

RELATIONSHIPS BETWEEN ACADEMIC IDENTITY AND ACADEMIC
ACHIEVEMENT IN LOW-INCOME URBAN ADOLESCENTS

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Abstract

The purpose of this study was to investigate the relationship between academic identity and academic achievement of low-income urban adolescents. Academic identity was defined by the constructs of future orientation, self-efficacy, confidence in academic abilities, and grit; academic achievement was defined by high school grade point average (GPA). The literature review covered research in the areas of identity formation, achievement motivation, and precollege programs. This study utilized data collected from high school students from low-income, urban backgrounds participating in a precollege program. Data from 257 participants were analyzed to answer the following research questions: (1) Does a relationship exist between academic achievement and any of the four academic identity variables? (2) In the case of a rejected null hypothesis, what is the unique contribution of each significant variable towards academic achievement? Results of a multiple regression analysis revealed a small statistically significant relationship between academic identity and academic achievement. No statistically significant unique contributions were detected from any of the four identity variables in isolation. While a small statistically significant relationship between academic identity and academic achievement was found, overall this study offered limited evidence to support the value of assessing academic identity to predict academic achievement in high school students. However, this study uncovered some important insights about the process of researching and evaluating precollege programs. In addition, through its limitations this study pointed out several improvements that can be made to future research on variables associated with academic achievement in high school students.

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Chapter I

Introduction

Description of the Problem

High school dropout.

In the 2009-2010 school year, the average national freshman graduation rate for public school students was 78.2 percent, though state averages ranged from 57.8 percent in Nevada to 91.4 percent in Vermont. The state average in New Jersey (the state in which this study was based) was 87.2 percent. Across the United States, the calculated dropout rate was the lowest for Asian/Pacific Islander and White students, whereas American Indian/Alaska Native, Black, and Hispanic students had the highest dropout rates. In every state, dropout rates were higher for males than females (Stillwell & Sable, 2013).

Students who are most at-risk for academic failure often attend schools located in urban, impoverished areas (Balfanz & Mettie, 2004). Accordingly, Black and Hispanic youth from economically disadvantaged backgrounds are among the least likely to graduate from high school in the United States (Valentine, 2005). Over 20 percent of students who attend public high school in the United States fail to graduate (Stillwell & Sable, 2013). However, in the 50 largest cities in America, the average graduation rate reaches only 53 percent. Furthermore, in 16 of these cities, the graduation rate falls below 50 percent (Swanson, 2009). Urban youth report many different reasons for dropping out of school including disinterest in classes, disciplinary conflict, earning poor grades, missing too many days, lack of parental encouragement, and lack of support from schools (Bridgeland, DiIulio, & Morison, 2006; USDOE, 2009). In addition, many of

these students attend schools which embody a culture of dropout; nearly 50 percent of African American students and 40 percent of Latino students attend high schools in which graduation is not normative (Balfanz & Mettie, 2004).

It is estimated by the U.S. Department of Labor that 90 percent of all new high-growth, high-wage jobs will require some postsecondary education (Amos, 2008). In one survey, 75 percent of urban high school dropouts reported never receiving dropout prevention programming, assistance with job placement, or vocational training (USDOE, 2009). For youth who manage to graduate, it has been estimated that 50 percent of those with a high school diploma leave secondary school with significant skill deficits which leave them unprepared to manage the rigors of employment or college after high school (Herbert, 2008). Despite experiencing social and economic hardships, youth growing up in urban communities can succeed if efforts are taken to support them in school (Elias & Haynes, 2008).

The cost of failure.

High school dropouts are more likely than high school graduates to experience periods of unemployment, dependence on government assistance, or time in prison (Alliance for Excellent Education, 2008). An individual high school dropout costs the nation approximately \$260,000 in lost earnings, taxes, and productivity over the course of his or her lifetime (Amos, 2008). In 2005, high school graduates earned an average of \$9,600 more than those who did not complete high school (U.S. Bureau of the Census, 2006). Across gender and ethnicity variables, years of education is positively correlated with lifetime earnings. Additionally, educational attainment is negatively correlated with dependence on government assistance programs such as Medicaid and Welfare (Levin,

Belfield, Muennig, & Rouse, 2005). There is also a negative correlation between the amount of state spending on social programming and the education level of the population (Alliance for Excellent Education, 2008). It is estimated that increasing graduation rates by just one percent nationwide could save over one billion dollars in crime-related expenses each year (Valentine, 2005). It is predicted that reducing dropout rates would help stimulate the economy by means of increased purchasing power, greater tax receipts, and higher levels of worker productivity (Alliance for Excellent Education, 2008).

Academic Identity Formation

Theoretical foundations of identity formation.

Adolescence is a developmental period during which youth begin to examine their beliefs, identify their strengths and limitations, and establish their competencies during a developmental phase of identity formation (Erikson 1968; Roazen, 1976). Erik H. Erikson (1968) is credited for his influential work discussing the concept of identity formation. Following Freud's (1905) postulation of the psychosexual stages from infancy to early adolescence, Erikson believed that ego development extends beyond childhood. He asserted that identity formation continues across the lifespan, with the major crisis of identity occurring during adolescence (Roazen, 1976). Erikson outlined eight crises that one encounters throughout one's life; during adolescence one faces the crisis of identity versus confusion. Erikson described adolescence as a moratorium; a suspended time between childhood and adulthood during which youth are able to explore different experiences free from commitment or responsibility. During adolescence, youth strive for an allegiance with objects of alliance and search for a comprehensive system of thoughts and religion which he called an ideology. Without commitment to an ideology, he proposed that youth would suffer a "confusion of values", thus they must struggle to establish a sense of identity to prevent this crisis (Erikson, 1968; Roazen, 1976).

