)	N = 5530 10% African American , 57% European American, 15% Latino 9 th to 12 th grade	Self-report Valuing of school: importance, effort, & reasons for trying hard Belonging: social integration, extracurricular activities, perceived discrim	Correlational	SEM analysis Model fit for AA sample where belonging mediate relation bet valuing of sch & academic success
3. Fan (2011)	* From Educational Longitudinal study of 2002 N = 16252 10 th grade 54% White, 13% Black, 16% Hispanic	Self-report Student utility value; $\alpha = .85$ Academic value of peer friends (how important academic issues are to friends)	Correlational	Utility corr w/ academic value of peers ($r = .21, p < .01$) male & female ($r = .18, p < .01$) SEM analysis: Peer direct predictor of utility (for boys & girls)

4. Fuligni (1997)	N = 1100 6 th , 8 th & 10 th grade 23% Latino, 18% East Asian, 36% Filipino, & 23% European American	Self-report Importance of school: VASS $\alpha = .84$ to $.90$ across ethnic grps Peer support for academics: friends support academic endeavors	Correlational	First generation adolescents had higher value of academic success & peer support for academics Students w/ East Asian & Filipino background greater peer support & stronger academic attitudes
5. Fuligni, Witkow, & Garcia (2005)	N = 589 9 th grade students 48% males High school urban area 40% Mexican Americans, 30% Chinese American, & 30% European American Avg age = 14	Self-report Importance of school: VASS $\alpha = .85$ overall $\alpha = .84$ Mexican, $.80$ Chinese, & $.88$ EA Eccles (1983) $\alpha = .77$ overall $\alpha = .74$ Mexican, $.72$ Chinese, & $.82$ EA importance and utility separate	Correlational	Ethnic identification (centrality & regard) corr w/ utility & importance ($r = .19$ -. 22 , $p < .01$) Mexicans and Chinese report more positive attitudes to academics (utility and importance) as compared to other grp
6. Goodenow & Grady (1993)	N = 301 7 th to 9 th grade 52% males 32% African American, 36% Hispanics, 27% European American Working class community	Self-report Values: intrinsic, importance, & interest (Pintrich & De Groot, 1990) Friends' values: my friends think tht it is important to do well in school	Correlational	Friends value corr w/ Value schwrk ($r = .37$, $p < .001$) Sch belong corr w/ value of schwrk ($r = .55$, $p < .001$) For African Americans: $r = .31$, $p < .001$ bet friend & value & $r = .44$, $p < .001$ bet value & sch belong
7. Hamm, Schmid, Farmer, & Locke, (2010)	N = 1741 6th grade Rural community 54% female 59% European American, 26% African American	Self-report and teacher report School valuing: adapted version on Voelkl's (1997) Identification w/school scale;	Correlational	Students in peer grps w/more favorable norms toward effort and achievement increased their school valuing over sch yr Greater peer group valuation of schooling resulted in improvement

				to members' own valuation of school
8. Harris & Marsh (2010)	Sampled from MADICS longitudinal study N = 629 African American 7 th & 11 th grade Varied SES	Self-report Race similarity attached: attachment to other blacks Valuing of school: utility of school based on items (*Eccles data set)	Correlational	Race profiles impact valuing of sch where attached had higher valuing
9. Kiang & Fuligni (2009)	N = 579 12 th grade students 53% females 36% Latino, 44% Asian background, & 20% European American	Self-reports and diary entries Importance of school: VASS; $\alpha = .84$ to $.87$ Utility value: Eccles (1983); $\alpha = .74-.79$ EI exploration & commitment	Correlational	Exploration: corr w/ utility ($r = .23$, $p < .001$) & importance ($r = .21$, $p < .001$) Commitment: corr w/ utility ($r = .25$, $p < .001$) & importance ($r = .20$, $p < .001$)
10. Leaper, Farkas, & Brown (2012)	N = 579 Females only 13-18 yrs old 50% Latina, 22% European American, 9% African American 51% mothers had high school diploma only; same for fathers	Self-report Importance/interest: Eccles & Wigfield (2002) combined w/ expectancy measure Perceived support for Eng and Math from classmates	Correlational	Math mot corr w/classmate support for Math ($r = .17$, $p < .001$) same for Eng ($r = .35$, $p < .001$) Peer math support predict math motivation same for eng $R^2 = .49$; F change = 5.63 sig (math) $R^2 = .35$; F change = 4.27 sig (eng)
11. Perreira, Fuligni, & Potochnick (2010)	N = 459 Latinos 9 th graders 53% females 63% both parents employed	Self-report Importance (Fuligni, 1997); $\alpha = .83$ Utility (Fuligni et al., 2005); $\alpha = .75$	Correlational	Importance corr w/ social acceptance ($r = .11$ to $.32$, $p < .05$) Utility corr w/ SA ($r = .25$ to $.54$, $p < .05$)

		Social acceptance: sch climate, adult encouragement, daily +ve sch experiences, & +ve ethnic treatment		*EI corr w/motivation ($r = .14$ to $.32, p < .05$)
12. Roeser Eccles, & Sameroff (2000)	N = 1041 51% males 66% African American & 34% European American 7 th grade followed to end of 8 th grade Avg educ lvl high diploma	Self-report Valuing of academics: Eccles scale merged all three (intrinsic, importance, & utility) based on 2 nd order factor analysis	Longitudinal	Emotional functioning corr w/AV Values predict competence TS predict values
13. Smith, Scheider, & Ruck (2005)	N = 430 11 to 22 yrs old Black Canadians Maj low SES	Self-report Importance of academics: VASS; $\alpha = .87$ Fulgini scale for peer support for academic success	Correlational	*Merged w/other achievement variables Achievement variables corr w/peer support ($r = .336, p < .001$) Support sig predictor of achievement variables ($\beta = .12$); $R^2 = .65$
14. Somers, Owens, & Piliawsky (2008)	N = 118 African American 63% female 9 th grade Urban public school	Self-report Personal value of education: Classmates (CS) & close friends (CFS) social support: CASSS	Correlational	CS corr w/ personal value of education ($r = .313, p < .01$)
15. Tseng (2004)	N = 998 18 to 25 yrs old immigrants 49% Asian American, 11% Latin American, 10% African/Afro Caribbean, 31% European backgrounds Maj parents have high sch diploma only	Self-report VASS $\alpha = .82$ to $.86$ acr ethnic grps Combined w/ future utility of education	Correlational	Motivation predict academic achievement

16. Vitoroulis et al., (2012)	N =539 Canada (ethnic minorities included), Cuba, & Spain Mean age 12 yrs	Self-report VASS $\alpha=.86$ Importance of academics SS from same-sex & opposite sex friend Peer support for academics	Correlational	Correlations not provided Peer support for academics significantly predicted adolescents' valuing of academics ($\beta = .17$) $R^2= .23$ for full model
17. Wang & Eccles (2013)	* From MADICS dataset N = 1157; 7 th grade 56% African American, 32% European American 52% females	Values: Intrinsic and attainment merged PES: Peer acceptance & positive relations	Correlational	PES corr w/values $r = .16$ $p < .01$ Path model: PES direct effect on task values

Table 28.

Full Correlation Results for Research Question 1 and 2 Variables

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
1. Grade	1															
2. Gender	.02	1														
3. M_Educ	-.06	-.11	1													
4. F_Educ	-.09	-.10	.45***	1												
5. FARMs	.06	-.18**	.29***	.18**	1											
6. T_acad	.05	-.05	-.02	-.08	-.08	1										
7. T_emot	.13	.02	-.00	-.06	-.06	.67***	1									
8. T_inst	.02	-.01	-.01	-.05	-.10	.80***	.69***	1								
9. F_acad	.01	.13	-.06	.12	-.10	.12	.09	.10	1							
10. F_emot	.06	.16*	-.13	.01	-.12	.11	.13	.07	.67***	1						
11. F_inst	.06	.19*	.01	.10	.02	.08	.08	.04	.77**	.72***	1					
12. I_Exp	.09	-.01	.04	.12	.05	.09	-.02	.08	.31***	.14*	.30**	1				
13. I_Com	-.01	-.06	-.03	.10	-.04	.07	.02	.07	.10	.14	.16*	.48***	1			
14. I_Imp	-.19**	.13	.11	.01	-	.22**	.12	.20**	.11	.10	.12	.12	.20**	1		
15. I_Utl	-.08	-.02	-.09	-.10	.27***	-.16*	.38***	.29**	.36***	.07	.03	.01	.136*	.29**	.18*	1

Note: $N = 217$; *** $p < .001$; ** $p < .01$; * $p < .05$; pooled multiple imputation data; M = mother, F= father, T = teacher, I= individual, F= friend; Acad = academic support, Emot = emotional support, Inst = instrumental support; Exp = exploration component, Com = commitment component, Imp = importance component, Utl = utility component

Table 29.

Full Correlation Results for Research Question 3 Variables

	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Grade	1												
2. Gender	.01	1											
3. M_Educ	-.01	-.11	1										
4. F_Educ	-.05	-.09	.39***	1									
5. FARMs	.05	-.18*	.29***	.19*	1								
6. I_Exp	.09	-.02	.03	.10	.09	1							
7. I_Com	-.00	-.07	.02	.19*	.01	.43***	1						
8. I_Imp	-.13	.15	.10	.04	-.23**	-.13	.06	1					
9. I_Utl	-.05	-.05	-.04	-.07	-.15*	-.03	.17	.11	1				
10. F_Exp	.24*	.10	-.012	-.17	-.03	.25*	.19	-.19	.07	1			
11. F_Com	.08	.05	-.05	-.07	-.05	.11	.17	-.15	-.02	.55***	1		
12. F_Imp	-.43***	.51***	.03	.13	-.14	-.21	-.15	.39***	.01	-.19	-.07	1	
13. F_Utl	-.14	.00	-.06	-.08	-.26*	-.23*	-.13	.13	.30**	.01	-.04	.07	1

Note: $n = 90$; *** $p < .001$; ** $p < .01$; * $p < .05$; M = mother, F= father, T = teacher, I= individual, F= friend; Acad = academic support, Emot = emotional support, Inst = instrumental support; Exp = exploration component, Com = commitment component, Imp = importance component, Utl = utility component

References

- About, F. E., Mendelson, M., & Purday, K. T. (2003). Cross-race peer relations and friendship quality. *International Journal of Behavioral Development, 27*(2), 165-175. DOI: 10.1080/01650250244000164.
- About, F. E., & Doyle, A. B. (1993). The early development of ethnic identity and attitudes. In M. E. Bernal & G. P. Knight (Eds.), *Ethnic identity: Formation and transmission among Hispanics and other minorities*, (pp 47-59). New York: State of New York Press.
- Adams, G. R., & Marshall, S. K. (1996). A developmental social psychology of identity: Understanding the person-in-context. *Journal of Adolescence, 19*(5), 429-442. DOI: 10.1006/jado.1996.0041.
- Adelabu, D. H. (2008). Future time perspective, hope, and ethnic identity among African American adolescents. *Urban Education, 43*(3), 347-360. DOI: 10.1177/0042085907311806
- Afshartous, D., & Preston, R. A. (2011). Key results of interaction models with centering. *Journal of Statistics Education, 19*(3), 1-24.
- Ainsworth, M., Blehar, M., Waters, E. & Wall, S. (1978). *Patterns of attachment: A psychological study of the Strange Situation*. Hillsdale, NJ: Lawrence Erlbaum.
- Ainsworth-Darnell, J. W. & Downey, D. B. (1998). Assessing the oppositional culture explanation for racial/ethnic differences in school performance. *American Sociological Review, 63*(4), 536-553.
- Alexander-Snow, M. (2010). The Piney Woods School: An exploration of the historically

- Black boarding school experience in shaping student achievement, cultural esteem, and collegiate integration. *Urban Education*, 46, 322-341. DOI: 10.1177/0042085910377439.
- Altermatt, E. R. (2012). Children's achievement-related discourse with peers. In A. M. Ryan & G. W. Ladd (Eds.), *Peer relationships and adjustment at school* (pp. 109-134). Information Age Publishing Inc.
- Anderson, E. (2012). Reflections on the “Black–White achievement gap”. *Journal of School Psychology*, 50(5), 593-597. DOI: 10.1016/j.jsp.2012.08.007
- Anderson, S. A., Sabatelli, R. M., & Kosutic, I. (2007). Families, urban neighborhood youth centers, and peers as contexts for development. *Family Relations*, 56(5), 346-357. DOI: 10.1111/j.1741-3729.2007.00464.x.
- Andrews, D. J. C. (2009). The construction of Black high-achiever identities in a predominantly White high school. *Anthropology & Education Quarterly*, 40(3), 297-317. DOI: 10.1111/j.1548-1492.2009.01046.x.
- Antonio, A. L. (2004). The influence of friendship groups on intellectual self-confidence and educational aspirations in college. *Journal of Higher Education*, 75(4), 446-471. DOI: 10.1353/jhe.2004.0019.
- Archer-Banks, D. A., & Behar-Horenstein, L. S. (2012). Ogbu revisited unpacking high-achieving African American girls' high school experiences. *Urban Education*, 47(1), 198-223. DOI: 10.1177/0042085911427739.
- Armsden, G. C., & Greenberg, M. T. (1987). The inventory of parent and peer

