Toward a Holistic Understanding of Academic Identification in Ethnic Minority Boys at
Risk for Academic Failure

By

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Abstract

Various studies indicate the academic underachievement of African American and Latino boys compared to their peers in classroom functioning across various academic domains beginning in kindergarten and extending through post-secondary education (NAEP, 2009; Sommers, 2000). Identity-based explanations have dominated the research literature, indicating how at-risk minority adolescents, particularly boys, may develop oppositional identities toward school resulting in adverse effects on motivation and achievement. The present work interrogated these explanations and developed a more complete understanding of identification with academics within a sample of 653 African American and Latino adolescents in New York City public schools. Toward this, a wide variety of measures were utilized to capture multiple components of academic identification and thus assemble a more comprehensive portrait of this construct. I assessed whether academic dis-identification is indeed the crux of underachievement trends for ethnic minority youth. Next, this study assessed how self-regulated learning and self-efficacy mediate the ways in which identification structures are expressed by students. Third, academic profiles of boys within the sample were constructed and the relationship between these profiles and achievement was assessed.

Results reveal that ethnicity, gender and grade level are not meaningful predictors of the multiple modes of academic identification; however, self-efficacy moderated the relationship between school belonging/value and academic achievement. Further, self-

regulated learning played a mediating role between identification and achievement. Thus self-regulation may be one tangible expression of academic identity. Last, profiles of low-resourced boys from the sample were derived, each of which had differential relationships with achievement and related outcomes. The results suggest that there are many ways of being identified, challenging previous notions of simply being high or low on a singular dimension of academic identification. This work is valuable in that it triangulates the critical factors that promote healthy identity development and academic achievement for African American and Latino youth, specifically boys. The work also supports the notion of unique within-group attributes and multiple pathways to achievement. Finally, this investigation creates knowledge for targeted interventions that can improve the development of curricula, character education/mentorship programs, and teacher training programs.

CHAPTER 1: Boys and Achievement: Evaluating Ethnicity, Status and Risk

The tide of male advantage in the classroom and academic achievement has begun to turn in recent years. Mounting evidence points to a growing gender gap in classroom functioning and academic achievement. With the exception of some advanced mathematics and science courses, girls have narrowed or closed many academic gaps that previously favored boys, while other long-standing gaps that favored girls have been maintained or widened (Freeman, 2004; NAEP, 2009; Marsh & Yeung, 1998; Sommers, 2000). Research today on gender and education in k-12 school settings reveals that girls tend to build stronger relationships with teachers, attain higher grades, achieve at higher levels of education, and overall progress better scholastically than boys (Birch & Ladd, 1998; Duckworth & Seligman, 2006; Freeman, 2004; Silverman, 2003). In addition to classroom achievement, girls now also predominate in academic and social groups such as debate teams, honor societies, student government and a variety of other groups with the exception of sports (Sommers, 2000).

In contrast, boys are more likely candidates for expulsion, suspension and dropping out. Nationally, 42% of boys have been suspended from school at least once by age 17, compared to 24% of girls (Office of Juvenile Justice and Delinquency Prevention, 2006). Further, boys are four times more likely than girls to be referred for remedial and special education services (Brook & Boaz, 2005; Flynn & Rahbar, 1994). The National

Center for Education Statistics (NCES) has shown that nearly twice as many boys than girls between the ages of 5 and 12 are held back at least one grade (Freeman, 2004).

Despite these statistics, this recent "boy crisis" has been contested as an exaggeration of what some call minor gender differences (Mead, 2006). In her examination of National Assessment of Educational Progress (NAEP) data in recent years, Mead (2006) notes that gender differences in achievement and the "boy crisis" is a matter of perspective on equivocal findings in national data. She finds that gender differences in academic achievement favoring girls in some domains do exist; however, they tend to be small in mainstream populations (i.e. middle class, Caucasian children).

Though this may be the case in mainstream populations, national data and current research has indicated more pronounced gender differences in African American and Latino populations (Hefner, 2004; National Assessment of Educational Progress, 2006; Rong & Brown, 2001). Specifically, various scholars discuss the academic underachievement of African American boys in grades, standardized testing, and engagement (Duckworth & Seligman, 2006; Mickelson & Greene, 2006; Stinson, 2006). National data as well as research in education and psychology corroborate the underachievement of African American males in nearly all academic domains beginning in kindergarten and extending through post-secondary education (Chatterji, 2006; Justice, Invernizzi, Geller, Sullivan & Welsch, 2005; National Assessment of Educational Progress, 2006).

Latino boys experience many of the same academic difficulties as African American boys, although there is substantially less empirical work which documents the specific gender differences in academic achievement among Latino students (Oyserman,

Brickman, Bybee & Celious, 2006; Taylor & Graham, 2007). Latino boys perform less well academically than their Latina peers and hold the highest high school dropout rates nationally (Podsiadlo & Philliber, 2003; U.S. Department of Education, 2001). Latinas tend to have higher grade point averages, spend more hours doing homework and have higher educational and career aspirations than their male counterparts (Lopez, Ehly & Garcia-Vasquez, 2002). Further, Latino boys are found to be lower than Latinas on academic intrinsic value and academic effort (Sanchez, Colon & Esperanza, 2005) and have consistently shown low educational attainment when compared to other ethnicities (NAEP, 2006).

In an examination of achievement discrepancies between groups, the influence of social class and status is inextricably intertwined with the role of ethnicity. Research emphasizes the strong influence of socio-economic status on a wide variety of achievement outcomes and overall academic development (Mayer 1997; U.S. Census Bureau 2003). However, less work highlights how low socio-economic status may influence boys and girls separately. In longitudinal work, gender differences in achievement were found to be most incisive among low socio-economic children. Early elementary teachers rated low SES boys as having more behavior problems and lower on reading skills than their low SES girl counterparts. In addition, parents of low SES boys had lower expectations for their overall performance compared to parents of low SES girls (Entwisle, Alexander & Olson, 2007). Interestingly, these gaps were non-existent for children who came from families with higher levels of socioeconomic status (Entwisle, Alexander & Olson, 2007). To corroborate, other work has shown a gender gap in reading favoring girls to exist primarily in children who come from low income

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families and that the role of poverty has a more deleterious impact on ethnic minority boys as opposed to girls (Bianchi, 1984; Burbridge, 1991; Spencer, Dobbs & Swanson, 1987).

Underachievement for boys in early education can have adverse consequences for later achievement. Boys who receive low marks in 1st grade are more likely to be retained in subsequent grades and are also twice as likely to dropout as boys who receive high grades early in their educational career (Alexander et al. 2003; Ensminger & Slusarcick 1992). Thus, there is a need to examine the differential effects that low social status may have on boys and girls.

Though much more investigation is required, the corroboration of these findings and current research raise questions about the unique educational experiences of low-resourced, minority males, specifically inner-city African American and Latino males. Low-resourced in the context of this work not only refers to low family income but being embedded in an economically depressed environment with few community and social resources, predominately low quality schools and incidents of crime and violence. These attributes are descriptive of some parts of many urban centers where predominantly ethnic minority populations reside. The attributes of these communities also pose potential risk for the healthy development and academic achievement of its youth (Duncan, Yeung, Brooks-Gunn, & Smith, 1998; McLoyd, 1998). This population is the focus of the subsequent investigation. Given the trends already observed in the academic achievement of ethnic minority boys as well as considering the impact of low resources that facilitate risk, America's new "Boy Crisis" deserves its much due and continued attention in empirical research.

Explaining the "Boy Crisis": Research on At-risk Minority Students and Achievement

What are the factors that may explain the overall achievement trends of low-resourced minority boys? Theoretical frameworks concerning these issues outline the processes, structures and variables that facilitate persistent underachievement for African American and Latino youth in general. These primarily include the cultural-ecological framework, spearheaded by the work of the late John Ogbu, cultural dissonance, and identity-based explanations.

The cultural-ecological framework discusses the history and development of involuntary minorities (particularly African Americans) in America, the effects of and coping strategies in response to discrimination and racial oppression, and the negotiation of African American cultural values with mainstream American values. Though this work is highly regarded among many, some scholars have uncovered some faulty assumptions within this framework (Cook & Ludwig, 1998; O'Conner, 1997). In addition, the cultural-ecological framework of minority underachievement does not adequately consider how the variables at play may influence boys and girls separately; nor does it explicate why ethnic minority boys tend to fair worse academically and behaviorally than their girl counterparts.

Cultural dissonance highlights the cultural mis-match between African American culture and mainstream American culture, and how this dissonance affects academic performance for African Americans as well as their perceptions about education. Through this quandary and overall cultural dissonance, African American students can have sincere beliefs and values that are shaped by the mainstream American experience (e.g., understanding the value of education), but have habitual and stylistic patterns and feelings,

grounded in the home context or as responses to structural oppression, that lead them to perceive that they cannot perform in a mainstream institutional context or that their academic endeavors are futile (Boykin, Albury, Tyler, Bailey & Miller, 2005; Boykin, Ellison, Dillihunt & Tyler, 2005; Steinberg, Dornbusch, & Brown, 1992). Though this framework has more empirical support in comparison to the cultural-ecological framework, it also fails to address achievement discrepancies between boys and girls.

Evolving out of these frameworks, identity-based explanations have gained considerable attention describing how systemic inequities, cultural dissonance and social threat may spur ethnic minority students to develop identities that run counter to traditional American educational ideals (Fordham, 1996; Fordham & Ogbu, 1986; Steele, 1992, 1997). Further, much of this discussion has become gender focused, detailing the educational plight of ethnic minority boys and how they develop oppositional or antagonistic identities that undergird their academic underachievement (Davis, 1999; Majors & Billson 1992; Stevenson, 1997). These discussions are outlined in more detail in the next chapter.

Investigating the academic development of Latino students in America has yielded some theoretical discussions similar to those on African Americans concerning the role of ethnicity, culture, and identity development within the academic context (Erkut & Tracey, 2002; Ibanez, Kuperminc, Jurkorvic, Perilla, 2004; Martinez, DeGarmo & Eddy, 2004; Sanchez, Colon & Esparza, 2005; Waxman, Huang, Padron, 1997; Waxman, Padron, Garcia, Paik, Walberg, 2007). Though the cultural ecological model, cultural dissonance and identity-based explanations are primarily centered around the development of African American/Black youth in particular, scholars who study Latino

youth focus on similar cultural constructs. For example, Ibanez and her colleagues (2004) have used John Ogbu's discussions on primary and secondary immigrant cultural differences to elucidate the relationship between parent involvement and achievement motivation for Latino youth. In addition, Martinez and his colleagues (2004) have studied how perceived institutional barriers hinder the academic success of Latino adolescents.

However, research on the academic and identity development of young Latino Americans is undermined in two important ways. First, research on Latino youth often ignores important cultural variance between Latino groups (e.g. Mexican, Cuban, Puerto Rican) that may influence academic and identity development in unique ways. Second, the study of Latino youth lacks a specific "Latino-centered" theoretical framework from which to appropriately study the specific experiences of Latin American youth and subgroups. Research here is largely unguided by specific theoretical frameworks and heavily deficit oriented (Rodriguez & Morrobel, 2004). The former limitation may be influenced by the latter limitation in that a "Latino-centered" framework may not be appropriate if the cultural variance between Latino subgroups is significant.

Research within the Latino population has proved challenging, as there is a need to consider the multiple cultural variations within Latino groups (Fisher, Jackson & Villarruel, 1997). The designation of *Hispanic* or *Latino* lumps together an expansive contingent of Spanish-speaking and Latin decent subgroups in mainland U.S.A, although this group encompasses considerable diversity across as well as within the variant subgroups. Many of these subgroups have different historical and cultural linkages to their existence and experience in the United States. These differing histories and cultural groundings have a profound influence on how these groups acculturate within American

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society as well as their level of attainment, success and comfort in American social structures, such as education. Previous as well as current literature discusses the academic and identity development of Latin Americans as all-inclusive of the different ethnic variations of Latin Americans. This all-inclusive grouping renders the designation of *Latino* or *Hispanic* as somewhat meaningless as a research population, due to the lack of delineation into national-origin based subgroups or by important demographic and social stratification variables (e.g., generational status, urbanization of residence, cultural norms or occupation) (Erkut & Tracey, 2002; Fisher, Jackson & Villarruel, 1997; Rodriguez & Morrobel, 2004).

In spite of this, research to date on Latino youth has identified some factors related to achievement; however, an overarching developmental framework of the various processes and systems at play in Latino youth development remains lacking. In general, research within these populations has found socio-economic status to be an important influence on academic achievement (Battle, 2002; Hampton, Ekboir, Rochin, 1995; Martinez, DeGarmo & Eddy, 2004). In addition, positive academic self-concept, achievement motivation and supportive school environment have been found to play a prominent role in the academic development of Latino youth (Waxman, Huang, Padron, 1997). Specifically within Mexican and Puerto-Rican populations, a sense of school belonging/attachment has persistently been associated with academic achievement and motivation (Erkut & Tracey, 2002; Ibanez et al., 2004; Sanchez, Colon & Esparza, 2005).

Similar to African American students, Latinos report a high frequency of discriminatory experiences and institutional barriers within the school system compared to Caucasian and multi-racial students (Martinez, DeGarmo & Eddy, 2004). However,

academic encouragement, social support from teachers, family and friends are recurrent buffers against discrimination, institutional barriers and stress (Hawley, Chavez & St. Romain, 2007; Martinez, DeGarmo & Eddy, 2004; Zayas & Solari, 1994). Some find that Latino ethnic identity is highly influenced by interpersonal relationships and other external factors such as family, extended family, religion and other community members rather than by internal factors such as internal drive mechanisms or internally developed need for autonomy (Marin & Marin, 1991; Zayas & Solari, 1994). Further, a high degree of acculturation has consistently shown to have positive effects on achievement for Latin Americans in general (Martinez, DeGarmo & Eddy, 2004).

Unfortunately, the study of Latino youth development has been consistently atheorectical. Of the empirical research journals that include Latino youth in their research, the overwhelming majority of work investigating Latino youth development has been exploratory or has adopted the theoretical framework of the dominant group studied within the work (i.e., usually white middle class Americans). These findings reinforce the notion that the limited scientific foundation of Latino adolescent development may be skewed because of a weak theoretical foundation for understanding Latino youth development and the development of their cultural identity.

A Focus on Adolescence

Adolescence is a unique period within human lifespan development, often marked by physical maturation (including cognitive development), new environmental changes and pressures, transitions toward new responsibilities and opportunities, and explorations for a deeper sense of self. Many adolescents have to navigate these issues simultaneously, which can make this period of development particularly stressful. Scholars have begun to revisit the notion of adolescence as a period of storm and stress (Arnett, 1999; Cicchetti & Rogosch, 2002), discussing how compared to other periods within the life-course, adolescence is uniquely but moderately stressful and can be characterized by increased conflict with parents, mood disruptions and the propensity toward risk behaviors (Arnett, 1999).

Adolescents must learn to regulate their cognition, affect and behavior, often without the regulatory structure that adults provided during childhood. Further, the adolescent must contend with these changes at the same time that cognitive and physical maturational changes may alter the nature and strength of emotions, regulation and perceptions within various contexts that are also undergoing change (Steinberg et al., 2006). In today's contemporary industrialized society, young adolescents face increasingly arduous decisions and challenges to self-control in complex environments that activate many arousing but conflicting feelings and desires (Keating, 2004).

In conjunction with trying understanding a complex and rapidly changing world, the adolescent brain is also undergoing a series of milestone changes. Evidence within neuroscience literatures indicates that synaptic pruning (proliferation and then decrease in gray matter density) in the prefrontal cortex, expanded cortical communication and

overall systematic integration of executive functions are at the center of the transition to adolescence (Keating, 2004; Spear, 2007). In fact Keating (2004) notes that an integrated and consciously controlled executive suite of regulatory capacities often takes a long time to develop within adolescents and is likely related to the disjunction between affective arousal and regulatory competence, thus raising the potential for suboptimal trajectories and deviant or risky behaviors.

Other scholars note that storm and stress is neither universal nor inevitable (Eccles et al., 1993; Steinberg & Levine; 1997), although adolescents in western and individualistic cultures tend to experience more problems during adolescence (Arnett, 1999). Global storm and stress during adolescence may be debatable; however, the majority of adolescents within the American school context undoubtedly experience stress and a series of declines relating to the self and academic performance. Further, Linda Spear (2007) found that the prefrontal cortex and mesocortico-limbic regions of the adolescent brain are highly sensitive to stress during this period of development. Thus adolescents tend to respond to stress in more erratic and extreme ways compared humans at other ages. She also notes that although confronting novel stressors may produce maladaptive and even destructive behaviors, these challenges are critical for social, emotional and intellectual growth (Spear, 2007).

Beyond storm, stress and brain development, Nurmi (2004) describes four mechanisms that are particularly salient to the developing adolescent. These are *channeling*, *selection*, *adjustment* and *reflection*. Channeling refers to the social environments that "channel" or direct developmental trajectories. These may include cultural beliefs, broader social expectations, institutional structures and significant

historical events. Selection refers to adolescent autonomy to construct personal goals, as well as select strategies to reach and maintain those goals. This also involves exploring for appropriate information to make personal decisions. Adjustment involves the coping, reconstruction of personal goals and causal attributions that come from the individual's interaction with the environment and assessment of successes and failures. A dysfunctional method of coping/adjustment may be psychological withdrawal from problems or failures. Finally, reflection usually succeeds adjustment and involves reflecting on behaviors and outcomes in order to construct a stable self-concept or identity.

It is this idea of identity development within adolescence that is a focal aspect of the present work. Adolescence, particularly within the western context, has been heralded as a period of identity exploration. As indicated by the work of the late Erik Erikson (1950), it is this period of the human life cycle where the individual must establish a sense of personal identity. This search involves the establishment of a meaningful self-concept that integrates multiple facets of time, talents and social perspective into a unified whole. Further, some hypothesize that amidst rapid social change, this period of adolescent identity exploration is replacing the influence of parental socialization processes as adolescents more toward identity achievement (Muuss, 1998). The role of peers and now the broader social context as portrayed through the insurgent influence of the media play a prominent and central role in the identity development of young teenagers.

During this unique period of human development, there is evidence that many adolescents experience declines in grade point average, academic motivation, self-

concept, belonging and school interest as they make the transition to middle/junior high school (Eccles, 2004; Maehr & Midgley, 1996). In addition, there are increases in school related anxiety, negative self-evaluation and truancy.

Though many hypotheses have been given to account for these consistent declines, stage-environment fit as proposed by Eccles and Midgley (1989) is most telling and has garnered much attention in developmental and educational literature. This model details how the educational environments of traditional American middle schools do not meet the developmental needs of adolescents, creating a stage-environment mis-match that ultimately leads to low motivation and disenfranchisement. Eccles & Midgley (1989) as well as others (Deci & Ryan, 1994) propose that the needs of adolescents are distinct and as schools appropriately meet these needs, student motivation, self-esteem and performance will grow positively.

Deci & Ryan (1994) assert that adolescents need feelings of autonomy, relatedness and competence and that when these three needs are met, personality and identity can adequately develop. Autonomy is the sense that one is in control or has a significant say in the affairs of the individual's life. Relatedness is a sense of support and belonging within a community. Competence refers to the desire to efficiently interact with one's environment and being able to produce desired outcomes as well as avoid undesired outcomes.

Despite these needs, middle schools change in several ways that counteract the developmental needs of adolescents (Eccles et al., 1993). Middle school teachers and administration tend to place a greater emphasis on control and discipline, giving students less autonomy. Further, middle school classrooms become less personal and the quality

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of student-teacher relationships decrease and become less positive. Also there is an increased emphasis on performance, competition and comparison, which undermines intrinsic motivation. Grading practices also become more stringent which can undermine student efficacy and competence.

Evidence of whether these declines found in the majority of adolescents tend to be more severe among low-resourced adolescents is equivocal (Seidman, Aber, Allen & French, 1996; Simmons, Bulcroft, Blyth & Bush, 1979). However, there is some circumstantial evidence to suggest that low-resourced ethnic minority adolescents may face unique difficulties in the transition to and through secondary education. African American as well as Latino adolescents report lower feelings of ethnic group esteem in middle school than Caucasian students (French, Seidman, Allen & Abner, 2006) and the degree of stage-environment mis-match is likely exacerbated among traditionally marginalized students in low-resourced schools during this unique period of identity exploration. Some scholars even characterize the relationship among some ethnic minority adolescents and the school environment as oppositional (Ogbu, 1991; 2004).

Though storm and stress has not been specifically assessed in low-resourced minority populations, there is research indicating the struggles that many ethnic minority students face in the school context. African American and Latino adolescents in general tend to hold negative perceptions of school environments, including less perceived support from teachers and school administration, more teacher bias, more racial discrimination, inequitable discipline practices, and reporting that their schools are unsafe (Griffith, 1996; Ruck & Wortley, 2002; Utley, Kozleski, Smith, & Draper, 2002).

There are also unique gender trends regarding identity development in adolescence. Adolescent boys tend to value high masculinity and feel more pressure to engage in gender consistent behaviors, whereas girls are more likely to endorse gender role flexibility (Nurmi, 2004). Though work on gender differences in low-resourced ethnic minority adolescents is sparse and not fully comprehensive, literature in the social sciences as well as the popular press has called attention to the persistent school difficulties of minority boys at-risk for school failure, particularly African American boys (Davis, 2003; Eckholm, "Plight Deepens," 2006; Noguera, 2003; Roderick, 2003; Swanson, Cunningham & Spencer, 2003). Beyond the statistics that highlight black male underachievement and decreased engagement, teachers of African American boys tend to view them as academically and behaviorally deviant (Davis, 2003; Frazier-Kouassi, 2002) and treat them qualitatively differently in the classroom settings (Slaughter-Defoe & Richards, 1995 as cited in Davis, 2003; Simpson & Erickson, 1983).

As an example, African American boys tend to receive more teacher criticism than any other group by ethnicity and gender (Simpson & Erickson, 1983). They also receive the harshest disciplinary sanctions, which include a disproportionate number of suspensions and expulsions that exceed their statistical representation (Skiba, Michael, Nardo & Peterson, 2000). Further, McCadden (1998) has shown that teachers discipline African American boys more harshly, even when students of other ethnicities demonstrate similar behaviors. African American boys also report more mistrust of teachers and school personnel (Honora, 2003). Thus, the identity development of adolescent African American boys in regard to school belongingness and academic ideals

may suffer adversely from the negative effects of low teacher expectations, disciplinary actions, and lack of support.

Although virtually no work connects academic identification with stage-environment fit specifically, parallels can easily be drawn. Declines in feelings of belongingness, self-concept and intrinsic motivation within the school context, during a period of identity exploration for adolescents sets the stage perfectly for adolescents to tie their identity to things other than school success (e.g., peers, popularity, sports) which provide positive reinforcement for the self and feelings of belongingness and competence. In this work, the population of interest is low-resourced, minority adolescents, with a special focus on the development of ethnic minority boys (i.e., African American and Latino boys) regarding academic identification, academic value, motivation and subsequent performance. This work seeks to evaluate the school-related perceptions of low-resourced ethnic minority boys, how value systems and identity structures are developed consequently, as well as the internal processes that regulate both.

CHAPTER 2: Masculinity, Achievement and Identification with School

Theoretical Underpinnings: Ethnic Minority Boys At-risk for School Failure

Recently, some work has begun to examine the intersection of gender and ethnicity. Identity based explanations have dominated the research literature, indicating how ethnic minority adolescents at-risk for school failure may develop an oppositional identity to school which affects their achievement motivation and subsequent performance. Scholars have begun to assess academic value among African American and Latino males, perceptions of school fit and the reactive construction of self-concepts, identities and schemas as coping methods. Specifically, identification with school, machismo/bravado attitudes, academic value and the construction of stance "*Cool Pose*" have been recurring themes within this literature (Cunningham, 1999; Davis, 1999; Majors & Billson 1992; Osborne 1995, 1997; Stevenson, 1997).

The relation between academic identity development and academic performance of low-resourced ethnic minority boys is the platform of this investigation. More precise concepts such as machismo attitudes or Cool Pose co-relate under a broader umbrella of how identity development patterns of boys affect identification with school and broader educational ideals. Empirical research in educational psychology reports that middle and high school-age African American males dis-identify with academics more than any other group by race or gender, including African American girls (Osborne & Rausch, 2001; Osborne 1995, 1997; Simmons, Brown, Bush, & Blyth, 1978).

Some work depicts a complex interaction of race and gender in the creation of a unique sexuality that goes beyond the classification of race and gender (Cunningham, 1999; Davis, 1999; Spencer 2001). Bravado/Machismo attitudes or the popular coining "*Cool Pose*" refers to hyper hetero-sexualized attitudes documented in the behaviors of African American males. This hyper-sexuality does not necessarily imply sexual activity, but an amplified misconstruction of masculinity.

Masculinity in this sense is usually represented with deviant and exploitative behavior within a context of adolescent social jockeying and peer relations in school (Davis, 1999). Bravado attitudes or "*cool pose*" manifest as ritualized forms of masculinity used as coping mechanisms for survival in oppressive or harsh environments (Majors & Billson, 1992). Displays of these attitudes can reveal themselves through a gangsta/thug persona, the super athlete, highly sexualized and dominant relationships with females, or social jockeying for authority and respect with challenging attitudes and behavior in classroom settings (Cunningham, 1993; Stevenson, 1997). These behaviors bolster self-esteem, but simultaneously conflict with behavioral norms deemed beneficial for traditional school settings (Majors, Tyler, Peden & Hall, 1994). Osborne's (1997) findings confirm these ideas, showing that while the rift between academic self-esteem and global self-esteem grows through the grades for African American boys, popularity and athletics become highly correlated with global self-esteem for African American boys. However, work surrounding cool pose or bravado attitudes for African American and Latino boys remains largely theoretical without much empirical support.

Sewell (1997) notes that schooling culture and ethos reflects as well as reinforces models of mainstream middle-class virtues. Boys at-risk for academic failure are extremely

active in their constructions of masculinity often as a response to messages received from school, peers, and broader society. African American boys in particular tend to view school and teachers as imposing female standards and behavioral expectations. To defy those standards is to promote their own masculine efficacy, take authority for themselves and gain social credibility among peers (Sewell, 1997).

The construction of this masculinity becomes a particular response to schools that may view them as academically inferior and peers who praise them for their social charisma (Davis, 1999). This process can be either conscious or unconscious. The individual's understanding of himself, the outside social perspective and expectations of others begin to complement each other in the child's formation of identity. As this process develops, African American boys begin to cultivate personal expectations of their identity that are often disconnected from broader school expectations (Davis, 1999; Ferguson, 2000; Sewell, 1997).

Eventually, a distinct hyper-masculine cultural space is organized at school around a set of competing and complementary forces. Ethnic minority boys are viewed as the stars and sinners of school. Socially, they are praised by their peers as central figures in youth pop-culture, athletic prowess, and other aspects of their sexuality. However, they are condemned by school and its personnel for their academic failures, lack of motivation, and externalizing behaviors (Ferguson, 2000).

Peer groups can often be a validation of group and individual identity; however, it has also been noted that African American males are strongly negatively influenced by school environments that run counter to their own identity construction (Cunningham & Meunier, 2004; Ford & Harmon 2001; Ford & Harris 2000; Garibaldi 1992, 1997).

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Additionally, some empirical work highlights that Black male bravado attitudes in middle school have a negative relationship with classroom comfort, but the direction of the relationship has not been ascertained (Cunningham & Meunier, 2004).

Society and the institutions within have the potential to set boundaries on the types of identities boys may be willing to construct. Many low-resourced boys may only see a singular form of masculinity into which they can act, due to a lack of male role models, peer and societal messages (Connell, 1996). This form, though singular, is represented and displayed in many different ways as mentioned above. This masculine hyper-sexuality pays off, socially. Since school culture rejects this identity, many boys may reject academic advancement as a part of their identity.