Erikson (1968) described the process of identity formation as an evolution beginning in childhood and continuing across the lifespan, with the central crisis of identity versus confusion occurring in adolescence. In infancy, humans use introjection to establish a sense of self based on their relationships with others. Later in childhood humans take on the characteristics of significant others in the process of identification.

The identity formation process, though, occurs when an individual begins to establish a sense of self as an independent intrapsychic structure without overly relying on identifications. Earlier identifications are not lost; rather they are incorporated into the identity formation process (Kroger, 2000).

James Marcia (1966) expanded upon Erikson's identity theory, focusing on adolescence. Marcia described adolescence as, "a period of transition in approach to cognitive tasks - from concrete to formal operations; in approach to moral issues – from law-and order ("duty") reasoning to transcendent human values; in approach to psychosocial concerns - from others' expectations and directives to one's own unique organization of one's history, skills, shortcomings, and goals" (Marcia, 1980, p. 110). Marcia identified four identity statuses as a means of studying the construct of identity empirically. His four statuses include: (1) Identity Achievement, (2) Foreclosure, (3) Identity Diffusion, and (4) Moratorium. Marcia defined these statuses based on the presence or absence of a crisis, as well as one's commitment to one's occupation and ideology (referring to religion and politics). At the different statuses, an individual is said to have varying levels of commitment and exploration in these areas. A person at Identity Achievement status has experienced and resolved crises pertaining to occupation and ideology, and can acknowledge and articulate the process. He is high in commitment following thorough exploration. At the Moratorium status, a person acknowledges a crisis but has not yet come to resolve it. He is low in commitment but high in exploration. An individual at Foreclosure status is not very willing to entertain questions pertaining to occupation and ideology, and denies the existence of any crises in these areas. He shows high levels of commitment but low levels of exploration. Finally, the

Identity Diffusion status signifies confusion or indifference regarding occupation and religion. A person at this status is low in both commitment and exploration (Marcia, 1966, 1993).

In a study aiming to identify the profiles of each status, Marcia concluded that individuals at Identity Achievement status can be characterized by high identity scores on a standardized measure, persevering longer through difficult problems, and maintaining realistic aspirations. Moratorium adolescents can be characterized by variable performance. At the Foreclosure stage, adolescents exhibit a high frequency of endorsing authoritarian values such as obedience, strong leadership, and respect for authority. In addition, self-esteem was more vulnerable to negative feedback, and response to failure was unrealistic, maintaining failure of goal attainment. Individuals at Diffusion status exhibited variable results, though their performance exceeded those at the Foreclosure stage on most measures (Marcia, 1966).

While Erikson and Marcia are often cited in the identity formation literature, these models may not best describe the identity formation process for individuals from ethnic or cultural minorities. In the Western tradition, identity formation is viewed as an individual process, whereas identity formation in the context of collectivistic cultures focuses more on group identity formation (Temanas, 2010). Phinney & Ong (2007) noted several components of ethnic identity including self-categorization and labeling, exploration, ethnic behaviors, evaluation of in-group attitudes, values and beliefs, and salience of identity. They explained, “Like a personal identity, an ethnic identity refers to a sense of self, but it differs in that it involves a shared sense of identity with others who belong to the same ethnic group,” (p. 275). While individuals may achieve ethnic

identity in adolescence and it is considered relatively stable, there can be continued exploration of identity issues throughout adulthood (Phinney & Ong, 2007). The process of ethnic identity development is distinct from the process of acculturation, which involves changes in cultural attitudes, values, and behaviors resulting from the intersection of two unique cultures (Phinney, 1990). Just as with individual identity formation, ethnic identity is believed to undergo major changes in adolescence as a result of the joint exploration and commitment processes (Phinney, 1989). Similar to the process described by Marcia (1980), an individual may move from ethnic identity diffusion status (lack of a clear identity) to either foreclosure (a commitment without exploration) or moratorium (exploration) before reaching ethnic identity achievement. Phinney (1992) created an empirical measure for ethnic identity called the Multigroup Ethnic Identity Measure (MEIM). Revised with Ong in 2007 (MEIM-R), this measure may be used to empirically study the process of investigation, learning and commitment involved in ethnic identity development, particularly related to self-categorization and labeling.

Identity formation in the school setting.

Identity formation is, “an ongoing negotiation between the individual and the social context or environment, with particular attention paid to operant cultural and power relations,” (Hawkins, 2001, p. 61). From this perspective, identities are continuously negotiated through social interaction. This is particularly relevant to the classroom setting as children are exposed to a rich and interactive social environment as learning occurs. Thus, students come to establish identities as learners based on the work and social situations they are exposed to in school (Hawkins, 2001).