- attachment: Individual differences and their relationship to psychological well-being in adolescence. *Journal of Youth and Adolescence*, 16(5), 427-454. DOI: 10.1007/BF02202939.
- Arroyo, C. G. & Zigler, E., (1995). Racial identity, academic achievement, and the psychological well-being of economically disadvantaged adolescents. *Journal of Personality and Social Psychology*, 69(5), 903-914. DOI: 10.1037/0022-3514.69.5.903.
- Atkinson, J. W. (1957). Motivational determinants of risk-taking behavior. *Psychological Review*, 64(6), 359-372. DOI: 10.1037/h0043445.
- Bandura, A. (1977). Self-efficacy: toward a unifying theory of behavioral change. *Psychological Review*, 84(2), 191-215. DOI: 10.1037/0033-295X.84.2.191.
- Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Englewood Cliffs, NJ: Prentice-Hall.
- Bandura, A., & Walters, R. H. (1963). *Social learning and personality development*. New York: Holt, Rinehart & Winston.
- Barker, K. L., Dowson, M., & McInerney, D. M. (2005). Effects between motivational goals, academic self-concept and academic achievement: What is the causal ordering. Australian Association for Research in Education (AARE), Sydney, Australia.
- Baumeister, R. F., & Leary, M. R. (1995). The need to belong: Desire for interpersonal attachments as a fundamental human motivation. *Psychological Bulletin*, 117(3), 497-529. DOI: 10.1037/0033-2909.117.3.497.
- Bean, R. A., Barber, B. K., & Crane, D. R. (2006). Parental support, behavioral control,

and psychological control among african american youth: The relationships to academic grades, delinquency, and depression. *Journal of Family Issues*, 27(10), 1335-1355. DOI: 10.1177/0192513X06289649.

Bellmore, A. D., Nishina, A., Witkow, M. R., Graham, S., & Juvonen, J. (2007). The influence of classroom ethnic composition on same- and other-ethnicity peer nominations in middle school. *Social Development*, 16(4), 721-743. DOI: 10.1111/j.1467-9507.2007.00404.x.

Bellmore, A. D., Witkow, M. R., Graham, S., & Juvonen, J. (2004). Beyond the individual: The impact of ethnic context and classroom behavioral norms on victims' adjustment. *Developmental Psychology*, 40(6), 1159-1172. DOI: 10.1037/0012-1649.40.6.1159.

Bennett, M. D. (2006). Culture and context: A study of neighborhood effects on racial socialization and ethnic identity content in a sample of African American adolescents. *Journal of Black Psychology*, 32(4), 479-500. DOI: 10.1177/0095798406292470.

Bergin, D. A., & Cooks, H. C. (2002). High school students of color talk about accusations of "acting White". *The Urban Review*, 34(2), 113-134. DOI: 10.1023/A:1015310332639.

Berndt, T. J. (1992). Friendship and friends' influence in adolescence. *Current Directions in Psychological Science*, 1(5), 156-159. DOI: 10.1111/1467-8721.ep11510326.

Berndt, T. J. & McCandless, M. A. (2009). Methods for investigating children's

- relationships with friends. In K. H. Rubin, B. W. M. Bukowski, & B. Laursen (Eds.), *Handbook of peer interactions, relationships, and groups* (pp. 63-81). New York: Guilford Press.
- Berndt, T. J. & Miller, K. E. (1990). Expectancies, values, and achievement in junior high school. *Journal of Educational Psychology*, 82(2), 319-326. DOI: 10.1037/0022-0663.82.2.319.
- Berndt, T. J., & Murphy, L. M. (2002). Influences of friends and friendships: Myths, truths, and research recommendations. *Advances in Child Development and Behavior*, 30, 275-310. DOI: 10.1016/S0065-2407(02)80044-1.
- Bertucci, A., Johnson, D. W., Johnson, R. T., & Conte, S. (2012). Influence of group processing on achievement and perception of social and academic support in elementary inexperienced cooperative learning groups. *The Journal of Educational Research*, 105(5), 329-335. DOI: 10.1080/00220671.2011.627396.
- Birch, S. H., & Ladd, G. W. (1997). The teacher-child relationship and children's early school adjustment. *Journal of School Psychology*, 35(1), 61-79. DOI: 10.1016/S0022-4405(96)00029-5.
- Bong, M. (2001). Role of self-efficacy and task-value in predicting college students' course performance and future enrollment intentions. *Contemporary Educational Psychology*, 26(4), 553-570. DOI: 10.1006/ceps.2000.1048.
- Bonner, F. A. & Murray, J. W. (2012). Inside information on high-achieving African American male college students. In J. L. Moore & C. W. Lewis (Eds), *African American students in urban schools: Critical issues and solutions for achievement* (pp. 271-288). New York : Peter Lang.

- Booker, K. C. (2004). Exploring school belonging and academic achievement in African American adolescents. *Curriculum and Teaching Dialogue*, 6(2), 131-143.
- Bowlby, J. (1988). *A secure base*. New York, NY: Basic Books.
- Branscombe, N. R., Schmitt, M. T., & Harvey, R. D. (1999). Perceiving pervasive discrimination among African Americans: Implications for group identification and well-being. *Journal of Personality and Social Psychology*, 77(1), 135-149. DOI: 10.1037/0022-3514.77.1.135.
- Brechwald, W. A. & Prinstein, M. J. (2011). Beyond homophily: A decade of advances in understanding peer influence process. *Journal of Research on Adolescence*, 21(1), 166-179. DOI: 10.1111/j.1532-7795.2010.00721.x
- Brewer, M. B. (1991). The social self: On being the same and different at the same time. *Personality and Social Psychology Bulletin*, 17(5), 475-482. DOI: 10.1177/0146167291175001.
- Brewer, M. B. (2001). The many faces of social identity: Implications for political psychology. *Political Psychology*, 22(1), 115-126. DOI: 10.1111/0162-895X.00229.
- Brody, G. H., Chen, Y-F., Murray, V. M., Ge, X., Simons, R. L., ..., Cutrona, C. E. (2006). Perceived discrimination and the adjustment of African American Youths: A five-year longitudinal analysis with contextual moderation effects. *Child Development*, 77(5), 1170-1189. DOI: 10.1111/j.1467-8624.2006.00927.x.
- Bronfenbrenner, U. (2005). *Making human beings human: Bioecological perspectives on human development*. Sage.
- Brown, B. B. (1989). The role of peer groups in adolescents' adjustment to secondary

- school. In T. J. Berndt & G. W. Ladd (Eds.), *Peer relationships in child development* (pp. 188–216). New York: Wiley.
- Brown, B. B. (1990). Peer groups and peer cultures. In S. S. Feldman & G. R. Elliott (Eds.), *At the threshold: The developing adolescent* (pp. 171–196). Cambridge, MA: Harvard University Press.
- Brown, B. B. (1999). Measuring the peer environment of American adolescents. In S.L. Friedman & T.D. Wachs (Eds.), *Measuring environment across the life span: Emerging methods and concepts* (pp. 59-90). American Psychological Association Press: Washington, DC.
- Brown, B. B. (2004). Adolescents' relationship with peers. In R. M. Lerner & L. Steinberg (Eds.) *Handbook of adolescent psychology* (2nd edition pp. 363-394). New Jersey: Wiley.
- Brown, B. B., Bakken, J. P., Ameringer, S. W., & Mahon, S., (2008). Peer influence mechanisms. In M. J. Prinstein & K. A. Dodge (Eds.), *Understanding peer influence in children and adolescents* (pp 17-44). New York: Guilford Press.
- Brown, B. B. & Dietz, E. L. (2009). Informal peer groups in middle childhood and adolescence. In K. H. Rubin, B. W. M. Bukowski, & B. Laursen (Eds.), *Handbook of peer interactions, relationships, and groups* (pp. 361-376). New York: Guilford Press.
- Brown, B. B., Herman, M., Hamm, J. V., & Heck, D. J. (2008). Ethnicity and image: Correlates of crowd affiliation among ethnic minority youth. *Child Development*, 79(3), 528-545. DOI: 10.1111/j.1467-8624.2008.01141.x.
- Brown T. A. (2015). *Confirmatory factor analysis for applied research*. New York:

Guildford Press.

- Bucchianeri, M. M., Eisenberg, M. E., & Neumark-Sztainer, D. (2013). Weightism, racism, classism, and sexism: Shared forms of harassment in adolescents. *Journal of Adolescent Health, 53*, 47-53. DOI: 10.1016/j.jadohealth.2013.01.006.
- Bukowski, W. M. (2011). Popularity as a social concept. In A. H. Cillessen, D. Schwartz, & L. Mayuex (Eds.), *Popularity in the peer system*, (pp 3-24). New York, NY: Guildford Press.
- Bukowski, W. M., Hoza, B., & Boivin, M. (1994). Measuring friendship quality during pre-and early adolescence: The development and psychometric properties of the Friendship Qualities Scale. *Journal of social and Personal Relationships, 11*(3), 471-484. DOI: 10.1177/0265407594113011
- Cairns, R. B., & Cairns, B. D. (1994). *Lifelines and risks: Pathways of youth in our time*. Cambridge, UK: Cambridge University Press.
- Cairns, R. B., Perrin, J. E., & Cairns, B. D. (1985). Social structure and social cognition in early adolescence: Affiliative patterns. *Journal of Early Adolescence, 5*(3), 339-355. DOI: 10.1177/0272431685053007.
- Cairns, R. B., Leung, M. C., Buchanan, L., & Cairns, B. D. (1995). Friendships and social networks in childhood and adolescence: Fluidity, reliability, and interrelations. *Child Development, 66*(5), 1330-1345. DOI: 10.1111/j.1467-8624.1995.tb00938.x
- Cano, M. Á., Castillo, L. G., Davis, M. J., López-Arenas, A., Vaquero, J., Thompson, K. V., & Saldivar, I. M. (2012). Dynamics of acculturation, enculturation, and ethnic identity: Influence of psychocultural constructs on conscientiousness and

- expectations of higher education among Latinos. *International Journal for the Advancement of Counseling*, 34(3), 231-241. DOI: 10.1007/s10447-012-9153-9.
- Caro, D. H., McDonald, J. T., & Willms, J. D. (2009). Socio-economic status and academic achievement trajectories from childhood to adolescence. *Canadian Journal of Education*, 32(3), 558-590.
- Carter, D. J. (2008). Achievement as resistance: The development of a critical race achievement ideology among Black achievers. *Harvard Educational Review*, 78(3), 466-498. DOI: 10.17763/haer.78.3.83138829847hw844.
- Ceballo, R., McLoyd, V. C., & Toyokawa, T. (2004). The influence of neighborhood quality on adolescents' educational values and school effort. *Journal of Adolescent Research*, 19(6), 716-739. DOI: 10.1177/0743558403260021.
- Cerulo, K. A. (1997). Identity construction: New issues, new directions. *Annual Review of Sociology*, 23, 385-409. DOI: 10.1146/annurev.soc.23.1.385.
- Chapell, M. S. & Overton, W. F. (2002) Development of logical reasoning and the school performance of African American adolescents in relation to socioeconomic status, ethnic identity, and self-esteem. *Journal of Black Psychology*, 28(4), 295-315. DOI: 10.1177/009579802237539.
- Chatterjee, S., & Simonoff, J. S. (2013). *Handbook of regression analysis (Vol. 5)*. John Wiley & Sons.
- Chavous, T. M., Bernat, D. H., Schmeelk-Cone, K., Caldwell, C. H., Kohn-Wood, L. & Zimmerman, M. A., (2003). Racial identity and academic attainment among African American adolescents. *Child Development*, 74(4), 1076-1090. DOI: 10.1111/1467-8624.00593.