Similar attitudes, coined as "*machismo*" have been studied among Latino men, predominantly Mexican and Mexican-American men (Arciniega, Anderson, Tovar-Blank & Tracey, 2008; Neff, 2001). However, very little work has been done with Latino male adolescents and almost no work relates these attitudes to academic achievement and educational attainment. Machismo in is defined as callous sexual attitudes, perceptions of violence as manly, and danger as exciting. Scholars note that machismo is often enacted through a script were men create, interpret and respond in a way that affords the individual the opportunity to fulfill a macho masculine role (Mosher & Tomkins, 1988). Many adolescent boys confront these machismo attitudes as a rite of passage into manhood during the natural identity exploratory phases in all adolescents. Work on machismo attitudes and academic achievement among Latino adolescent boys is sparse.

Despite this, the work of Cynthia Garcia-Coll and her colleagues (1996) elucidates the components critical for appropriately studying the development of minority children,

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particularly Puerto-Rican and African American children. Much of the discussion here is not gender-specific; however, this work mentions the role of gender and how it may facilitate risk for ethnic minority males, who tend to have more height, weight and physical maturity compared to their Caucasian counterparts.

Identification with Academics

Research on self-perceptions of competence has shown a strong relationship between academic self-concept and achievement that tends to increase with age and school experience (Marsh & Yeung, 1997; Wigfield & Eccles, 1994). A bi-directional relationship between self-concept and performance has been established indicating that positive beliefs enhance motivation, thereby resulting in improved performance, and high performance is accurately reflected in high self-perceptions (Marsh & Craven, 2006; Marsh, Trautwein, Luedtke, Koeller, & Baumert, 2005; Marsh & Yeung, 1997). Thus, youth's self-perceptions about academic skills mediate their school experiences, with schooling resulting in greater academic gains for those youth who have positive self-beliefs.

Identification with academics is grounded in a symbolic interactionist framework on the self, which posit academics as a possible source of self-esteem (Mead, 1934). The basis of this framework was coined by Herbert Blumer saying, "people act toward things based on the meaning those things have for them; and these meanings are derived from social interaction and modified through interpretation (Blumer, 1969, p. 2)." Essentially, this framework indicates that people receive feedback from their environment based on their performance/behavior. If this feedback is perceived as valid, it is incorporated into the self-concept and can allow a person to "*identify*" with a domain that is perceived as

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central to them (Blumer, 1969; Mead, 1934; Osborne, 1999, 2004). Conversely, if the person does not consider the domain as central to their self-concept, they may "*dis-identify*" with the domain. Thus, the more central the domain is to self-concept, the more meaningful it is. If a domain is meaningful, but the individual receives negative feedback from that domain, self-esteem may be negatively impacted. However, if the domain is not meaningful (i.e., not central to self-concept) then feedback received from that environment will not affect self-esteem (Osborne, 2004; Osborne & Walker, 2006; Steele, 1992).

Applying this framework to the concept of identification with academics, dis-identification with academics is a "disconnect" between how students feel about their academic performance, "*academic self-esteem*", and how a student may feel about themselves as a person, "*global self-esteem*" (Osborne, 1997). For example, a student who identifies with school may experience negative feelings and low self-esteem in general if they were to receive a failing report card, and positive feelings for a satisfactory school report. Alternatively, someone who is not identified with academics will not experience a change in their self-esteem regardless of the feedback they receive.

Further, some have highlighted the concept of discounting, which is considered a subtle or intermediate form of dis-identification (Crocker, Major & Steele, 1998; Major, Spencer, Schmader, Wolfe, & Crocker, 1998; Morgan & Mehta, 2004). Here, students may value the domain and recognize its centrality to their overall self-concept; however, they discount the feedback they receive from an environment as biased or inaccurate. For example, a student may discount a negative evaluation or criticism from a teacher, test or environment if the he or she feels that the evaluative source has a specific prejudice/bias

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or if the student feels that they have been inaccurately assessed. So the student "*discounts*" this feedback as inaccurate, allowing the student to still perceive the domain as meaningful or central to their self-concept. Here, high self-esteem and a high value for school can remain intact.

Discounting is distinct from dis-identifying to preserve global self-esteem. Discounting more so refers to a situational or initial disconnect between external evaluation and academic self-concept. Hence, scholars refer to this as the intermediate stage on the way to full blown dis-identification. Chronic dis-identification is most severe and what was initially described as the "disconnect" between external evaluation and global self-esteem. Here students are entrenched in fear by the perceived chronic threat of stigmatization, thus banning the domain from their personal identity (Crocker, Major & Steele, 1998; Morgan & Mehta, 2004). This chronic or severe form of dis-identification suggests that the student devalues achievement, which is most likely to lead toward effort reduction and a lack of motivation in school activities, although these connections have not been tested empirically.

Academic value and the construction of alternate identities such as *cool pose, machismo attitudes* or oppositional identity are interwoven into the broader identification framework. Eccles and her colleagues (2002) describe the different components of value (i.e. attainment value, utility value and intrinsic value). The expectancy-value framework (Eccles & Wigfield, 1992, 2002) states that the motivation to achieve in a domain is a function of perceived value of the goal and the likelihood of being successful. In recent work on academic value, a comprehensive definition of value is used through the expectancy-value framework, which is the perceived importance, usefulness, or

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attractiveness of school and school activities (Graham et al., 1998; Taylor & Graham, 2007). Overall, strong identification in a domain should lead to increased motivation to perform well in that domain, when compared to weak identification.

Along similar lines Kristin Voelkl (1997) conceptualizes identification as belongingness to the school community and a value of school-related outcomes. Slightly different from the interactionist framework, Voelkl emphasizes the bond between the individual and the school institution/community. However, ultimately she notes that her conceptualization of identification represents the extent to which an individual has bonded with school and its values and incorporated these ideals into their self-concept (Voelkl, 1997).

Overall, many scholars accept the notion that identification with academics is important for academic achievement (Osborne & Walker, 2006; Steele, 1997). Recent empirical work indicates that students who report being more identified with school have higher GPAs, fewer behavior referrals and are generally more engaged than less identified peers (Osborne & Walker, 2006). However, some work suggests a higher prevalence of negative affect from highly-academically contingent students when faced with failure (Crocker et al., 2003).

Other work highlights the history of school performance that informs identification behaviors. Voelkl (1997) finds that prior academic achievement and active student participation in the elementary years are two antecedents of dis/identification behaviors. Early school success was most predictive for academic engagement and identification in subsequent school years. Finally, the value studies by Taylor & Graham (2004, 1997) are not a part of the symbolic interactionist framework that supports the

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previous studies, but their conceptualization of de-valuing (as assessed through peer nominations) is most akin to severe dis-identification attitudes described earlier.

Considering these recent investigations of identification with academics, little work has investigated the underpinnings or developmental processes of this construct. Traditionally, scholars have pinpointed critical components to understanding identity development in general and during adolescence specifically. However, many of these factors are not considered in the current empirical analyses of identification with academics. Some of these concepts include: self-efficacy/competence, relatedness and autonomy, achievement goals, and self-regulation (Bandura, 2001; Deci & Ryan, 1994; Demetriou, 2000; Markus & Nurius, 1986; Matthews, Schwean, Campbell, Saklofske & Mohamed, 2000; Oyserman, 2007; Schunk & Ertmer, 2000). Many of these provide insight into the process of identity development and understanding the self; however, these constructs go relatively unexamined in the above described work.

As an example, self-regulation is an important part of developing self-concept and social identities. Self-regulation helps plan, monitor and evaluate affective and behavioral processes that help calibrate a positive understanding of the sense of self (Oyserman, 2007). In this sense, self-regulation is critical to identity development. Theory on identity-based motivation and possible selves (Markus & Nurius, 1986; Oyserman, 2007) confirms this indicating how people who perceive themselves as in-group members are motivated to regulate themselves in such a way as to exhibit in-group-relevant behaviors and attain in-group-relevant goals.

Other frameworks, such as social cognitive theory to learning show how self-regulation is essential for social esteem, self-worth and identity attainment (Bandura,

2001). Others describe self-regulation as a critical function for self-understanding and self-representations (Demetriou, 2000). Further, self-regulation not only mediates the perceived self and goals, but self-regulation is engaged in a cyclical process with self-efficacy and self-understanding where one construct continually informs the next in an iterative process for the understanding of self and to attain goals (McCombs, 1986, Hejazi & Naghsh, 2008; Schunk & Ertmer, 2000).

Unfortunately, efforts to self-regulate are not always effective. The reasons for failed self-regulation are numerous and may include inappropriate, ineffective or inefficient regulatory strategies. Interestingly, Oyserman notes (2007) that the inability to effectively regulate may not be because the goal/outcome is not valued, but other reasons like an underestimation of the amount of effort or sophistication of strategies need to attain the goal. Also, McCombs (1986) demonstrates how self-efficacy plays an important role in how students regulate themselves.

Thus understanding self-regulation and other constructs mentioned above will aid us in examining the development of identification with academics and the relationship between identification and achievement. As an example, some scholars demonstrate how cognitive regulation (i.e. executive functioning) may mediate the relationship between stereotype threat and performance (Johns & Schmader, 2010; Schmader & Johns, 2003; Schmeichel, Vohs & Baumeister, 2003). They explain how the fear of confirming a negative stereotype engrosses executive functioning (because the person constantly rehearses the threat mentally), thus leaving their cognitive capacity depleted which results in poorer academic performance and an inability to disconfirm the very stereotype they feared. This is an example of the mediating role of self-regulation and how low-efficacy

or personal threat can impinge on regulatory functioning. Taken together, self-efficacy and self-regulation are likely critical components of identity development.

The study of self-regulation for coping or identity maintenance may be useful in studying children who may perceive school settings as a threat to their self-esteem or identity. Self-regulation can mean regulating thoughts, emotions, impulses, appetites, task performances, or attention. In the context of academic achievement, some scholars talk about the role of self-regulated learning not only as planning, monitoring and evaluating within the academic context, but also as the regulation of one's cognition (e.g., rehearsal), motivation (e.g., interest control), and behavior (e.g., help seeking) in order to access an academic goal (Pintrich, 2000; Zimmerman & Schunk, 2001). Self-regulated learning can be viewed as a set of skills that can be taught explicitly or a developmental process that emerges from experience (Paris & Paris, 2001). It is autonomy and control by the individual who monitors, directs, and regulates actions toward goals of information acquisition, expanding expertise, and self-improvement. Thus self-regulated learning behaviors can be assessed to understand how academic-related identities are tangibly expressed for coping and identity maintenance and the attainment of academic goals.

Dis-identification in Marginalized Groups

Marginalized groups (e.g., ethnic minorities, low-resourced, low ability tracked students) may be at particular risk during the transition to middle school. Although little work demonstrates clear ethnic differences in motivation and achievement declines during the transition to middle school, some work has shown that low tracked students show poorer attitudes toward school, feel more incompetent and have more behavior problems (Oakes, et al., 1992; Oakes & Wells, 1998). Ethnic minority youth, particularly

African American and Latino boys are over-represented in low-tracked, non-college bound classes. In addition to this, academic failure and dropout are particularly incisive problems for ethnic minority youth in general, apart from declines experienced by most adolescents during the transition to middle school. These consistent patterns have facilitated theoretical discussions on the central factors at play regarding underachievement for marginalized groups.

Through the lens of the identification framework, the basis of underachievement is thought to be an issue of dis-identification, where marginalized students, especially ethnic minority boys, experience a rift between school success and self-esteem (Osborne, 1997, 1999). Many differing predictors of the dis-identification construct have been mentioned; however, some posit that dis-identification is a result of structural inequities and cultural mis-match mentioned previously (Osborne, 2001; Steele, 1992, 1997; Ogbu, 1998). Claude Steele (1992) suggested that because of negative stereotypes about the academic abilities of African Americans, many African American youth dis-identify with academics in order to maintain a healthy self-esteem in the face of negative academic evaluations. He posited that dis-identification is the crux of academic achievement problems for African American students, also noting that African American students develop a "psychic alienation" that prevents academic outcomes from influencing their self-view.

Interestingly, some empirical research counters these claims. Some have found that African American students have similar if not higher levels of identification compared to their mainstream peers (Graham, 1994; Steinberg et al., 1992; Taylor et al., 1994) and that white students are more alienated than their peers (Trusty & Dooley-

Dickey, 1993). This seems somewhat paradoxical that African American students maintain consistently positive attitudes about education, while also consistently performing less well than their peers. Mickelson (1990) found that African American students were quite optimistic about the occupational and social rewards of education on an abstract level; however, they were more pessimistic in concrete terms (rooted in personal experiences) about the opportunities and rewards school will yield for them specifically.

This somewhat supports the work of Ogbu (1978, 1992), which states that African American students may believe that education is a critical avenue for upward mobility but may exert less effort in school contexts because of perceptions of oppression and inequity for their group specifically. Newer work (Ainsworth-Darnell & Downey, 1998) has shown conflicting results regarding concrete attitudes of African Americans. African Americans receive poorer ratings from teachers than white Americans on behavior and effort and also tend to rate themselves lower on these indicators. However, African American students who report higher feelings of satisfaction from doing well in school think of themselves as good students and are less likely to condone academic dishonesty.

However, it may also be possible that African American students discount the negative feedback they receive in school environments because of perceived racial discrimination or a distrust of teachers and school personnel. If this is the case, it is possible that low-resourced students could still hold a high regard and value for education and that very few students actually show chronic or severe dis-identification. This has hardly been examined in low-resourced adolescents, much less our population of interest, ethnic minority boys at-risk for school failure.

Boys in general have been found to dis-identify with academics, more so than their female counterparts (Taylor & Graham, 2007; Voelkl, 1997). Considering the role of race and gender as indicators of dis-identification and the academic underperformance of African American boys relative to their counterparts, Jason Osborne has been one of the foremost scholars to discuss issues of academic dis-identification within African American boys and the influence of this on academic achievement for this population.

Using NELS (National Educational Longitudinal Survey of 1988) data, Osborne (1995, 1997) has found developmental evidence of dis-identification with academics among African American boys. Specifically finding that in 8th grade, there were no significant differences in dis-identification across students by race or gender. However, in the 10th grade African American boys were found to be significantly less identified with academics and even more so by the 12th grade, while students from other groups by race and gender remained relatively stable in this regard.

Other work by Osborne (Osborne, Major, Crocker, 1992) revealed similar outcomes for African American males in the collegiate setting. Additionally, Osborne (2004, 2006) linked engagement behaviors (preparedness, punctuality, effort) or the lack thereof to identification with academics. These findings along with the literature on oppositional culture among African American students elicit the question of whether dis-identification with school is a developmental phenomenon unique to particular groups (e.g., African American boys).

Interestingly, in a recent re-analysis of the NELS data, Morgan and Mehta (2004) found differing results. They found support for discounting among African American students, but not for severe dis-identification attitudes compared to their Caucasian peers.

Osborne's original analyses of the NELS data (1995, 1997) failed to assess for discounting and also handled the SES control variables and outliers differently. The findings of Morgan and Mehta (2004) corroborate other recent research showing positive relationships between academic self-concept and achievement in African American boys and girls (Saunders, Davis, Williams, & Williams, 2004). They also tested the relationship between academic self-concept and general self-esteem, and found no racial differences in the relationship. Further, they found no race or sex differences in the relationship between self-esteem and academic achievement between eighth and twelfth grade.

Others' work varies still, showing significant declines in achievement values of African American and Latino boys as they progress through secondary education (Taylor & Graham, 2007). Participants were asked to nominate peers whom they admire, respect and want to be like. The primary result was that African American and Latino boys are more likely to nominate low-achieving classmates as peers whom they admire and respect (Graham et al., 1998; Taylor & Graham, 2007). These effects were found during adolescence (i.e., 7th grade), but were not significant in elementary school (i.e., 2nd & 4th grade), which suggests a developmental trend. Graham and Taylor (1998, 2007) interpret these nominations by African American and Latino adolescent boys as a "de-valuing" of school.

Some longitudinal work has revealed that highly identified students of color are most susceptible to psychological or physical withdrawal from school, because it is these most identified students who feel the adverse affects of stereotype threat and dominant school culture (Osborne & Walker, 2006). Work by Crocker et al., (2003) somewhat

confirms this through the assessment of the academic contingencies of self-worth in college students. Although this measure is infrequently used among adolescents, the results of this study are quite provocative for the present work in that they reveal how dis-identification and self-worth contingencies can play out in a historically marginalized group (i.e., women in engineering majors).

Overall scholars find that students who base their self-esteem largely on academics feel less well about themselves when they receive negative feedback about grades (Crocker et al., 2003). This same effect was found for women in engineering majors who had high academic self-worth contingency. However, high academically contingent students received the largest boost from positive feedback, but only if they were in gender congruent majors (i.e., women in psychology, men in engineering). Overall, students who were more academically contingent experienced greater drops in self-esteem, larger decreases in positive affect and more dis-identification with the receipt of negative feedback on grades. There was also a positive effect when good feedback was received about grades, but the effect was smaller than that for bad feedback (Crocker et al., 2003).

Taken together, the findings of the identification literature are mixed and highlight radically different trends. The discrepancies between these studies may be due to the differing conceptualizations of identification/value that were emphasized in each study. There are major gaps in our understanding of identification with school that need be addressed. First, different conceptualizations of identification (e.g. school identification, discounting, severe dis-identification, etc.) and various methods of measuring such have led to different conclusions on how these constructs play out in the

lives of ethnic minority youth. Second, dis-identification with academics has been characterized as a phenomenon unique to marginalized students (e.g., ethnic minorities, low-resourced youth and boys). This is not explicitly stated theoretically but empirical trends in research lead many to deduce that ethnic minorities and boys are most likely to dis-identify. However, there is some evidence that may suggest that the threats of stigma from race, gender or status are not the catalysts for identification with academics (Voelkl, 1996, 1997).

Third, the current study of identification ignores the process by which identification works. Research has been able to demonstrate that there is a rift between performance and self-esteem; however, we do not know much of what may be happening in between. As stated above, historical discussions around identity development in adolescence and academic achievement highlight critical constructs like competence/efficacy, relatedness, goal orientations and self-regulation. However, current methods of measuring identification rarely consider these constructs as mechanisms by which identification may be related to achievement. Finally, a deeper consideration of the mechanisms that may influence the identification/performance relationship may illustrate how there may be different forms and qualities of identifying with academics and multiple pathways to achievement.

Measuring Identification in its Many Forms

One of the overarching goals of this study is to come to a firmer understanding of identification with academics, its foundations and processes and how it informs the academic experiences of low-resourced boys, particularly inner-city African American and Latino boys. To achieve these purposes, the various ways identification with

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academics/school and academic value have been conceptualized within education and psychological literature have been coalesced through multiple measures which assess the unique aspects of these concepts.

Identification with school (Voelkl, 1996), assesses notions of school belonging and value. It is important to note that this is similar to identification with academics but slightly distinct. School belonging is defined as feelings of being a significant member in the school community, being accepted and respected in school, having a sense of inclusion in the school and including the school and education ideals as part of his or her self-definition. Value here is conceptualized as recognizing the value of school as a social institution and tool for facilitating personal advancement (Voelkl, 1996). Since then, academic value has been parsed into intrinsic, attainment and utility value (Wigfield & Eccles, 2000).

Intrinsic value is the personal enjoyment one receives from engaging in a task (e.g. "I enjoy the subject of math"). Attainment value is the importance students attach to the task as it relates to their conception of their identity and ideals or their competence in a given domain (e.g. "It's important to me to be a person who reasons mathematically) (Wigfield, 1994). Utility value is how a task relates to personal future goals (e.g. "Math is useful for me later in life"). Also included here are academic contingencies of self worth (Crocker, Karpinski, Quinn & Chase, 2003; Osborne, 1997). This pertains to how academic achievement is related to feelings of self-worth, self-concept or self-esteem (e.g. "Being a good student, achieving well gives a boost to my self esteem"). The academic contingencies of self-worth construct is most closely related to identification

with academics as conceptualized and discussed by Steele (1992, 1997), Osborne (1999) and Ogbu (2004, 1998).

Voelkl (1996) developed *The Identification with School Questionnaire* with 17 self report items which assessed the two theoretical concepts of identification with school: belongingness (ex. "I feel proud of being a part of my school") and value (ex. "School is more important than most people think"). Results show via confirmatory factor analysis that the two constructs, belonging and value, load best as a singular construct. The items showed strong internal consistency ($\alpha = .84$); however, validity was not addressed. Concerns of validity are most prevalent here, being that African American students were found to be more identified with school than Whites, although consistently performing less well academically. This scale substantiates the extent to which a student has bonded with the school as a social institution and recognizes this institution as a tool for facilitation personal advancement.

As mentioned prior, this paradox of high identification with low performance has been documented in other literature as well (Ainsworth-Darnell & Downey, 1998; Mickelson, 1990). However, some empirical work, also mentioned prior, has consistently found African Americans as less identified than White American students (Osborne, 1995, 1997; Taylor & Graham, 2007). Given the conflicting nature of these results, issues of construct validity are quite pressing for *The Identification with School Questionnaire*. One point of criticism for this instrument in particular is that it may only measure abstract conceptions of value (the ideological belief that education leads to opportunity), which African Americans tend to be high on, but does not tap into concrete attitudes (the realistic view that education will create opportunities for me personally), which African

Americans tend to score lower on (Mickelson, 1990; Voelkl, 1997). This distinction is crucial and needs to be appropriately operationalized for in future methods.

Osborne and Walker (2006) utilized the *School Perceptions Questionnaire* which is unique from the *Identification with School Questionnaire* in that it measures the centrality (ex. "I feel good about myself when I get good grades") of academics to one's self-concept. This measure also uses self-report on a 1-to-5 Likert scale. The scale is internally reliable (α = .82) and correlated highly with the *ISQ* (r=.76). Because of the high correlation between the two scales, the authors combined the *ISQ* and the *SPQ* which had internal consistency of .91. Although the *SPQ* is described as a more direct measure of academic centrality, it is highly compatible with the *ISQ,* which may validate the *ISQ* as an adequate measure of school/academic centrality.

Similarly, Crocker and her colleagues (2003) use a *Contingencies of Self-Worth* scale which measures the degree to which students factor academics or a particular academic domain into their self-worth (ex. "My self-esteem gets a boost when I get a good grade on an exam or paper"). Though the authors consider contingencies of self-worth as distinct from identification with academics, this instrument conceptually taps into identification as described by the interactionist framework on global self-esteem and feedback from one's environment and may implicitly assess notions of concrete attitudes about the academic environment. The items show strong reliability (r=.78) and yield results that indicated unique gender, domain and contingency differences. However, the measure is primarily used among college students, although students as young as sixteen have shown reliable reports of this (Crocker, Luhtanen, Cooper, & Bouvrette, 2003).

The limitations of the above instruments are two-fold. First, very little is discussed by way of construct validity. Pinpointing validity for the identification constructs is of supreme importance since the minor distinctions in the conceptualization of identification (i.e. abstract vs. concrete; belonging, value & self-esteem) may be quite telling. Second, as with most self-report measures, social desirability is a considerable concern. Since the ideological value of education is something that is heavily reinforced in American culture and social structures, these ideological beliefs can subconsciously seep their way into even concrete reports of valuing school. How does one factor against this in measurement?

Peer nomination work by Taylor and Graham (2007) on the de-valuing of school may help circumnavigate the social desirability concern. In the 2nd, 4th and 7th grades, students were asked to choose students within their class whom they 1) admire, 2) respect and 3) want to be like. Each class was representative of low, middle and high achieving students. Achievement values were tied to student nominations of low, middle or high achieving students. In addition, achievement values via peer nominations were related to student perceptions of educational and occupational barriers.

The authors found that African American and Latino boys tended to nominate high achieving students in the 2nd and 4th grade; however, in the 7th grade both African American and Latino boys over-nominated other low-achieving boys. These nominations highlight the development of decreased achievement values for low-SES minority boys as they enter adolescence in comparison to girls of similar ethnicity and SES. Further, the authors find a positive relationship between perceptions of academic and occupational barriers and low achievement value for African American boys only.

In addition to possibly bypassing social desirability problems, this study is also one of the first to include peers into an analysis of identification with school. Social identity theory and other work notes the important role peers play in general identification and development processes throughout adolescence (Brown, 2004; Hogg & Abrams, 2004; Verkooijen, de Vries & Nielson, 2007). Specifically, adolescent identification with peer group or multiple peer groups can have a significant impact on increase/decrease of normative behavior (Verkooijen, de Vries & Nielson, 2007).

Despite these positive aspects, the peer nomination work still raises questions of validity. It is still unclear whether peer nominations truly tap into achievement values or possible other types of values for students. The authors talk about achievement values from the expectancy-value framework derived from Wigfield & Eccles' (1992, 2002) work on task value. Through this work, they also make the distinction between attainment value, intrinsic value, utility value and cost; however, the investigators fail to clarify which type of value or if all of these values are tapped by the peer nomination measures.

This is also particularly important because we can assume that a number of other "undeclared" variables may factor into peer nominations. The connections between these nominations and achievement values need to be made more explicit. Correlating these findings to previously discussed measures, such as the *ISQ* or *CSW* may add concurrent validity to the peer nomination work.

Summary

Taken together, there are a number of critical weak points in our understanding of the conceptualization and development of identification with school in adolescence, specifically low-resourced adolescent males. In trying to understand the gallimaufry of findings, future work on a few focal points would improve the discussion around the needs of adolescents in academic transition, the basis for identity development, and the connection between identity, motivation and achievement for all adolescents.

Currently, there is a rift between the theoretical underpinnings of identification with academics and methodology in this regard. Although this fissure between theory and method is not particularly rare in psychology, it does impinge on the precision of the current findings and our subsequent discussion of these issues.

Therefore, a variety of measures are needed to triangulate the ways in which identification with academics may be expressed in the lives of students. Taking together the above mentioned methods, particularly peer nomination methods, may be a useful approach to navigate this difficult task although limitations exist here as well. Further, the field in general should make better attempts to clearly delineate the types of dis-identification (e.g., discounting, de-valuing, severe dis-identification) being examined in specific studies and not use the term as an umbrella concept, which overlooks the subtleties among the building blocks of this process/concept.

Second, the focus of identification work has taken on a deficiency approach, especially for ethnic minority students. To date, dis-identification with academics has been studied as an explanation of academic underperformance in minority groups. Although this work is important and necessary, future work should be more "assets-

focused" and take into consideration the rich within-group differences in ethnic minority students. One way to do this may be to demonstrate that identification is quite varied and that there are multiple pathways toward healthy identification and achievement. This may look like connection to school peers for one student, while high academic centrality for another. One student may have low school belonging but high intrinsic value. These different profiles are likely well represented within ethnic minority youth. This work may even bring a new perspective on so-called "dis-identification trends" in at-risk groups. Considering this, it is questionable whether we can claim that dis-identification is a normal and generalizable trend for marginalized minority groups, specifically boys.

Third, an abundance of research exists on achievement motivation and self-regulation during adolescence in both mainstream and marginalized populations. Much of this work is integrated into original discussions about identity development and the needs of adolescents in school. However, the trends in current academic identification research do not appropriately integrate empirical and theoretical knowledge of achievement motivation behaviors (e.g., goal orientation, self-efficacy) or self-regulatory behaviors (e.g., cognitive, motivational and behavioral regulation) as supports in the identity development process.

For example, behavioral regulation (e.g., help seeking behaviors) may mediate the relationship between school belonging and achievement. If a student feels well-connected to his school environment through his peers or teachers, he is likely more inclined to engage in the type of help seeking behavior that can have a positive impact on his achievement. Students who feel like they do not belong in school or who are oppositional may have considerable difficultly trusting their peers or teachers to ask for help, even if

they know help seeking will help their progress. Motivation and regulatory factors likely support identification development; however, these connections have not been substantiated empirically in the current identification literature.