According to Kroger (2000) adolescent identity formation is most influenced by the school context during mid-adolescence. At this time, adolescents' life trajectories are heavily influenced by the decisions they make related to their education (Kroger, 2000 as cited in Lauder, 1993). Erikson (1959) also commented on the role of schooling in identity development (as cited in Kaplan & Flum, 2010). The crisis of industry versus inferiority, which is encountered by children aged seven to twelve, results when students encounter the opportunity to learn skills and abilities, practice these with other, and explore intellectually. The degree to which they develop a sense of competence and are able to identify with adults they view as knowledgeable determines the outcome of this crisis. Later in adolescence, schools provide students with a context to imagine different possible vocations, explore different content areas of interest, and negotiate social roles (Kaplan & Flum, 2010). In contrast, role conflict for adolescent students has the potential to inhibit their sense of competence, goal-orientation, and dedication. Professionals working in schools may be better prepared to help students navigate transitions, develop adaptive coping skills, and foster academic success if they are aware of the process of identity formation (Swanson, Spencer, Dell'Angelo, Harpalani, & Spencer, 2002).

Identity formation in the school context affects not only the students experiencing this moratorium, but also those around them. A study by Raphael, Feinberg, and Bachor (1987) found that student identity statuses as defined by Marcia (1966) influenced teachers' perceptions of them and evoked differentiated teacher responses. In addition, a student's sense of connection to his or her school, peers, and teachers is associated with greater self-esteem, increased academic engagement, and lower involvement in risky

behaviors (CDC, 2009; King, Vidourek, Davis, & McClellan, 2002; Libbey, 2004).

Schools may differ in their ability to foster school connectedness in their students, which may further facilitate the identity formation process. For example, one study of mid-adolescent girls attending public and private high schools found that students attending private schools were significantly more likely to have a political and occupational commitment. Using Marcia's (1966) identity statuses, they found that girls attending private school were more likely to obtain achievement or foreclosure status in both areas. In contrast, girls attending public schools were more likely to obtain moratorium or diffuse status related to political decision-making, as well as obtaining achieved or moratorium status related to career aspirations. These differences were attributed to the homogenous environment in the private school settings versus a greater exposure to different ideological viewpoints in the public school environment (Roker & Banks, 1993).

From a sociocultural perspective, academic identity formation is dependent on the classroom environment. Reveles, Cordova, & Kelly (2004) explain, "Within a classroom context individual and collective identities are constructed through specific classroom discourse and activity as teachers and students interactionally define the cultural knowledge of schooling," (p. 1140). They argue that students' perceptions of self are altered over time to meet the demands and expectations of their teachers and fellow students, which have been negotiated to be consistent with others as well. Furthermore, they assert that the specific language used in a classroom becomes a resource for learning as well as identity formulation, as it can be used to encourage students to view themselves as active and competent members of the classroom community. This process

of academic identity formulation occurs on a moment-to-moment basis of the establishment and reestablishment of norms, values, and expectations in the classroom. This idea is similar to the notion of reciprocal determinism, which states that the individual, behavior, and the environment all interact in the learning process (Bandura, 1997).

Academic identity.

The construct of academic identity is not clearly defined in the existing literature. Some describe the construct as pertaining to the professional development of individuals in the context of higher education (eg. Winters, 2009). Others terms referring to this construct include “college-bound identity” (Feuerberg, 2012), “educational identity” (Hejazi et al., 2010), “student identity,” and “school-affiliated identity” (Hawkins, 2005). Welch and Hodges (1997) defined academic identity as “the personal commitment to a standard of excellence, the willingness to persist in the challenge, struggle, excitement and disappointment intrinsic in the learning process,” (p. 37). Elaborating on this definition, Graham and Anderson (2008) asserted that academic identity is just one dimension or a larger, global self-concept. They proposed that academic identity is central to academic performance and achievement motivation. Similar to the construct of self-efficacy, they declared that academic identity formation occurs when a student perceives himself or herself as being capable of completing academic tasks. Some researchers embrace a similar understanding of academic identity, but do not provide an explicit operational definition (eg. Reveles et al., 2004). It is acknowledged that a limitation of this study is investigating a construct that is without a consistent definition.

Research supports a relationship between academic identity and academic achievement. A study by Hejazi et al., (2010) investigated the relationship between academic identity status, goal orientations and academic achievement in 301 high school freshmen. Academic identity status was determined using Kaplan & Flum's (2010) academic identity statuses. Diffuse academic identity, mastery-approach goal orientation, and foreclosed academic identity predicted the greatest amount of variance for academic achievement as measured by end of the year exam scores. Of note, diffuse academic identity status explained the highest proportion of variance in academic achievement. The authors speculated that the link between diffuse identity and academic achievement was so strong because students with a diffuse academic identity are put at an increased risk for academic problems due to a lack of clear and stable academic goals, poor self-regulatory habits, and underdeveloped academic skills (Hejazi et al., 2010).

Academic identity and minority students.

Some researchers assert that ethnic identity and academic identity are incompatible for minority students. Specifically, they argue that academic success is an attribute of "whiteness", and that minority students, particularly those from low-income urban environments, must either conform to this white norm, rejecting their own ethnic identities, or maintain their ethnic identities and sacrifice academic success (Wright, 2011). Florez-Gonzales (1999) challenged this notion with her study on high-achieving Puerto Rican students at a Chicago high school. She conducted an ethnographic observation and in-depth interviews with 33 current and former students of Puerto Rican descent. Eleven of the students were identified as high achievers, as indicated by their success in honors classes, athletics, or church involvement. The remaining 22 were

classified as low achievers with all but three dropping out of high school temporarily or permanently. Neither the high nor low achievers in this study perceived academic success as associated with “whiteness”. High achievers were more likely to define their identities in terms of their group affiliation as scholars, athletes, or church-goers. Furthermore, these students did not feel the need to downplay their academic accomplishments for the sake of fitting in or avoiding harassment; they embraced the social label of “school-boys and school-girls” among their peers.