- Cohen, J. M. (1977). Sources of peer homogeneity. *Sociology of Education*, 50(4), 227-241.
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.) Hillsdale, NJ: Erlbaum.
- Cokley, K. O. (2005). Racial (ized) identity, ethnic identity, and afrocentric values: Conceptual and methodological challenges in understanding African American identity. *Journal of Counseling Psychology*, 52(4), 517-526. DOI: 10.1037/0022-0167.52.4.517.
- Cokley, K. (2007). Critical issues in the measurement of ethnic and racial identity: A referendum on the state of the field. *Journal of Counseling Psychology*, 54(3), 224. DOI: 10.1037/0022-0167.54.3.224.
- Cokley, K. O., & Chapman, C. (2008). The roles of ethnic identity, anti-white attitudes, and academic self-concept in African American student achievement. *Social Psychology of Education*, 11(1), 349-365. DOI: 10.1007/s11218-008-9060-4.
- Cokley, K. & Moore, P. (2007). Moderating and mediating effects of gender and psychological disengagement on the academic achievement of African American college students. *Journal of Black Psychology*, 33(2), 169-187. DOI: 10.1177/0095798407299512.
- Comeaux, E., & Jayakumar, U. M. (2007). Education in the United States: Is it a Black problem? *The Urban Review*, 39(1), 93-104. DOI: 10.1007/s11256-007-0054-x.
- Conley, A. M. (2012). Patterns of motivation beliefs: Combining achievement goal and expectancy-value perspectives. *Journal of Educational Psychology*, 104(1), 32-47. DOI: 10.1037/a0026042.

- Cooper, C. R., Denner, J., & Lopez, E. M. (1999). Cultural brokers: Helping Latino children on pathways toward success. *The Future of Children, 9*(2), 51-57.
- Corsaro W. A. & Eder, D (1990). Children's peer cultures. *Annual Review of Sociology, 16*, 197-220. DOI: 10.1146/annurev.so.16.080190.001213.
- Costigan, C. L., & Dokis, D. P. (2006). Relations between parent-child acculturation differences and adjustment within immigrant Chinese families. *Child Development, 77*(5), 1252-1267. DOI: 10.1111/j.1467-8624.2006.00932.x
- Crick, N. R., & Grotpeter, J. K. (1996). Children's treatment by peers: Victims of relational and overt aggression. *Development and Psychopathology, 8*(2), 367-380. DOI: 10.1017/S0954579400007148.
- Crosnoe, R. (2000). Friendships in childhood and adolescence: The life course and new directions. *Sociological Social Psychology, 63*(4), 377-391.
- Crosnoe, R., Cavanagh, S., & Elder, G. H., Jr. (2003). Adolescent friendships as academic resources: The intersection of social relationships, social structure, and institutional context. *Sociological Perspectives, 46*(1), 331-352. DOI: 10.1525/sop.2003.46.3.331.
- Crosnoe, R. & Kirkpatrick-Johnson, M. (2011). Research on Adolescence in the Twenty-First Century. *Annual Review of Sociology, 37*, 439-460. DOI: 10.1146/annurev-soc-081309-150008.
- Crosnoe, R., Riegle-Crumb, C., Field, S., Frank, K., & Muller, C. (2008). Peer group contexts of girls' and boys' academic experiences. *Child Development, 79*(1), 139-155. DOI: 10.1111/j.1467-8624.2007.01116.x.
- Cunningham, M., Corprew, C. S., & Becker, J. E. (2009). Associations of future

expectations, negative friends, and academic achievement in high-achieving African American adolescents. *Urban Education*, 44(3), 280-296. DOI: 10.1177/0042085908318715.

Darensbourg, A. M., & Blake, J. J. (2013). Predictors of achievement in African American students at risk for academic failure: The roles of achievement values and behavioral engagement. *Psychology in the Schools*, 50(10), 1044-1059. DOI: 10.1002/pits.21730

Darensbourg, A. M., & Blake, J. J. (2014). Examining the academic achievement of Black Adolescents: Importance of peer and parental influences. *Journal of Black Psychology*, 40(2), 191-212. DOI: 10.1177/0095798413481384.

Darling-Hammond, L. (2010). *The flat world and education; How America's commitment to equity will determine our future*. New York: Teachers College Press.

Datnow, A. & Cooper, R. (1997). Peer networks of African American students in independent schools: Affirming academic success and racial identity. *Journal of Negro Education*, 66, 56-72.

Davis-Kean, P. E., & Jager, J. (2014). Trajectories of achievement within race/ethnicity: "Catching up" in achievement across time. *The Journal of Educational Research*, 107(3), 197-208. DOI: 10.1080/00220671.2013.807493.

de Souza Briggs, X. (2007). "Some of My Best Friends Are...": Interracial friendships, class, and segregation in America. *City & Community*, 6(4), 263-290.

Deschamps, J. C., & Devos, T. (1998). Regarding the relationship between social identity and personal identity. In S. Worchel, J. F. Morales, D. Paez & J. C. Deschamps (Eds.), *Social identity international perspectives* (pp 1-12). Sage Publications Inc.

- Deci, E. L., & Ryan, R. M. (1985). *Self-Determination*. John Wiley & Sons, Inc.
- Dennis, J. M., Phinney, J. S., & Chuanteco, L. I. (2005). The role of motivation, parental support, and peer support in the academic success of ethnic minority first-generation college students. *Journal of College Student Development, 46*(3), 223-236. DOI: 10.1353/csd.2005.0023.
- Dijkstra, J. K. & Veenstra, R. (2011). Peer relations. In B. B. Brown & M. Prinstein (Eds.), *Encyclopedia of adolescence: Volume 2 interpersonal and sociocultural factors* (pp 255-259). New York: Academic Press.
- Dotterer, A. M., McHale, S. M., & Crouter, A. C. (2009). Sociocultural factors and school engagement among African American youth: The roles of racial discrimination, racial socialization, and ethnic identity. *Applied Developmental Science, 13*(2), 61-73. DOI: 10.1080/10888690902801442.
- Douglass, S., Wang, Y., & Yip, T. (2015). The everyday implications of ethnic-racial identity processes: Exploring variability in ethnic-racial identity salience across situations. *Journal of Youth and Adolescence, 1*-16. DOI: 10.1007/s10964-015-0390-1.
- DuBois, D. L., Felner, R. D., Brand, S., Adan, A. M., & Evans, E. G. (1992). A prospective study of life stress, social support, and adaptation in early adolescence. *Child Development, 63*(3), 542-557. DOI: 10.2307/1131345.
- Eccles, J. S. (1983) Expectancies, values, and academic behaviors. In J. T. Spence (Ed.), *Achievement and achievement motives* (pp. 75-146). San Francisco: W. H. Freeman.
- Eccles, J. S., Adler, T. F., & Kaczala, C. M. (1982). Socialization of achievement

- attitudes and beliefs: Parental influences. *Child Development*, 53(2), 310-321.
- Eccles, J. S., & Barber, B. (1993). *The Michigan Study of Adolescent Life Transitions*. Ann Arbor, MI: Gender and Achievement Research Lab, University of Michigan.
- Eccles, J. S., & Wigfield, A. (1995). In the mind of the actor: The structure of adolescents' achievement task values and expectancy-related beliefs. *Personality and Social Psychology Bulletin*, 21(2), 215-225. DOI: 10.1177/0146167295213003.
- Eccles, J. S., & Wigfield, A. (2002). Motivational beliefs, values, and goals. *Annual Review of Psychology*, 53, 109-132. DOI: 10.1146/annurev.psych.53.100901.135153.
- Echols, L., & Graham, S. (2013). Birds of a different feather: How do cross-ethnic friends flock together? *Merrill-Palmer Quarterly*, 59(4), 461-488.
- Eisenberg, M. E., Neumark-Sztainer, D., & Perry, C. L. (2003). Peer harassment, school connectedness and academic achievement. *Journal of School Health*, 73(8), 311-316. DOI: 10.1111/j.1746-1561.2003.tb06588.x.
- Ellington, R. M. & Frederick, R. (2010). Black high-achieving undergraduate Mathematics majors discuss success and persistence in Mathematics. *The Negro Educational Review*, 61, 61-86.
- Enders, C. K. (2013). Analysing structural equation models with missing data. In G. R. Hancock & R. O. Mueller (Eds.) *Structural equation modeling: A second course*, (pp. 493-520). Information Age Publishing; Charlotte, N.C.
- Erikson, E. (1968). *Identity, youth and crisis*. New York: W. W. Norton.
- Faircloth, B. S. & Hamm, J. V. (2005). Sense of belonging among high school students

- representing four ethnic groups. *Journal of Youth and Adolescence*, 34(4), 293-309. DOI: 10.1007/s10964-005-5752-7.
- Faircloth, B. S. & Hamm, J. V. (2011). The dynamic reality of adolescent peer networks and sense of belonging. *Merrill-Palmer Quarterly*, 57(1), 48-72.
- Fan, W. (2011). Social influences, school motivation and gender differences: An application of the expectancy-value theory. *Educational Psychology*, 31(2), 157-175. DOI: 10.1080/01443410.2010.536525.
- Faul, F., Erdfelder, E., Buchner, A., & Lang, A. G. (2009). Statistical power analyses using G*Power 3.1: Tests for correlation and regression analyses. *Behavior Research Methods*, 41(4), 1149-1160. DOI: 10.3758/BRM.41.4.1149.
- Ferguson, R. F. (1998). Can schools narrow the Black-White test score gap? In C. Jencks & M. Phillips (Eds.), *The Black-White test score gap* (pp 318-374). Washington, DC: The Brookings Institute.
- Ferguson, R. F. (2000). *A diagnostic analysis of Black-White GPA disparities in Shaker Heights, Ohio*. Washington, DC: The Brookings Institute
- Ferguson, R. F. (2002). What doesn't meet the eye: Understanding and addressing racial disparities in high-achieving suburban schools. Working Paper, Wiener Center for Social Policy, Harvard University.
- Fisher, C., Wallace, S., & Fenton, R. (2000). Discrimination distress during adolescence. *Journal of Youth and Adolescence*, 29(6), 679-695. DOI: 0047-2891/00/1200-0679.
- Fisher, T. A. (2000). Predictors of academic achievement among African American

- adolescents. In S. T. Gregory (Ed.), *The academic achievement of minority students: Perspectives, practices, and prescriptions*, (pp. 307-334). University Press of America Inc: Lanham, MD.
- Fitzpatrick, K. M., Dulin, A., & Piko, B. (2010). Bullying and depressive symptomatology among low-income, African American youth. *Journal of Youth Adolescence*, 39(6), 634-645. DOI: 10.1007/s10964-009-9426-8.
- Flashman, J. (2012). Academic achievement and its impact on friend dynamics. *Sociology of Education*, 85(1), 61-80. DOI: 10.1177/0038040711417014.
- Fletcher Jr., E. C. (2012). Salient factors affecting urban African American students' achievement: Recommendations for teachers, school counselors, and school psychologists. In J. L. Moore & C. W. Lewis (Eds), *African American students in urban schools: Critical issues and solutions for achievement* (pp.). New York : Peter Lang.
- Fleming, R., & Baum, A. (1986). Social support and stress: The buffering effects of friendship. In V. J. Derlega & B. A. Winstead (Eds.), *Friendship and social interaction* (pp. 207-226). Springer New York. DOI: 10.1007/978-1-4612-4880-4_11.
- Flowers, A. M. (2015). The family factor: The establishment of positive academic identity for Black males engineering majors. *The Western Journal of Black Studies*, 39(1), 64-74.
- Ford, D. Y., Grantham, T. C., & Whiting, G. W. (2008). Another look at the achievement gap: Learning from the experiences of gifted Black students. *Urban Education*, 43(2), 216-239. DOI: 10.1177/0042085907312344.

- Fordham, S., (1996). *Blacked out: Dilemmas of race, identity, and success at Capital High*. University of Chicago Press.
- Fordham, S. & Ogbu, J. (1986). Black students' school success: Coping with the burden of "acting white". *Urban Review*, 18(3), 176-206. DOI: 10.1007/BF01112192.
- French, S. E., Seidman, E., Allen, L., & Aber, J. L. (2000). Racial/ethnic identity, congruence with the social context, and the transition to high school. *Journal of Adolescent Research*, 15(5), 587-602. DOI: 10.1177/0743558400155004.
- French, S. E., Seidman, E., Allen, L., & Aber, J. L. (2006). The development of ethnic identity during adolescence. *Developmental Psychology*, 42(1), 1-10. DOI: 10.1037/0012-1649.42.1.1.
- Fries-Britt, S. (1998). Moving beyond Black achievers isolation: Experiences of gifted black collegians. *Journal of Higher Education*, 69(5), 556-576.
- Fries-Britt, S. (2000). Identity development of high-ability collegians. *New Directions for Teaching and Learning*, 2000(82), 55-65. DOI: 10.1002/tl.8206.
- Fryer, R. G. (2006). "Acting White": The social price paid by the best and brightest minority students. *Education Next*, 6(1), 53-59.
- Fuligni, A. J. (1997). The academic achievement of adolescents from immigrant families: The role of family background, attitudes, and behavior. *Child Development*, 68(2), 351-363. DOI: 10.1111/j.1467-8624.1997.tb01944.x.
- Fuligni, A. J., Witkow, M., & Garcia, C. (2005). Ethnic identity and the academic adjustment of adolescents from Mexican, Chinese, and European backgrounds. *Developmental Psychology*, 41(5), 799-811. DOI: 10.1037/0012-1649.41.5.799.
- Fuller-Rowell, T. & Doan, S. N. (2010). The social costs of academic success across

ethnic groups. *Child Development*, 81(6), 1696-1713. DOI: 10.1111/j.1467-8624.2010.01504.x.