Strengthening all of these aspects will provide clarity and added continuity to the discussion of academic transitional issues for adolescents, identity development and achievement. Further, it will provide a stable platform from which to discuss the possible identity constituents that may influence achievement for at-risk students specifically.

Research Aims. Considering these holes within the current the literature, the following project proposes three specific research aims that contribute to our understanding of identification processes for low-resourced ethnic minority boys, and provide platform for future work and discourse. The first aim of this study is to determine whether academic dis-identification is occurring more in boys or whether the phenomenon is largely contingent upon other factors such as personal self-efficacy. Additionally, if boys do show signs of severe dis-identification, it is important to examine the ways in which these students dis/identify (e.g. discounting, de-valuing, low school belonging, etc.). Finally, these different modes of academic identification will be used to predict academic achievement in English, Math and Science grades. The relationship between academic identification and academic achievement will be assessed by ethnicity, gender, grade and self-efficacy.

I hypothesize that a personal history of low efficacy explains the relationship between identification and achievement. Further, I expect that only a small subset of African American and Latino boys will show severe dis-identified attitudes across the middle and high school years. In line with research by Morgan and Mehta (2004), I

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expect more discounting attitudes than dis-identification. Regarding achievement, I

expect the nature and type of academic identification to differ with relation to grade level.

Regarding this, I expect a stronger relationship between intrinsic value and achievement

for younger students and a stronger relationship between school belonging and

achievement for older students. This is in line with some empirical research that indicates

changes in student motivation and the influence of peers and social school characteristics

through adolescence (Eccles, 2004; Eccles et al., 1993; Brown, 2004).

   The second research aim examines the role of self-regulated learning behaviors and

their association with academic identification and achievement. One goal is to also assess

group differences in the construction and salience of regulatory behaviors. Here I

examine whether self-regulatory behaviors (i.e., cognitive strategies, motivation

regulation and behavioral regulation) mediate the relationship between identification and

achievement and which of these regulatory constructs play a unique role for boys in

particular. I hypothesize that self-regulatory behaviors will play a mediating role in the

relationship between identification and achievement for all students. Next, on an

exploratory basis I assess whether there are regulatory mechanisms that play a unique

mediating role for boys compared to girls.

   Finally, guided by the previous findings, profiles (via cluster analysis) of low-

resourced inner-city boys will be constructed based on the salient factors that comprised

academic identification, self-regulated learning and achievement motivation. Taken

together, the answers to these questions should provide clarity on whether dis-

identification with academics is a substantive component of identity development unique

to low-resourced ethnic minority males. Further, this work attempts to demonstrate that there are multiple configurations of identification with academics apart from just being highly identified versus dis-identified. I also hypothesize these varied profiles to be uniquely associated with academic achievement and related indicators.

CHAPTER 3: Methodological approaches to identification with academics, achievement motivation and self-regulatory behaviors

This study employs a cross-sectional correlational design using surveys to explore the relationships among academic identity development, achievement motivation, self-regulatory behaviors and achievement in African American and Latino students. This section describes the participants, procedures and measures used to collect the data, and how the data will be analyzed.

Participants and Context

The sample for this study consisted of 653 African American and Latino adolescents in the 6th, 8th and 10th grades. The youth were self-selected to participate in a research study on identity and academic beliefs. The youth were recruited from middle and high schools in New York City, specifically public schools within the Harlem (District 5) and the South Bronx (District 7) school zones. The public schools in both of these districts host a diverse population of low-resourced ethnic minority students (e.g. African American, Puerto-Rican & Dominican) at various levels of academic achievement and involvement, embedded within an inner-city context. In addition, many students tend to stay within district when making the transition from middle to high school. So although this work is not longitudinal, it still provides an outlook on the developmental tendencies of students within these districts. Students within this study were recruited from seven schools. These included three middle schools, three high schools and one school with grades 6th through 12th. The sampled middle and high

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schools came from the same catchment area. Schools with a high percentage of target students (e.g., African American and/or Latino males) were selected for recruitment.

New York City school district 5 covers the majority of a northern community in Manhattan, known as Harlem. Harlem has long been known as a major African American residential, cultural, and business center. Although the percentage of Black residents in Harlem peaked in 1950, the neighborhood remains predominantly African American at about 72% as of 2005. Since the 1990s, Harlem has been experiencing social and economic gentrification. Despite this, the neighborhood still suffers from high unemployment rates that exceed the state average and high mortality rates as well, especially among men. Poverty here is still a pressing concern and has resisted private and governmental initiatives to ameliorate it (Harlem – Wikipedia, 2009). There is a significant population of Dominicans on Harlem's West side near the Hudson river and a smaller contingent of Puerto-Ricans in "Spanish Harlem" on the East side.

As a neighborhood with a long history of marginalization and economic deprivation, education within Harlem has also remained stagnant. Many schools in the area are still under-resourced and the overall achievement levels of the community schools are among some of the lowest in the city (NYC Department of Education, 2009), although education reform activist, Geoffrey Canada has effectively been able to substantially boost achievement scores among students who attend The Promise Academy through the Harlem Children's Zone. No children from the HCZ's Promise academy were sampled.

Mott Haven is directly across the east river from Harlem and covers the majority of the New York City school district 7 in The Bronx. Mott Haven is a low income

residential neighborhood located in the southwest Bronx, with a population of roughly

50,000 people. For decades Mott Haven has been one of the poorest communities in

America with many receiving public assistance (Home Relief, Supplemental Security

Income, and Medicaid). The area has the highest concentration of Puerto Ricans in all of

New York City, a significant African American population as well. Despite the decline in

crime rates from their peaks during the crack and heroin epidemics during the 1980s-90s,

violent crime continues to be a grievous issue within the South Bronx in general. Mott

Haven specifically has significantly higher dropout rates and incidents of school violence

than the national average. Other problems in local schools include low test scores and

high truancy rates. The incarceration rates in the area are also high, especially among

adolescent boys and young male adults (Mott Haven – Wikipedia, 2009).

The seven sampled schools are located in these two areas. For the study, students

were recruited by verbal announcements made at each school during class or assemblies.

Participants were recruited from the 6th, 8th and 10th grades in the spring on 2009. One

hundred sixty-three 6th graders, 212 8th graders and 226 10th graders participated in the

study. The grade level of some students was not ascertained. Across the entire sample,

409 boys and 244 girls participated. By grade, there were 54% boys and 46% girls in

grade 6, 45% boys and 56% girls in grade 8, and 69% boys and 31% girls in grade 10. In

6th grade, 39% of students identified themselves as African American/Black, 30%

identified as Dominican, 14% as Puerto-Rican, 6% as Mexican, 7% as a mix of Latino

heritage (e.g., Dominican, Puerto-Rican, Colombian, etc.), and students who identified as

Caucasian, Biracial or Asian were all less than 2%. In 8th grade, 34% of students

identified themselves as African American/Black, 30% identified as Dominican, 18% as

Puerto-Rican, 6% as Mexican, 9% as a mix of Latino heritage (e.g., Dominican, Puerto-Rican, Colombian, etc.), and students who identified as Caucasian, Biracial, Native American or Asian were all less than 2%. In 10th grade, 41% of students identified themselves as African American/Black, 18% identified as Dominican, 21% as Puerto-Rican, 4% as Mexican, 12% as a mix of Latino heritage (e.g., Dominican, Puerto-Rican, Colombian, etc.), and students who identified as Caucasian, Biracial, Native American or Asian were all less than 2%.

Seventy-two percent of guardians offered information about socio-economic status. Fifteen percent of mothers had less than a high school education, 20% had a high school diploma or equivalent degree, 14% had a high school diploma and some additional schooling, 6% had an associate degree, 5% had a bachelor degree and 4% had an advanced or professional degree. Eighty-five percent of the student participants were born in the United States and 52% had at least one parent who was born in the United States. Thirty-nine percent had at least one grandparent who was born in the United States. Parents who self-identified themselves as African American/Black tended to have slight but significantly higher levels of education than Latino parents (F (1,384) =10.14; $p<.01$).

Forty five cases (23 boys, 19 girls, 3 genders unknown) were dropped from additional analysis because of incomplete or visibly flawed data. The criteria for dropping cases were as follows: If a case had two or more of the five types of errors listed below, then the case was dropped. These errors include: 1) Substantial missing data (i.e., more than 15 unanswered questions) 2) Missed the "check" question (i.e. circled something other than #4). Half way through the survey there was a question that was

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listed as "Please circle the four for this question." This was intended to check if the participants were paying attention while taking the survey. 3) Multiple inconsistencies on reverse coded questions. Throughout the survey there were instances where virtually the same two questions were asked sequentially but reverse coded (ex. #4 My opinion of myself is not tied to how well I do in school; #5 I feel better about myself when I know that I am doing well academically). If students circled the same number for both of these questions, the response was deemed as inconsistent. 4) Obvious bubble patterns (i.e., zig zags or spelling words) 5) Missing most of the achievement data (i.e. questions about grades and test scores). If participants provided responses that were faulty on two or more of these five flawed data indicators then the case was dropped.

The Schools: New York City.

Middle schools 1 and 2 and High school 3 were located in school district 5, Harlem. Middle school 4, high schools 5 and 6 and secondary school 7 were located in school district 7, Mott Haven. Annually all schools are evaluated and graded by the New York City Department of Education. They are given an overall school grade (i.e., A, B, C, etc.). This score comprises of three parts: School Environment, Student Performance and Student Progress.

School Environment consists of academic expectations of parents, teachers and students, communication between these three parties, student engagement and safety and respect. Student performance consist of students annual standardized test scores in English Language Arts and Math and median levels of student proficiency in these areas. Student Progress consists of percentage of students making 1 year of progress and

percentage of students in the lowest 1/3 of students making at least 1 year of progress in Math and English Language Arts (NYC Department of Education, 2009).

Middle School 1. Middle school 1 is in Harlem (district 5) and hosts 645 students from the 6th thru 8th grades. The school population comprises 43% Black, 55% Hispanic, 1% White, and .62% Asian students. The student body includes 20% English language learners and 21% special education students. Boys account for 52% of the students enrolled and girls account for 48%. The average attendance rate for the school year 2007 – 2008 was 89.1%. The school is in receipt of Title 1 funds, a federal program for low-income schools, with 89% of students receiving free-reduced lunch.

In the 2008-09 progress report conducted by the New York City Department of Education, the school was given an overall score of "B" (66.2% out of 100%). This overall score comprised of three components in which the school was graded: 1) School Environment 2) Student Performance and 3) Student Progress. For School Environment the school received a "C". For Student Performance, the school received an "A" and for Student Progress the school received a "B" (NYC Department of Education, 2009). The school was also recognized for showing exemplary proficiency gains in Latino students who were in the lowest 1/3 of all students citywide in Math. This school scored in the 19th percentile of all middle schools in the city.

One hundred forty-five students were sampled from middle school 1. Here 35% of students identified themselves as African American, 9% were Puerto Rican/PR-American, and 47% were Dominican/Dominican-American and 10% other or bi-racial. The sample was fairly balanced by gender with 51% boys and 49% girls. 58% of mothers from this sample held a high school diploma or less.

Middle School 2. Middle school 2 has 291 students from grade 6 through grade 8. The school population comprises 45% Black, 53% Hispanic, 1% White, and 1% Asian students. The student body includes 7% English language learners and 12% special education students. Boys account for 44% of the students enrolled and girls account for 56%. The average attendance rate for the school year 2007 - 2008 was 94.5%. The school is in receipt of Title 1 funds, with 89% of students receiving free-reduced lunch.

In the 2008-09 progress report conducted by the New York City Department of Education, the school was given an overall score of "A" (68.7% out of 100%). For School Environment the school received a "C". For Student Performance, the school received an "A" and for Student Progress the school received a "B" (NYC Department of Education, 2009). The school was also recognized for showing exemplary proficiency gains among Black students who were in the lowest 1/3 of all students citywide in Math as well as English Language Learners and Special Education Students. This school scored in the 25th percentile of all middle schools in the city.

Sixty-seven students were sampled from middle school 2. Here 44% of students identified themselves as African American, 7% were Mexican/Mexican-American, and 37% were Dominican/Dominican-American and 13% other or bi-racial. The sample was fairly balanced by gender with 45% boys and 55% girls. The vast majority (84%) of parents from this school chose to not fill out information regarding parent education.

High School 3. High school 3 has 541 students from grade 9 through grade 12. The school population comprises 48% Black, 48% Hispanic, 2%White, and 2% Asian students. The student body includes 13% English language learners and 18% special education students. Boys account for 52% of the students enrolled and girls account for

48%. The average attendance rate for the school year 2006-2007 was 82.8%. The school is in receipt of Title 1 funding with 61% eligibility.

In the 2008-09 progress report conducted by the New York City Department of Education, the school was given an overall score of "B" (46.0% out of 100%). For School Environment the school received a "B". For Student Performance, the school received a "B" and for Student Progress the school received a "B" (NYC Department of Education, 2009). This school scored in the 22th percentile of all high schools in the city.

Twenty-nine students were sampled from high school 3. Here 47% of students identified themselves as African American, 7% were Puerto Rican/PR-American, and 29% were Dominican/D-American and 18% other or bi-racial. By gender there were 43% boys and 57% girls. 75% of mothers from this sample held a high school diploma or less.

Middle School 4. Middle school 4 has 428 students from grade 6 through grade 8. The school population comprises 34% Black and 66% Hispanic students. The student body includes 21% English language learners and 22% special education students. Boys account for 56% of the students enrolled and girls account for 44%. The average attendance rate for the school year 2006-2007 was 87.5%. The school is in receipt of Title 1 funding with 84% of students eligible for free or reduced lunch.

In the 2008-09 progress report conducted by the New York City Department of Education, the school was given an overall score of "A" (79.7% out of 100%). For School Environment the school received a "B". For Student Performance, the school received an "A" and for Student Progress the school received an "A" (NYC Department of Education, 2009). The school was also recognized for showing exemplary proficiency gains among Black students as well as Latino students who were in the lowest 1/3 of all

students citywide in Math and English Language Arts. English Language Learners and Special Education Students also made strong gains in Math at this school. This school scored in the 48th percentile of all middle schools in the city.

One hundred six students were sampled from middle school 4. Here 36% of students identified themselves as African American, 25% were Puerto Rican/PR-American, and 17% were Dominican/Dominican-American and 20% other or bi-racial. The sample was completely balanced by gender with 50% boys and 50% girls. 48% of mothers from this sample held a high school diploma or less. 2% held as much as a college degree and 4% an advanced or professional degree. 36% did not return parental education data.

High School 5. High school 5 has 1,494 students from grade 9 through grade 12. The school population comprises 68% Hispanic, 28% Black, 4% Asian and 1% White students. The student body includes 15% English language learners and 12% special education students. Boys account for 75% of the students enrolled and girls account for 25%. The average attendance rate for the school year 2006-2007 was 77%. The school is in receipt of Title 1 funding with 85% of students eligible for free or reduced lunch.

In the 2008-09 progress report conducted by the New York City Department of Education, the school was given an overall score of "B" (47.0% out of 100%). For School Environment the school received a "C". For Student Performance, the school received a "B" and for Student Progress the school received a "B" (NYC Department of Education, 2009). This school scored in the 24th percentile of all high schools in the city. Some suggested improvements by the city for the school were to improve the quality of teaching and learning so that more lessons fully motivate and engage the students. They

were also recommended to improve the student attendance at school and undertake a more detailed analysis of the attendance records. In general, the school has many weak areas but has made substantial improvement since the 1990s, when it was considered one of the most dangerous schools in the city.

Ninety-nine students were sampled from high school 5. Here 31% of students identified themselves as African American, 29% were Puerto Rican/PR-American, 20% were Dominican/Dominican-American, and 15% were of mix Latino ancestry and 6% other or bi-racial. The sample was favored males with 67% boys and 33% girls. 66% of mothers from this sample held a high school diploma or less. 7% held a college degree.

High School 6. High school 6 has 411 students from 9 through grade 12. The school population comprises 66% Black, 32% Hispanic, 1% White, and 1% Asian students. The student body includes 3% English language learners and 16% special education students. Boys account for 100% of the students enrolled. The average attendance rate for the school year 2007 - 2008 was 87%. The school is in receipt of Title 1 funding with 62% of students receiving free-reduced lunch. In 2008-2009, the school received an overall rating of 3 (out of 4) from the city and was deemed as "proficient".

In the 2008-09 progress report conducted by the New York City Department of Education, the school was given an overall score of "B" (52.9% out of 100%). For School Environment the school received a "B". For Student Performance, the school received a "C" and for Student Progress the school received a "B" (NYC Department of Education, 2009). This school scored in the 39th percentile of all high schools in the city. The school was able to show exemplary proficiency gains in English Language Arts and Math Regents scores among students who were among the lowest 1/3 in the city. The school is

also relatively new (5 years) and requires students to wear full uniforms including ties daily and is one of the most sought after high schools in the Bronx for graduating middle school boys.

Seventy-two students were sampled from high school 6. Here 59% of students identified themselves as African American, 9% were Puerto Rican/PR-American, and 15% were Dominican/Dominican-American and 8% other or bi-racial. Boys accounted for 100% of the student population. Data on parent education was not retrieved from the majority of parents (85%) at this school. This was due to a combination of a logistical errors in collecting this data from parents as well as some parents who did not complete and return the information.

Secondary School 7. Secondary school 7 is a college preparatory school that has 567 students from grade 6 through grade 12. The school population comprises 34% Black, 64% Hispanic, 1% White, and 1% Asian students. The student body includes 5% English language learners and 20% special education students. Boys account for 47% of the students enrolled and girls account for 53%. The average attendance rate for the school year 2007 - 2008 was 89%. The school is in receipt of Title 1 with 72% of students receiving free-reduced lunch. In 2008-2009, the school received an overall rating of 4 (out of 4) from the city and was deemed as "well-developed".

Secondary school 7 is quite unique in that it is a publically funded college preparatory school with a middle school and high school. In the 2008-09 progress report conducted by the New York City Department of Education, the high school was given an overall score of "A" (87.4% out of 100%), which was in the 95 percentile of all New York City Schools. The middle school was given an overall score of "A" (99.0% out of

100%), which was in the 94 percentile of all New York City Schools. The school showed exemplary proficiency gains in English Language Arts and Math scores among Black and Latino students who were among the lowest 1/3 in the city I high school and middle school.

One hundred thirty-six students were sampled from secondary school 7. Here 29% of students identified themselves as African American, 30% were Puerto Rican/PR-American, 17% were Dominican/D-American, and 11% were of mix Latino heritage, 9% Mexican/Mexican-American and 2% other or bi-racial. The gender balance favored girls with 44% boys and 56% girls. 61% of mothers from this sample held a high school degree or less. Six percent held a college degree.

Finally, t-tests were used to compare if the samples within the two districts significantly differed by gender, race (Black/Latino), parent education and grades in Science, Math and English Language Arts. No statistical differences were found between the two districts except in gender. There were significantly more males sampled in district 7 (Mott Haven), due to the fact that one school was an all boys school and a second school was a career/technical school that had a student population of 75% males.

Procedure

The youth who participated in this study were recruited from their respective schools with the endorsement of administrators and teachers. Parental consent forms were given to students directly during class or assembly. This information included a parental/guardian consent form, information about the study, a background questionnaire for parents to complete and the contact information of the Institutional Review Board administrator should they have any questions about the appropriateness of the study.

Through this information parents/guardians were also noted that participation was voluntary and that participants could withdraw at any time without penalty.

Students took these materials home to their guardians to review and sign if the guardian decided to give consent. If students did not bring back a consent form signed by their guardian, they were not allowed to participate in the study. Roughly 1,274 consent forms were given out to students. Roughly 665 students returned the parental consent form agreeing to participate in the study. Due to varying reasons (e.g., absence, late return of forms, misplaced forms), only 653 students actually participated in the survey. Participants were offered the option of a free movie ticket or school supplies (notebooks, pens, pencils) for participating in the study.

Survey packets for participants were administered during one classroom period (roughly 45-55mins) during the school day. The peer nomination portion of the survey required students to rate one another in the classroom. Due to some restrictions and logistical difficulties with school administration, the peer nomination portion of the survey was not administered in middle school 1 or high school 5.

Measures

Identification with School Questionnaire (ISQ) (Voelkl, 1996). The Identification with School Questionnaire was utilized in this work to measure students' level of identification with academics. The 16 item ISQ measures the specific facets of identification with academics as defined as belonging (e.g. "I feel comfortable when I am at school, like I belong there," "Teachers here don't care about me") and value of school ("School is important in life," "The things we do in class are useless"). Specifically, this measure was used to measure identification with academics as it pertains to school

belonging and *value*. The scale essentially measures feelings of being a significant school member (e.g. acceptance, respect, pride) in conjunction with viewing the school as a social institution that is useful for personal advancement as well as an important part of the their self-concept.

All items on this scale were measured from 1 (strongly disagree) to 5 (strongly agree). Scores from the ISQ have been found to be reliable (α=.78) and its strong correlation with the School Perceptions Questionnaire SPQ (r=.76) suggests strong validity for academic/school centrality (Osborne & Walker, 2006). In the present sample, the two factors *belonging* (α=.71; 8 items) and *value* (α=.68; 8 items) were reliable, as was the overall ISQ measure (α=.79; 16 items). For descriptive and preliminary analyses, the data were reduced by computing the mean for the 8 belonging items and the 8 value items for each student, creating belonging and value scores. For correlational analyses, each student received one overall ISQ score by computing the mean for all 16 items. The overall ISQ identification mean score ranged from 1 (low identification) to 5 (high identification) for each student.

Academic Contingencies of Self-Worth (Crocker & Wolfe, 2001). A subscale of the Contingencies of self-worth (CSW) measure developed by Crocker and Wolfe (2001), the academic competence subscale was used to assess how personal self-worth was associated with success on academic endeavors. The items were scaled from 1 (very untrue for me) to 5 (highly true for me). The six items were: "My self-esteem gets a boost when I get a good grade on an exam or paper"; "Whether or not I am a good student is unrelated to my overall opinion of myself" (reverse scored); "When I do poorly on an exam or paper, my self esteem suffers"; "My opinion of myself is not tied to how well I

do in school" (reverse scored); "I feel better about myself when I know that I am doing well academically"; and "Doing well in school gives me a sense of self-respect."

The six items on this scale showed good internal consistency (α=.71) in an ethnically mixed sample of first semester college students ages 16 to 27 (Crocker, Luhtanen, Cooper, & Bouvrette, 2003). In the present sample, the initial 6 items did not hold together as well as expected (α=.57); however, when the two reverse coded items were dropped (#2 Whether or not I am a good student is unrelated to my overall opinion of myself; #4 My opinion of myself is not tied to how well I do in school), the reliability improved to (α=.73). It seems as though the wording of those two questions in particular were difficult for adolescents to decipher. Therefore, for an individual's CSW score, the four positively worded items were used to compute a mean score.

Perceptions of Educational Utility-Skepticism. To assess perceptions of educational utility and skepticism about the relevance of school success, the *Skepticism about the Relevance of School for Future Success* scale was used from the broader Patterns of Adaptive Learning Scales (PALS) (Midgley, et al., 2000). Five items were used to construct this scale, which measures students' skepticism about the relevance of school for future success (ex. "My chances of succeeding later in life don't depend on doing well in school."). In the present sample, these five items showed good reliability (α=.82).

Peer Nominations. Peer nominations were utilized in this study to measure how students perceive, value and identify with other students in their immediate academic environment. Whether frequently nominated peers were high/low achievers or well/poorly behaved students speaks to the qualities that the nominators value, esteem

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and hope to model themselves after. These peer nominations are useful in assessing the personality and academic values of adolescents, while helping to decrease social desirability and self-presentation concerns.

For the peer nomination portion of the survey, each student received a survey containing three questions and the name of 30 students in their grade at their school under each of the three questions. Participants were instructed to circle three students whom they (a) admire (b) respect, and (c) want to be like. Participants were told that classmates of either gender could be nominated, that the same person could be nominated for more than one question, and that self-nominations were not allowed.

In order to identify the achievement level and behavior patterns of nominated students, teachers within the grade were asked to fill out a form that asked them to write down the names of 10 students who were well-behaved and high achieving, 10 students who were poorly behaved and low achieving, and 10 student who were in the middle or inconsistent on achievement and behavior. They were also asked to consider a roughly even amount of boys and girls for each category.

This form was given to 3-4 teachers across that particular grade to make sure that all students in that grade were accounted for. Teachers who taught the highest percentage of students in a single grade were recruited for completing this form. Usually these were the social studies or science teachers who were responsible for teaching their domain to every student within the grade. In some cases, the assistant principal of a grade participated in filling out this form. Then the names that consistently appeared in a category across the 3-4 teachers who filled out the forms were used to make a final list of 10 students in each category that represented the entire grade at a particular school.

Students who ended up in the high achievement rating bracket were labeled with a score of 3, students in the middle achievement/behavior bracket were labeled with a score of 2, and students in the low achievement/behavior bracket were labeled with a score of 1. The score labels did not appear on the survey given to the nominators but were kept confidential. The score labels of students were compiled as described above to give all nominators a peer nomination score. The data for peer nominations were reduced as follows: each student who appeared on the final roster had an achievement/behavior rating from the average ratings of their teachers in that grade of 1 (very low achiever and poorly behaved) to 3 (very high achiever and well behaved). For each category a) admire b) respect c) want to be like, the scores of the three nominated children were averaged so that each category had the mean score of all three children nominated. Then the mean was taken of the three categories so that each nominator ended up with a mean score from 1 (values poor achievement and poor behavior) to 3 (values high achievement and good behavior). This score was used as a measure of concrete identification for achievement value.

The reduction of these three items (admire, respect, want to be like) proved to be reliable in the present sample (α=.76). An additional question after the peer nominations asked the nominator about the criteria they used in nominating other students who they admired, respected and wanted to be like. This appeared as follows: "In choosing other students that you admire, respect and want to be like, which of these factors did you consider? You may circle more than one;" Choices given were 1) classroom grades, 2) classroom behavior, 3) popularity, 4) sport/athletics, 5) clothing, and 6) Other (fill in the blank).

The teacher selection-student nomination method was chosen as opposed to only allowing students to freely nominate any student on a grade-wide roster as an attempt to limit/direct the reasoning behind a child's nomination of another student to school related behaviors and performance. Simply asking students to nominate one another without any confines sometimes results in students nominating one another for reasons that may be outside the immediate focus of this study (e.g., "because we grew up together," "because he gave me five dollars last week."). Asking teachers to first identify students who are known for particular school-related behaviors or performance (whether good or bad), does not necessarily cancel this effect but it curtails it by cueing characters within the immediate academic context that represent some portion of the spectrum of academic and behavioral personas. Then students are asked to consider which types of these characters they admire, respect and want to be like. This logic was confirmed because when students were asked what factors they considered when nominating other students, every single student indicated classroom behavior or performance as part of their answer, even if they included other things as well, like popularity or sports.

Discounting. Discounting is a unique kind of psychological disengagement. Here students may consider negative feedback as non-diagnostic, biased and prejudice because the teacher or test holds biased perceptions against that student's race, gender or other characteristics (Majors, Spencer, Schmader, Wolfe & Crocker, 1998). Previously, scholars have assessed this construct by assessing the "disconnect" between student achievement and academic self-concept (Morgan & Mehta, 2004). This disconnect would imply psychological disengagement. However, for this study, eight survey items were constructed (*see* Appendix C) to directly assess this construct. These items examined

whether students' perceive teacher bias against their academic performance or behavior because of but not limited to their race or gender (ex. "I feel that my teachers give me bad evaluations or grades because of my race.") Second the measure assesses whether students perceive that they have more ability then their teachers recognize (ex. "What my teachers say about me is not accurate of my real abilities."). The rating scale for this measure ranged from 1(strongly disagree) to 5 (strongly agree) for all eight items. A mean score from all eight items was computed for each individual. These eight items showed acceptable reliability (α=.75). This conveys a general distrust of the evaluations from teachers and may be an integral catalyst for dis-identification with school in general.