Wright (2011) investigated the perceptions of five high-achieving African American high school students and how their academic success was integrated into healthy racial-ethnic identities (HREI). Quantitative and qualitative data were collected using a combination of surveys, interviews, and focus groups. Results revealed that participants exhibited HREI and offered explanations as to how they integrated their academic success with their sense of racial-ethnic identity. Of note, much discussion was given to Fordham and Ogbu’s (1986) “acting white” hypothesis, which proposes that academic success is consistent with white culture, and that minority students must sacrifice their own racial identity by conforming to white culture to succeed in school. Participants defined “acting black” as relating to taste in music, style of dress, and use of slang and viewed it as independent of academic achievement. Furthermore, the participants equated school success to “coolness”, as academic achievement requires a combination of confidence and comfort with one’s sense of self (Wright, 2011).

Graham and Anderson (2008) also found several themes in their qualitative investigation of academically-gifted African American male students at an urban high school. These students reported taking school seriously and experienced a strong

connection to their ethnicity. They also acknowledged the “significant others” in their lives who support them.

Demographic characteristic and minority status can be predictive of college aspirations in low-income youth. Goals pertaining to college and beyond are one aspect of academic identity as defined by the present study. A study by Berzin (2010) investigated the educational aspirations of 469 adolescents. Utilizing a longitudinal model, she tracked these students from 7th grade through 11th grade in terms of academic involvement, behavioral problems, achievement, and aspirations. Analyses revealed that female gender, younger age, nonwhite race, stronger home academic environment, higher levels of parent-school behavior expectations, better academic performance, greater engagement in school, and higher levels of peer support were associated with higher post-high school aspirations. In addition, greater parental academic involvement was associated with higher aspirations for African Americans but not for European Americans, which may indicate cultural or sociodemographic differences in the interpretation of academic involvement.

Academic Identity in the Present Study.

In the present study, academic identity was assessed using a tool which measured the following constructs: (1) future orientation, (2) self-efficacy, (3) confidence in academic abilities, and (4) grit. These constructs were deemed to measure academic identity based on professional judgment, ensuring content validity. The following sections describe these constructs as they relate to academic identity.

Future orientation.

Future orientation refers to one's ability to imagine or consider one's future life circumstances (Steinber et al., 2009). It is believed that future orientation may be a motivator or deterrent towards learning and goal-setting, which may in turn impact one's self-efficacy, affect, or emotional state (Peetsma, Hascher, Van der Veen, & Roede, 2005 as cited in Peetsma & Van der Veen, 2010). It has been found that adolescents age 15 and younger score lower on measures of future orientation than adolescents ages 16 and older. These younger adolescents show less ability to delay receiving a reward compared to older adolescents. This suggests that the ability for planning ahead continues to develop during late adolescents and young adulthood (Steinberg et al., 2009).

Future orientation has been found to be linked to academic engagement for adolescents. A study of 347 first-year undergraduates at an Australian university revealed that future orientation was associated with the ability to delay gratification and belief in personal agency. For students under the age of 25, future orientation predicted 22 percent of the variance for academic application and 9.5 percent of the variance for academic orientation which are two dimensions of academic engagement (Horstmanshof & Zimitat, 2007).

Self-efficacy.

Self-efficacy is the measure of one's beliefs in one's own ability to perform an action, complete a task or attain a goal (Bandura 1997; Lampert, 2007; Schunck, 1991). Self-efficacy is a similar construct to self-concept; however several differences distinguish the two. Specifically, self-concept involves a cognitive and affective component of self-evaluation, whereas self-efficacy involves only a cognitive component

(Choi, 2005). Additionally, self-concept is established by comparing one to others, whereas self-efficacy is developed by comparing one's past performance to present functioning, emphasizing personal mastery (Choi, 2005; Lampert, 2007; Schunk, 1991).

In relation to academic motivation, it is theorized that individuals with high levels of self-efficacy view themselves as more capable and thus work harder or persist longer in the face of academic difficulty; conversely, those with lower levels of self-efficacy may be more likely to avoid a task that seems difficult or put forth less effort (Bandura, 1977 and 1986, Schunk, 1991). In the educational context, a student's self-efficacy describes his or her beliefs in his or her ability to control learning and academic outcomes, master concepts, and become proficient in different subject matters (Lampert, 2007). High levels of self-efficacy may be predictive of academic achievement, positive social relationships and prosocial behaviors (Bandura, Barbaranelli, Caprara & Pastorelli, 1996, as cited in Lampert, 2007). Furthermore, specific self-constructs (self-efficacy and self-concept) are better predictors of academic performance than general constructs (Choi, 2005). For example, Choi (2005) found that specific self-efficacy was predictive of term grades for college students. Additionally, Lampert (2007) investigated the relationship of self-efficacy and self-concept to academic performance in college freshmen. He found that academic self-efficacy was predictive of GPA; it served as a better predictor than academic self-concept or general self-efficacy.

Confidence in academic abilities.

The construct of confidence in academic abilities is related to but distinct from self-efficacy. Like the construct of the self-concept, this construct is partially derived through social comparisons, whereas self-efficacy is derived through personal mastery.