Furman, W. & Gottman, J. M. (1996). The measurement of children and adolescent's perceptions of friendships: Conceptual and methodological issues. In W. M. Bukowski, A.F. Newcomb, & W. W. Hartup (Eds.), *The company they keep: Friendships in childhood and adolescence* (pp.41–65). Cambridge, MA: Cambridge University Press.

Furman, W., & Buhrmester, D. (1992). Age and sex differences in perceptions of networks of personal relationships. *Child Development*, 63(1), 103–115. DOI: 10.2307/1130905.

Gaylord-Harden, N. K., Ragsdale, B. L., Mandara, J., Richards, M. H., & Petersen, A. C. (2007). Perceived support and internalizing symptoms in African American adolescents: Self-esteem and ethnic identity as mediators. *Journal of Youth and Adolescence*, 36(1), 77-88. DOI: 10.1007/s10964-006-9115-9.

Gibson, M. A. (2005). Promoting academic engagement among minority youth: Implications from John Ogbu's Shaker Heights ethnography. *International Journal of Qualitative Studies in Education*, 18(5), 581-603. DOI: 10.1080/09518390500224853.

Ginsburg-Block, M. D., Rohrbeck, C. A., & Fantuzzo, J. W. (2006). A meta-analytic review of social, self-concept, and behavioral outcomes of peer-assisted learning. *Journal of Educational Psychology*, 98(4), 732-749. DOI: 10.1037/0022-0663.98.4.732.

Giordano, P. C. (2003). Relationships in adolescence. *Annual Review of Sociology*, 29,

257-281. DOI: 10.1146/annurev.soc.29.010202.100047.

Goldsmith, P. A. (2004). Schools' racial mix, students' optimism, and the Black-White and Latino-White achievement gaps. *Sociology of Education*, 77(2), 121-147.

DOI: 10.1177/003804070407700202.

Gonzales, N. A., Cauce, A. M., Friedman, R. J., & Mason, C. A. (1996). Family, peer, and neighborhood influences on academic achievement among African American adolescents: One-year prospective effects. *American Journal of Community Psychology*, 24(3), 365-387. DOI: 10.1007/BF02512027.

Goodenow, C. (1993). Classroom belonging among early adolescent students: Relationships to motivation and achievement. *Journal of Early Adolescence*, 13(1), 21-43. DOI: 10.1177/0272431693013001002.

Goodenow, C., & Grady, K. E. (1993). The relationship of school belonging and friends' values to academic motivation among urban adolescent students. *The Journal of Experimental Education*, 62(1), 60-71. DOI: 10.1080/00220973.1993.9943831.

Graham, A. & Erwin, K. D. (2011). "I don't think Black men teach because how they get treated as students": High-achieving African American boys' perceptions of teaching as a career option. *Journal of Negro Education*, 80(3), 398-416.

Graham, S. (1994). Motivation of African Americans. *Review of Educational Research*, 64(1), 55-117. DOI: 10.3102/00346543064001055.

Graham, S. (2006). Peer victimization in school: Exploring the ethnic context. *Current Directions in Psychological Science*, 15(6), 317-321. DOI: 10.1111/j.1467-8721.2006.00460.x.

Graham, S. (2009). Giftedness in adolescence: African American gifted youth and their

- challenges from a motivational perspective. In F.D. Horowitz & R. F. Subotnik (Eds.), *The development of giftedness and talent across the life span* (pp. 109-129). Washington, DC: American Psychological Association. DOI: 10.1037/11867-007
- Graham, S., & Hudley, C. (2005). Race and ethnicity in the study of motivation and competence. In A. Elliot & C. Dweck (Eds.), *Handbook of competence and motivation* (pp. 392-414). New York: Guilford.
- Graham, S. & Juvonen, J. (2002). Ethnicity, peer harassment, and adjustment in middle school: An exploratory study. *The Journal of Early Adolescence*, 22(2), 173-199. DOI: 10.1177/0272431602022002003.
- Graham, S., Munniksma, A., & Juvonen, J. (2014). Psychosocial benefits of cross-ethnic friendships in urban middle schools. *Child Development*, 85(2), 469-483. DOI: 10.1111/cdev.12159.
- Graham, S. & Taylor, A. Z. (2002). Ethnicity gender and the development of achievement values. In A. Wigfield & J. S. Eccles (Eds.), *Development of achievement motivation. A volume in the educational psychology series.*, (pp.121-146). San Diego: Academic Press. DOI: 10.1016/B978-012750053-9/50007-3.
- Graham, S., Taylor, A. Z., & Ho, A. Y. (2009). Race and ethnicity in peer relations research. In K.H Rubin, B. W. M. Bukowski, & B. Laursen (Eds.), *Handbook of peer interactions, relationships, and groups* (pp. 531-547). New York: Guilford Press.
- Graham, S., Taylor, A., & Hudley, C. (1998). Exploring achievement values among

- ethnic minority early adolescents. *Journal of Educational Psychology*, 90(4), 606–620. DOI: 10.1037/0022-0663.90.4.606.
- Greene, M. L., Way, N., & Pahl, K. (2006). Trajectories of perceived adult and peer discrimination among Black, Latino, and Asian American adolescents: patterns and psychological correlates. *Developmental Psychology*, 42(2), 218-238. DOI: 10.1037/0012-1649.42.2.218.
- Griffin, K. A., Allen, W. R., Kimura-Walsh, E., & Yamamura, E. K. (2007). Those who left, those who stayed: Exploring the educational opportunities of high-achieving Black and Latina/o students at magnet and nonmagnet Los Angeles high schools 2001-2002. *Journal of the American Educational Studies Association*, 42(3), 229-247. DOI: 10.1080/00131940701632662.
- Gutman, L. M., Sameroff, A. J., & Eccles, J. S. (2002). The academic achievement of African American students during early adolescence: An examination of multiple risk, promotive, and protective factors. *American Journal of Community Psychology*, 30(3), 367-399. DOI: 10.1023/A:1015389103911.
- Hair, J. F., Black, W. C., & Babin, B. J. Anderson, R. E., & Tatham, R. L. (2006). *Multivariate data analysis*. New Jersey: Prentice Hall.
- Hall, S. P. & Brassard, M. R. (2008). Relational support as a predictor of identity status in an ethnically diverse early adolescent sample. *The Journal of Early Adolescence*, 28(1), 92-114. DOI: 10.1177/0272431607308668.
- Hall, S. P., & Carter, R. T. (2006). The relationship between racial identity, ethnic identity, and perceptions of racial discrimination in an Afro-Caribbean descent sample. *Journal of Black Psychology*, 32(2), 155-175.

- Hamm, J. V. (2000). Do birds of a feather flock together? The variable bases for African American, Asian American, and European American adolescents' selection of similar friends. *Developmental Psychology, 36*, 209–219. DOI: 10.1037/0012-1649.36.2.209.
- Hamm, J. V., Brown, B. B., & Heck, D. J. (2005). Bridging the ethnic divide: Student and school characteristics in African American, Asian-descent, Latino, and White adolescents' cross-ethnic friend nominations. *Journal of Research on Adolescence, 15*(2), 21-46. DOI: 10.1111/j.1532-7795.2005.00085.x
- Hamm, J. V., & Faircloth, B. S. (2005). Peer context of mathematics classroom belonging in early adolescence. *Journal of Early Adolescence, 25*(3), 345–366. DOI: 10.1177/0272431605276932.
- Hamm, J. V., Lambert, K., Agger, C. A., & Farmer, T. W. (2013). Promotive peer contexts of academic and social adjustment among rural African American early adolescent boys. *American Journal of Orthopsychiatry, 83*(2-3), 278-288. DOI: 10.1111/ajop.12030.
- Hamm, J. V., Schmid, L., Farmer, T. W., & Locke, B. (2010). Injunctive and descriptive peer group norms and the academic adjustment of rural early adolescents. *Journal of Early Adolescence, 31*(1), 41-73. DOI: 10.1177/0272431610384486.
- Harper, S. R. (2008). Realizing the intended outcomes of Brown: High-achieving African American male undergraduates and social capital. *American Behavioral Scientist, 51*(7), 1030-1053. DOI: 10.1177/0002764207312004.
- Harris, A. L. & Marsh, K. (2010). Is a raceless identity an effective strategy for academic

- success among Blacks? *Social Science Quarterly*, 91(5), 1242-1264.
DOI: 10.1111/j.1540-6237.2010.00730.x.
- Harter, S. (1998). The self. In W. Damon & N. Eisenberg (Eds.), *Handbook of child psychology: Vol. 3. Social, emotional, and personality development* (5th ed., pp. 505-567). New York: Wiley.
- Harter, S. & Whitesell, N. R. (1996). Multiple pathways to self-reported depression and psychological adjustment among adolescents. *Development and Psychopathology*, 8(4), 761-777. DOI: 10.1017/S0954579400007410.
- Hartup, W. W. (1996). The company they keep: Friendships and their developmental significance. *Child Development*, 67(1), 1-13. DOI: 10.1111/j.1467-8624.1996.tb01714.x
- Hartup, W. W. & Stevens, N. (1997). Friendships and adaptation in the life course. *Psychological Bulletin*, 121(3), 355-370. DOI: 10.1037/0033-2909.121.3.355.
- Hartup, W. W. (2009). Critical issues and theoretical viewpoints. In K.H Rubin, B. W. M. Bukowski, & B. Laursen (Eds.), *Handbook of peer interactions, relationships, and groups* (pp. 3-18). New York: Guilford Press.
- Helms, J. E. (1990). *Black and White racial identity: Theory, research, and practice*. Westport, CT: Greenwood Press.
- Helms, J. E. (2007). Some better practices for measuring racial and ethnic identity constructs. *Journal of Counseling Psychology*, 54(3), 235. DOI: 10.1037/0022-0167.54.3.235.
- Hemmings, A., 1998. The self-transformations of African American achievers. *Youth & Society*, 29(3), pp.330-368. DOI: 10.1177/0044118X98029003004.

- Ho, R. (2006). *Handbook of univariate and multivariate data analysis and interpretation with SPSS*. New York: Chapman & Hall/CRC.
- Hoe, S. L. (2008). Issues and procedures in adopting structural equation modeling technique. *Journal of Applied Quantitative Methods*, 3(1), 76-83.
- Holcomb-McCoy, C. (2005). Ethnic identity development in early adolescence: Implications and recommendations for middle school counselors. *Professional School Counseling*, 9(2), 120-127. DOI: 10.5330/prsc.9.2.21q8m2724r545414.
- Holland, N. E. (2011). The power of peers: Influences on postsecondary education planning and experiences of African American students. *Urban Education*, 46, 1029-1055. DOI: 10.1177/0042085911400339.
- House, J. S. (1981). *Work stress and social support*. Addison-Wesley Reading: MA
- Hughes, D., Rodriguez, J., Smith, E. P., Johnson, D. J., Stevenson, H. C., & Spicer, P. (2006). Parents' ethnic-racial socialization practices: a review of research and directions for future study. *Developmental Psychology*, 42(5), 747-770. DOI: 10.1037/0012-1649.
- Huynh, V. W., & Fuligni, A. J. (2008). Ethnic socialization and the academic adjustment of adolescents from Mexican, Chinese, and European backgrounds. *Developmental psychology*, 44(4), 1202-1208. DOI: 10.1037/0012-1649.44.4.1202.
- Johnson, T. P., Fendrich, M., & Hubbell, A. (2002, May). *A validation of the Crowne-Marlowe social desirability scale*. In 57th Annual Meeting of the American Association for Public Opinion Research.
- Johnson, D. W., Johnson, R. T., Buckman, L. A., & Richards, P. S. (1985). The effect of

prolonged implementation of cooperative learning on social support within the classroom. *The Journal of Psychology*, *119*(5), 405-411. DOI:

10.1080/00223980.1985.10542911.

Jöreskog, K. G., & Sörbom, D. (2007). *LISREL 8.80*. Chicago: Scientific Software International.

Juvonen, J., Graham, S., & Schuster, M. A. (2003). Bullying among young adolescents: The strong, the weak, and the troubled. *Pediatrics*, *112*(6), 1231–1237.