Achievement Motivation and Self-regulated Learning Constructs. The revised personal achievement goal orientation measures (Midgley et al., 1998) were utilized to measure achievement motivation as conceptualized by goal theory which highlights the epistemological beliefs that direct motivation and learning (mastery goals vs. performance goals) and whether students attempt to emphasize their strong performance or avoid performing poorly and being viewed as incompetent (performance-approach versus performance-avoidant).

The mastery orientation scale contained four items and measured the desire of developing competence as the goal in an achievement setting (ex. "One of my goals in class is to learn as much as I can."). The performance-approach scale also had four items and measures the desire to show or demonstrate competence as a goal in an achievement setting (ex. "It's important to me that I look smart compared to others in my class."). Third, the performance-avoidant orientation scale contains four items and measures the desire to avoid the demonstration of incompetence as a goal in an achievement setting

(ex. "It's important to me that I don't look stupid in class."). For each measure, the data were reduced by computing the mean of the items for each individual case. These revised measures of mastery orientation (α=.83), performance-approach (α=.85) and performance-avoidant (α=.74) all showed strong reliability in the present sample.

Additionally, the *Academic Self-handicapping Strategies* (Midgley, Arunkumar & Urdan; 1996) measure was used to assess whether students use strategies that may impinge on their academic success and blame these circumstances if they underperform academically rather than their ability (ex. "Some students put off doing their class work until the last minute. Then if they don't do well on their work, they can say that is the reason. How true is this of you?"). This scale contained five items and showed strong reliability in the present sample (α=.80). The mean of the five items were taken to create a self-handicapping score.

The *Motivated Strategies for Learning Questionnaire* (MSLQ) (Pintrich, Smith, García & McKeachie, 1993) was utilized in this study to measure student motivational beliefs and strategies. The MSLQ is the most widely used measure for self-regulated learning today and has been applied and validated in various populations ranging from 4th grade to the post-collegiate level, which has proven to be its advantage over other instruments. This 56 item inventory assesses student motivational beliefs and self-regulated learning strategies. Motivational beliefs are separated into 3 distinct categories: self-efficacy, intrinsic value, and test anxiety. Only self-efficacy and intrinsic value were used in the present study. Self-regulated learning strategies were broken into cognitive strategy use and self-regulation; however, these scales where not used in the present study because they were replaced with a more comprehensive measure of self-regulation

discussed later. Overall, the motivational and learning strategy subscales showed strong

predictive validity for academic achievement (Pintrich, Smith, Garcia & McKeachie,

1993).

The *Self-Efficacy scale* consists of nine items regarding perceived competence

and confidence in performance of class work (e.g., "I know that I will be able to learn the

material for this class"). The *Intrinsic Value scale* consists of student responses to nine

items concerning intrinsic interest ("I think what we are learning in this Science class is

interesting") and perceived importance of course work ("It is important for me to learn

what is being taught in this English class") as well as preference for challenge and

mastery goals ("I prefer class work that is challenging so I can learn new things"). In the

present sample, both the self-efficacy (α=.81) and intrinsic value scales (α=.82). Means of

the items for each subscale were computed for individual scores.

Through the MSLQ, motivational and efficacy beliefs have been linked to

effective strategy use and self-regulation. Positive motivational beliefs, strong strategy

use, meta-cognition, positive self-efficacy and high intrinsic value have all been

consistently positively correlated with high achievement for middle school and high

school students (Hong & Aqui, 2004; Pintrich, Roeser & DeGroot, 1994; Wolters &

Rosenthal, 2000).

To assess self-regulatory strategies, I used the *Strategies for the Regulation of*

Academic Cognition, Motivation and Behavior (Wolters, Pintrich & Karabenick, 2003),

which is derived from the MSLQ. The three major subscales within this measure were

Cognitive Regulation, Motivation Regulation and *Behavioral Regulation.* Each of these

subscales also contained subscales that detailed some the specific behaviors of the scale.

Within the cognitive regulation scale, there were four subscales: *Rehearsal Strategies, Elaboration Strategies, Organizational Strategies* and *Meta-cognitive Strategies.* Five items assessed rehearsal strategies (α=.73) (e.g., "I memorize key words to remind me of important concepts in this class"), four items assessed elaboration strategies (α=.64) (e.g., "When reading for this class, I try to relate the material to what I already know"), four items comprised organization strategies (α=.76) (e.g., "When I study for the readings for this course, I outline the material to help me organize my thoughts"), and ten items comprised meta-cognitive strategies (α=.67) (e.g., "When reading for this course, I make up questions to help focus my reading").

Motivation regulation consisted of four subscales: *Self-talk, Interest Enhancement, Self-consequating* and *Environmental Structuring*. Eleven items comprised self-talk (α=.87) (e.g. "I tell myself that I should keep working just to learn as much as I can"), eight items for interest enhancement (α=.84) (e.g., "I make studying more enjoyable by turning it into a game"), four items assessed self-consequating (α=.82) (e.g., "I promise myself I can do something I want later if I finish the assigned work now"), and five items for environmental structuring (α=.78) (e.g., "I try to study at a time when I can be more focused").

Finally, behavioral regulation was comprised of two subscales: *Persistence Regulation* and *Intention to Seek Help.* Persistence regulation (α=.61) was measured by two items (e.g., "Even when course materials are dull and uninteresting, I manage to keep working until I finish") and general intention to seek help (α=.79) was measured by two items as well (e.g., "If I needed help in class I would ask someone for assistance"). All of the above listed Alphas were for the present sample. There is also evidence of construct

validity of the scales in terms of their relations with other motivational and achievement measures (Wolters, Pintrich & Karabenick, 2003).

Prior work shows that estimates of internal consistency, computed using Cronbach's alpha are reasonable for college aged students, rehearsal (.50 to .69), elaboration (.75 to .85), organization (.64 to .81) and meta-cognitive self-regulation (.71 to .81) (Pintrich et al, 1991, 1993;). This work has also shown that the four factor structure of rehearsal, elaboration, organization and meta-cognitive self-regulation is not supported in middle school/junior classrooms. Factor analyses with these younger students support the creation of one general cognitive strategy scale and one meta-cognitive strategy scale. The alphas for the general cognitive strategy scale are acceptable (alpha=.83 to .88) and also for the meta-cognitive self-regulation scale (alpha=.63 to .74) (Pintrich & De Groot, 1990; Pintrich, Roeser & DeGroot, 1994).

A confirmatory factor analysis was run to confirm the second order factor structure based on these theoretical dimensions of self-regulated learning. A four factor structure for the cognitive regulation subscales was supported for the present data; however, a two factor structure for cognitive regulation produced a stronger fit. The factor analysis procedure is discussed in further detail in the second research aim section of the results section.

Academic Achievement. To measure academic achievement, students were given the opportunity to self-report on their achievement in their Math, Science, and Language Arts classes. This was achieved through asking, "What kind of grades do you normally get in Science?" Students responded to this question and similar questions for other academic domains through an eight-point Likert scale (8=Mostly A's, 7=A's and B's,

6=Mostly B's, 5=B's and C's, 4=Mostly C's, 3=C's and D's, 2=Mostly D's, 1=D's and F's). Middle school students were also asked to give their standardized test scores from annual Math and ELA testing. These are graded from 1 to 4: 1 = two grade levels behind, 2 = one grade level behind, 3 = at grade level or proficient, 4 = one grade level ahead. All students in New York City schools take these standardized tests every year starting in third grade until eighth grade. In addition, at the time of this survey administration (May, 2009), students city-wide had just received the standardized scores back from the city.

At the high school level, students were asked to report their Regents exam scores. The Regents exam is a state-wide standardized exam in each of the foundational content areas of the New York State high school curriculum. It is scored out of 100%. In 9th and 10th grades, many high school students tend to take the Math, Global or English Regents exams. Participating students were asked to report their grades from these exams. Finally, on the consent form and background information questionnaire, parents were asked to fill out information on the types of grades their child receives in general. Parent reports of grades were highly correlated with student grade reports and both were significantly related to standardized tests scores and student's reports of grade point average (*see* Table 1).

Analytic Strategy

A variety of analytic techniques will be employed to address these questions, such as ANOVA and descriptive techniques, cluster analysis, confirmatory factor analysis and structural equation modeling. Structural equation modeling (SEM) will be utilized as the primary technique for addressing the first two research aims. Due to the complex measurement of multiple independent and dependent variables in the present work,

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structural equation modeling provides several advantages over regression modeling. SEM allows for flexible assumptions (particularly allowing interpretation even in the face of multi-collinearity) and the use of confirmatory factor analysis to reduce measurement error by having multiple indicators per latent variable. Furthermore, SEM allows for the identification of the best model fit for a normative path of development via an evaluation of a generalized complex model in addition to a chi-square test of nested models that will allow me to comparatively examine the fit of more specific alternative models. I will also have the ability to test models with multiple dependent variables and test coefficients across multiple between-subjects groups.

The first goal was to examine the nature and prevalence of dis-identification with academics by ethnicity, gender, grade level and self-efficacy. Is dis-identification with academics a prevalent phenomenon within ethnic minority students, specifically at-risk boys; or are there other constructs (i.e., self-efficacy) that better explain this phenomenon? This research also examines the ways in which at-risk adolescent boys identify/dis-identify (e.g. discounting, value, self-esteem, etc.) overall.

One-way analysis of variance and descriptive statistics were utilized to examine group differences on the academic identification measures by ethnicity, gender and grade level. Next structural equation modeling was used to construct a model that demonstrates how the different modes of academic identification described above relate to academic achievement as measured by Math, English and Science grades. Last, nested model comparisons by ethnicity (Black, Dominican, and Puerto-Rican), gender, grade level (6th, 8th, 10th) and self-efficacy (high or low) was tested to assess how the relationships

between academic identification and achievement differ as a result of being a member of any of these particular groups.

The second aim was to substantiate self-regulatory behaviors as the process through which academic identification is related to achievement. Further, what sort of self-regulatory behaviors (e.g. cognitive, motivation, behavioral) are most predictive of academic achievement and do gender differences exist within these effects?

To assess this, confirmatory factor analysis via structural equation modeling was use to confirm the self-regulated learning factor structure of cognitive, motivation and behavioral regulation. Gender as well as grade differences were examined with regard to these self regulatory behaviors. Next, structural equation modeling was used to construct a mediation model where self-regulated learning mediates the relationship between the academic identification indicators and achievement measured by Math, English and Science grades. Finally, a group comparison of this mediation model was constructed to assess whether the three modes of self-regulated learning (i.e., cognitive, motivation, behavioral regulation) differentially predict for different domains of achievement (Math, English, Science) and whether these predictions varied by gender.

Based on the first two aims, the final aim of this work was to construct academic profiles of low resourced inner-city boys, along the identification, self-regulatory and achievement motivation constructs discussed prior. What do adolescent boys "look like" according to their identification with academics? Are there multiple ways to be identified with academics? How do the varied profiles of academic identification relate with self-regulated learning, self-efficacy and one another.

To answer these questions, hierarchical cluster analysis was used to create profiles of boys within the sample based on multiple measures of their identification with academics, self-regulatory behaviors and self-efficacy. The robustness of these clusters was tested by running an iterative, non-hierarchical method of cluster analysis to compare with the hierarchical method. Next, clusters were described and qualified by their standardized mean scores. Multivariate analyses were modeled to relate the derived profiles to classroom grades, mastery orientation and self-handicapping behaviors. Finally, multinomial logistic regressions were utilized to assess if ethnicity, mother education or grade level predicted for the profiles.

CHAPTER 4: Results

The goal of the overall study was to come to a greater understanding of the components of academic identification and how they inform the academic achievement of African American and Latino students across seven schools in Harlem and the South Bronx, New York City. The following three research aims examine the relationships between academic identification, achievement motivation, self-regulated learning and achievement outcomes throughout adolescence in grades six, eight, and ten. Table 1 consists of descriptive statistics and correlations for the achievement variables used. Table 2 contains mean differences by school on the key constructs under examination in this study.

Research Aim 1

The first goal of this study was to examine the nature and extent of academic identification within African American and Latino students, particularly minority boys from low-resourced communities. Using a compilation of popular identification measures, group differences on academic identification were assessed by race/ethnicity, gender and grade level. A specific goal was to ascertain whether dis-identification attitudes were a prevalent phenomenon within inner-city low-resourced males in particular, or whether academic dis-identification was more contingent upon other factors such as personal self-efficacy or grade level, regardless of gender. Additionally, I examined race/ethnic differences in academic identification among inner-city boys. Next,

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structural equation modeling was utilized to assess how different modes of academic identification (e.g., school belonging, intrinsic value, etc.) predict English, Math and Science grades as a measure of academic achievement as well as classroom adjustment. Finally, the relationship between identification and achievement was allowed to vary by the following moderating variables: ethnicity, gender, grade and self-efficacy to assess the specific predictive quality of different types of identification for various groups of students.

I expect only a small subset of African American and Latino boys will show severe dis-identification attitudes across the middle and high school years. Further, I expect a personal history of low efficacy to be an important moderator of the relationship between identification and achievement versus ethnicity or gender. Finally, I expect the quality and type of academic identification to change as students advance through the grades and for grade level to have a differential predictive quality for achievement.

Preliminary Analyses. Student reports on self-efficacy, intrinsic value, school belonging, a general valuing of school, academic contingencies of self worth, discounting, educational utility-skepticism and peer nominations were all used in conjunction to triangulate a snapshot of how African American and Latino students in Harlem and the South Bronx identify with academics across middle school and in high school. Correlations across these indicators were strong and significant; however, peer nominations were not significantly related to many of the identification measures and only weakly correlated with educational utility and self-efficacy (*see* Table 3). Across the diverse measures of academic identification, students in general reported moderate to high scores, indicating high identification (*see* Table 3 "skewness"). For preliminary

analyses, the *Identification with School Questionnaire* (*ISQ*) was analyzed by its two subscales, *School Belonging* (α=.71) and *School Value* (α=.68) separately.

Using one-way analysis of variance to assess group differences, boys and girls showed similar scores on academic contingencies of self worth, intrinsic value, educational utility, general school value, discounting attitudes and peer nominations of students they respect, admire and want to be like. However, there were gender differences in some areas. Girls reported higher self-efficacy than boys (*F* (1,595) = 7.42, *p<.01*); however, boys expressed significantly higher perceptions of school belonging (*F* (1,597) = 4.41, *p<.05*) (*see* Table 4). In general, boys were not overrepresented among students with low identification ratings; however, with regard to self-efficacy, boys were overrepresented among students who have low efficacy by 49% (*see* Figure 2).

One-way analysis of variance was again utilized to examine ethnic differences in identification with academics, and then a Tukey post hoc test was run to further examine intergroup differences. Across ethnicity, students who identified themselves as African American/Black and self-identified Dominican and Puerto-Rican students showed similar scores on general school value, intrinsic value, self-efficacy, discounting and notions of educational utility. However, African American/Black students reported a higher sense of school belonging than both Puerto-Rican and Dominican students (*F* (2,456) = 5.42, *p<.01*). Ethnic differences were also found in academic contingencies of self-worth (*F* (2,459) = 6.01, *p<.01*) and peer nominations (*F* (2,260) = 4.0, *p<.05*). Specifically, Dominican students were significantly more likely to allow their self-worth to be contingent on academic performance compared to Puerto-Rican students but not statistically distinct from African American students. However, Puerto-Rican students

were significantly more likely to nominate high achieving and well behaved peers as people they admire and respect compared to African American students only.

The academic identification of boys is a particular focus for this paper. Therefore, the same ethnic comparisons were examined for boys only to assess academic identification at the interaction of race and gender. When considering boys only, the peer nomination differences disappeared. However, school belonging (F (2,260) = 3.45, $p<.05$) and academic contingencies of self worth (F (2,261) = 2.98, $p=.052$) remain significantly different across groups. The post hoc pairwise comparisons were in the same direction as the whole group findings with African American boys reporting higher school belonging than Puerto-Rican boys only and Dominican boys reporting more academic contingencies of self-worth compared to Puerto-Rican boys only.

Finally, one way analysis of variance was used to examine grade level differences in academic identification in the 6th, 8th and 10th grade. Then a Tukey HSD post hoc test was used to assess intergroup differences. Academic identification tended to be lower among older students, with the exception of peer nominations. However, not all of these measures were lower by cohort. Feelings of school belonging were lowest among 8th and 10th graders compared to 6th graders (F (2,595) = 3.36, $p<.05$). Academic contingencies of self worth were also significantly lower among 10th graders versus 6th graders only (F (2,596) = 4.39, $p<.05$), while nominations of positive peers was significantly higher in 8th and 10th graders (F (2,351) = 8.92, $p<.001$), with no significant differences between 8th and 10th graders (*see* Table 4).

Next, Structural equation modeling (AMOS 17.0; Amos Development Corporation, Spring House, PA) was used to estimate the relationships between the different modes of

academic identification and academic achievement in English Language Arts (ELA),

Math and Science grades. The basic academic identification model (*see* Figure 3)

included a compilation of intrinsic value, the Identification with School Questionnaire

(i.e., school belonging and school value), academic contingencies of self-worth and

educational utility to predict grades in ELA, Math and Science. I also tested the

interaction of the identification measures with ethnicity, gender, grade level and self-

efficacy. Discounting and peer nominations were either inconsistent or non-significant

predictors in concert with the other academic identification predictors and were therefore

dropped from the basic model and additional models.

Several goodness-of-fit measures were used to assess the fit of the models. I

report the chi-square statistic and assumed good model fit if the root mean square error of

approximation (RMSEA) was below .06 and the normed-fit index (NFI) and the

comparative fit index (CFI) were greater than .95 (Hu & Bentler, 1999; Kline,1998). I

assume a mediocre but acceptable fit of the model if the RMSEA is between 0.08 to 0.1

and the NFI or CFI > 0.9 (Hu & Bentler, 1999; Bentler & Bonnett, 1980).

The academic identification model used here (*see* Figure 3) assumes that each of

these different forms of measuring/conceptualizing identification with academics

uniquely contributes to an understanding of what academic identification may look like

and how it may predict achievement; however, these indicators taken together do not

comprise an academic identification factor nor do they completely capture all of the

fundamental components of academic identification. I acknowledge that there may be

other underlying concepts that have an influence on academic identification that are not

directly tested in this model. For this reason, the variance of the latent construct

"Academic Identification" was allowed to remain free. The model presumes that these previously discussed constructs predict academic achievement as comprised of classroom grades in English, Math and Science.

This model fit the observed data well χ^2 (8, n=607) = 3.87, RMSEA = .00 (95%CI: .00, .03), NFI = .99, CFI = 1.00. Each of the pathways indicating the achievement factor (Science, Math and English grades) as well as all the identification predictors except academic contingencies of self-worth was significant and in the predicted direction. ISQ (belonging and value) (β= .14, p <.05), intrinsic value (β= .21, p <.01) and educational utility-skepticism (β= -.12, p <.05) all predicted academic achievement latent factor comprised of grades in English (β= .48, p <.01), Math (β= .63, p <.01) and Science (β= .82, p <.01). Academic contingencies of self-worth (CSW) was a non-significant predictor (β= .03, p =.48) of academic achievement (*see* Table 5).

Multi-group analyses where then conducted to test whether this model differed by gender, ethnicity, grade level or self-efficacy. The academic identification model by gender (Boys=342; Girls=260) showed a strong fit for the data χ^2 (16, n=602) = 10.38, RMSEA = .00 (95%CI: .00, .02), NFI = .99, CFI = 1.00. For boys, school belonging/value (ISQ) and educational utility predicted academic achievement (β= .19, p <.05; β= -.17, p <.05). English (β= .42, p <.01), Science (β= .77, p <.01) and Math (β= .62, p <.01) grades loaded well on the achievement factor. However, for girls only intrinsic value predicted achievement (β= .28, p <.001).

In order to test whether these gender differences were significantly different, a similar model was run holding all four parameters constrained to equality (i.e., identification to achievement pathways), one at a time until all pathways were

constrained to equality. With each imposed constraint, the chi-square statistic was assessed to see if the fit worsened by 3.84, which would make the model significantly different at the .05 level with a one degree of freedom change. The ISQ pathway was the first to be constrained, producing a change in the chi-square statistic of 0.3 df = 1, which is not significant. Second, intrinsic value was constrained producing a change in the chi-square statistic of 2.68 df = 1, which was not significant. When contingencies of self worth was constrained, the change in chi-square was 1.14 df = 1. Finally, constraining educational utility produced a chi-square change of 0.65 df = 1. This indicates that the nature of the relationship between academic identification and achievement is the same for boys and girls. See table 6 for a summary of the models.

A similar approach was taken to assess academic identification by ethnicity (i.e., Black and Latino). There were similar loadings for how academic identification predicts achievement across students who identified as Black (i.e., African American or Black) or Latino (i.e., Dominican, Puerto-Rican or Mexican). Intrinsic value emerged as the only predictor of achievement for both groups (Blacks, β= .21, p <.05 and Latinos, β= .19, p <.01), significantly predicting achievement, comprised of English, Science and Math grades. This general model (Black=229; Latino=355) fit the data well χ^2 (16, n=584) = 12.84, RMSEA = .00 (95%CI: .00, .03), NFI = .98, CFI = 1.00.

Again, similar models were run holding all four parameters constrained to equality (i.e., identification to achievement pathways), one at a time until all pathways were constrained to equality. With each imposed constraint, the chi-square statistic was assessed to see if the fit worsened by 3.84, which would make it significant at the .05 level with a one degree of freedom change. None of the imposed constraints produced a

change in the chi-square statistic that was greater than 3.84. Therefore, similar to gender, the relationship between identification and achievement did not vary by ethnicity. For a summary of these models see Table 6.

When examining this model by grade level, I first analyzed differences between 6th and 10th graders because differences in identification and how it relates to achievement would be most prevalent in this four year gap during the sensitive period of adolescent development. Descriptive statistics also suggest that through the adolescent years, many identification attitudes were lower among the older cohorts. After this initial 6th/10th grade comparison, I examined differences between 6th and 8th graders and then 10th and 8th graders.

The academic identification model that was allowed to vary by grade level (6th n=163; 10th n=226) fit the observed data very well χ^2 (16, n=389) = 13.78, RMSEA = .00 (95%CI: .00, .04), NFI = .97, CFI = 1.00. In 6th grade only intrinsic value predicted for academic achievement latent construct (β= .25, p <.05). English (β= .62, p <.01), Science (β= .67, p <.01) and Math (β= .56, p <.01) grades loaded onto the achievement factor fairly evenly. However, in the 10th grade only ISQ (belonging and value) predicted the achievement (β= .19, p <.05). Science grades (β= .96, p <.01) loaded strongly onto achievement explaining substantial variance here (R^2= 93%) compared to English (β= .42, p <.01; R^2= 17%), and Math (β= .57, p <.01; R^2= 33%) grades, although all pathways were significant (*see* Figure 4).

In order to test whether these differences by grade cohort were statistically significant, a similar model was run holding all four parameters constrained to equality one at a time until all pathways were constrained to equality. Consecutively constraining

the other pathways did not produce a change in the chi-square that exceeded 3.84.

Additional models were run to examine differences between 6th and 8th graders and 8th

and 10th graders but no significant differences were found. These results and models can

also be found in table 6.

Finally, a similar model was run for academic identification by high or low self-

efficacy. Students with high or low self-efficacy were those with ½ standard deviation

above or below the mean. One-half of a standard deviation was used instead of a full

standard deviation due to the fact that one standard deviation above or below would have

produced groups with too small in size to reliably run the multi-group analysis. The

general model by self-efficacy (High=181; Low=194) was well fitting χ^2 (16, n=375) =

13.19, RMSEA = .00 (95%CI: .00, .04), NFI = .96, CFI = 1.00. School belonging/value

approached significance (β= .23, p =.058) predicting achievement for students with low

self-efficacy, while no academic identification predictors were significant for students

high on self-efficacy. For students low on self-efficacy, the loadings for achievement

were as follows: Science (β= .78, p <.01), English (β= .32, p <.01) and Math (β= .60, p

<.01). For students high on self-efficacy, the loadings for achievement were as follows:

Science (β= .74, p <.01), English (β= .47, p <.01) and Math (β= .70, p <.01).

A series of models was run consecutively constraining the four identification

pathways to determine if the differences found by self-efficacy level on academic

identification indicated above were significant statistically. Constraining the ISQ pathway

produced a change in the chi-square statistic of 4.23 df = 1, which is significant at the .05

level. When intrinsic value, contingencies of self-worth and educational utility were

constrained consecutively, none of these produced a chi-square change that exceeded

3.84 (*see* Table 6). This indicates that the nature of the relationship between academic identification and achievement is different for students who are high versus low on self-efficacy. For students who are low on self-efficacy, feelings of belongingness and school value significantly predict achievement whereas these feelings are not predictive of achievement among high efficacy students.

To briefly summarize, descriptive statistics show that overall, the sample was moderately to highly identified with academics according to a diverse compilation of academic identification measures. Group comparisons show some mean differences on some of these scales by gender, ethnicity and grade level. However, no group is over represented among low identified students on a large majority of the measures except for boys and low self-efficacy. Despite some of these differences, path analysis showed that the relationship between academic identification and academic achievement did not vary by group as a function of gender, ethnicity or grade level. However, for students high or low on self-efficacy, the relationship between identification and achievement differs in quality and by mode. Identification constructs that were consistently predictive of achievement across groups were school belonging, school value and intrinsic value.

Research Aim 2

The second research aim examines the role of self-regulated learning behaviors and their association with academic identification and achievement. The first goal was to elucidate the role of self-regulated learning behaviors in the relationship between identification and achievement. I hypothesized that the academic identification measures utilized here serve as weak or inconsistent predictors of academic achievement overall; however, self-regulated learning plays a mediating role between academic identification

and achievement. Thus, self-regulation is a proximal mechanism by which identification attitudes are related to academic achievement. Before mediation was established, the self-regulation factor comprised of cognitive, motivation and behavioral regulation was confirmed. On an exploratory basis, a second goal was to weigh the individual predictive utility of the three self-regulatory behaviors (i.e., cognitive, motivation, and behavioral regulation) for Math, English and Science grades and the unique salience of these sub-constructs for boys in particular.

The self-regulatory strategies used here from the *Strategies for the Regulation of Academic Cognition, Motivation and Behavior* (Wolters, Pintrich & Karabenick, 2003) include three constructs: Cognitive Regulation, Motivation Regulation and Behavioral Regulation. Four subscales comprised the cognitive regulation scale: rehearsal strategies, elaboration strategies, organizational strategies and meta-cognitive strategies. For the motivation regulation scale there were also four subscales, which include: self-talk, interest enhancement, self-consequating and environmental structuring. Behavioral regulation had two subscales of persistence regulation and help seeking behaviors. Descriptive statistics and correlation tables for the three main scales (Table 7) and the subscales (Table 8) can be found below in Appendix A.