This construct is also somewhat theoretical and less measurable than self-efficacy (Lampert, 2007). Sanders and Sander (2003) conceptualized academic confidence as, “how students differ in the extent to which they have a strong belief, firm trust, or sure expectation, about one’s educational experience,” (p. 4). Furthermore, this relates to how one responds to the demands of studying at higher education (Sanders & Sander, 2006). An updated definition they provided in 2006 stated, “Confidence in ability to engage in behavior that might be required during the student’s academic career,” (p. 36). Using the Academic Confidence Scale (ASC) they created in 2003 (renamed ABC), Sanders and Sander (2006) revised the scale to assess the behavioral repertoire of university students. This scale was used in their 2007 study comparing medical students to psychology students. Medical students had more stringent program requirements for maintaining good grades and had an average GPA 1.9 times higher than psychology students. Results showed that medical students performed higher on the ABC scale than psychology students, showing that students who scored higher for academic confidence earned higher grades than students who scored lower for academic confidence (Sanders & Sander, 2007).

Grit.

Grit is defined by Duckworth, Peterson, Matthews, and Kelly (2007) as, “perseverance and passion for long-term goals,” (p. 1087). The authors hypothesized that this construct is one of many factors which explain why some individuals accomplish more than similar others when variables such as intelligence are held constant. Grit is considered more to be of a personality trait as opposed to a cognitive or affective factor. Duckworth et al. (2007) theorized that grit may contribute to success across many skills

and professions including academics. They conducted six cross-sectional and longitudinal studies with samples of adults aged 25 and older (studies 1 and 2), Ivy League undergraduates (study 3), West Point cadets (studies 4 and 5), and National Spelling Bee finalists (study 6) to determine to what extent their successful outcomes could be attributed to grit. Across these six studies, grit accounted for four percent of the variance in successful outcomes. Of note, studies 1 and 2 found that individuals scoring higher in grit attained higher levels of education than same-aged peers with lower levels of grit. In addition, study 3 found that Ivy League undergraduate students with high levels of grit earned higher GPAs than those with lower levels of grit, despite scoring lower on the SAT.

Much of the existing research on grit exists in the form of longitudinal studies to determine if grit predicts successful outcomes while controlling for individual differences in ability. However, research on grit is currently expanding, with many new studies on the horizon. This research aims to identify the psychological antecedents of grit as well as the underlying mechanisms linking grit to successful outcomes (Duckworth, 2013). For example, a study examining National Spelling Bee finalists determined that participants scoring higher in grit engaged in more hours of deliberate practice, defined as independent studying and memorization, which explained the relationship between grit and spelling bee performance (Duckworth, Kirby, Tsukayama, Berstein, & Ericsson, 2010). New research is also interested in investigating the link between grit and growth mindset, the implicit belief that intelligence is a flexible, as opposed to fixed, trait. For example, existing unpublished research has found that moderate positive relationships between grit and growth mindset exist in school-aged children. This association implies

that growth mindset may contribute to the desire to persevere towards one's goals. In similar unpublished research by Dweck and colleagues, evidence supports that growth mindset allows individuals to perceive setbacks as opportunities for improvement as opposed to confirmation of ineptitude. Additional areas of future research include examining the relationship between grit and delay of gratification, investigating any negative implication of grit, and exploring why talented individuals are often less gritty (Duckworth, 2013).

Achievement Motivation

Motivation and learning.

Motivation is the process of initiating and maintaining behavior towards a specific goal (Pintrich & Schunk, 2002; Schunk, 2012). In schools, motivation serves as a major force in contributing to a student's academic successes or failures. Motivation is closely linked to self-beliefs; a student's perceptions of his or her academic capabilities can impact his or her motivation (Pajares & Schunk, 2006 as cited in Sander and Sanders, 2006). Specifically, self-efficacy and perceptions of competence can motivate a student to do well. When individuals expect to do well, they tend to put forth greater effort, persist through difficult tasks, and perform better on given tasks.

Motivational learning theories can be used to explain why students persist to learn and achieve academically. Though several theories exist, common elements include a pre-task, during task, and post-task which influence the motivation to learn. Common pre-tasks include goals, expectations, values, affects, needs, and social support. During the task, instructor variables, context variables, and personal variables may influence motivation. After the task is completed, attributions, goals, expectations, affects, values, needs, and social support may maintain motivation (Pintrich & Schunk, 2002; Schunk, 2012). Four historical perspectives of motivation theory include drive theory conditioning theory, cognitive consistency theory, and humanistic theory (Schunk, 2012).

Not all theorists define motives in the same way. McLelland (1976) described four models of motivation based on possible sources and types of behavior exhibited; (1) survival model, (2) stimulus intensity model, (3) stimulus pattern model, and (4) affective arousal model. Of most relevance to learning is the affective arousal model, as this

pertains to goal-oriented behavior. According to this model, all motives are learned and affect is the basis for these motives. Motives are formed by pairing cues with affective arousal or with the conditions that produce affective arousal.

When applied to achievement, McLelland (1976) asserted that, while there is some intrinsic human desire which derives enjoyment from mastering a task, positive affect associated with motivation occurs when performance expectations exist in the environment. He explained, “the child must begin to perceive performance in terms of standards of excellence so that discrepancies of various sorts from this perceptual frame of reference (AL) can produce positive or negative affect,” (p. 79). People who are motivated to succeed must have an achievement frame of reference which may develop as the result of the expectations of others. Furthermore, this perspective of motivation states that resulting affect is connected with the evaluation of one’s performance on a task. Learning occurs when an individual creates a motivational association between an action and positive feelings.