Kandel, D. B. (1978). Homophily, selection, and socialization in adolescent friendships. *American Journal of Sociology*, *84*(2), 427-436.

Kao, G. & Joyner, K. (2004). Do race and ethnicity matter among friends? Activities among interracial, interethnic, and intraethnic adolescent friends. *The Sociological Quarterly*, *45*(3), 557-573. DOI: 10.1111/j.1533-8525.2004.tb02303.x

Kao, G., & Vaquera, E. (2006). The salience of racial and ethnic identification in friendship choices among Hispanic adolescents. *Hispanic Journal of Behavioral Sciences*, *28*(1), 23-47. DOI: 10.1177/0739986305284126.

Kaplan, A., Katz, I., & Flum, H. (2012). Motivation theory in educational practice: Knowledge claims, challenges, and future directions. In K. R. Harris, S. Graham, & T. Urdan (Eds.), *APA educational psychology handbook vol. 2. Individual differences and cultural and contextual factors* (pp 165-194). American Psychological Association

Kelly, K. & Maxwell, S. E. (2010). Multiple Regression. In G. R. Hancock & R. O.

Mueller (Eds.), *The reviewer's guide to quantitative methods in the social sciences* (pp. 281-297). Routledge.

- Kenny, M. E., Gualdron, L., Scanlon, D., Sparks, E., Blustein, D. L., & Jernigan, M. (2007). Urban adolescents' constructions of supports and barriers to educational and career attainment. *Journal of Counseling Psychology, 54*(3), 336-343. DOI: 10.1037/0022-0167.54.3.336
- Kerpelman, J. L., Eryigit S., & Stephen, C. J. (2008). African American adolescents' future education orientation: Associations with self-efficacy, ethnic identity, and perceived parental support. *Journal of Youth Adolescence, 37*(8), 997-1008. DOI: 10.1007/s10964-007-9201-7.
- Kiang, L. & Fuligni, A. J. (2009). Ethnic identity in context: Variations in ethnic exploration and belonging within parent, same-ethnic peer, and different-ethnic peer relationships. *Journal of Youth Adolescence, 38*(5), 732-743. DOI: 10.1007/s10964-008-9278-7.
- Kiang, L., & Fuligni, A. J. (2010). Meaning in life as a mediator of ethnic identity and adjustment among adolescents from Latin, Asian, and European American backgrounds. *Journal of Youth and Adolescence, 39*(11), 1253-1264. DOI: 10.1007/s10964-009-9475-z.
- Kiang, L., Witkow, M. R., Baldelomar, O. A., & Fuligni, A. J. (2010). Change in ethnic identity across the high school years among adolescents with Latin American, Asian, and European backgrounds. *Journal of Youth and Adolescence, 39*(6), 683-693. DOI: 10.1007/s10964-009-9429-5.
- Kindermann, T. A. (2007). Effects of naturally existing peer groups on changes in

- academic engagement in a cohort of sixth graders. *Child Development*, 78(4), 1186-1203. DOI: 10.1111/j.1467-8624.2007.01060.x.
- Kindermann, T. A. (2016). Peer group influences on students' academic motivation. In K. R. Wentzel & G. B. Ramani (Eds.), *Handbook of social influences in school contexts: social-emotional, motivation, and cognitive outcomes*, pp 31-47. New York, NY: Taylor and Francis.
- Kindermann, T. A., & Gest, S. D. (2009). Assessment of the peer group: Identifying naturally occurring social networks and capturing their effects. In K. H. Rubin, B. W. M. Bukowski, & B. Laursen (Eds.), *Handbook of peer interactions, relationships, and groups* (pp. 100-117). New York: Guilford Press.
- Kindermann, T. A., Zimmer-Gembeck, M. J., & Duffy, A. D. (2010). Capturing the peer context: Common themes and synergies. *Journal of Adolescence*, 33(6), 891-895. DOI: 10.1016/j.adolescence.2010.08.001.
- Kistner, J., Metzler, A., Gatlin, D., & Risi, S. (1993). Classroom racial proportions and children's peer relations: race and gender effect. *Journal of Educational Psychology*, 85(3), 446-452. DOI: 10.1037/0022-0663.85.3.446.
- Kiuru, N., Aunola, K., Vuori, J., & Nurmi, J. E. (2007). The role of peer groups in adolescents' educational expectations and adjustment. *Journal of Youth and Adolescence*, 36(8), 995-1009. DOI: 10.1007/s10964-006-9118-6.
- Kornienko, O., Santos, C. E., & Updegraff, K. A. (2015). Friendship networks and ethnic-racial identity development: Contributions of social network analysis. In A. J. Umaña-Taylor & C. E. Santos (Eds.), *Studying ethnic identity: Methodological*

- and conceptual approaches across disciplines* (pp. 177-202). Washington, DC: American Psychological Association. DOI: 10.1037/14618-008.
- Ladd, G. W. (2009). Trends, travails, and turning points in early research on children's peer relationships. In K.H Rubin, B. W. M. Bukowski, & B. Laursen (Eds.), *Handbook of peer interactions, relationships, and groups* (pp. 20-41). New York: Guilford Press.
- Ladd, G. W., Herald-Brown, S. L., & Kochel, K. P. (2009) Peers and motivation. In K. Wentzel & A. Wigfield (Eds.), *Handbook of motivation at school* (pp 433-494). New York: Routledge.
- Langford, C. P. H., Bowsher, J., Maloney, J. P., & Lillis, P. P. (1997). Social support: A conceptual analysis. *Journal of Advanced Nursing*, 25(6), 95-100.
DOI: 10.1046/j.1365-2648.1997.1997025095.x
- Laursen, B. (2010). Capturing the peer context: The paradox of progress. *Journal of Adolescence*, 33(6), 897-902. DOI: 10.1016/j.adolescence.2010.08.008.
- Leeper, C., Farkas, T., & Brown, C. S. (2012). Adolescent girls' experiences and gender-related beliefs in relation to their motivation in Math/Science and English. *Journal of Youth and Adolescence*, 41(3), 268-282. DOI: 10.1007/s10964-011-9693-z.
- Lee, H. (2007). The effects of school racial and ethnic composition on academic achievement during adolescence. *The Journal of Negro Education*, 76(2), 154-172.
- Lee, R. M., & Yoo, H. C. (2004). Structure and measurement of ethnic identity for Asian

Americans. *Journal of Counseling Psychology*, 51(2), 263–269. DOI:
10.1037/0022-0167.51.2.263

Linnenbrink-Garcia, L., & Fredricks, J. A. (2008). Developmental perspectives on achievement motivation. In J. Y. Shah & W. L. Gardner (Eds.), *Handbook of motivation science*, (pp.449-464). New York, NY: Guilford Press.

Little, R. J. A. (1988). A test of missing completely at random for multivariate data with missing values. *Journal of the American Statistical Association*, 83, 1198-1202.
DOI: 10.1080/01621459.1988.10478722

Little, R. J. A., & Rubin, D. B. (1987). *Statistical analysis with missing data*. New York, NY: Wiley.

Lomax, R. G. & Hahs-Vaughn, D. L. (2007). *Statistical concepts: A second course*. New York, NY: Routledge.

Lorenzo-Hernández, J., & Ouellette, S. C. (1998). Ethnic identity, self-esteem, and values Dominicans, Puerto Ricans, and African Americans. *Journal of Applied Social Psychology*, 28(21), 2007-2024. DOI: 10.1111/j.1559-1816.1998.tb01358.x.

Ma, C. Q. & Huebner, E. S. (2008). Attachment relationships and adolescents' life satisfaction: Some relations matter more to girls than to boys. *Psychology in the Schools*, 45(2), 177-190. DOI: 10.1002/pits.20288.

Maccoby, E. E. (1990). Gender and relationships: A developmental account. *American Psychologist*, 45(4), 513-520. DOI: 10.1037/0003-066X.45.4.513.

Malecki, C. K. & Demaray, M. K. (2003). What type of support do they need?

- Investigating student adjustment as related to emotional, informational, appraisal, and instrumental support. *School Psychology Quarterly*, 18(3), 231-252. DOI: 10.1521/scpq.18.3.231.22576.
- Malecki, C. K. & Demaray, M. K. (2006). Social support as a buffer in the relationship between socioeconomic status and academic performance. *School Psychology Quarterly*, 21(4), 375-395. DOI: 10.1037/h0084129.
- Malecki, C. K., Demaray, M. K., & Elliott, S. N. (2003). A working manual on the development of the child and adolescent social support scale (2000). Unpublished manuscript. Northern Illinois University.
- Marcia, J. E. (1966). Development and validation of ego-identity status. *Journal of Personality and Social Psychology*, 3(5), 551-558. DOI: 10.1037/h0023281.
- Marcia, J. E. (1980). Identity in adolescence. In J. Adelson (Ed.) *Handbook of adolescent psychology*, (pp. 159-187). New York: Wiley.
- Marcia, J. E. (1983). Some directions for the investigation of ego development in early adolescence. *Journal of Early Adolescence*, 3(3), 215-223. DOI: 10.1177/0272431683033004.
- Mariano, J. M., Going, J., Schrock, K., & Sweeting, K. (2011). Youth purpose and the perception of social supports among African American girls. *Journal of Youth Studies*, 14(8), 921-937. DOI: 10.1080/13676261.2011.609537.
- Markus, H. R. (2008). Pride, prejudice, and ambivalence: Toward a unified theory of race and ethnicity. *American Psychologist*, 63(8), 651-670. DOI:10.1037/0003-066X.63.8.651.
- Marshall, S. (1995). Ethnic socialization of African American children: Implications for

- parenting, identity development, and academic achievement. *Journal of Youth and Adolescence*, 24(4), 377-396.
- Masten, A. S., Coatsworth, J. D., Neemann, J., Gest, S. D., Tellegen, A., & Garnezy, N. (1995). The structure and coherence of competence from childhood through adolescence. *Child Development*, 66(6), 1635-1659. DOI: 10.1111/j.1467-8624.1995.tb00956.x
- McCartney, K., Burchinal, M. R., & Bub, K. L. (2006). Best practices in quantitative methods for developmentalists. *Monographs of the Society for Research in Child Development*, 71, i-145.
- McGill, R. K., Way, N., & Hughes, D. (2012). Intra-and interracial best friendships during middle school: Links to social and emotional well-being. *Journal of Research on Adolescence*, 22(4), 722-738. DOI: 10.1111/j.1532-7795.2012.00826.x.
- McLoyd, V. C. (1998). Socioeconomic disadvantage and child development. *American Psychologist*, 53(2), 185-204. DOI: 10.1037/0003-066X.53.2.185.
- Meece, J. L., Wigfield, A., & Eccles, J. S. (1990). Predictors of math anxiety and its influence on young adolescents' course enrollment intentions and performance in Mathematics. *Journal of Educational Psychology*, 82(1), 60-70. DOI: 10.1037/0022-0663.82.1.60.
- Merchant, N., & Dupuy, P. (1996). Multicultural counseling and qualitative research: Shared worldview and skills. *Journal of Counseling and Development*, 74(6), 537-547.
- Mickelson, R. A. (1990). The attitude-achievement paradox among Black adolescents.

Sociology of Education, 63(1), 44-61.