Second order confirmatory factor analysis (AMOS 17.0; Amos Development Corporation, Spring House, PA) was used to examine whether this theoretical structure of cognitive, motivation and behavioral regulation (Pintrich, 2000) held together empirically with the construct appropriate subscales (described above) as indicators. The structure of the initial second order factor analysis was confirmed fitting the data adequately; however, the final and best fitting factor structure (*see* Table 9 and Figure 5) indicates

that the four cognitive regulation subscales are best observed as two indicators: 1) Organization and Elaboration and 2) Meta-cognitive and Rehearsal strategies. Monte Carlo parallel analysis (Lance, Butts, and Michels, 2006) also confirmed these results, indicating that anything more than two factors for the cognitive regulation scale would be considered random. The subscales loaded well onto their expected factors, although the behavioral regulation indicators loaded somewhat poorly (persistence management, .60; and help seeking, .44). The entire self-regulation second order factor fit the data well χ^2 (16, n=606) = 81.96, RMSEA = .08 (90%CI: .06, .10), NFI = .96, GFI = 0.97, CFI = 0.97. I assumed good model fit if the Root Mean Square Error of Approximation (RMSEA) was below .06 and the Normed-Fit Index (NFI) and the Comparative Fit Index (CFI) were greater than .95 (Hu & Bentler, 1999; Kline,1998). I assume a mediocre but acceptable fit of the model if the RMSEA was between 0.08 to 0.1 and the NFI or CFI between 0.9 and 0.95 (Hu & Bentler, 1999; Bentler & Bonnett, 1980).

Mean trends indicated a significant decline in cognitive and motivation regulation as grade cohort increased (Cognitive Regulation, F (2,600) = 13.62, $p<.001$; Motivation Regulation, F (2,600) = 11.36, $p<.001$). Tukey post hoc tests with pairwise comparisons reveal significant decreases from 6th to 8th and 10th grade on cognitive and motivation regulation (all ps<.001) but non-significant differences between 8th to 10th grade. These trends also highlight gender differences in motivation (F (1,600) = 6.51, $p<.05$), cognitive (F (1,600) = 3.74, $p=.05$), and behavioral regulation (F (1,600) = 8.67, $p<.01$), favoring girls. Interestingly, these gender differences favoring girls in self-regulated learning behaviors decreased as the grade cohorts increased (6th, 8th, 10th). There were significant gender differences in motivation, cognitive and behavioral regulation in the 6th grade (F

$(1,161) = 7.45$, $p<.01$; $F(1,161) = 5.25$, $p<.05$; $F(1,161) = 2.80$, $p=.09$). However, in the 8th grade only behavioral regulation ($F(1,207) = 3.12$, $p=.08$) remained marginally significant. By the 10th grade, there were no gender differences whatsoever on these three constructs (*see* Figure 6).

Next, relationships between the self-regulated learning factor and Math, Science and English grades were modeled (*see* Figure 7). The data fit the model very well, χ^2 (6, n=576) = 13.04, RMSEA = .05, NFI = .98, CFI = 0.99. Self-regulated learning significantly predicted Math, Science and English achievement explaining a small percentage of variance within each.

Next, I tested the relationship between the individual academic identification predictors and achievement in the three domains (Math, English and Science). I also examined whether self-regulated learning, as measured by cognitive, motivation and behavioral regulation mediated the relationship between the individual identification measures and the three achievement domains. In multiple regression analyses, ISQ, intrinsic value, CSW and educational utility were allowed to predict Math, English and Science grades using simultaneous forced entry. Many of the academic identification predictors failed to significantly predict achievement across the three domains, with the exception of intrinsic value which predicted Math ($\beta= .10$, $p<.05$), English ($\beta= .14$, $p<.01$) and Science achievement ($\beta= .16$, $p<.001$). Skepticism on the educational utility scale was negatively related to English achievement ($\beta= -.10$, $p<.01$) but did not predict Math and Science. School Belonging/Value predicted Science grades ($\beta= .12$, $p<.01$) but not Math or English. Contingencies of self-worth did not predict any of the achievement variables. Overall, the academic identification predictors were weakly or inconsistently

related to the three domains of Math, English and Science achievement. A summary of these regression analyses can be found in Table 10.

When inducting the self-regulation factor into this relationship as a mediating construct, I found that all the academic identification predictors except educational utility significantly predicted self-regulation, explaining 55% of the variance there. Self-regulation also predicted Math, English and Science achievement explaining a modest percentage (4%, 4%, and 7% respectively) of variance in these achievement domains (*see* Figure 8). To test whether self-regulated learning significantly mediated the relationship between the academic identity predictors and achievement, Bootstrapping tests of mediation were utilized.

Both Sobel and bootstrapping methods of testing indirect effects confirmed that self-regulated learning significantly mediates the relationship between all of the identification predictors (except educational utility) and class grades. Self-regulated learning fully mediated the relationship between ISQ and Math and English grades (indirect β =.05, $p<.05$; β =.07, $p<.01$ respectively) and partially for Science grades (indirect β =.04, $p<.01$) controlling for direct effects. Self-regulated learning fully mediated the relationship between contingencies of self-worth and Math, Science and English grades respectively (indirect β =.04, $p<.01$, β =.08, $p<.001$, β =.06, $p<.001$) controlling for direct effects. Self-regulated learning partially mediated the relationship between intrinsic value and Science and English grades respectively (indirect β =.05, $p<.01$, β =.04, $p<.05$) controlling for direct effects. Direct effects between intrinsic value and grades still remained significant even with the presence of indirect pathways Educational utility did not predict self-regulated learning; therefore, no mediating

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relationships existed here. A summary of direct and indirect effects can be found in Table 11.

Another similar mediation model was run. However, this model indicated how specific regulatory behaviors (i.e. cognitive, motivation, behavioral) predicted specific achievement domains (Math, Science & English grades) (*see* Figure 9) and if these were moderated by gender. This model fit the data adequately χ^2 (20, n=607) = 94.65, RMSEA = .08 (90%CI: .06, .09), NFI = .95, CFI = 0.96, and results were similar to the previous mediation model in that school belonging and value, intrinsic value, and academic contingencies of self-worth all significantly predicted self-regulated learning, explaining 53.8% of the variance in this construct, while educational utility was not a significant predictor. However, among the three self-regulated learning subcomponents, behavioral regulation significantly predicted Math (β= .14, *p* <.01), Science (β= .15, *p* <.01) and English grades (β= .10, *p* <.05). Motivation regulation only predicted Math grades (β= .15, *p* <.05) and cognitive regulation was not a significant predictor of any of the achievement domains (*see* Figure 9). This model was allowed to vary by grade, ethnicity and gender. There were no significant differences by grade or ethnicity; however, allowing the model to vary by grade level improved the fit substantially. There were some gender trends that suggest motivation and behavioral regulation may operate differently for boys and girls. These were further explored.

Multi-group analyses were conducted to test whether the second mediation model differed for boys and girls. Sub-component regulation to achievement pathways were constrained to equality one at a time until all pathways were constrained. With each imposed constraint, the chi-square statistic was assessed to see if the fit worsened by

3.84, which would make it significant at the .05 level with a one degree of freedom change. Imposing the constraints on these pathways did not increase the chi-square statistic by 3.84 except for the pathway from behavioral regulation to English grades. The chi-square change here for the pathway between behavioral regulation and English equaled 4.85, which favored girls.

In summary, the second order self-regulated learning factor comprised of cognitive, motivation and behavioral regulation and its subscales were confirmed. The data also revealed a decline in the usage of cognitive and motivational regulation among the older cohorts as well as gender differences in the usage of all three self-regulatory components. However, these gender differences closed to non-significance in the 8th and 10th grades. These self-regulation behaviors also mediated the relationship between many of the academic identification predictors and academic achievement. Behavioral regulation (persistence management and help seeking) was the strongest predictor of achievement among the three regulation constructs and played a unique role in predicting English grades for girls.

Research Aim 3

The final aim of this research project was to build upon the first two aims and construct profiles of ethnic minority boys, as informed by our three major conceptual themes under investigation in the present work: academic identification, self-regulated learning and achievement motivation. This aim presents the opportunity to discover what successful inner-city boys "look like" in terms of their perceptions about school, themselves and their academic-oriented behaviors. Considering the coalescence of these important achievement indicating constructs may demonstrate how there are multiple

paths to achievement (and underachievement) and unique within group nuances that need to be appreciated and further explored. This work is exploratory in nature; however, I hypothesize that there will be varying profiles of "identified" students with different configurations of attributes that help them adaptively navigate their school environment and academic development. Based on results from the last two aims, I expect self-regulated learning behaviors and self-efficacy to be important predictors for the various profiles of highly identified, well-achieving boys.

To investigate this, hierarchical cluster analyses were utilized. These analyses provide the opportunity to identify clusters of students who share similarity along the key variables described in this research project. I used agglomerative hierarchical algorithms to derive clusters, which build a hierarchy from individual characteristics by progressively merging similar clusters. I utilized the Ward method of clustering with a squared Euclidean distance measure. This linkage method creates clusters with minimized error variance, thus creating distinct clusters that are less likely to overlap with other clusters, compared to other linkage techniques. The number of clusters to emerge from the data was determined with the dendrogram, the agglomeration schedule coefficients, and the interpretability of the cluster solution (Aldenderfer et al., 1984).

I then used a non-hierarchical cluster analysis (k-means) to confirm the number of clusters identified by the hierarchical clustering. Scholars suggest that using this combination of clustering methods provides a relatively robust identification of meaningful clusters and takes advantage of the strengths of both methods (Henry et al. 2005; Taylor et al., 2001). Finally, I used the derived clusters from the hierarchical

analyses to predict student grades, mastery goal orientation and self-handicapping. Ethnicity, mother education and grade level were allowed to predict the final clusters.

A sample of 341 boys in the 6th, 8th, and 10th grades were used for the following analyses. The variables used to create the clusters were intrinsic value, identification with school questionnaire (ISQ), academic contingencies of self-worth, educational utility, self-efficacy and self-regulated learning (*see* Table 12). All of these variables were standardized. Educational utility was recoded to reflect positive values. The mean of the cognitive, motivation and behavioral regulation scores were used to create the self-regulated learning construct. Then this variable was standardized for further analyses.

Student grades, mastery goal orientation and self-handicapping were used as outcome variables. Although grades were self-report, due to their strong correlations with parent reports of grades and standardized achievement scores, they were deemed as valid measures of classroom achievement and adjustment (*see* Table 1). The mean of English, Math and Science grades were taken to compute and overall "Grades" score. The compiled grades were normally distributed. The maximum score was eight, which indicated all As and the minimum score was one, which indicated mostly Ds and Fs. The mean for boys (*N*=341) was 5.67 (*SD*=1.18) (*see* Figure 11).

The Clusters. When consulting the dendrogram, five evenly sized clusters emerged. This five cluster solution was also most interpretable and theoretically meaningful. The agglomeration schedule of coefficients showed a consistent increase of 0.006 at each stage through the first four stages, then an increase of 0.010 between the fourth and fifth stages, which also suggests the tenability five clusters. Examination of the cluster means (graphically represented in Fig. 10) suggests cluster groups of Model Students (N=85),

Calloused Poor Students (N=68), Sensitive Poor Students (N=61), Dispirited Connectors (N=66), and Grounded Students (N=48).

To validate the clusters identified in the hierarchical cluster analysis, a non-hierarchical cluster analysis (k-means) was performed, specifying a five-cluster solution. Visual inspection of cluster standardized mean scores on the clustering variables suggested similar patterns across the two clustering methods. However, the grounded student cluster showed scores much closer to the sample mean, versus more stark negative and positive scores in the hierarchical cluster analyses. Despite this, comparisons of cases across the two cluster analytic methods indicated that 74.7% of cases were similarly classified, suggesting relatively robust cluster groups.

Model students, as expected, were high above the mean on every indicator; self-regulated learning, self-efficacy, intrinsic value, school belonging-value, academic contingencies and educational utility. Conversely, calloused poor students were well below the mean on these indicators. The sensitive poor students were also below the mean on most indicators but more moderately so; however, this student is distinct from the calloused student in that they have moderate academic contingencies for self-worth.

The dispirited connected students show diverse attributes. They have a high sense of school belonging and buy-in to the social norms for high academic contingencies. They also show high regulatory skills. However, they are low on efficacy and intrinsic value. Educational utility is near the mean and highly variable within this group because of large standard errors. Finally, the grounded student is moderate to high above the mean on all the indicators but well below the mean on academic contingencies.

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Using the cluster memberships derived from the hierarchical cluster analyses as the between subjects factor, a multivariate analysis of variance (MANOVA) was conducted using a composite of grades (English, Math, Science composite), mastery goal orientation and self-handicapping as outcome variables. Results from the MANOVA yielded a significant multivariate effect of the clusters on the dependent variables as a whole (Wilk's Lambda = .62, $F(12,841) = 14.0$, $p < .001$, $\eta2 = .15$). Univariate tests were significant for grades, $F(4, 320) = 8.42$, $p < .001$, $\eta2 = .10$; mastery goal orientation, $F(4, 320) = 35.76$, $p < .001$, $\eta2 = .31$; and self-handicapping, $F(4,320) = 3.05$, $p < .05$, $\eta2 = .04$ (*see* Table 13).

Pairwise comparisons, using Tukey's HSD indicated that regarding grades, model students had significantly higher achievement scores than calloused and sensitive poor students ($p < .001$; $p < .05$) but not the other clusters of students. Also, dispirited connectors and grounded students had higher grades than calloused poor students ($p < .05$; $p < .001$). Regarding mastery goal orientations, model students were more mastery oriented than all other types of students ($p < .001$) and calloused poor students were less mastery oriented than all other types of students ($p < .001$). Last, dispirited connectors were more mastery oriented than sensitive poor students ($p < .001$) and sensitive poor students more so than calloused poor students ($p < .001$). With self-handicapping behaviors, model students and calloused poor students engaged in these negative self-handicapping behaviors more than grounded students ($p < .05$) (*see* Table 13). Finally, in a multinomial logistic regression ethnicity, mother education, and grade level did not predict for the student clusters.

In summary, intrinsic value, school belonging-value, academic contingencies, educational utility, self-efficacy, and self-regulated learning skills were used to create five academic profiles for low-resourced inner-city boys in the 6th, 8th, and 10th grades. The profiles were: models students, calloused poor students, sensitive poor students, dispirited connectors and grounded students, which all proved to be robust. The model students were largely different from all other profiles regarding mastery orientation, but only different from poor students regarding grades while also showing the some of the highest rates of self-handicapping. Grounded students showed the lowest rates of self-handicapping as well as similar achievement scores (grades) to model students. These profiles were robust to ethnicity, grade level, and mother education.

CHAPTER 5: Discussion on Moving Toward an Understanding of Academic Identification in Ethnic Minority Youth

The present work attempts to advance current discussions and examinations of academic identification in ethnic minority youth. In doing so, this project first addresses holes in the current literature and our understanding of the mechanisms by which academic identification plays out in the lives of ethnic minority youth. Second, this study critiques current methods for measuring identification with academics and related concepts and undertakes the merger of these differing methods to foster a comprehensive understanding of identity development as it relates to educational ideals. Third, this study proposes a somewhat novel approach to studying academic identification that considers multiple pathways of identification, each with unique attributes that play facilitating, inhibiting and buffering roles regarding academic achievement.

This study merges knowledge from multiple literatures on youth development (i.e., achievement motivation, self-regulated learning and identity development) to construct models for discerning a more holistic framework for academic identification in low-resourced African American and Latino youth. Through this, I hope to move the field toward a more multi-dimensional understanding of academic identity in ethnic minority youth versus purely assessing highs and lows on a narrow range of achievement and identity indicators. Thus, this research provides a snapshot into the multiple profiles of "identified" inner-city low-resourced boys, a group that is traditionally and shallowly characterized as deficient.

Academic Identification and Its Relation to Academic Achievement

This first aim explored the nature and prevalence of academic dis-identification in ethnic minority youth from a low-resourced inner-city context. Is dis-identification with academics a prevalent phenomenon within the majority of African American and Latino students, and if so what are the implications for academic achievement? Further, is this phenomenon unique to ethnic minority boys, as some work might suggest?

The results do not yield much evidence supporting the prevalence of severe dis-identified attitudes within this sample of adolescents, nor the boys. Despite the absence of a non-minority comparison group, the distribution across the various measures was generally skewed to the left, indicating high reports of identification. Some work complements these findings (Graham, 1994; Morgan & Mehta, 2004; Voelkl, 1996, 1997). Gender and ethnic differences between African American and Latino subgroups were minimal and relatively trivial. However, gender differences in self-efficacy were notable and efficacy played a moderating role between identification and achievement.

Boys reported a higher sense of school belonging (e.g., feeling respected within the school context; school pride) than girls, which is contrary to prior work assessing the same construct in a racially mixed sample (Voelkl, 1996). However, boys were overrepresented by nearly 50% among students who had low self-efficacy. In addition, self-efficacy moderated the relationship between school identification and achievement where gender, ethnicity and cohort (grade level) did not.

Taken together, these results are provocative considering current discussions of the role of race and gender in academic dis-identification among marginalized students. First, these findings suggest that there is little evidence of severe dis-identification

attitudes for ethnic minority students, or boys. Alternatively, self-efficacy is an important construct to consider when discussing how school identification relates to achievement. This counters the work of Osborne (1997), who found African American boys as most dis-identified compared to girls and other ethnicities, including Latino youth. Though Caucasian students were not assessed as a comparison group in this study, others (Morgan & Mehta, 2004; Voelkl, 1997) have confirmed that African Americans and African American boys do not differ from Caucasian students on severe dis-identified attitudes.

However, this study contributes to this previous research by demonstrating the moderating role of self-efficacy, which suggests that personal feelings of competence for school tasks is an important arbiter for the identification/achievement relationship compared to gender, cohort or ethnicity differences. So if a given student is highly efficacious about his ability to perform well on school tasks, a sense of connection to school is unimportant for school achievement. However, for the student who may feel incompetent or overwhelmed by school work, he may need to draw on other school resources, like his relationship with his teachers, to help him maintain focus and persistence. This may suggest that the identification/achievement relationship is less about group status, affiliation or stereotypes and more so about personal assessments of competence and school belonging. However, there is a twist therein, in that we find that boys are overrepresented among low efficacy students. This confound between gender and self-efficacy may suggest that ethnic minority boys are more vulnerable to dis-identification, particularly in stringent, isolating or chaotic school environments. Thus, boys in large and relationally cold school environments where they do not feel highly

efficacious and do not have the opportunity to build positive school relationships are likely at risk for disengagement and underachievement.

The interactions among gender, efficacy and school identification have not been examined in previous work; however, these interrelationships may be the real substance of scholars' oversimplified attributions of ethnic minority boys as dis-identified. Future work should consider this. Some ethnic minority boys may be highly identified with school while simultaneously feeling inefficacious about their ability to succeed. Scholars have shown that students can be high achieving and have low efficacy simultaneously (Finn & Frone, 2004). Thus, for low efficacy students, intervention methods should target making school/classroom environments as welcoming and connected for students as possible, which is not the present reality for many inner-city middle and high schools.

The hypothesis about cohort (grade level) differences was not confirmed. I expected that for younger children (6th graders), valuing or identifying with school would take more of a naïve form that is intrinsic value (ex. Math is interesting to me). However, older children (10th graders) who draw on more sophisticated perceptions from a greater wealth of diverse school experiences would identify with school in a manner that assesses their membership to their specific school context. Some work suggests that students become less intrinsically motivated through secondary school while peers and social atmosphere increase in importance for social identity through adolescence (Brown, 2004; Maehr & Midgley, 1996; Verkooijen, de Vries & Nielson, 2007). Trends in the current sample suggested this; however, they may not have reached significance because these shifts may have already begun by the 6th grade. Future work should examine different

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qualities of identification in elementary versus secondary students. Sixth graders are on the cusp of this transition.

In assessing the contribution of this work, some limitations need be considered. First, the achievement measures were obtained via self-report from students. Though students were encouraged to honestly report their attitudes and achievement and they were informed that their information would be kept anonymous, the potential for social desirability and bias are still considerable (Tourangeau & Yan, 2007). To help assess the extent of this bias, parents were also asked to report their child's grades and students were also asked to give their grade point average as well as their standardized test scores. The correlations among these four reports of achievement were strong and positive, suggesting that on average students were accurate in reporting their achievement.

Second and related, 10th grade students were not asked about the difficulty or track of English, Science and Math courses they were taking. This biases their reports on grades in that a student who may report an "A" in pre-algebra does not carry the same merit as a student who reports an "A" in trigonometry. Therefore, within the 10th grade sample, report of grades is not a strong assessment of achievement capabilities across students, but more so classroom adjustment and success. In New York City public schools, 6th and 8th graders are not tracked into a particular type of Math (e.g., algebra vs. calculus), but every 6th or 8th grader receives the same curriculum across the domains, although some schools track high achieving students together.

Third, the value subscale of the ISQ is a rather crude measurement of attainment value and utility value. Attainment value is the importance students attach to a task or domain as it relates to their conception of their identity and ideals (Wigfield, 1994). The

Academic CSW scale assesses a very similar idea to that of attainment value; however, a direct measure of this may have been informative. Additionally, the Academic Contingencies of Self-Worth construct was originally validated for college students; however, this measure proved to be reliable and valid (i.e., concurrent) in this adolescent sample. Finally, a key construct in the present findings was feelings of school belonging, which signifies the importance of context and environment in the development of identified attitudes; however, school contextual features that may facilitate feelings of belongingness (e.g., teacher-student interactions, discipline structures) were not assessed. This question is ripe for future research.

Self-regulated Learning as Process for Academic Identification Constructs

The second aim examines self-regulated learning skills as a mediator between academic identification and achievement scores. I hypothesized that the regulation of cognition, motivation and behavior are the mechanisms by which academic identification attitudes relate to achievement. Youth who are more strongly identified with school may be more likely to effectively regulate their cognitions, motivation, and behavior in school as they would likely derive more satisfaction out of school successes.

The three dimensions of self-regulated learning were confirmed and mediate the relationship between the academic identification predictors and grades, except for educational utility. The identification predictors also explain over half of the variance within self-regulated learning. Thus, self-regulated learning may be one important pathway by which academic identification is related to academic achievement. Youth with high levels of identification tend to have or develop high regulatory functioning and thus better grades in return. Here, students attempt to engage in thoughtful and effortful

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behaviors that validate their ideological commitments to educational ideals (Oyserman, 2007). Thus, regulatory skills may be an important construct that helps explain the effect of identification on achievement.

To illustrate, one method I utilized as a former 8th grade math teacher to engage students was to have a selected student serve as the "classroom consultant" for a week or more. This would basically involve consulting other students on their math problems and answering individual questions during math project time. Though this method was not always effective for all students, many times students respected the status of this position. Thus as a student bought into the consultant role and valued the respect worthy of having other students seek them out for help, it often facilitated a heightened regulatory functioning for the student in that role. Now, this consultant student had to be mindful of their own thought and work processes in understanding other students' misconceptions and figuring out ways to explain information clearly and effectively. In turn, the student in this consultant role not only honed their regulatory strategies and conceptual knowledge but usually performed better than their personal average on the next unit test. In fact, one of my most challenging students was often best behaved and most productive when having to serve in this consultant role.

Considering these experiences and the current results simultaneously, I find that discussing the academic identification of a student may be moot if we do not take into account how that identification/value taps into the tangible behaviors of that student, in this case self-regulated learning. This may also suggest that not all identification/value is the same, but that different dimensions of identification may be more advantageous for tapping into the learning behaviors that predict for achievement. In these results, I find

that educational utility does not predict self-regulated learning. Further, in the case of my "consultant" example, I find that school belonging (i.e. being a valued or respected member of the school/classroom community) was particularly useful for engaging the learning behaviors of some students. Here, students who valued being respected by the class for having a leadership role within the classroom were more likely to regulate their behavior and cognition to suit that behavior and were also more likely to experience high achievement. The current data also corroborates the plausibility of a scenario such as my consultant example.

However, high identification may not necessitate the existence of high regulatory skills. A student could be so-called "identified" expressing a high value and importance of school; however, in the absence of sophisticated regulatory skills, that student's value of school can go unrealized when measuring achievement scores or the connection between value and achievement. Future work should begin to consider this. Oyserman (2007) notes that an unattained goal does not mean that the goal is not valued. The regulatory strategies may be ineffective or lack the necessary sophistication to meet the goal. Further, the presence of multiple goals (e.g., achievement goals vs. social goals) may restrict one's ability to effectively attain either or may drain regulatory resources (Oyserman, 2007; Schmader & Johns, 2003).

Reasons why self-regulated learning did not mediate for educational utility and achievement are hypothesized as twofold. First, educational utility may be too future oriented/abstract a concept to predict immediate behaviors such as regulation and current academic performance, as some would suggest (Mickelson, 1990). Rather, the other identification constructs are more grounded in ideas and perceptions about the here and

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now and thus may have a stronger relationship with present-time regulation and achievement. Second, educational utility may be too amorphous a construct to ascertain what the student really believes as they respond to these items. If a student is skeptical about the promise of future success because of a good education, what is the locus of those beliefs (racial mistrust, low efficacy, a lack of interest, alternative career goals)? Therefore, without understanding the frame from which a student perceives that utility of education, it is difficult to assess the implications for present-time achievement and regulation.

Taking together the results of the first two aims, the current evidence claims that academic dis-identification may not be the crux of achievement disparities in ethnic minority youth (Ogbu, 2004; Steele, 1992), nor is gender a critical factor for predicting dis-identification (Osborne, 1997). Rather, constructs like self-efficacy and self-regulated learning appear to be functional features that explain how identification is related to achievement for ethnic minority students. These mechanistic features may also pray tell the discrepancies that exist in the diverse conceptualizations of academic identity and that examining one form of identification independently of the rest give an incomplete snapshot at best.

There are limitations within this second aim as well. First, though behavioral regulation loads well onto the self-regulated learning factor, the persistence management and help seeking components of the behavioral regulation factor loaded poorly. This may signify that the constructs were poorly measured. The four items originally used to measure persistence management showed poor reliability, so two items were dropped which increased the reliability estimate to marginal (α=.61). In addition, the help seeking

subscale did not actually measure frequency or quality of help seeking but measured intention to seek help (e.g., "If I needed help in class I would ask someone for assistance") which could be measuring intent and not actual behavior. These measurement flaws may account for the poor loadings of the behavioral regulation factor.

Second, cognitive and motivation regulation were highly correlated, which may have produced some suppresser effects for cognitive regulation. Among the three regulatory constructs, cognitive regulation is least predictive; however, we know from executive function and working memory literatures that cognitive regulation plays a critical role regarding academic achievement (Rueda, Posner & Rothbart, 2005). Cognitive and motivation regulation are rarely studied in concert and although motivation regulation differs from cognitive regulation conceptually (Pintrich, 2000), the high correlation between the two suggests that motivation regulation calls upon a strong cognitive capacity in order to make tasks more motivating (e.g. interest enhancement or self-talk).

Finally, self-regulated learning accounted for a very small percentage of the variance in achievement. Although I hypothesized that self-regulated learning would not account for more than 20% of the variance in grades, it only explained about five percent of the variance on average. This may reflect two issues. First, the issues of measurement with behavioral regulation and multi-collinearity problems just described may play an influential role of the predictive validity of the construct. Second, the self-report grades may present a problem on the other side of the measurement model.

Identity Profiles for Inner-city Boys: Evidence for Multiple Pathways to Achievement

Finally, this study created academic profiles of low-resourced inner-city boys, using achievement motivation, academic identification and regulatory skills. This examination of within-group variance encourages the field to move away from over-generalized statements claiming dis-identification as the crux for underachievement trends for African American and marginalized youth. The results from this aim provide evidence that there are multiple forms of identification that should be considered in order to gain a more holistic perspective of academic identity.

Multiple robust profiles emerged. As expected, the two dominant profiles represented were the *highly motivated* and *severely unmotivated* students, which reflect the dichotomy of achievement often discussed in education research. The model student is high functioning on all the indicators that predict academic success. They are thoughtful and hard workers, as evidenced by their regulatory skills. They feel like they belong in the school environment, like the work they do and are confident about their ability to do the work well. Their self-worth is firmly attached to their success in school and they perceive the value of school for their future aspirations. The combination of these attributes likely work in concert to perpetuate one another.