Achievement motivation.

Achievement motivation is, “the personality factors that come into play when a person undertakes a task at which he will be evaluated, enters into competition with other persons, or otherwise strives to attain some standard of excellence,” (Smith, 1959, p. 1). It involves striving to be competent in effortful activities (Schunk, 2012). Achievement motivation theory can be traced back to the 1930’s when Murray developed the TAT as an assessment of personality development. The TAT was used to measure motivation in many early studies (Atkinson, 1957). Early research on achievement motivation can be credited to John Atkinson as well as David McClelland and colleagues at Wesleyan

University (McClelland et al., 1953; Smith, 1959). In the 1950's John Atkinson (1957) developed an expectancy-value theory of achievement motivation. Atkinson proposed that striving for achievement results from a conflict between approach, a hope for success, and avoidance or fear of failure. This theory identified individual key concepts that contribute to achievement motivation. These include (a) tendency to approach an achievement-related goal, (b) tendency to avoid failure, (c) resultant achievement motivation. These components are a function of motive to success, subjective probability of success, and incentive value of success. Atkinson further developed formulas to calculate achievement motivation. He believe achievement motivation to be a stable individual characteristic based on achievement-related goals, inverse of incentive value of failure, and resultant achievement motivation. His model suggested that motivation is most likely to exist in instances of high hope and low fear. Furthermore, depending on a student's level of motivation, he or she may choose tasks that are more or less difficult because this would increase the likelihood of success and limit chances of failure (Atkinson, 1957, as cited in Schunk, 2012, p. 466). While Atkinson's original theory did not differentiate between immediate consequences and future goals as they contribute to one's motivation to achieve, Raynor (1969) argued that these variables should be considered independently.

Achievement motivation theory posits that motivation is a developmental process influenced by both internal and external factors. Autonomous achievement motivation refers to that which incorporates internalized personal expectations, whereas social achievement motivation assesses success based on social comparisons. Autonomous achievement motivation requires one to assess mastery on a variety of tasks when

interacting with one's environment. This phenomenon can occur in a child as young as a few months old as he or she begins to interact with the environment. Social achievement motivation, however, may not occur until a child begins to receive social evaluations, often coinciding with the beginning of formal schooling around age six, though this can occur in younger children if they are made aware of comparisons between their performance and that of their peers. In order to integrate autonomous and social comparison motivation, a child must develop a strong sense of independence apart from his or her social groups (Veroff, 1959).

Achievement motivation is important to students' educational experiences; it can influence the type of coursework students pursue, influence the areas in which interests develop, and dictate the amount of effort students put forth into learning. This in turn can impact students' overall educational attainment and future life success (Redd, Brooks, & McGarvey, 2001). Early research on achievement motivation found that performance on a specific tasks is related to several variables, one being motivation. Findings from a study on Air Force Academy students suggest that both previous motivational and environmental factors impact achievement motivation on a given task (French, 1955).

Self-determination theory.

Ryan and Deci (2000) described a type of achievement motivation called Self-Determination Theory (SDT) as it relates to intrinsic motivation, social development, and wellbeing. They defined SDT as, "the investigation of people's inherent growth tendencies and innate psychological needs that are the basis for their self-motivation and personality integration, as well as for the conditions that foster those positive processes," (p. 68). SDT proposes two underlying assumptions: (1) all people have basic needs for

autonomy, competence, and relationships; and (2) all people have an intrinsic desire to master for mastery sake. This theory also questions which type of motivation, intrinsic or extrinsic, is being utilized at any given time. Cognitive Evaluation Theory, a mini-theory of SDT, proposes that autonomous motivation is influenced by an individual's feelings of competence and self-determination. For example, if a student experiences a reduction in feelings of competence, he or she will feel less motivated; if a student experiences an increase in competence, he or she will feel more motivated (Fortier, Vallerand, & Guay, 1995).

According to SDT, levels of intrinsic motivation vary between individuals due to mastery experiences, perceived competence, efficacy, and other environmental factors which may foster or deter motivation. Intrinsic motivation is driven by intrinsic regulation; individuals can only be intrinsically motivated to do things in which they have a genuine interest. Extrinsic motivation is driven by external regulation, introjected regulation, identified regulation, and integrated regulation. Research has shown mixed findings on the role of extrinsic motivation in achievement. External regulation is associated with decreased interest, value, and effort towards academic achievement, as well as a tendency for students to deny responsibility for their own negative outcomes (Ryan and Connell, 1989). However, other studies show that autonomous extrinsic motivation can be associated with greater academic engagement, improved academic performance, decreased dropout, and higher teacher ratings (Ryan & Deci, 2000).

Intellectual ability is not necessarily predictive of a student's motivation. There is a dialectical process which incorporates intrinsic motivation, internalization of social values, and emotional states. Thus, motivation occurs as the basic psychological needs of

competence, autonomy, and relatedness are satisfied. Seventy seven 3rd and 4th graders identified as having above average intellectual abilities participated in a study using a SDT model and a motivational model of engagement to measure the impact of perceived competence and autonomy on engagement and performance. Students who were less certain of their abilities (less competent) or were more externally motivated (less autonomous) reported more negative affect and withdrawal behaviors than students who were more internally motivated (more autonomous) or those who perceived themselves as having greater abilities (more competent) (Miserandino, 1996).