- Mickelson, R. A. & Greene, A. D. (2006). Connecting pieces of the puzzle: Gender differences in Black middle school students' achievement. *The Journal of Negro Education*, 75(1), 34-48.
- Miller, D. B. (1999). Racial socialization and racial identity: Can they promote resiliency for African American adolescents? *Adolescence*, 34(135), 493-501.
- Milner, H. R. (2002). Affective and social issues among high achieving African American students: Recommendations for teachers and teacher education. *Action in Teacher Education*, 24(1), 81-89. DOI: 10.1080/01626620.2002.10463269.
- Morrison, D. A. (2014). *Ethnic identity of college students of African descent: Peers as significant influencers*. Poster presented at the bi-annual Society for Research on Adolescence (SRA) conference, Austin, Texas.
- Muller, P. C. (2009). Identity, agency, and culture: Black achievement and educational attainment. In L.C. Tillman (Ed.) *The sage handbook of African American education* (pp. 89-105). Sage Publications
- Murdock, T. B. (1999). The social context of risk: Status and motivational predictors of alienation in middle school. *Journal of Educational Psychology*, 91(1), 62-75. DOI: 10.1037/0022-0663.91.1.62.
- Murdock, T. B. (2009). Achievement motivation in racial and ethnic context. In K. Wentzel & A. Wigfield (Eds.), *Handbook of motivation at school* (pp 433-494). New York: Routledge
- Murrell, P. C. (2009). Community action and agency in the education of urban youth. In

- S. E. Noffke & B. Somekh (Eds.), *The SAGE handbook of educational action research* (pp. 420-431. Sage Publications.
- Nansel, T. R., Overpeck, M., Ramani, P. S., Ruan, W. J., Simmons-Morton, B., & Scheidt, P. (2001). Bullying behaviors among US youth: Prevalence and association with psychosocial adjustment. *Journal of the American Medical Association*, 285(16), 2094-2100. DOI: 10.1001/jama.285.16.2094.
- Nasim, A., Roberts, A., Harrell, J. H., & Young, H. (2005). Non-cognitive predictors of academic achievement for African Americans across cultural contexts. *Journal of Negro Education*, 74(4), 344-358.
- Neblett, E., Philip, C., Cogburn, C., & Sellers, R. (2006). African American adolescents' discrimination experiences and academic achievement: Racial socialization as a cultural compensatory and protective factor. *The Journal of Black Psychology*, 32(4), 199–218. DOI:10.1177/0095798406287072.
- Nelson, R. M., & DeBacker, T. K. (2008). Achievement motivation in adolescents: The role of peer climate and best friends. *The Journal of Experimental Education*, 76(2), 170-189. DOI:10.3200/JEXE.76.2.170-190.
- Newcomb, A. F., & Bagwell, C. L. (1995). Children's friendship relations: A meta-analytic review. *Psychological Bulletin*, 117(2), 306–347. DOI: 10.1037/0033-2909.117.2.306
- Newman, B. M., Lohman, B. J., & Newman, P. R. (2007). Peer group membership and sense of belonging: Their relationship to adolescent behavior problems. *Adolescence*, 42(166), 241-265.
- Nichols, J. D., & White, J. (2001). Impact of peer networks on achievement of high

- school algebra students. *Journal of Educational Research*, 94(5), 267–273. DOI: 10.1080/00220670109598762.
- Noguera, P. A. (2016). Race, education, and the pursuit of equity in the twenty-first century. In *Race, Equity, and Education* (pp. 3-23). Springer International Publishing.
- Nurmi, J. E. (2004). Socialization and self-development. In R. M. Lerner & L. Steinberg (Eds.), *Handbook of adolescent psychology* (2nd ed pp. 85-124). New Jersey: Wiley.
- Ogbu, J. (2003). *Black American students in an affluent suburb: A study of academic disengagement*. Lawrence Erlbaum Associates: New Jersey
- Ong, A. D., Fuller-Rowell, T. E., & Phinney, J. S. (2010). Measurement of ethnic identity: Recurrent and emergent issues. *Identity: An International Journal of Theory and Research*, 10(1), 39-49. DOI: 10.1080/15283481003676226.
- Ong, A. D., Phinney, J. S., & Dennis, J. (2006). Competence under challenge: Exploring the protective influence of parental support and ethnic identity in Latino college students. *Journal of Adolescence*, 29(6), 961-979. DOI: 10.1016/j.adolescence.2006.04.010.
- Osborne, J. W. (1995). Academics, self-esteem, and race: A look at the underlying assumptions of the disidentification hypothesis. *Personality and Social Psychology Bulletin*, 21(5), 449-455. DOI: 10.1177/0146167295215003.
- Osborne, J. W. (1997). Race and academic disidentification. *Journal of Educational Psychology*, 89(4), 728-735. DOI: 10.1037/0022-0663.89.4.728.
- Osborne, J. W. (1999). Unraveling, underachievement among African American boys

from an identification with academics perspective. *The Journal of Negro Education*, 68(4), 555-565.

Osterman, K. F. (2000). Students' need for belonging in the school community. *Review of Educational Research*, 70(3), 323–367. DOI: 10.3102/00346543070003323.

Oyserman, D. & Destin, M (2010). Identity-based motivation: Implications for intervention. *The Counseling Psychologist*, 38, 1001-1043. DOI: 10.1177/0011000010374775.

Padilla-Walker, L. M. & Bean, R. A. (2009). Negative and positive peer influence: Relations to positive and negative behaviors for African American, European American, and Hispanic adolescents. *Journal of Adolescence*, 32(2), 323-337. DOI: 10.1016/j.adolescence.2008.02.003.

Pahl, K. & Way, N. (2006). Longitudinal trajectories of ethnic identity among urban Black and Latino adolescents. *Child Development*, 77(5), 1403-1415. DOI: 10.1111/j.1467-8624.2006.00943.x.

Palmer, R., & Gasman, M. (2008). It takes a village to raise a child: The role of social capital in promoting academic success for African American men at a Black college. *Journal of College Student Development*, 49(1), 52-70. DOI: 10.1353/csd.2008.0002.

Parham, T. A. (1989). Cycles of psychological nigrescence. *The Counseling Psychologist*, 17(2), 187-226. DOI: 10.1177/0011000089172001.

Parker, J. G. & Asher, S. R. (1993). Friendship and friendship quality in middle

childhood: Links with peer group acceptance and feelings of loneliness and social dissatisfaction. *Developmental Psychology*, 29(4), 611-621. DOI: 10.1037/0012-1649.29.4.611.

- Parker, J. G., Rubin, K. H., Price, J. M., & DeRosier, M. E. (1995). Peer relationships, child development, and adjustment: A developmental psychopathology perspective. In D. Cicchetti & D. J. Cohen (Eds.), *Developmental psychopathology: Vol 2. Risk, disorder, and adaptation* (pp. 96–161). New York: Wiley.
- Parker, J. G. & Gottman, J. M. (1989). Social and emotional development in a relational context: Friendship interaction from early childhood to adolescence. In T. J. Berndt & G. W. Ladd (Eds.), *Peer relationships in child development* (pp 95-131). Oxford, England: John Wiley & Sons.
- Patrick, H., Ryan, A. M., & Kaplan, A. (2007). Early adolescents' perceptions of the classroom social environment, motivational beliefs, and engagement. *Journal of Educational Psychology*, 99(1), 83-98. DOI:10.1037/0022-0663.99.1.83.
- Patterson, S. J., Sochting, I., & Marcia, J. E. (1992). The inner space and beyond: Women and identity. In G. R. Adams, T. P. Gullotta, & R. Montemayor (Eds.), *Adolescent identity formation* (pp. 9-24). Sage Publications Inc.
- Patterson, M. M. & Pahlke, E. E. (2010). Student characteristics associated with girls' success in single-sex school. *Sex Roles*, 65(9-10), 737-750. DOI 10.1007/s11199-010-9904-1.
- Patton, M. Q. (2002). Two decades of developments in qualitative inquiry a personal,

experiential perspective. *Qualitative social work*, 1(3), 261-283. DOI: 10.1177/1473325002001003636.

Perreira, K. M., Fuligni, A., & Potochnick, S. (2010). Fitting in: The roles of social acceptance and discrimination in shaping the academic motivations of Latino youth in the US Southeast. *Journal of Social Issues*, 66(1), 131-153. DOI: 10.1111/j.1540-4560.2009.01637.x.

Perry, T. (2003). Achieving in post-civil rights America: The outline of a theory. In T. Perry, C. Steele & A. Hilliard III (Eds.), *Young, gifted, and Black: Promoting high achievement among African-American students*. Beacon Press Books.

Phinney, J. S. (1989). Stages of ethnic identity development in minority group adolescents. *Journal of Early Adolescence*, 9(1-2), 34-49. DOI: 10.1177/0272431689091004.

Phinney, J. S. (1990). Ethnic identity in adolescents and adults: review of research. *Psychological Bulletin*, 108(3), 499-514. DOI: 10.1037/0033-2909.108.3.499.

Phinney, J. S. (1992). The Multigroup Ethnic Identity Measure: a new scale for use with adolescents and young adults from diverse groups. *Journal of Adolescent Research*, 7(2), 156-176. DOI: 10.1177/074355489272003.

Phinney, J. S. (1993). A three-stage model of ethnic identity development in adolescence. In M. E. Bernal & G. P. Knight (Eds.), *Ethnic identity: Formation and transmission among Hispanics and other minorities* (pp 61-79). New York: State of New York Press

Phinney, J. S. (1996). When we talk about American ethnic groups, what do we mean? *American Psychologist*, 51(9), 918-927. DOI: 10.1037/0003-066X.51.9.918.

- Phinney, J. S. (2006). Ethnic identity exploration in emerging adulthood. In J. Arnett & J. Tanner (Eds.), *Emerging adults in America* (pp. 117-134). Washington, DC: American Psychological Association.
- Phinney, J., Cantu, C., & Kurtz, D. (1997). Ethnic and American identity as predictors of self-esteem among African American, Latino, and White adolescents. *Journal of Youth and Adolescence*, 26(2), 165–185. DOI: 10.1023/A:1024500514834.
- Phinney, J. S., & Chavira, V. (1995). Parental ethnic socialization and adolescent coping with problems related to ethnicity. *Journal of Research on Adolescence*, 5(1), 31-53. DOI: 10.1207/s15327795jra0501_2.
- Phinney, J. S., Ferguson, D. L., & Tate, J. D. (1997). Intergroup attitudes among ethnic minority adolescents: A causal model. *Child Development*, 68(5), 955-969. DOI: 10.1111/j.1467-8624.1997.tb01973.x.
- Phinney, J. S., Horenczyk, G., Liebkind, K., & Vedder, P. (2001). Ethnic identity, immigration, and well-being: An interactional perspective. *Journal of Social Issues*, 57(3), 493-510. DOI: 10.1111/0022-4537.00225.
- Phinney, J. S., Jacoby, B., & Silva, C. (2007). Positive intergroup attitudes: The role of ethnic identity. *International Journal of Behavioral Development*, 31(5), 478-490. DOI: 10.1177/0165025407081466.
- Phinney, J. S. & Ong, A. D. (2007). Conceptualization and measurement of ethnic identity: Current status and future directions. *Journal of Counseling Psychology*, 54(3), 271-281. DOI: 10.1037/0022-0167.54.3.271.
- Phinney, J. S., Romero, I., Nava, M., & Huang, D. (2001). The role of language, parents,

- and peers in ethnic identity among adolescents in immigrant families. *Journal of Youth and Adolescence*, 30(2), 135-153. DOI: 10.1023/A:1010389607319.
- Piaget, J. (1952). *The origins of intelligence in children*. New York: International Universities Press.
- Piehler, T. F. (2011). Peer influences. In B. B. Brown & M. Prinstein (Eds.), *Encyclopedia of Adolescence: Volume 2 Interpersonal and Sociocultural Factors* (pp 249-254). New York: Academic Press.
- Prelow, H. M., Bowman, M. A., & Weaver, S. R. (2007). Predictors of psychosocial well-being in urban African American and European American youth: The role of ecological factors. *Journal of Youth and Adolescence*, 36(4), 543-553. DOI: 10.1007/s10964-006-9038-5.
- Quick, R. T. & Shipley, D. L. (2004). Shifting the paradigm: When Black students refuse to accept the norm. *Black Issues in Higher Education*, 21(6), 31.
- Quintana, S. & Lapsley, D. (1987). Adolescent attachment and ego identity: A structural equations approach to the continuity of adaptation. *Journal of Adolescent Research*, 2(4), 393-409. DOI: 10.1177/074355488724007.
- Richman, J. M., Rosenfeld, L. B., & Bowen, G. I. (1998). Social support for adolescents at risk of school failure. *Social Work*, 43(4), 310-326. DOI: 10.1093/sw/43.4.309.
- Risi, S., Gerhardstein, R., & Kistner, J. (2003). Children's classroom peer relationships and subsequent educational outcomes. *Journal of Clinical Child and Adolescent Psychology*, 32(3), 351-361. DOI: 10.1207/S15374424JCCP3203_04.
- Roberts, R. E., Phinney, J. S., Masse, L. C., Chen, Y. R., Roberts, C. R., & Romero, A.