Conversely, calloused poor students are very low on all the same indicators. These students may very well represent the "dis-identified-oppositional" profile that scholars speak of (Ogbu, 1991; 2004; Osborne, 1997, 1999; Steele, 1992). They do not like being in school or school work and see any effort put forth in school as futile. These students are poor functioning and they couldn't care less. Their academic contingencies

suggest that these students actually do base their self-worth on things other than school success.

Sensitive poor students are also low on the majority of these indicators but more moderately so. The interesting distinction for this student compared to calloused poor students is that they feel contrition for their poor functioning. This is evidenced by their moderate academic contingencies for self-worth. Though they feel incompetent and as an outcast in school, these boys are not quite "dis-identified" when considering prevalent definitions of dis-identification or oppositional identity (Ogbu, 2004; Steele, 1992). Their distaste for school is only moderate but more importantly, they still think of school as an important parameter for how they feel about themselves personally. Thus one could speculate that if this type of student were to receive appropriate support to improve their regulation, belongingness and other attributes, they would likely respond positively to these interventions and may make an attempt to reengage academically. This is likely not the case for calloused poor students.

Dispirited connectors' seemingly conflicting attributes may highlight different realms of identity and meaning. Research indicates that efficacy predicts interest and intrinsic value (Bandura, 1997; Lent, Brown & Hackett, 1994; Pintrich & DeGroot, 1990; Silva, 2003), which these students are low on (note. For all profiles efficacy and intrinsic value are always simultaneously high or low, never mixed). Contrary to this, these students have a high sense of school belonging and buy-in to the social norms for high academic contingencies. They are also moderate regulators, which suggest these students are giving an honest effort in school. Taken together, this may mean that these students want to do well and are well connected to aspects of the school environment (e.g., peers,

teachers, extracurricular groups); however, they do not see themselves as capable of doing the work, which predicts their low value of the work. Though these students are giving an honest effort, it may be the case that their effort is not enough or their regulatory strategies are ineffective, which may perpetually influence their poor efficacy. These boys are likely overwhelmed by their academic responsibilities though they generally value school and feel connected to the school environment. If this is the case, a moderate intervention such as teaching these students more effective regulatory strategies may have a large impact for these types of boys.

Finally, grounded students are moderately high on a majority of the indicators; however, their self-esteems are not academically contingent. These students know the value of school, work hard and feel efficacious but they do not tie their self-worth to doing well in school. These boys may be involved in other arenas for which they base their self-esteem (e.g., religious groups, sports, community service) and it is possible that they have learned to successfully transfer positive habits from those realms to their academic functioning. Having low academic contingencies might also have utility for these students in the face of failure. Due to the fact that failure has less of a negative impact on their self-worth, they may be better able to persist and try new strategies instead of become discouraged (Crocker et al., 2003).

These profiles had interesting predictions for classroom grades. As expected, model students have the highest achievement scores of all the clusters; however their scores were only statistically different from calloused and sensitive poor students. This indicates that dispirited connectors, who have low efficacy and low value, can still have similar achievement levels of the most motivated students if they feel well connected to

their school environment and have adequate regulatory strategies. This also coincides with the findings from aim one. Boys who feel incompetent or do not like their school work can still achieve well if they draw on other resources, such as meaningful connections with peers or teachers or good learning strategies. However, since the profiles only explain about ten percent of the variance in grades, we must consider other constructs that are influential in differentiating these students by achievement.

One of these constructs may be mastery goal orientation (Rawsthorne & Elliot, 1999; Wolters, Yu & Pintrich 1996), which model students are higher on compared to all other groups. Sensitive poor students are also more mastery oriented than calloused poor students, which may signify another access point of intervention among these students. This difference in mastery orientation between poor students may indicate sensitive poor students' willingness to give more effort and persist if they receive careful scaffolding. Despite their low indicators, sensitive poor students seem ripe for targeted intervention.

Self-handicapping is a less studied behavior that can have implications for academic achievement (Midgley, Arunkumar & Urdan; 1996). Interestingly, model students and poor students do not differ on these behaviors. It may be that students on the extreme ends of achievement profiles fall prey to the differential pressures that facilitate these behaviors. We might expect self-handicapping among poor students, as a defense mechanism from inevitable failure as they may perceive. However, model students are also under a lot of pressure (internally or externally imposed) to succeed and though they may outperform other students, they may feel they are not able to meet the high standards that have been set for them. These students also cope less well in the face of failure.

Crocker and her colleagues (2003) and well as others (Osborne & Walker, 2006) have found similar maladaptive issues for high achieving highly identified students.

Finally, grounded students show the least frequency of self-handicapping behaviors. As noted above, this may be because these types of students are much more adaptive in dealing with failure and do not see it as a personal threat. Considering how grounded students fair regarding achievement and self-handicapping, this profile may be most ideal even compared to model students. These students have nearly the highest levels of achievement but do not resort to the mal-adaptive behaviors of other students because in essence, there is a "disconnect" between their self-worth and their performance. These students not only embody strong achievement but good psychological health as a support. Ultimately, this disconnect that grounded students embody challenges the very basis of dis-identification theory, as it is described by Steele (1992) and Osborne (1997, 1999). Students can disconnect their self-esteem from academics and still be rather high functioning academically and psychologically healthy.

Through this I find evidence that identification with academics is much more diversified than previously examined in the majority of empirical studies. Thus, academic identification is more than just the "connection" between self-esteem and academic performance, but the cogitation of self-efficacy and regulation, school belonging, value and perceptions of utility. Considering any one of these indicators alone provides a limited and even biased depiction of academic identification.

Further, this work supports the theoretical discussions of scholars who talk about multiple pathways of adaptation (Lee, 2008). Psychological attributes are so diverse in their functionality that they support numerous pathways for humans to accomplish

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cognitive and social goals. Thus, there couldn't be just one way of identifying or

perceiving that would support high academic functioning. There must be multiple profiles

regarding the academic success of low-resourced inner-city boys.

Considering the evidence from the three research aims simultaneously, gender

discrepancies from a purely deficiency perspective are not particularly robust within this

sample. However, the results suggest that boys and girls may be utilizing different

attributes, strengths and pathways to negotiate their academic identities and pursue

academic success. For example, boys tended to be lower on self-efficacy than girls but

higher on feelings of school belonging. The belonging by efficacy interaction showed

that although boys fair less well than girls regarding efficacy, having high belonging

actually allows boys to maintain high identification and achievement, similar to that of

girls.

Boys also showed unique identification profiles (i.e. dispirited connectors) that

may be influenced by the gendered expectations and academic socialization for low

resourced boys, as expressed by parents, teachers and American schooling culture (Davis,

1999; Entwisle, Alexander & Olson, 2007; Sewell, 1997). However, despite this

somewhat "conflicted" identification profile among boys, these students still have

tremendous potential for academic success. Future work should begin to consider the

differential experiences, strengths and pathways of development for boys and girls versus

purely assessing discrepancies by gender.

A few limitations must be addressed. First, due to ceiling effects in the

measurement of mastery goal orientations and self-handicapping, the multivariate

analyses that regressed these outcomes onto the achievement profiles violated the

equality of variance assumption. Upon closer inspection using graphical devices, it appears that model students were overrepresented for reporting extremely high mastery orientations on the 6-point Likert scale. Thus the variance for that group was limited although the variance for the other groups remained equal and normal. This is somewhat expected for these highly motivated students, thus no transformations were performed. Due to the violation of this assumption, interpretations of interval differentials between the clusters should be taken with a grain of salt. However, the primary goal of this work was to show the associations between the clusters and the mastery and self-handicapping outcomes.

Second, varying indicators within the student clusters showed very large standard errors signifying that those constructs were not very stable within the cluster. This is somewhat expected for some indicators due to the fact that a large amount of indicators (6) were included in the analyses. However, the clusters were confirmed using a non-hierarchical k-means analyses and the even distribution of cases among the clusters in the hierarchical analyses suggest the robustness of these clusters in general (Henry et al. 2005; Taylor et al., 2001).

Conclusions

The information derived from this study has meaningful implications for the schooling of low-resourced ethnic minority youth as well as scholarship on these populations. Psychological research has begun to embrace the multi-dimensionality of various constructs that predict for human behavior, functioning and development. However, the psychological study of ethnic minority youth and academic achievement has dawdled in this regard.

The study of identity is essential to understanding the perceptions and experiences of ethnic minority youth in the academic context. This study on academic identity urges the field to move beyond simplistic classifications of high/low identification and toward multi-dimensional methods that consider variation in the individual constructions of meaning and value for students. This work also encourages more of a person-centered approach to the study of identity. This allows for the examination of how multiple dimensions of academic identity come together instead of assessing singular aspects of academic identity and how they relate to outcomes of interest with a particular sample. Person-centered analyses also help debunk over generalized claims of some variable as a critical determinant for an outcome, especially within diverse groups.

Based on the findings in this study, a multi-dimensional approach to the study of academic identity would likely include five broad dimensions: Belonging, self-esteem/worth, value, regulation and competence. The belonging dimension would assess an individual's feelings of membership and connectedness to the school community and among teachers and peers. The self-esteem dimension would mirror academic contingencies, assessing feelings of worth as contingent on academic success. The value dimension would measure a compilation of intrinsic, attainment and utility value. The regulation dimension would evaluate effort, planning and sophisticated strategy use. Finally, learning competence would examine whether a student feels able and efficacious in handling the general academic challenges faced in their learning environment.

Examining these dimensions together allows for a rich description of a student's identification with academics, accounts for variation and is well suited for considering the role of context in identity development and achievement. Ultimately, this allows for

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targeted interventions that can address the specific needs of students, even as they vary from one context to another. In the past, scholars would conduct research, finding that some key variable is critical for academic achievement. As a result, a blanket intervention would be conceived and implemented aimed at improving that skill within learners, regardless of the specificity of student needs. However, now we know that as children progress through the grades, their "needs" become quite nuanced, especially during adolescence. Findings from the current work confirm this. Therefore as we come to a greater understanding of the diverse needs of students, our intervention efforts can have more of a targeted and focused impact on the areas of most need within a diverse population of learners. A multi-dimensional approach leads us toward this greater awareness and more focused interventions.

Some students need to become more mastery oriented, while others need to be more connected to their school community. Targeted interventions could even exist for our "model students," who have their own unique issues in dealing with failure and self-handicapping behaviors. However, an equitable response to students' needs is not possible without understanding how the multi-dimensional aspects of academic identity work together. Previous research has laid the groundwork for identifying and testing different dimensions of academic identification; however, future work must being to consider the merger of these dimensions and the multiple pathways by which academic identification relates to achievement. This study takes the initial steps in this regard and moves us toward a holistic understanding of academic identification in ethnic minority students.

Table 1
Descriptive Statistics and Correlation Matrix for All Academic Achievement Measures and Parent Education

Variable	N	M(SD)	1	2	3	4	5	6	7	8	9
1. English Grades	598	6.16(1.51)	-	.30**	.39**	.24**	.12*	.23*	.32**	.47**	.11*
2. Math Grades	602	5.71(1.68)		-	.52**	.13**	.43**	.31**	.27**	.60**	.01
3. Science Grades	601	5.57(1.52)			-	.17**	.23**	.42**	.33**	.47**	.03
4. ELA Score (6th & 8th gr.)	400	2.80(0.57)				-	.41**	n/a	.11	.20**	.16*
5. Math Score (6th & 8th gr.)	376	2.83(0.62)					-	n/a	.11	.28**	.03
6. Regents (10th gr.)	120	71.90(14.78)						-	.46**	.30**	-.04
7. Grade Point Average	199	76.81(16.81)							-	.45**	.02
8. Grades(report by parents)	403	4.82(1.30)								-	.05
9. Parent Education	398	2.58(1.27)									-

* $p < .05$. ** $p < .01$

Notes: ELA and Math Scores are city-wide standardized assessments for 6th and 8th graders (scored 1-4). The Regents is the city-wide standardized assessment for high school student. Students reported regent scores from different content areas (scored 1-100). For English, Math and Science Grades, the scale is as follows: 8= Mostly As, 7=As and Bs, 6=Mostly Bs, 5=Bs and Cs, 4=Mostly Cs, 3=Cs and D's, 2=Mostly D's, 1=D's and F's. Parent education consisted of highest level of education completed by either or the mean of both parents.

Table 2
Mean Differences by School

	Secondary School	High Schools (10th Grade)			Middle Schools (6th & 8th Grade)		
	Secondary School 7	High School 3	High School 5	High School 6	Middle School 1	Middle School 2	Middle School 4
1. Identification with School	3.65(0.57)	3.60(0.41)	3.65(0.52)	3.86(0.51)	3.68(0.51)	3.63(0.52)	3.88(0.53)
2. Discounting	2.12(0.62)	2.09(0.49)	2.14(0.48)	1.95(0.48)	2.09(0.55)	2.29(0.61)	1.92(0.55)
3. Contingencies of Self Worth	3.86(0.84)	3.71(0.85)	3.78(0.73)	3.83(0.78)	3.92(0.67)	3.82(0.79)	3.78(0.86)
4. Peer Nomination	2.44(0.48)	2.37(0.30)	n/a	2.41(0.44)	n/a	2.17(0.47)	2.31(0.48)
5. Educational Skepticism	2.24(1.05)	2.01(0.88)	2.11(0.88)	2.32(0.87)	2.27(0.93)	2.22(0.84)	2.13(0.90)
6. Self-Efficacy	3.84(0.62)	3.72(0.59)	3.80(0.60)	3.74(0.68)	3.71(0.63)	3.84(0.65)	3.88(0.65)
7. Intrinsic Value	3.71(0.76)	3.67(0.63)	3.67(0.60)	3.74(0.66)	3.71(0.70)	3.67(0.74)	3.99(0.66)
8. Motivation Regulation	2.98(0.54)	2.92(0.60)	2.82(0.54)	2.91(0.47)	2.92(0.50)	2.93(0.50)	3.03(0.63)
9. Cognitive Regulation	2.75(0.56)	2.84(0.61)	2.58(0.56)	2.77(0.47)	2.72(0.42)	2.77(0.47)	2.81(0.62)
10. Behavioral Regulation	3.42(0.68)	3.41(0.60)	3.40(0.64)	3.33(0.67)	3.36(0.65)	3.32(0.63)	3.54(0.68)

Note: The Secondary school was a college prep school that had grades 6th through 12th. 6th, 8th and 10th graders were sampled from this school.

Table 3

Descriptive Statistics and Zero-Order Correlation Matrix for All Academic Identification Measures

Variable	N	M(SD)	Skewness	1	2	3	4	5	6	7	8
1. School Belonging	604	3.48(0.64)	-.171	-	.53**	-.38**	.27**	.03	-.13**	.46**	.30**
2. General School Value	604	3.96(0.57)	-.575		-	-.41**	.36**	.03	-.33**	.48**	.34**
3. Discounting	606	2.09(0.57)	.456			-	-.11**	-.05	.30**	-.30**	-.18**
4. Contingencies of Self Worth	605	3.84(0.78)	-.795				-	.05	-.15**	.33**	.33**
5. Peer Nomination	356	2.35(0.47)	-.642					-	-.17**	.10	.16*
6. Educational Skepticism-Utility	600	2.21(0.93)	.553						-	-.30**	-.28**
7. Intrinsic Value	601	3.75(0.69)	-.242							-	.64**
8. Self-Efficacy	601	3.80(0.63)	-.198								-

*p < .05. **. p < .01. Note: Educational Skepticism-Utility and Discounting are negatively coded.

Table 4

Means and Group Differences for All Academic Identification Measures

Variable	Boys	Girls	Black	Dominican	Puerto-Rican	6th Grade	8th Grade	10th Grade
1. School Belonging	**3.53(0.64)***	3.41(0.65)	**3.63(0.61)*bc**	3.42(0.63)	3.44(0.67)	**3.59(0.60)*bc**	3.43(0.68)	3.44(0.63)
2. General School Value	3.96(0.57)	3.97(0.58)	4.05(0.53)	3.93(0.54)	3.97(0.61)	4.02(0.60)	3.97(0.55)	3.90(0.57)
3. Discounting	2.10(0.54)	2.07(0.60)	2.05(0.56)	2.03(0.53)	2.12(0.56)	2.10(0.59)	2.09(0.60)	2.09(0.52)
4. Contingencies of Self Worth	3.82(0.77)	3.87(0.77)	3.86(0.71)	**3.99(0.67)*c**	3.68(0.85)	**3.98(0.72)*c**	3.81(0.78)	3.75(0.80)
5. Peer Nomination	2.35(0.45)	2.36(0.49)	2.29(0.49)	2.39(0.43)	**2.49(0.39)*a**	2.21(0.52)	**2.40(0.45)*a**	**2.45(0.41)*a**
6. Educational Skepticism	2.27(0.91)	2.14(0.94)	2.23(1.00)	2.10(0.82)	2.26(0.89)	2.34(1.01)	2.12(0.91)	2.20(0.88)
7. Intrinsic Value	3.72(0.68)	3.80(0.70)	3.79(0.68)	3.72(0.73)	3.76(0.61)	3.88(0.73)	3.77(0.69)	3.64(0.64)
8. Self-Efficacy	3.74(0.66)	**3.88(0.69)***	3.81(0.64)	3.83(0.63)	3.69(0.62)	3.86(0.66)	3.80(0.63)	3.75(0.63)

Note: Latino=Dominican, Puerto-Rican and Mexican. **Bold*** indicates that the group mean is significantly higher than the comparison group at the $p < .05$ level. For cross-group comparisons, (Black = a, Dominican = b, and Puerto-Rican = c) and (6th grade = a, 8th grade = b, and 10th grade = c)

Table 5: Academic Identification Base Model and Group Comparisons

Model	Parameter Estimate	Standardized		Std. Error	Fit Indices (χ^2, RMSEA, NFI, CFI)
Base Model					χ^2= 3.87 df=8, RMSEA = .00, NFI = .99, CFI = 1.00
	ISO → Achievement	**.14***			
	Intrinsic Value → Achievement	**.21***			
	CSW → Achievement	.03			
	Educational Utility → Achievement	**-.12***			
	Achievement → English	**.48***			
	Achievement → Science	**.78***			
	Achievement → Math	**.63***			
Gender Model					χ^2= 10.37 df=16, RMSEA = .00, NFI = .99, CFI = 1.00
		Boys	Girls		
	ISO → Achievement	**.19***	.09		
	Intrinsic Value → Achievement	.13	**.28***		
	CSW → Achievement	.00	.07		
	Educational Utility → Achievement	**-.17***	-.04		
	Achievement → English	**.42***	**.54***		
	Achievement → Science	**.77***	**.91***		
	Achievement → Math	**.62***	**.63***		
Race/Ethnicity Model					χ^2=12.83 df=16, RMSEA = .00, NFI = .98, CFI = 1.00
		Black	Latino		
	ISO → Achievement	.12	.13		
	Intrinsic Value → Achievement	**.21***	**.19****		
	CSW → Achievement	.04	.10		
	Educational Utility → Achievement	-.13	-.09		

Achievement → English	**.37***	**.50***	
Achievement → Science	**.84***	**.81***	
Achievement → Math	**.62***	**.62***	

Grade Model (6th and 10th)			χ^2=13.78 df=16, RMSEA = .00, NFI = .97, CFI = 1.00
	6th	10th	
ISO → Achievement	.10	**.19***	
Intrinsic Value → Achievement	**.25***	.12	
CSW → Achievement	-.12	-.03	
Educational Utility → Achievement	**-.12**	-.12	
Achievement → English	**.62***	**.42***	
Achievement → Science	**.67***	**.96***	
Achievement → Math	**.56***	**.57***	

Grade Model (8th and 10th)			χ^2=12.80 df=16, RMSEA = .00, NFI = .98, CFI = 1.00
	8th	10th	
ISO → Achievement	.08	**.19***	
Intrinsic Value → Achievement	**.22***	.12	
CSW → Achievement	.10	-.03	
Educational Utility → Achievement	**-.17***	**-.12**	
Achievement → English	**.46***	**.42***	
Achievement → Science	**.74***	**.96***	
Achievement → Math	**.66***	**.57***	

Grade Model (6th and 8th)			χ^2=6.94 df=16, RMSEA = .00, NFI = .98, CFI = 1.00
	6th	8th	
ISO → Achievement	.10	.08	
Intrinsic Value → Achievement	**.25***	**.22***	
CSW → Achievement	-.12	.10	

Educational Utility → Achievement	-.12	**-.16***
Achievement → English	**.62***	**.62***
Achievement → Science	**.67***	**.67***
Achievement → Math	**.56***	**.56***

Self-Efficacy Model			χ^2=13.19 df=16, RMSEA = .00, NFI = .96, CFI = 1.00
	High	Low	
ISO → Achievement	-.20	**.23***	
Intrinsic Value → Achievement	.17	.12	
CSW → Achievement	.08	.08	
Educational Utility → Achievement	-.05	-.09	
Achievement → English	**.31***	**.47***	
Achievement → Science	**.78***	**.74***	
Achievement → Math	**.60***	**.70***	

Note. +$p < .10$, *$p < .05$, **$p<.01$, ***$p<.001$.

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Table 6: Multi-group Analyses: Chi-square difference test with Nested Models

Group Comparison	Pathways Consecutively Constrained	χ^2	d.f.	$\Delta \chi^2$	Δ d.f.
Gender Model	All Pathways Free	10.38	16	-	-
	ISO	10.65	17	0.27	1
	Intrinsic Value	13.33	18	2.68	1
	CSW	14.47	19	1.14	1
	Educational Skepticism-Utility	15.12	20	0.65	1
Race/Ethnicity Model	All Pathways Free	12.84	16	-	-
	ISO	13.01	17	0.17	1
	Intrinsic Value	13.42	18	0.41	1
	CSW	16.24	19	2.82	1
	Educational Skepticism-Utility	16.33	20	0.09	1
Grade Model (6th and 10th)	All Pathways Free	13.78	16	-	-
	ISO	14.81	17	1.03	1
	Intrinsic Value	14.81	18	-	1
	CSW	15.62	19	0.81	1
	Educational Skepticism-Utility	15.91	20	0.29	1
Grade Model (8th and 10th)	All Pathways Free	12.81	16	-	-
	ISO	13.44	17	0.63	1
	Intrinsic Value	13.63	18	0.19	1
	CSW	14.85	19	1.22	1
	Educational Skepticism-Utility	15.01	20	0.16	1
Grade Model (6th and 8th)	All Pathways Free	6.94	16	-	-
	ISO	6.95	17	0.01	1
	Intrinsic Value	7.21	18	0.26	1
	CSW	11.14	19	**3.94***	1
	Educational Skepticism-Utility	12.41	20	1.27	1
Self-Efficacy Model	All Pathways Free	13.19	16	-	-
	ISO	17.42	17	**4.23***	1
	Intrinsic Value	17.99	18	0.57	1
	CSW	17.99	19	-	1
	Educational Skepticism-Utility	18.06	20	0.07	1

Note. *$p < .05$. Identification pathways were constrained one at a time until all pathways were held to equality concurrently.

Table 7

Descriptives and Correlation Matrix for Self-Regulated Learning Constructs

Variable	N	M(SD)	1	2	3
1. Cognitive Regulation	607	2.74(0.52)	-	.73**	.47**
2. Motivation Regulation	607	2.94(0.54)		-	.48**
3. Behavioral Regulation	607	3.40(0.66)			-

* *p* < .05. **. *p* < .01

Table 8

Descriptive Statistics and Correlation Matrix for Self-Regulation Subscales

Variable	N	M(SD)	1	2	3	4	5	6	7	8
1. Organization & Elaboration	607	2.58(0.62)	-	.67**	.48**	.54**	.60**	.49**	.26**	.33**
2. Meta-Cognition & Rehearsal	607	2.90(0.53)		-	.57**	.60**	.51**	.51**	.37**	.44**
3. Environmental Structuring	607	2.99(0.69)			-	.49**	.47**	.49**	.24**	.36**
4. Self-Talk	607	3.14(0.56)				-	.54**	.50**	.34**	.47**
5. Interest Enhancement	607	2.79(0.66)					-	.57**	.22**	.33**
6. Self-Consequating	607	2.83(0.81)						-	.22**	.37**
7. Help Seeking	606	3.74(0.94)							-	.26**
8. Persistence Regulation	607	3.07(0.70)								-

* $p < .05$. **. $p < .01$.

Table 9

Factor Analysis of Self-Regulated Learning with Standardized Coefficients and Fit Indices

	Cognitive Regulation	Motivation Regulation	Behavioral Regulation
Regulation Subscales:			
Meta-cognition & Rehearsal	.85		
Organization & Elaboration	.78		
Positive Self-Talk		.76	
Environmental Structuring		.68	
Self-Consequating		.66	
Interest Enhancement		.69	
Persistence Management			.60
Help Seeking			.44

	Self-Regulated Learning
Cognitive Regulation	.93
Motivation Regulation	1.01
Behavioral Regulation	.91

Fit Indices

Model	χ^2	df	RMSEA	CFI	NFI
Initial Model: Cognitive Reg. - Four Factors	172.28	31	.087	.943	.932
Final Model: Cognitive Reg. - Two Factors	81.96	16	.083	.965	.958

Table 10:

Individual Academic Identification predictors on Math, English and Science Achievement

Variable	Math			English			Science		
	B	SE B	ß	B	SE B	ß	B	SE B	ß
Contingencies of Self-Worth	.16	.10	.07	.09	.09	.05	.04	.08	.02
Educational Skepticism-Utility	-.13	.08	-.07	-.10	.07	**-.10****	-.17	.07	-.06
Intrinsic Value	.25	.12	**.10***	.36	.11	**.14****	.32	.11	**.16*****
School Belonging/Value	.26	.16	.07	.11	.14	.04	.34	.14	**.12****

Note. ***p< .001, **p< .01, *p<.05
R^2 = .05 for Math, R^2 = .05 for English, R^2 = .09 for Science

Table 11:

Standardized Direct and Indirect Pathways of Academic Identity and Self-regulated learning on Grades

Variable	ISQ	Intrinsic Value	Contingencies of Self-Worth	Educational Utility
	Direct (Indirect)	Direct (Indirect)	Direct (Indirect)	Direct (Indirect)
1. Self-Regulated Learning	**.25*****(n/a)	**.36*****(n/a)	**.29*****(n/a)	.04(n/a)
2. English Grades	.04(**.05****)	**.13***(**.04***)	.01(**.06*****)	**-.08***(.01)
3. Science Grades	**.14***(**.05*****)	**.18****(**.05****)	-.01(**.08*****)	**-.14*****(.01)
4. Math Grades	.10(**.04***)	**.12***(.04)	.07(**.04****)	**-.10***(.01)

Note: ***p< .001, **p< .01, *p<.05. There were no indirect effects for the identity predictor to self-regulated learning.

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Table 12:
Unstandardized Descriptive Statistics and Correlation Matrix for Boys: Cluster Analysis Variables

Variable	N	M(SD)	1	2	3	4	5	6	7	8	9
1. Self-regulated Learning	342	2.97(0.46)	-	.48**	.55**	.53**	.44**	-.23**	.19**	.59**	.09
2. Self-Efficacy	338	3.73(0.65)		-	.63**	.31**	.31**	-.30**	.28**	.44**	-.11
3. Intrinsic Value	338	3.71(0.68)			-	.49**	.29**	-.33**	.23**	.45**	.03
4. School Belonging-Value	341	3.74(0.53)				-	.33**	-.26**	.22**	.42**	.04
5. Academic Contingencies	340	3.82(0.77)					-	-.15**	.10	.38**	-.02
6. Educational Skepticism-U	335	2.27(0.92)						-	-.21**	-.22**	.27**
7. Grades	341	5.67(1.18)							-	.16**	-.11*
8. Mastery Orientation	340	5.03(0.72)								-	-.03
9. Self-Handicapping	341	2.23(0.76)									-

* *p* < .05. **. *p* < .01. Note: Educational Utility and Self-Handicapping are negatively coded.