It is hypothesized that various traits and characteristics underlie the SDT model. Anctil (2008) studied successful college students with learning disabilities and identified themes related to their success including persistence, competence, career decision making, and self-realization. He proposed a model which states that persistence enhances feelings of competence, which in turn impacts career decision-making. Furthermore, he proposed that these factors influence outcomes that enhance self-realization and academic identity.

Achievement motivation, identity, and academic achievement.

Research supports a relationship between motivation and academic achievement. A study testing Deci and Ryan's (1985) theoretical framework found that perceived academic competence and perceived academic self-determination positively influenced autonomous motivation. This in turn had a positive impact on students' end of semester grades, suggesting the potential for academic motivation to predict school performance (Fortier et al., 1995).

Researchers have begun investigating the relationship between motivation, identity, and achievement. Negru, Pop, and Opre (2013) declared, “The manner in which young people set academic achievement goals, engage in academic tasks, and relate to success or failure has a decisive influence on the shaping of their educational identity” (p. 1). Their research utilized a process-focused model of identity formation involving three processes: commitment, in-depth exploration, and reconsideration of commitment (Crocetti, Rubini, & Meeus, 2008). Negru and colleagues used a process-focused model to explore the relationship between construction of academic achievement goals and educational identity development in high school seniors and university freshmen. Participants included 241 Romanian students enrolled in public education institutions. Mastery approach goals were found to be the strongest predictor for all educational identity processes for both high school and university students. In addition, mastery approach goals predicted educational commitment for high school students only, suggesting a focus on developing academic competence while striving for academic success is related to strong educational commitments.

Kaplan & Flum (2010) argued the link between academic motivation and identity formation. While these areas have unique research traditions, the authors aimed to highlight shared underlying theoretical assumptions to build the bridge between these two areas and lay a foundation for future research. They discussed achievement goal theory, a type of achievement motivation theory which relates well to student outcomes in the school setting. They define achievement goal theory as, “An orientation for engaging in an achievement situation that includes the purpose of engagement; organizes and guides cognition, affect and behavior,” (p. 52). According to this theory, students are motivated

to achieve based on engagement (participation in goal-attaining activities) and the social-cognitive mental frameworks they develop within the school context. They note that both achievement goal theory and identity formation theory stress self-theories and personality attributes as dispositional antecedents, emphasize sociocultural context as contextual antecedents, and place a strong situational emphasis on learning and exploration.

Precollege Programs

The sample in the present study includes low-income urban high school students enrolled in a precollege program. Precollege programs provide academic and social support to students interested in pursuing higher education. A common type of precollege program is a traditional college access program. These programs provide assistance for disadvantaged youth by providing academic and/or financial support to help students access higher education. Federally supported TRIO programs are some of the most commonly recognized precollege programs in the country (Edwards, 2010). TRIO programs require that at least two thirds of participants be both first-generation college-bound and from low-income households; the remaining third must fit into one of the two categories. Currently, there are eight trio programs offered in the United States: Educational Opportunity Centers, Ronald E. McNair Postbaccalaureate Achievement, Student Support Services, Talent Search, Training Program for Federal TRIO Programs Staff, Upward Bound, Upward Bound Math-Science, and Veterans Upward Bound (USDOE, 2013).

Theoretical rationale.

There is limited research investigating the process of how precollege programs contribute to successful outcomes for participants. When examined at the macro level, it appears that precollege programs help underprivileged youth graduate high school and attend college; however, from a micro level it is difficult to discern which elements of the program are most beneficial and disentangle them from one another. Giuliano and Sullivan (2007) propose that bridging the gap between high school and college can be accomplished through academic wholism, a term they defined as, “An approach to

learning which challenges students ‘cognitive, social, and emotional domains and learning profiles. The measure of success for academic wholism rests in the students’ self-awareness, self-motivation, and internalization of the demands of academic maturity,” (Giuliano & Sullivan, 2004, p. 41). Though they applied this pedagogy to a summer bridge program, the construct may also help to explain the success of other forms of college preparatory programs. Furthermore, this definition promotes the building of social emotional competence which has been linked to improved academic achievement in economically disadvantaged urban youth (Elias & Haynes, 2008).

One assertion supported by research is that school connectedness is associated with many positive outcomes for students. According to the Center for Disease Control (CDC) (2009), students feel more connected to their school when they believe that adults and peers feel invested in their learning and care about them as individuals. According to their report, students who feel connected to their school are more likely to stay in school, have better attendance records, and score higher on tests. They are also less likely to smoke cigarettes, consume alcohol, have sexual intercourse, or carry weapons. Accordingly, students who feel connected to their school are less likely to be involved in incidents of violence, sustain injuries from dangerous activities, suffer emotional problems, develop eating disorders, or experience thoughts of suicide (CDC, 2009). One might speculate that precollege programs provided through a student’s high school might increase feelings of school connectedness, which may account for some of the positive outcomes.

Many precollege programs foster school connectedness through student and teacher advisory. For students, teacher support is associated with attachment to school,

school climate, school connectedness, engagement, membership, and student identification with school (Libbey, 2004). The goal of most advisory programs is to foster teacher-student connectedness and build a relationship over time to ultimately promote community involvement, academic success, and graduation (Jirsa, 2005). Advisory fosters connectedness by promoting open communication, teaching problem-solving, allowing for supervision of academic progress, and showing advisees that someone cares (Shulkind & Foote, 2009). One study found that students who identified their advisor as an attachment figure also reported greater engagement in school and higher academic achievement compared to peers without an advisory relationship (Van Ryzin, 2010). Research on mentorship and tutoring relationships also supports a relationship between personal connectedness and achievement (eg. King et al., 2002).