- (1999). The structure of ethnic identity of young adolescents from diverse ethnocultural groups. *Journal of Early Adolescence*, 19(3), 301-322. DOI: 10.1177/0272431699019003001.
- Roeser, R. W., Eccles, J. S., & Sameroff, A. J. (2000). School as a context of early adolescents' academic and social-emotional development: A summary of research findings. *The Elementary School Journal*, 100(5), 443-471.
- Romero, A. J., & Roberts, R. E. (1998). Perception of discrimination and ethnocultural variables in a diverse group of adolescents. *Journal of Adolescence*, 21(6), 641-656. DOI: 10.1006/jado.1998.0185.
- Romero, A. J., & Roberts, R. E. (2003). The impact of multiple dimensions of ethnic identity on discrimination and adolescents' self-esteem. *Journal of Applied Social Psychology*, 33(11), 2288-2305. DOI: 10.1111/j.1559-1816.2003.tb01885.x.
- Rose, A. J. & Smith, R. L. (2009). Sex differences in peer relationships. In K. Rubin, W. Bukowski, & B. Laursen (Eds.), *Handbook of peer interactions, relationships, and groups* (pp. 379-393). Guilford Press: New York
- Rosenthal, D. A. (1987). Ethnic identity development in adolescents. In J. S. Phinney & M. J. Rotheram (Eds.), *Children's ethnic socialization: Pluralism and development* (pp.156-179). Sage Publications.
- Rotheram, M. J. & Phinney, J. S. (1987). Introduction: Definitions and perspectives in the study of children's ethnic socialization. In J. S. Phinney & M. J. Rotheram (Eds.), *Children's ethnic socialization: Pluralism and development* (pp.7-10). Sage Publications.
- Rubin, K. H., Bukowski, W., & Parker, J. G. (1998). Peer interactions, relationships, and

- groups. In W. Damon & N. Eisenberg (Eds.), *Handbook of child psychology: Vol. 3. Social, emotional, and personality development* (5th ed., pp. 619-700). New York: Wiley.
- Rueger, S. Y., Malecki, C. K., & Demaray, M. K. (2010). Relationship between multiple sources of perceived social support and psychological and academic adjustment in early adolescence: Comparisons across gender. *Journal of Youth Adolescence*, 39(1), 47-61. DOI: 10.1007/s10964-008-9368-6.
- Ryan, A. M. (2000) Peer groups as a context for the socialization of adolescents' motivation, engagement, and achievement in school. *Educational Psychologist*, 35(2), 101-111, DOI: 10.1207/S15326985EP3502_4.
- Ryan, A. M. (2001). The peer group as a context for the development of young adolescent motivation and achievement. *Child Development*, 72(4), 1135-1150 DOI: 10.1111/1467-8624.00338.
- Ryan, A. M. (2001). Explaining the Black-White test score gap: The role of test perceptions. *Human Performance*, 14(1), 45-75. DOI: 10.1207/S15327043HUP1401_04.
- Ryan, A. M., & Patrick, H. (2001). The classroom social environment and changes in adolescents' motivation and engagement during middle school. *American Educational Research Journal*, 38(2), 437-460. DOI: 10.3102/00028312038002437.
- Ryan, R. M. & Deci, E. L. (2000). Intrinsic and extrinsic motivations: Classic definitions and new directions. *Contemporary Educational Psychology*, 25(1), 54-67. DOI: 10.1006/ceps.1999.1020.

- Sanders, M. G. (1997). Overcoming obstacles: Academic achievement as a response to racism and discrimination. *Journal of Negro Education, 66*(1), 83-93.
- Saylor E. S. & Aries, E. (1999). Ethnic identity and change in social context. *The Journal of Social Psychology, 139*(5), 549-566. DOI: 10.1080/00224549909598416.
- Schneider, B. H., Dixon, K., & Udvari, S. (2007). Closeness and competition in the inter-ethnic and co-ethnic friendships of early adolescence. *Journal of Early Adolescence, 27*(4), 115–138. DOI:10.1177/0272431606294822.
- Schofield, J. W. & Anderson, K. (1987). Combining quantitative and qualitative components of research on ethnic identity and intergroup relations. In J. S. Phinney & M. J. Rotheram (Eds.), *Children's ethnic socialization: Pluralism and development* (pp.252-273). Sage Publications.
- Schwartz, S. J., Syed, M., Yip, T., Knight, G. P., Umaña-Taylor, A. J., Rivas-Drake, D., & Lee, R. M. (2014). Methodological issues in ethnic and racial identity research with ethnic minority populations: Theoretical precision, measurement issues, and research designs. *Child Development, 85*(1), 58-76. DOI: 10.1111/cdev.12201.
- Scottham, K. M., Sellers, R. M., & Nguyễn, H. X. (2008). A measure of racial identity in African American adolescents: The development of the Multidimensional Inventory of Black Identity-Teen. *Cultural Diversity and Ethnic Minority Psychology, 14*(4), 297-306. DOI: 10.1037/1099-9809.14.4.297.
- Seaton, E. K., Neblett Jr, E. W., Cole, D. J., & Prinstein, M. J. (2013). Perceived discrimination and peer victimization among African American and Latino youth. *Journal of Youth and Adolescence, 42*(3), 342-350. DOI: 10.1007/s10964-012-9848-6.

- Sellers, R. M., Copeland-Linder, N., Martin, P. P., & Lewis, R. H. (2006). Racial identity matters: The relationship between racial discrimination and psychological functioning in African American adolescents. *Journal of Research on Adolescence, 16*(2), 187-216. DOI: 10.1111/j.1532-7795.2006.00128.x.
- Sellers, R. M., Rowley, S. A., Chavous, T. M., Shelton, J. N., & Smith, M. A. (1997). Multidimensional Inventory of Black Identity: A preliminary investigation of reliability and construct validity. *Journal of Personality and Social Psychology, 73*(4), 805-815. DOI: 10.1037/0022-3514.73.4.805.
- Shieh, G. (2011). Clarifying the role of mean centering in multicollinearity of interaction effects. *British Journal of Mathematical and Statistical Psychology, 64*(3), 462-477. DOI: 10.1111/j.2044-8317.2010.02002.x.
- Shin, R., Daly, B., & Vera E. (2007). The relationship of peer norms, ethnic identity, and peer support to school engagement in urban youth. *Professional School Counseling, 10*(4), 379-388.
- Sieger, K., & Renk, K. (2007). Pregnant and parenting adolescents: A study of ethnic identity, emotional and behavioral functioning, child characteristics, and social support. *Journal of Youth and Adolescence, 36*(4), 567-581. DOI: 10.1007/s10964-007-9182-6.
- Sirin, S. R. (2005). Socioeconomic status and academic achievement: A meta-analytic review of research. *Review of Educational Research, 75*(3), 417-453. DOI: 10.3102/00346543075003417.
- Smith, A., Schneider, B. H., & Ruck, M. D. (2005). "Thinking about makin' it": Black

Canadian students' beliefs regarding education and academic achievement.

Journal of Youth and Adolescence, 34, 347-359. DOI: 10.1007/s10964-005-5759-0.

Smith, E. P., Walker, K., Fields, L., Brookins, C. C., & Seay, R. C. (1999). Ethnic identity and its relationship to self-esteem, perceived efficacy, and prosocial attitudes in early adolescence. *Journal of Adolescence*, 22(6), 867-880. DOI: 10.1006/jado.1999.0281.

Smith, T. B. & Silva, L. (2011). Ethnic identity and personal well-being of people of color: A meta-analysis. *Journal of Counseling Psychology*, 58(1), 42-60. DOI: 10.1037/a0021528

Somers, C., Owens, D., & Piliawsky, M. (2008). Individual and social factors related to urban African American adolescents' school performance. *High School Journal*, 91(3), 1-11. DOI: 10.1353/hsj.2008.0004.

Spencer, M. B. (2006). Phenomenology and ecological systems theory: Development of diverse groups. In W. Damon & N. Eisenberg (Eds.), *Handbook of child psychology: Vol. 1. Theoretical models of human development* (6th ed., pp. 829-893). New York: Wiley.

Spencer, M. B., Noll, E., Stoltzfus, J., & Harpalani, V. (2001). Identity and school adjustment: Revisiting the "acting White" assumption. *Educational Psychologist*, 36(1), 21-30. DOI: 10.1207/S15326985EP3601_3.

Steinberg, L., Dornbusch, S., & Brown, B. (1992). Ethnic differences in adolescent achievement: An ecological perspective. *American Psychologist*, 47(6), 723-729. DOI: 10.1037/0003-066X.47.6.723.

- Steinberg, L. & Morris, A. S. (2001). Adolescent development. *Annual Review of Psychology*, 52(1), 83-110. DOI: 10.1891/194589501787383444.
- Stewart E. B. (2008). School structural characteristics, student effort, peer associations, and parental involvement the influence of school and individual-level factors on academic achievement. *Education and Urban Society*, 40(2), 179-204. DOI: 10.1177/0013124507304167.
- Stewart, T., & Suldo, S. (2011). Relationships between social support sources and early adolescents' mental health: The moderating effect of student achievement level. *Psychology in the Schools*, 48(10), 1016-1033. DOI:10.1002/pits.20607.
- Stinson, D.W. (2008). Negotiating sociocultural discourses: The counter-storytelling of academically (and mathematically) successful African-American male students. *American Educational Research Journal*, 45(4), 975-1010. DOI: 10.3102/0002831208319723.
- Strayhorn, T. L. (2009). Different folks, different hopes: The educational aspirations of Black males in urban, suburban, and rural high schools. *Urban Education*, 44(6), 710-731. DOI: 10.1177/0042085908322705.
- Sullivan, H. S. (1953). *The interpersonal theory of psychiatry*. New York: W. W. Norton.
- Syed, M., Azmitia, M., & Cooper, C. R. (2011). Identity and academic success among underrepresented ethnic minorities: An interdisciplinary review and integration. *Journal of Social Issue*, 679(3), 442-468. DOI: 10.1111/j.1540-4560.2011.01709.x
- Syed, M. & Juan, J. D. (2011). Birds of an ethnic feather? Ethnic identity homophily

- among college-age friends. *Journal of Adolescence*, 35(6), 1505-1514. DOI: 10.1016/j.adolescence.2011.10.012.
- Tajfel, H. & Turner, J. (1986). The social identity theory of intergroup behavior. In S. Worchel & W Austin (Eds.), *Psychology of intergroup relations* (pp.7-24). Chicago: Nelson-Hall.
- Tardy, C. H. (1985). Social support measurement. *American Journal of Community Psychology*, 13(2), 187-202. DOI: 10.1007/BF00905728.
- Tatum, B. D. (1997). *Why are all the Black kids sitting together in the cafeteria? And other conversations about race*. New York: Basic Books.
- Taylor, A. Z. & Graham, S. (2007). An examination of the relationship between achievement values and perceptions of barriers among low-SES African American and Latino students. *Journal of Educational Psychology*, 99(1), 52-64. DOI: 10.1037/0022-0663.99.1.52.
- Taylor, R. (1994). Risk and resilience: Contextual influences on the development of African American adolescents. In M. Wang & E. Gordon (Eds.), *Educational resilience in inner-city America: Challenges and prospects*, (pp 119-130). Hillsdale, NJ: Lawrence Erlbaum Associates.
- Torres, L. & Ong, A. D. (2010). A daily diary investigation of Latino ethnic identity, discrimination, and depression. *Cultural Diversity and Ethnic Minority Psychology*, 16(5), 561-568. DOI: 10.1037/a0020652.
- Torres, L., Yznaga, S. D., & Moore, K. M. (2011). Discrimination and Latino

psychological distress: The moderating role of ethnic identity exploration and commitment. *American Journal of Orthopsychiatry*, 81(4), 526-534.

DOI: 10.1111/j.1939-0025.2011.01117.x.

Tseng, V. (2004). Family interdependence and academic adjustment in college: Youth from immigrant and US-born families. *Child Development*, 75(3), 966-983.

DOI: 10.1111/j.1467-8624.2004.00717.x.

Turner, J. C. (1982). Towards a cognitive redefinition of the social group. In H. Tajfel (Ed) *Social identity and intergroup relations* (pp. 15-27) Cambridge University Press: New York.

Tynes, B. M., Umaña-Taylor, A. J., Rose, C. A., Lin, J., & Anderson, C. J. (2012).

Online racial discrimination and the protective function of ethnic identity and self-esteem for African American adolescents. *Developmental Psychology*, 48(2), 343-355. DOI: 10.1037/a0027032.

Umaña-Taylor, A. J., Quintana, S. M., Lee, R. M., Cross, W. E., Rivas-Drake, D.,

Schwartz, S. J., ... & Seaton, E. (2014). Ethnic and racial identity during adolescence and into young adulthood: An integrated conceptualization. *Child Development*, 85(1), 21-39. DOI: 10.1111/cdev.12196.

van Laar, C., Derks, B., Ellemers, N., & Bleeker, D. (2010). Valuing social identity:

Consequences for motivation and performance in low-status groups. *Journal of Social Issues*, 66(3), 602-617. DOI: 10.1111/j.1540-4560.2010.01665.x.

Van Ryzin, M. J. (2011). Protective factors at school: Reciprocal effects among

adolescents' perceptions of the school environment, engagement in learning, and hope. *Journal of Youth and Adolescence*, 40(12), 1568-1580. DOI: 10.1007/s10964-011-9637-7.

Van Ryzin, M. J., Gravely, A. A., & Roseth, C. J. (2009). Autonomy, belongingness, and engagement in school as contributors to adolescent psychological well-being. *Journal of Youth and Adolescence*, 38(1), 1-12. DOI: 10.1007/s10964-007-9257-4.

Vaux, A. (1988). *Social support: Theory, research, and intervention*. Praeger Publishers.