Table 13:
Comparison of Outcome Variables across the Five Clusters

	(5) Model Student (n=85)	(4) Calloused Poor Student (n=68)	(3) Sensitive Poor Student (n=60)	(2) Dispirited Connectors (n=65)	(1) Grounded Student (n=47)	$F_{(4,320)}$	$\eta2$	Tukey's HSD
	M (SD)	M (SD)	M (SD)	M (SD)	M (SD)			
1. Grades	6.08 (1.15)	5.08 (1.13)	5.51 (1.15)	5.68 (1.03)	5.97 (1.27)	8.42***	.10	5 > 3 & 4, 2 > 4, 1 > 4
2. Mastery	5.55 (.45)	4.41 (.82)	4.86 (.52)	5.19 (.55)	5.11 (.66)	35.76***	.31	5 > 1-4, 3 > 4, 2 > 3 & 4, 1 > 4
4. Self-Handicapping	2.34 (.85)	2.37 (.67)	2.11 (.64)	2.25 (.84)	1.95 (.70)	3.05*	.04	5 > 1, 4 > 1

Note: * $p < .05$. ** $p < .01$. *** $p < .001$. All posthoc tests reported in this table are significant at p<.05. Higher scores on self-handicapping indicate a higher frequency of this negative behavior.

APPENDIX B: Figures

Figure 1: General conceptual model: Identification with academics and its relation to achievement motivation, self-regulated learning and academic achievement
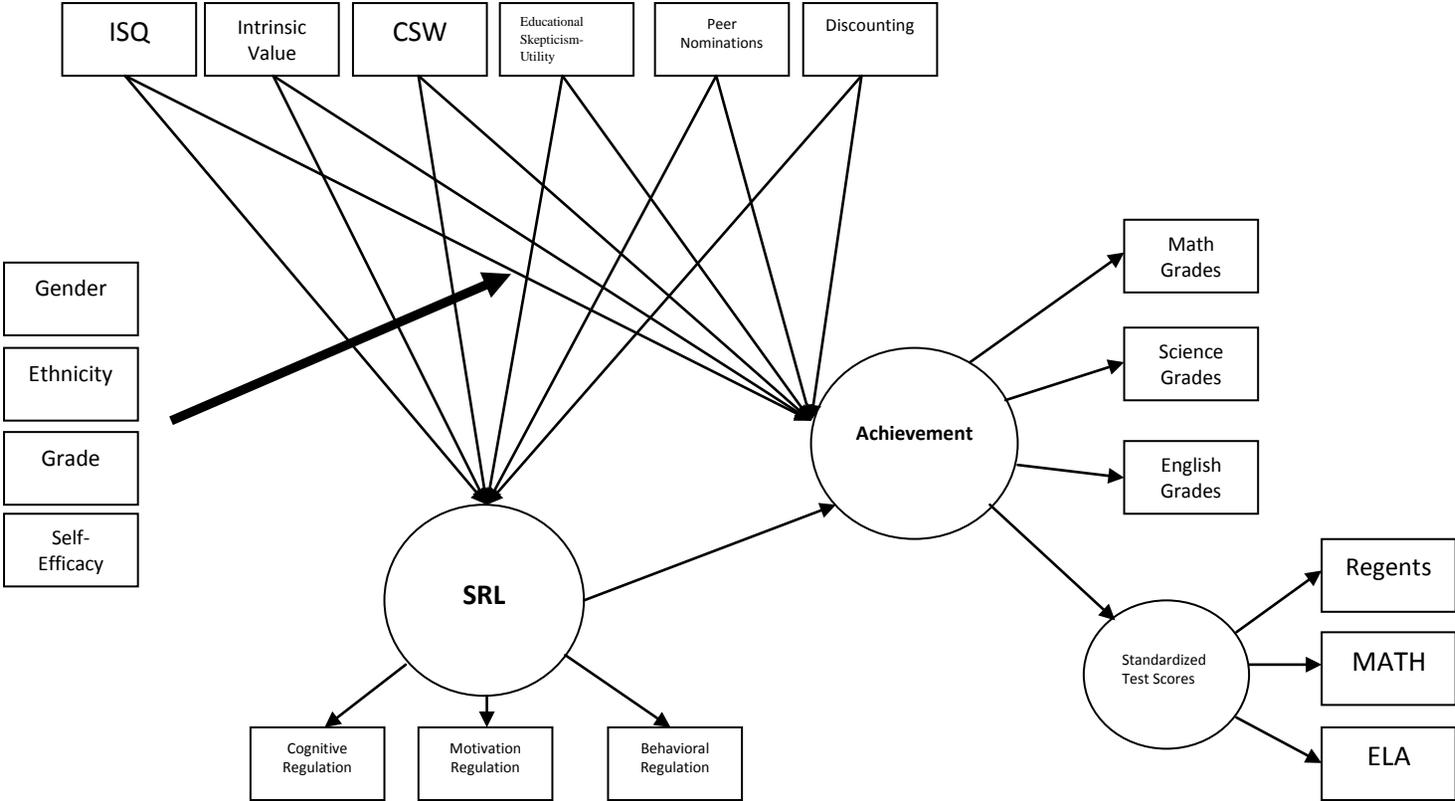
Note: This figure does not detail specific nested pathways that will be analyzed as described above, but serves as a general model of the nonspecific relationships between variables.
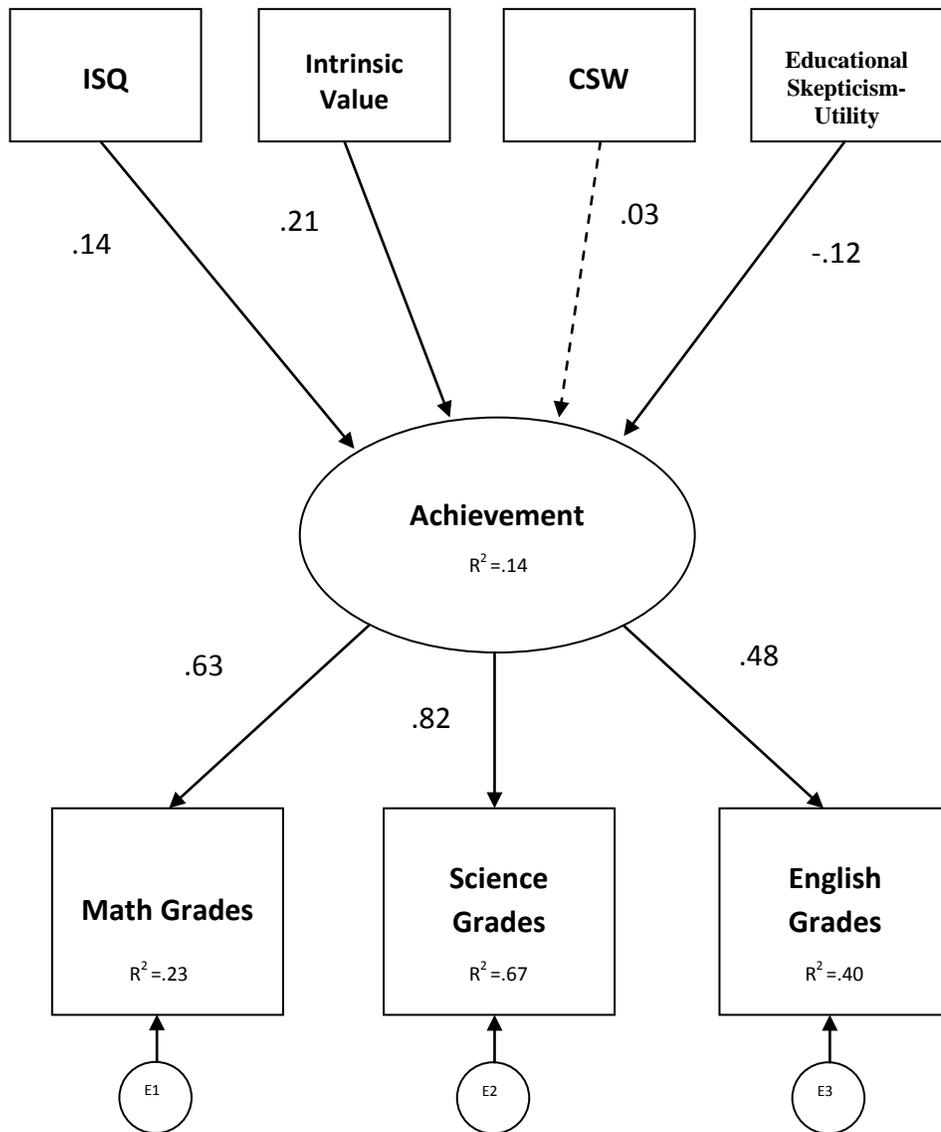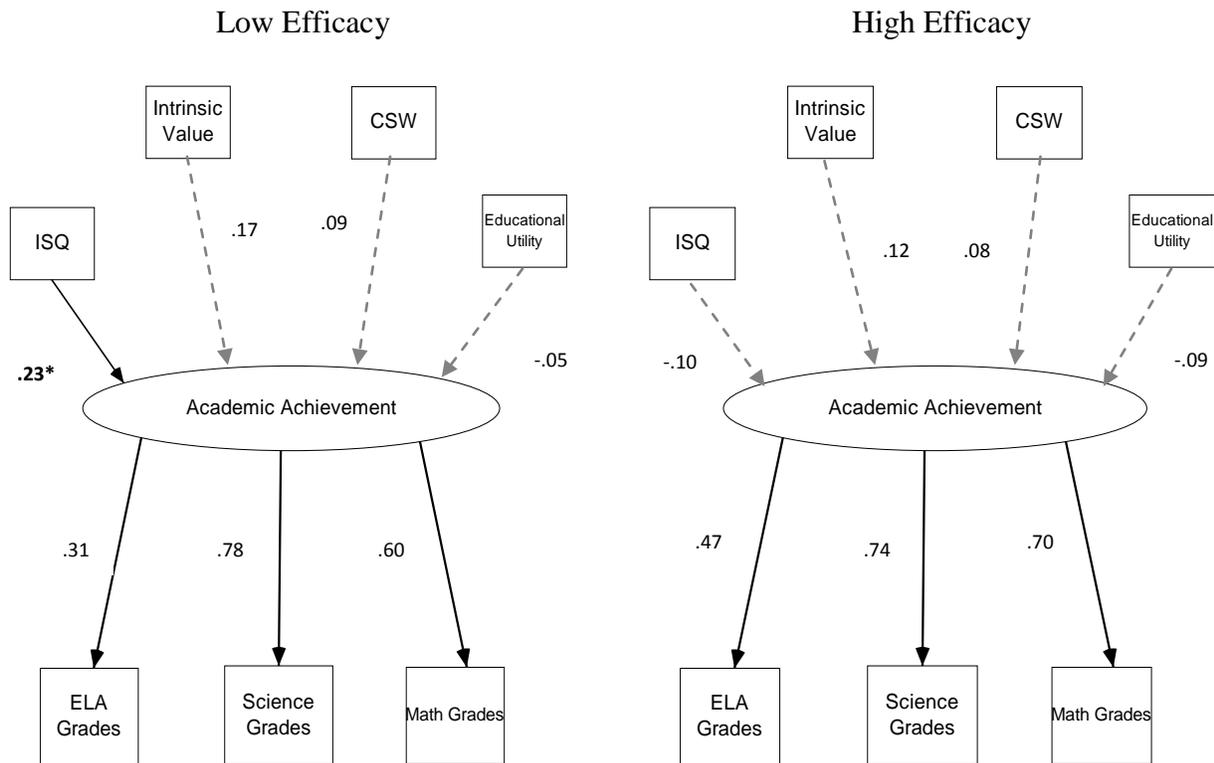
Figure 2:
Reports of Self-efficacy by Gender
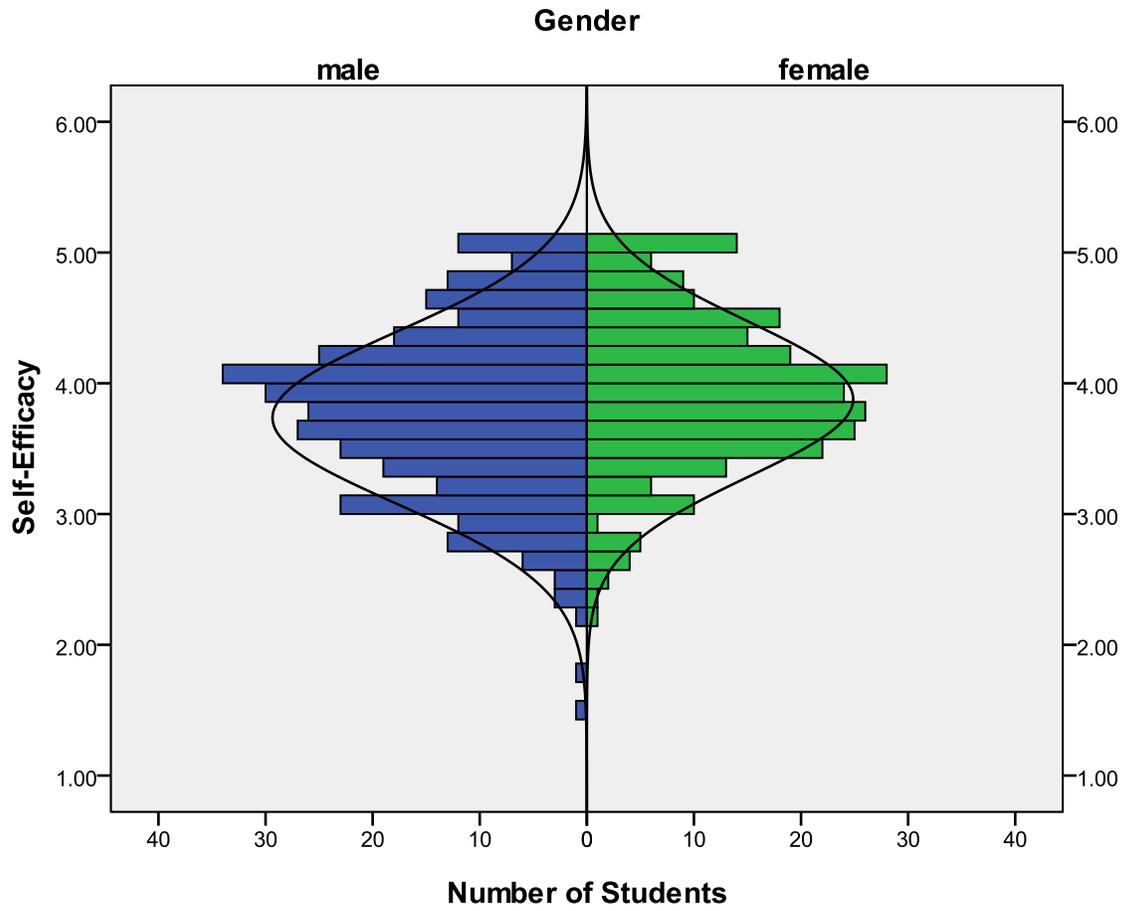
Figure 3:
Basic Model of Academic Identification and its Relation to Achievement

Note: Conceptual diagram of initially competing path models (by Gender, Ethnicity, Grade and Self-efficacy). ISQ = Identification School Questionnaire, which is a composite of school belonging and a general value of the importance of school. CSW = Academic Contingencies of Self Worth. Covariance between the identification predictors was allowed. Coefficients are standardized.

Figure 4:
Academic Identification Multi-group Comparison Model by Self-Efficacy

Note: Solid lines indicate significant pathways. Dotted lines indicate non-significant pathways. Two groups are significantly different when ISQ is constrained to equality across groups.

Figure 5:
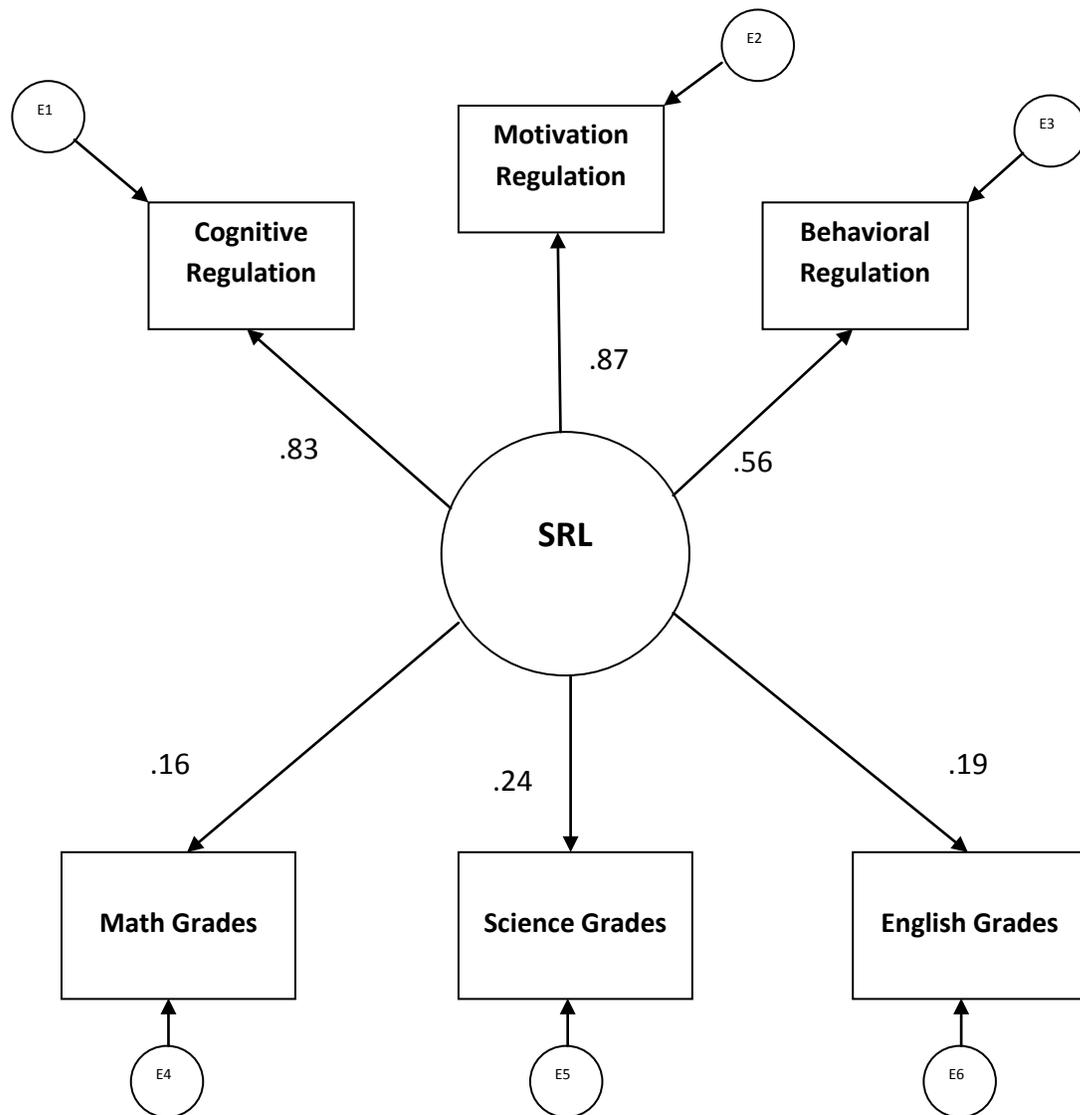*Second Order Confirmatory Factor Analysis: Self-Regulation*
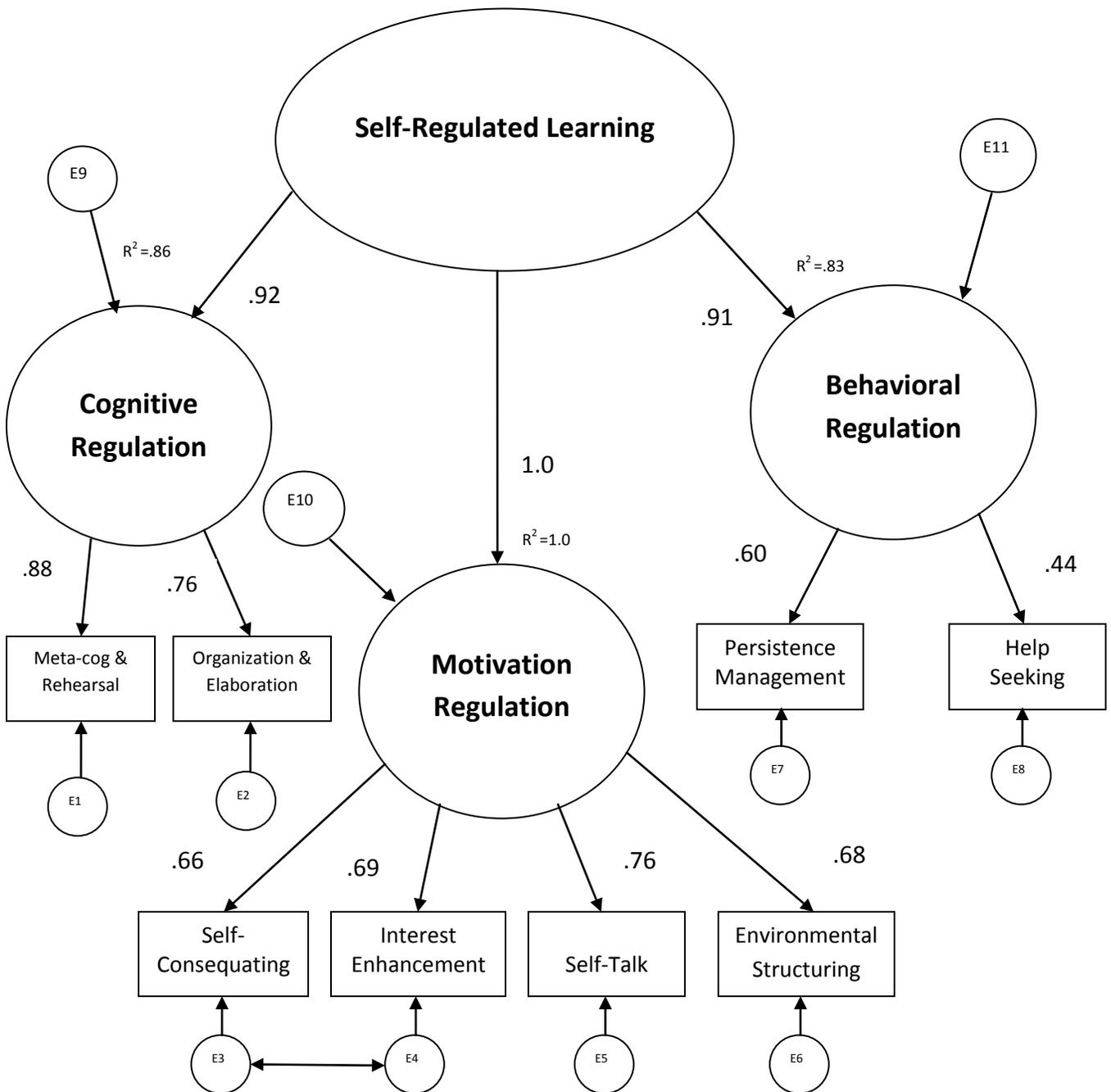
Note: Numeric values indicate standardized regression coefficients. All pathways were significant at the p<.001 level. χ^2 (16, n=606) = 81.96, RMSEA = .08, NFI = .96, GFI = 0.97, CFI = 0.97. Coefficients are standardized