Vega D., Moore, J. L., Baker, C. A., Bowen, N. V., Hines, E. M., & O'Neal, B. (2012). Salient factors affecting urban African American students' achievement: Recommendations for teachers, school counselors, and school psychologists. In J. L. Moore & C. W. Lewis (Eds.), *African American students in urban schools: Critical issues and solutions for achievement* (pp. 113-139). New York: Peter Lang Publishers.

Véronneau, M. H., & Dishion, T. J. (2011). Middle school friendships and academic achievement in early adolescence: A longitudinal analysis. *The Journal of Early Adolescence*, 31, 99-124. DOI: 10.1177/0272431610384485.

Véronneau, M. H., & Vitaro, F. (2007). Social experiences with peers and high school graduation: A review of theoretical and empirical research. *Educational Psychology*, 27(4), 419-445. DOI: 10.1080/01443410601104320.

Vietze, D. L. (2011). Social support. In B. B. Brown & M. Prinstein (Eds.), *Encyclopedia of Adolescence: Volume 2 Interpersonal and Sociocultural Factors* (pp 341-351). New York: Academic Press.

- Vitoroulis, I., Schneider, B. H., Vasquez, C., del Pilar Soteras de Toro, M., & Gonzáles, Y. (2012). Perceived parental and peer support in relation to Canadian, Cuban, and Spanish adolescents' valuing of academics and intrinsic academic motivation. *Journal of Cross-Cultural Psychology, 43*(5), 704-722. DOI: 10.1177/0022022111405657.
- Voelkl, K. E. (1997). Identification with school. *American Journal of Education, 105*, 294-318.
- Wade, J. C. & Okesola, O. (2002). Racial peer group selection in African American high school students. *Journal of Multicultural Counseling and Development, 30*(3), 96-110. DOI: 10.1002/j.2161-1912.2002.tb00482.x
- Wakefield, W. D. & Hudley, C. (2007). Ethnic and racial identity and adolescent well-being. *Theory into Practice, 46*(2), 147-154. DOI: 10.1080/00405840701233099.
- Walker, E. N. (2006). Urban high school students' academic communities and their effects on Mathematics success. *American Educational Research Journal, 43*(1), 43-73. DOI:10.3102/00028312043001043.
- Walpole, M. (2008). Emerging from the pipeline: African American students, socioeconomic status, and college experiences and outcomes. *Research in Higher Education, 49*(3), 237-255. DOI: 10.1007/s11162-007-9079-y.
- Wang, M. T., & Eccles, J. S. (2012). Social support matters: Longitudinal effects of social support on three dimensions of school engagement from middle to high school. *Child Development, 83*(3), 877-895. DOI: 10.1111/j.1467-8624.2012.01745.x.
- Wang, M. T., & Eccles, J. S. (2013). School context, achievement motivation, and

academic engagement: A longitudinal study of school engagement using a multidimensional perspective. *Learning and Instruction*, 28, 12-23. DOI: 10.1016/j.learninstruc.2013.04.002.

Warikoo, N. & Carter, P. (2009). Cultural explanations for racial and ethnic stratification in academic achievement: A call for a new and improved theory. *Review of Educational Research*, 79(1), 366-394. DOI: 10.3102/0034654308326162.

Watt, H. M. (2004). Development of adolescents' self-perceptions, values, and task perceptions according to gender and domain in 7th-through 11th-grade Australian students. *Child Development*, 75(5), 1556-1574. DOI: 10.1111/j.1467-8624.2004.00757.x

Way, N., & Chen, L. (2000). Close and general friendships among African American, Latino, and Asian American adolescents from low-income families. *Journal of Adolescent Research*, 15(2), 274-301. DOI: 10.1177/0743558400152005.

Way, N., Cowal, K., Gingold, R., Pahl, K., & Bissessar, N. (2001). Friendship patterns among African American, Asian American, and Latino adolescents from low-income families. *Journal of Social and Personal Relationships*, 18(1), 29-53. DOI: 10.1177/0265407501181002.

Way, N., Santos, C., Niwa, E. Y., Kim-Gervey, C. (2008). To be or not to be: An exploration of ethnic identity development in context. In M. Azmitia, M. Syed, & K. Radmacher (Eds.), *The intersections of personal and social identities. New directions for child and adolescent development*, 120, (pp 61-79).

DOI: 10.1002/cd.216

Wentzel, K. R. (1994). Relations of social goal pursuit to social acceptance, classroom

- behavior, and perceived social support. *Journal of Educational Psychology*, 86(2), 173-182. DOI: 10.1037/0022-0663.86.2.173.
- Wentzel, K. R. (1998). Social relationships and motivation in middle school: The role of parents, teachers, and peers. *Journal of Educational Psychology*, 90(2), 202-209. DOI: 10.1037/0022-0663.90.2.202.
- Wentzel, K. R. (2002). Are effective teachers like good parents? Teaching styles and student adjustment in early adolescence. *Child Development*, 73(1), 287-301. DOI: 10.1111/1467-8624.00406
- Wentzel, K. R. (2003). Motivating students to behave in socially competent ways. *Theory and Practice*, 42(4), 319-326. DOI: 10.1207/s15430421tip4204_9.
- Wentzel, K. R. (2004). Understanding classroom competence: The role of social-motivational and self-processes. In R.V. Kail (Ed.) *Advances in child development and behavior* (Vol. 32, pp. 213-241) San Diego, CA: Elsevier.
- Wentzel, K. R. (2005). Peer relationships, motivation, and academic performance at school. In J. Elliot, & C. S. Dweck (Eds.), *Handbook of competence and motivation* (pp. 279-296). New York: Guilford Press.
- Wentzel, K. R. (2009). Peers and academic functioning at school. In K. H Rubin, B. W. M. Bukowski, & B. Laursen (Eds.), *Handbook of peer interactions, relationships, and groups* (pp. 531-547). New York: Guilford Press.
- Wentzel, K. R. (2013). School adjustment. In W. Reynolds & G. Miller (Eds.), *Handbook of psychology, Vol. 7: Educational Psychology* (pp. 235-258). New York: Wiley.
- Wentzel, K. R., Baker, S. A., & Russell, S. L., (2009). Peer relationships and positive

- adjustment at school. In R. Gilman, E. S. Huebner, & M. J. Furlong (Eds.), *Handbook of positive psychology in schools* (pp. 229-243). New York: Routledge.
- Wentzel, K. R., Barry, C. M., & Caldwell, K. A. (2004). Friendships in middle school: Influences on motivation and school adjustment. *Journal of Educational Psychology, 96*(2), 195-203. DOI: 10.1037/0012-1649.42.1.153.
- Wentzel, K. R., Battle, A., Russell, S. L. & Looney, L. B. (2010). Social supports from teachers and peers as predictors of academic and social motivation. *Contemporary Educational Psychology, 35*(3), 193-202. DOI: 10.1016/j.cedpsych.2010.03.002.
- Wentzel, K. R. & Caldwell, K. (1997). Friendships, peer acceptance, and group membership: Relations to academic achievement in middle school. *Child Development, 68*(6), 1198–1209. DOI: 10.1037/0022-0663.96.2.195.
- Wentzel, K. R., & McNamara, C. (1999). Interpersonal relationships, emotional distress, and prosocial behavior in middle school. *Journal of Early Adolescence, 19*(1), 114-125. DOI: 10.1177/0272431699019001006.
- Wentzel, K. R. & Wigfield, A. (1998). Academic and social motivational influences on students' academic performance. *Educational Psychology Review, 10*(2), 155-175. DOI: 10.1023/A:1022137619834.
- Whitehead, K. A., Ainsworth, A. T., Wittig, M. A., & Gadino, B. (2009). Implications of ethnic identity exploration and ethnic identity affirmation and belonging for intergroup attitudes among adolescents. *Journal of Research on Adolescence, 19*(1), 123-135. DOI: 10.1111/j.1532-7795.2009.00585.x.
- Wigfield, A., & Cambria, J. (2010). Students' achievement values, goal orientations, and

interest: Definitions, development, and relations to achievement outcomes.

Developmental Review, 30(1), 1-35. DOI: 10.1016/j.dr.2009.12.001.

Wigfield, A. & Eccles, J. S. (2000). Expectancy–value theory of achievement motivation.

Contemporary Educational Psychology, 25(1), 68-81. DOI:

10.1006/ceps.1999.1015.

Wigfield, A. & Eccles, J. S. (2002). The development of competence beliefs,

expectancies for success, and achievement values from childhood through

adolescence. In J. S. Eccles & A. Wigfield (Eds.), *Development of achievement*

motivation (pp. 91-120). Academic Press

Wigfield, A. & Wagner, A. L. (2005). Competence, motivation, and identity development

during adolescence. In A. J. Elliot & C. S. Dweck (Eds.), *Handbook of*

competence and motivation, (pp. 222-239). New York, NY: Guilford Press.

Wigfield, A., Tonks, S., & Klauda, S. L. (2009). Expectancy-value theory. In K. R.

Wentzel & A. Wigfield (Eds.), *Handbook of motivation at school* (pp 55-75).

New York: Routledge.

Wiggin, G. (2008). From opposition to engagement: Lessons from high achieving

African American students. *Urban Review*, 40(4), 317-350. DOI:

10.1007/s11256-007-0067-5.

Williams, J. L., Tolan, P. H., Durkee, M. I., Francois, A. G., & Anderson, R. E. (2012).

Integrating racial and ethnic identity research into developmental understanding

of adolescents. *Child Development Perspectives*, 6(3), 304-311.

DOI: 10.1111/j.1750-8606.2012.00235.x.

Wilson, T., Karimpour, R., & Rodkin, P. C. (2011). African American and European

- American students' peer groups during early adolescence: Structure, status, and academic achievement. *The Journal of Early Adolescence*, 31(1), 74-98. DOI: 10.1177/0272431610387143.
- Winston, C., Eccles, J. S., Senior, A. M., & Vida, M. (1997). The utility of an expectancy/value model of achievement for understanding academic performance and self-esteem in African-American and European-American adolescents. *Zeitschrift Fur Padagogische Psychologie*, 11, 177-186.
- Witherspoon, D., Schotland, M., Way, N., & Hughes, D. (2009). Connecting the dots: How connectedness to multiple contexts influences the psychological and academic adjustment of urban youth. *Applied Developmental Science*, 13(4), 199-216. DOI: 10.1080/10888690903288755.
- Wong, C. A., Eccles, J. S., & Sameroff, A. (2003). The influence of ethnic discrimination and ethnic identification on African American adolescents' school and socio-emotional adjustment. *Journal of Personality*, 71(6), 1197-1232. DOI: 10.1111/1467-6494.7106012
- Worrell, F. C. (2007). Ethnic identity, academic achievement, and global self-concept in four groups of academically talented adolescents. *Gifted Child Quarterly*, 51(1), 23-38. DOI: 10.1177/0016986206296655.
- Worrell, F. C. (2014). Theories school psychologists should know: Culture and academic achievement. *Psychology in the Schools*, 51(4), 332-347. DOI: 10.1002/pits.21756.
- Wright, B. L. (2011). I know who I am, do you? Identity and academic achievement of

- successful African American male adolescents in an urban pilot high school in the United States. *Urban Education*, 46, 611-638. DOI: 10.1177/0042085911400319.
- Yip, T., Douglass, S., & Shelton, J. N. (2013). Daily intragroup contact in diverse settings: Implications for Asian adolescents' ethnic identity. *Child Development*, 84(4), 1425-1441. DOI: 10.1111/cdev.12038.
- Yip, T., Seaton, E. K., & Sellers, R. M. (2010). Interracial and intraracial contact, school-level diversity, and change in racial identity status among African American adolescents. *Child Development*, 81(5), 1431-1444. DOI: 10.1111/j.1467-8624.2010.01483.x
- Yip, T. (2014). Ethnic identity in everyday life: The influence of identity development status. *Child Development*, 85(1), 205-219. DOI: 10.1111/cdev.12107
- Yoon, E. (2011). Measuring ethnic identity in the ethnic identity scale and the multigroup ethnic identity measure-revised. *Cultural Diversity and Ethnic Minority Psychology*, 17(2), 144-155. DOI: 10.1037/a0023361.
- Yoon, E., Jung, K. R., Lee, R. M., & Felix-Mora, M. (2012). Validation of social connectedness in mainstream society and the ethnic community scales. *Cultural Diversity and Ethnic Minority Psychology*, 18(1), 64-73. DOI: 10.1037/a0026600.
- Youniss, J. & Smollar, J. (1985). *Adolescent relations with mothers, fathers, and friends*. Chicago: University of Chicago Press.
- Zirkel, S. (2002). Is there a place for me? Role models and academic identity among white students and students of color. *The Teachers College Record*, 104(2), 357-376.