Figure 6:
Behavioral, motivation and cognitive regulation by grade and gender
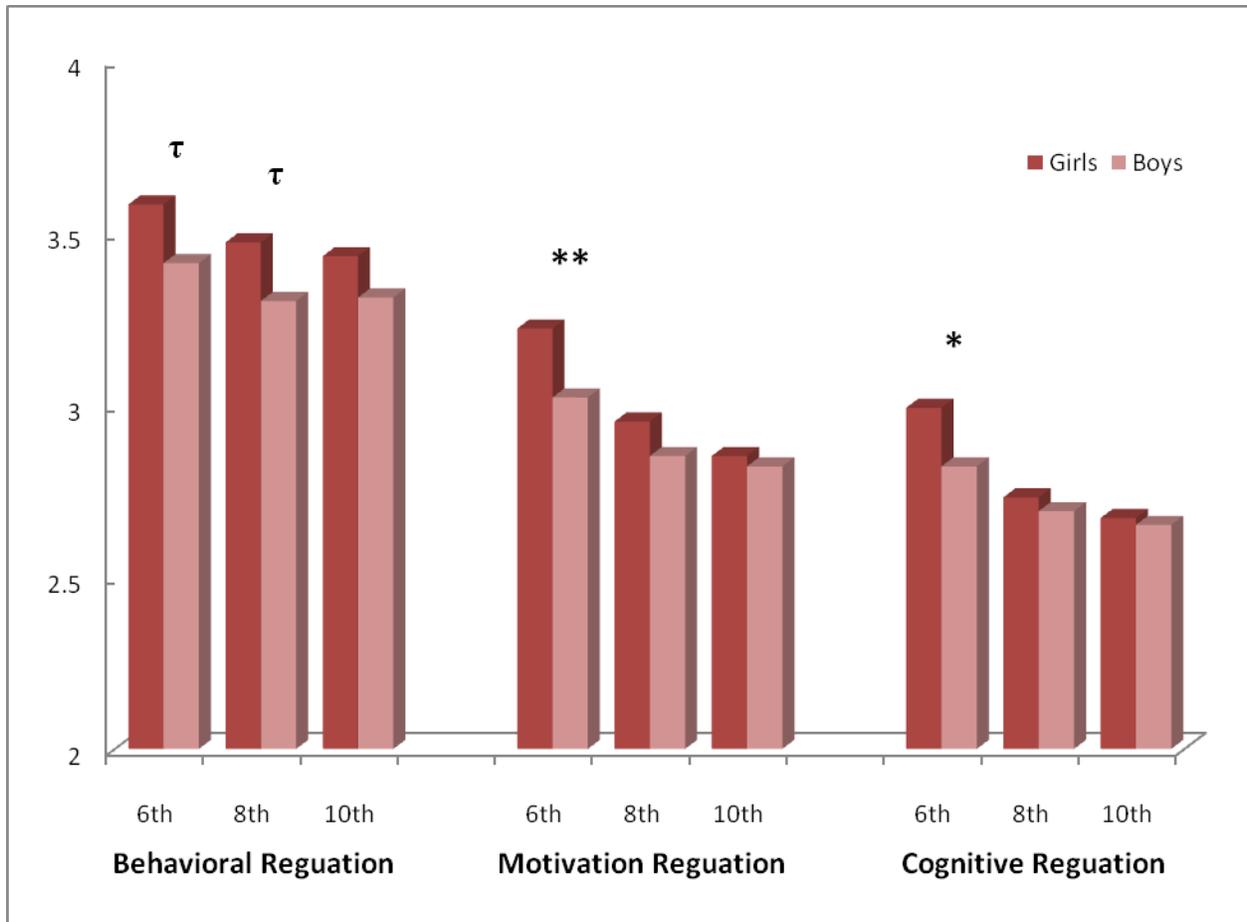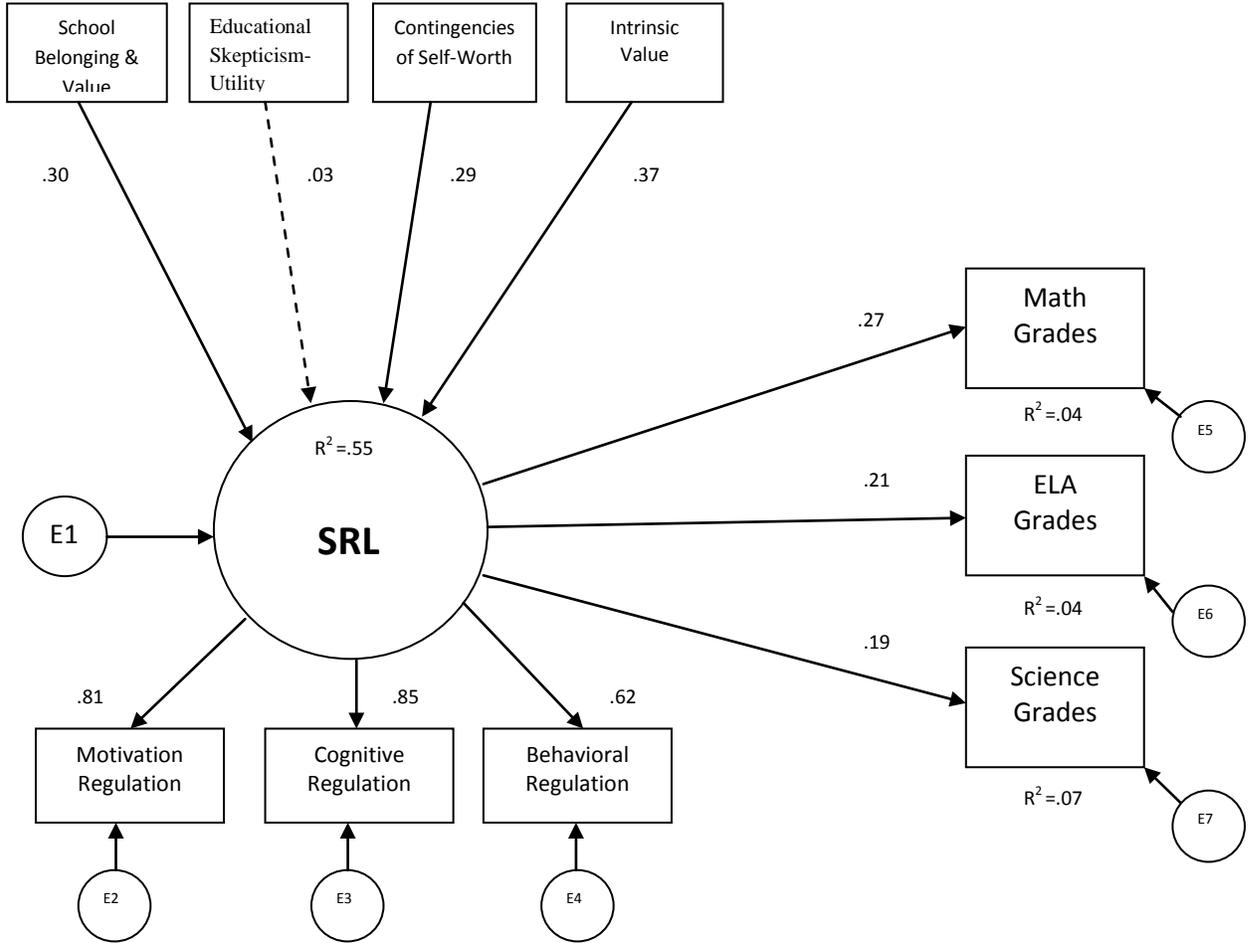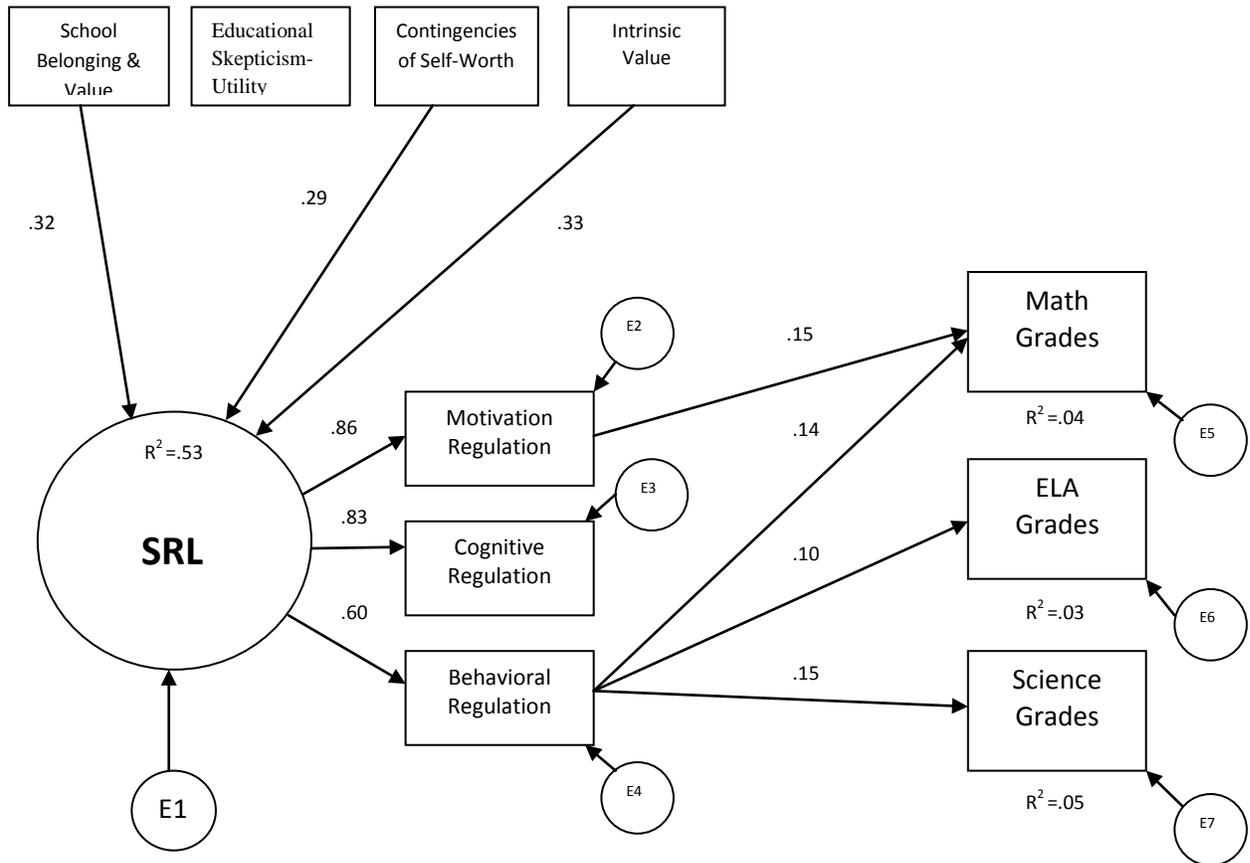
Figure 7:
Self-Regulation and its relationship at academic achievement variables

Note: Numeric values indicate standardized regression coefficients. All pathways were significant at the p<.001 level. χ² (6, n=576) = 13.04, RMSEA = .05, NFI = .98, CFI = 0.99. Error terms, E4, E5 and E6 were allowed to covary. Coefficients are standardized

Figure 8:

Self-regulated learning mediates the relationship between academic identity predictors and Math, English and Science achievement


Note: Solid lines represent significant pathways at the *p*<.001 level. Dashed lines are not significant. χ^2 (26, n=576) = 83.9, RMSEA = .06, NFI = .97, CFI = 0.95. Covariance between the identification predictors was allowed. Coefficients are standardized

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Figure 9:

Alternate SRL Mediation Model: Specific regulatory behaviors as indicators of achievement in Math, Science and English Grades


Note: Only significant pathways are indicated. χ^2 (20, n=607) = 94.65, RMSEA = .08, NFI = .95, CFI = 0.96
Covariance between the identification predictors was allowed.

Figure 10:

Student Academic Profiles: Standardized Mean Scores
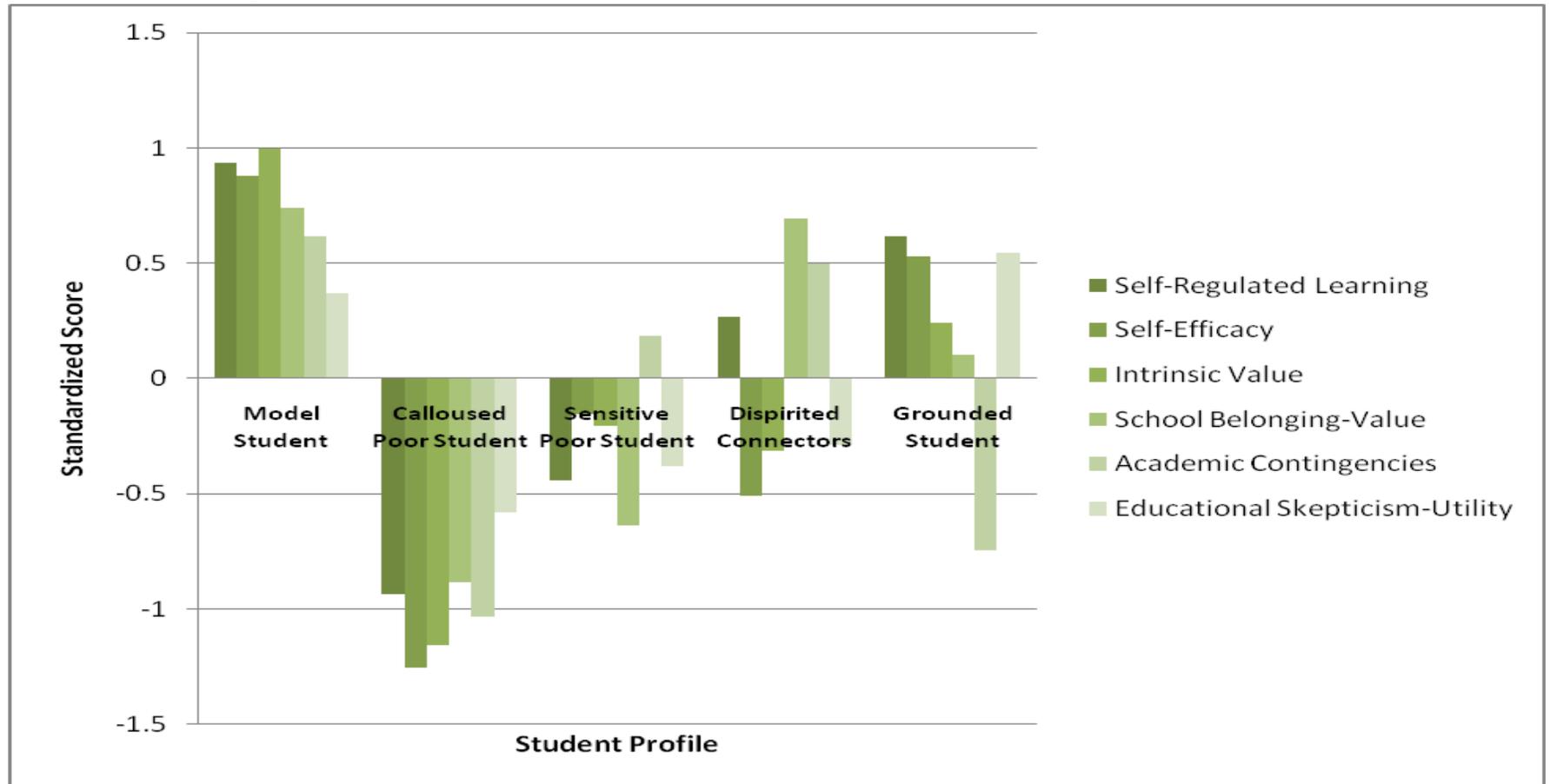
Note: Educational Skepticism-Utility was recoded to reflect positive values. This was done for ease of graphical interpretation.

Figure 11:

Distribution of achievement grades: compilation of Math, Science and English grades
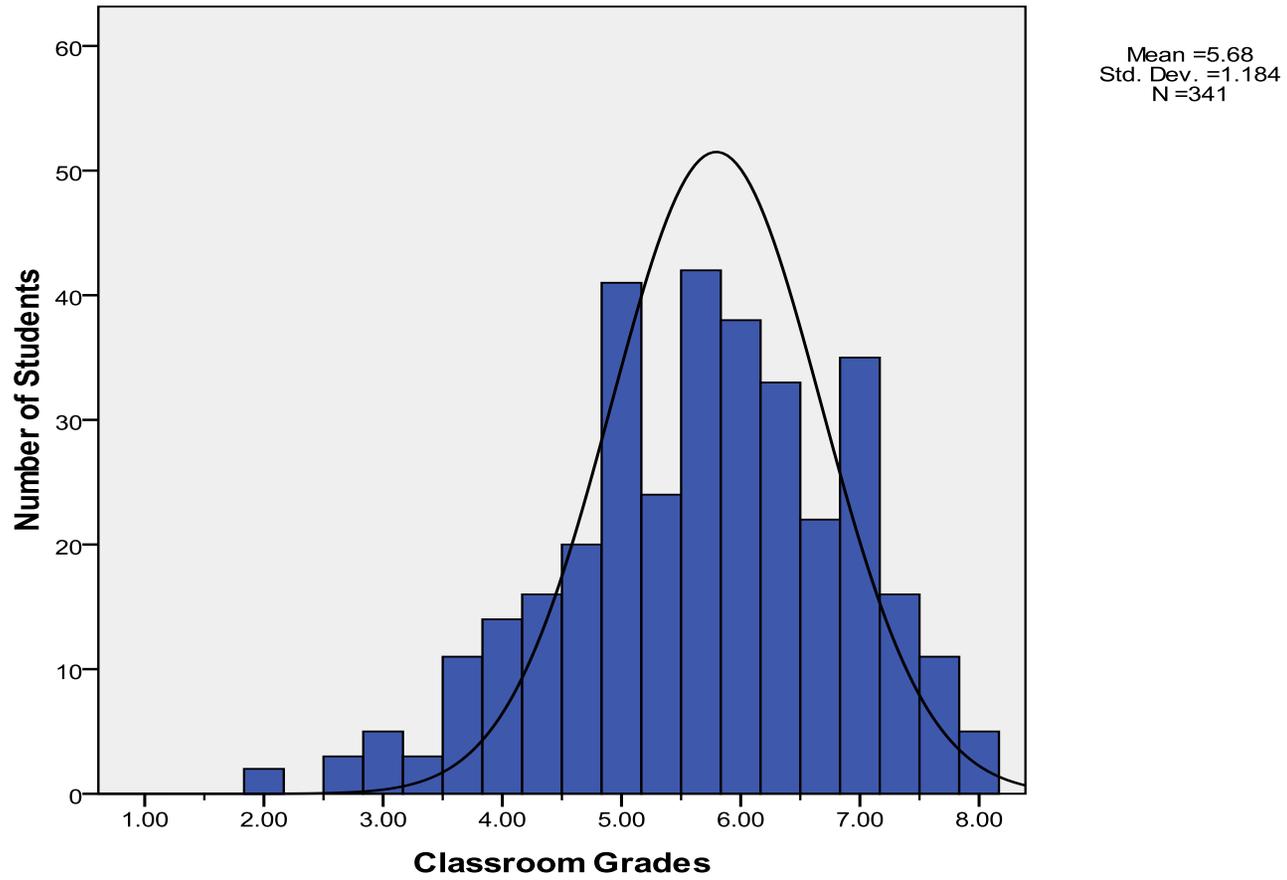
Note: 8= Mostly As, 7=As and Bs, 6=Mostly Bs, 5=Bs and Cs, 4=Mostly Cs, 3=Cs and D's, 2=Mostly D's, 1=D's and F's

Identification with School Questionnaire

BELONGING
(1)   I feel proud of being part of my school.
(2)   I am treated with as much respect as other students in my class.
(3)   The only time I get attention in school is when I cause trouble (REVERSED SCORED)
(4)   I like to participate in a lot of school activities (for example, sports, clubs, plays).
(5)   Most of my teachers *don't* really care about me (REVERSED SCORED)
(6)   There are teachers or other adults in my school that I can talk to if I have a problem.
(7)   School is one of my favorite places to be.
(8)   People at school are interested in what I have to say.

VALUE
(9)   Most of what I learn in school will be useful when I get a job.
(10)   School is often a waste of time
(11)   I can get a good job even if my grades are bad. (REVERSED SCORED)
(12)   School is more important than most people think.
(13)   Dropping out of school would be a huge mistake for me.
(14)   Most of the time I would like to be any place other than in school.
(15)   School is one of the most important things in my life.
(16)   Many of the things we learn in class are useless

Discounting

1) I feel that my teachers give me bad evaluations or grades because of my race
2) I feel that my teachers give me bad evaluations or grades because of my gender
3) My teachers treat me in an unfair way compared to most other people in my classes
4) If I were a different race, my teachers <u>would not</u> be so hard on me
5) If I were a different gender, my teacher <u>would not</u> be so hard on me
6) If my teachers say that I am bad or good at something, I tend to believe what they say about me
7) What my teachers say about me is not accurate of my real abilities
8) I have more academic ability than what my teachers think I have

Peer Nominations

1) When you think about this classroom, circle three students that you <u>admire</u>. You may not circle your own name.

(Classroom Roster Here)

2) When you think about this classroom, circle three students that you <u>respect</u>. You may not circle your own name.

(Classroom Roster Here)

3) When you think about this classroom, circle three students that you <u>want to be like</u>. You may not circle your own name.

(Classroom Roster Here)

In choosing other students that you admire, respect and want to be like, which of these factors did you consider:

___ Classroom success (grades)
___ Classroom Behavior
___ Popularity
___ Sports/Athletics
___ Clothing
___ Personality
___ Other: _____

Academic Contingencies of Self-Worth

1) My self-esteem gets a boost when I get a good grade on an exam or paper
2) Whether or not I am a good student is unrelated to my overall opinion of myself (reverse scored)
3) When I do poorly on an exam or paper, my self esteem suffers
4) My opinion of myself is not tied to how well I do in school (reverse scored)
5) I feel better about myself when I know that I am doing well academically
6) Doing well in school gives me a sense of self-respect

Personal Achievement Goal Orientations

Mastery Goal Orientation (Revised)

1. It's important to me that I learn a lot of new concepts this year.
2. One of my goals in class is to learn as much as I can.
3. One of my goals is to master a lot of new skills this year.
4. It's important to me that I thoroughly understand my class work.
5. It's important to me that I improve my skills this year.

Performance-Approach Goal Orientation (Revised)

6. It's important to me that other students in my class think I am good at my class work.
7. One of my goals is to show others that I'm good at my class work.
8. One of my goals is to show others that class work is easy for me.
9. One of my goals is to look smart in comparison to the other students in my class.
10. It's important to me that I look smart compared to others in my class.

Performance-Avoid Goal Orientation (Revised)

11. It's important to me that I don't look stupid in class.
12. One of my goals is to keep others from thinking I'm not smart in class.
13. It's important to me that my teacher doesn't think that I know less than others in class.
14. One of my goals in class is to avoid looking like I have trouble doing the work.

Academic Self-Handicapping Strategies

1. Some students fool around the night before a test. Then if they don't do well, they can say that is the reason. How true is this of you?
2. Some students purposely get involved in lots of activities. Then if they don't do well on their class work, they can say it is because they were involved with other things. How true is this of you?
3. Some students look for reasons to keep them from studying (not feeling well, having to help their parents, taking care of a brother or sister, etc.). Then if they don't do well on their class work, they can say this is the reason. How true is this of you?
4. Some students let their friends keep them from paying attention in class or from doing their homework. Then if they don't do well, they can say their friends kept them from working. How true is this of you?
5. Some students purposely don't try hard in class. Then if they don't do well, they can say it is because they didn't try. How true is this of you?
6. Some students put off doing their class work until the last minute. Then if they don't do well on their work, they can say that is the reason. How true is this of you?

Motivated Strategies for Learning Questionnaire

Self-Efficacy

2. Compared with other students in this class I expect to do well.

7. I'm certain I can understand the ideas taught in this course.

10. I expect to do very well in this class.

11. Compared with others in this class, I think I'm a good student.

13. I am sure I can do an excellent job on the problems and tasks assigned for this class.

15. I think I will receive a good grade in this class.

20. My study skills are excellent compared with others in this class.

22. Compared with other students in this class I think I know a great deal about the subject.

23. I know that I will be able to learn the material for this class.

Intrinsic Value

1. I prefer class work that is challenging so I can learn new things.

5. It is important for me to learn what is being taught in this class.

6. I like what I am learning in this class.

9. I think I will be able to use what I learn in this class in other classes.

12. I often choose paper topics I will learn something from even if they require more work.

17. Even when I do poorly on a test I try to learn from my mistakes.

18. I think that what I am learning in this class is useful for me to know.

21. I think that what we are learning in this class is interesting.

25. Understanding this subject is important to me.

Test Anxiety

3. I am so nervous during a test that I cannot remember facts I have learned.

14. I have an uneasy, upset feeling when I take a test.

24. I worry a great deal about tests.

27. When I take a test I think about how poorly I am doing.

Cognitive Strategy Use

30. When I study for a test, I try to put together the information from class and from the book.

31. When I do homework, I try to remember what the teacher said in class so I can answer the questions correctly.

33. It is hard for me to decide what the main ideas are in what I read. (*R)

35. When I study I put important ideas into my own words.

36. I always try to understand what the teacher is saying even if it doesn't make sense.

38. When I study for a test I try to remember as many facts as I can.

39. When studying, I copy my notes over to help me remember material.

42. When I study for a test I practice saying the important facts over and over to myself.

44. I use what I have learned from old homework assignments and the textbook to do new assignments.

47. When I am studying a topic, I try to make everything fit together.

53. When I read material for this class, I say the words over and over to myself to help me remember.

54. I outline the chapters in my book to help me study.

56. When reading I try to connect the things I am reading about with what I already know.

Self-Regulation

32. I ask myself questions to make sure I know the material I have been studying.

34. When work is hard I either give up or study only the easy parts. (*R)

40. I work on practice exercises and answer end of chapter questions even when I don't have to.

41. Even when study materials are dull and uninteresting, I keep working until I finish.

43. Before I begin studying I think about the things I will need to do to learn.

45. I often find that I have been reading for class but don't know what it is all about. (*R)

46. I find that when the teacher is talking I think of other things and don't really listen to what is being said. (*R)

52. When I'm reading I stop once in a while and go over what I have read.

55. I work hard to get a good grade even when I don't like a class.

Strategies for the Regulation of Academic Cognition, Motivation and Behavior

Strategies for the Regulation of Academic Cognition

Rehearsal Strategies

   When I study for this class, I practice saying the material to myself over and over.
   When studying for this class, I read my class notes and the course readings over and over again.
   I memorize key words to remind me of important concepts in this class.
   I make lists of important terms for this course and memorize the lists.

Elaboration Strategies

   When I study for this class, I pull together information from different sources, such as lectures, readings, and discussions.
   I try to relate ideas in this subject to those in other course whenever possible.
   When reading for this class, I try to relate the material to what I already know.
   When I study for this course, I write brief summaries of the main ideas from the readings and the concepts from the lectures.
   I try to understand the material in this class by making connections between the readings and the concepts from the lectures.
   I try to apply ideas from course readings in other class activities such as lecture and discussion.

Organization Strategies

   When I study for the readings for this course, I outline the material to help me organize my thoughts.
   When I study for this course, I go through the readings and my class notes and try to find the most important ideas.
   I make simple charts, diagrams, or tables to help me organize course material.
   When I study for this course, I go over my class notes and make an outline of important concepts.

Metacognitive Self-Regulation

   During class time I often miss important points because I'm thinking of other things. (REVERSED)
   When reading for this course, I make up questions to help focus my reading.
   When I become confused about something I'm reading for this class, I go back and try to figure it out.
   If course materials are difficult to understand, I change the way I read the material.

Before I study new course material thoroughly, I often skim it to see how it is organized.

I ask myself questions to make sure I understand the material I have been studying in this class.

I try to change the way I study in order to fit the course requirements and instructor's teaching style.

I often find that I have been reading for class but don't know what it was all about. (REVERSED)

I try to think through a topic and decide what I am supposed to learn from it rather than just reading it over when studying.

When studying for this course I try to determine which concepts I don't understand well.

When I study for this class, I set goals for myself in order to direct my activities in each study period.

If I get confused taking notes in class, I make sure I sort it out afterwards.

Strategies for the Regulation of Academic Motivation

Self-talk

I tell myself that I should keep working just to learn as much as I can

I persuade myself to keep at it just to see how much I can learn.

I challenge myself to complete the work and learn as much as possible.

I convince myself to work hard just for the sake of learning.

I tell myself that I should study just to learn as much as I can.

I think about trying to become good at what we are learning or doing.

I tell myself that I should work at least as hard as other students.

I keep telling myself that I want to do better than others in my class.

I remind myself about how important it is to get good grades.

I tell myself that I need to keep studying to do well in this course.

I convince myself to keep working by thinking about getting good grades.

I think about how my grade will be affected if I don't do my reading or studying.

I remind myself how important it is to do well on the tests and assignments in this course.

Interest Enhancement

I tell myself that it is important to learn the material because I will need it later in life.

I try to connect the material with something I like doing or find interesting.

I think up situations where it would be helpful for me to know the material or skills.

I try to make the material seem more useful by relating it to what I want to do in my life.

I try to make myself see how knowing the material is personally relevant.

I make an effort to relate what we're learning to my personal interests.

I make studying more enjoyable by turning it into a game.

I try to make a game out of learning the material or completing the assignment.

I try to get myself to see how doing the work can be fun.

I make doing the work enjoyable by focusing on something about it that is fun.

I think of a way to make the work seem enjoyable to complete.

Self-Consequating

I promise myself I can do something I want later if I finish the assigned work now.

I make a deal with myself that if I get a certain amount of the work done I can do something fun afterwards.

I promise myself some kind of a reward if I get my readings or studying done.

I tell myself I can do something I like later if right now I do the work I have do get done.

I set a goal for how much I need to study and promise myself a reward if I reach that goal.

Environmental Structuring

I try to study at a time when I can be more focused.

I change my surroundings so that it is easy to concentrate on the work.

I make sure I have as few distractions as possible.

I try to get rid of any distractions that are around me.

I eat or drink something to make myself more awake and prepared to work.

I have a regular place set aside for studying.

I usually study in a place where I can concentrate on my course work.

Strategies for the Regulation of Academic Behavior

Persistence Regulation

I often feel so lazy or bored when I study for this class that I quit before I finish what I planned to do. (REVERSED)

I work hard to do well in this class even if I don't like what we are doing.

When course work is difficult, I give up or only study the easy parts. (REVERSED)

Even when course materials are dull and uninteresting, I manage to keep working until I finish.

General Intention to Seek Needed Help

If I needed help in this class I would ask someone for assistance.

If I needed help understanding the lectures in this class I would ask for help.

If I needed help with the readings in this class I would ask for help.

General Intention to Avoid Needed Help

If I didn't understand something in this class I would guess rather than ask someone for assistance.

I would rather do worse on an assignment I couldn't finish than ask for help

Even if the work was too hard to do on my own, I wouldn't ask for help with this class.

Perceived Costs of Help-Seeking (threat)

Getting help in this class would be an admission that I am just not smart enough to do the work on my own.

I would not want anyone to find out that I needed help in this class.

Asking for help would mean I am not as smart as other students in the class.

Others would think I was dumb if I asked for help in this class.

Perceived Benefits of Help Seeking

Getting help in this class would make me a better student.

Getting help in this class would make me a smarter student.

Getting help in this class would increase my ability to learn the material

Educational Utility - Skepticism About the Relevance of School for Future Success

1. Even if I do well in school, it will not help me have the kind of life I want when I grow up.
2. My chances of succeeding later in life don't depend on doing well in school.
3. Doing well in school doesn't improve my chances of having a good life when I grow up.
4. Getting good grades in school won't guarantee that I will get a good job when I grow up.
5. Even if I am successful in school, it won't help me fulfill my dreams.
6. Doing well in school won't help me have a satisfying career when I grow up.

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