Precollege programs are also helpful in increasing college awareness, especially for youth who might not otherwise have considered pursuing a college degree (Adams, 1997). Economically disadvantaged youth are less likely to have aspirations for higher education than their peers; however parent and school expectations for academic success, as well as educational attainment, are associated with higher educational aspirations in students. This implies that programming which sets expectations for low-income students may elicit greater educational aspirations in participants (Berzin, 2010).

Positive outcomes associated with precollege programs.

Precollege programs exist in 32 percent of all universities and 45 percent of large institutions in the United States (Greene & Winters, 1995). In addition, college preparatory programs for economically disadvantaged youth exist in 22 states across the

United States. Many of these programs are evidence-based and have resulted in positive outcomes for participants (RFS, 2012).

One such program was Project STREAM, a gifted education program for low-income minority students. Project STREAM was based on the philosophies that (a) gifted students can come from a diverse array of backgrounds; (b) people can possess a diversity of talents which programs should aim to identify; and (c) working collaboratively is more likely to foster change than working independently. Two hundred and four students were identified for the program in middle school and received services throughout high school. Program components included a residential summer program, out-of-school offerings, and college visits once per semester. Thirteen years after the program's completion, 154 individuals from the original cohort were available for follow-up. Researchers found that 68 percent of participants graduated from high school and 60 percent of those high school graduates went on to college. Twenty seven participants graduated from an institute of higher learning, which equals 42 percent of those who attended college and 17 percent of the original cohort. At the time of the follow-up, eight individuals were in the process of pursuing advanced degrees (Clasen, 2006).

This investigation also had very telling results with implications for similar programs. First, no significant differences in outcomes were found between students of different races or genders. Outcomes differed in how students were nominated for the program. Students invited to the program primarily based on faculty nomination had the highest dropout rate, 43 percent, compared to those nominated primarily for other reasons. Those primarily identified by leadership roles had the highest graduation rates,

with 85 percent graduating high school. Additionally, as student participation in STREAM increased, dropout rates declined. Similarly, as student participation in STREAM increased, college attendance and participation increased (Clasen, 2006).

Another program which has been targeted specifically at low-income urban youth is I Have a Dream (IHAD). This program was created to provide increased opportunity for educational success for children living in impoverished urban communities. IHAD is offered at schools in which 75 percent or more of the student body qualifies for free or reduced lunches. Students participating in the program, called “Dreamers”, are offered college tuition assistance so long as they remain in the program and graduate from high school. As of 2009, 11,000 Dreamers had graduated from college and 4,000 were currently enrolled in an institution on higher learning (Allgaier, 2010). While the IHAD program varies depending on its location, the program depends on donations from sponsors who pledge to pay for a higher education experience for students who are accepted into college (IHAD Foundation, 2008).

A different type of precollege program is A Better Chance (ABC). This program places students of color who show academic promise into preparatory middle and high schools to prepare them for higher education and rewarding careers. ABC places students selected for participation, called “Scholars”, in three types of programs: (1) independent day schools, (2) independent residential schools, and (3) residential community school programs. ABC has affiliations with over 300 middle and high schools, and has an affiliated college network of colleges and universities dedicated to creating a diverse student body and providing opportunities for underprivileged students. ABC has placed more than 13,000 pre-high school students in preparatory schools, with

1,962 Scholars enrolled in the 2012-13 school year. According to the official website, roughly 96 percent of students graduating from the program attend a college or university immediately following high school. In addition, 83 percent of alumni report obtaining a Bachelor's degree and 50 percent report earning a Master's or other professional degree (A Better Chance, 2012).

Urban Scholars is a precollege program for low-income, first-generation Boston students demonstrating a high potential for academic success. The program was founded in the 1990's in affiliation with the University of Massachusetts- Boston to help urban youth graduate high school, prepare for college, and obtain a college degree. While program retention is only 48 percent, outcomes for graduates of the program are favorable. Ninety eight percent of Urban Scholars graduates are accepted to a post-secondary institution and eighty six percent have graduated college or are still enrolled. In addition, 11 percent of program graduates have gone on to pursue a graduate degree. Urban Scholars caters to both middle and high school students by providing a variety of academic services. The program provides academic support services throughout the school year as well as during a summer program. Program components include afterschool classes, seminars, enrichment classes, SAT prep, advisement, supervised study, and tutoring. In addition, Urban Scholars are required to complete a college-level course during the program sequence. This helps to provide students with realistic expectations about college. Overall, the goal of the program is to prepare students to become leaders and achieve a high status in their communities (Wilson, 2006).

Upward Bound, Talent Search, and GEAR UP are three examples of TRIO programs (Edwards, 2010). Upward Bound began in 1974 to support low-income youth

ages 13 to 18 in pursuing higher education. Program components include supplemental academic instruction in the areas of mathematics, science, composition, literature, and foreign languages during the school year, as well as an intensive summer program simulating actual college classes (Calahan & Curtin, 2004). As of 2008, there were 1,122 projects in operation reaching over 76,000 participants (USDOE, 2009).

A ten-year longitudinal study on Upward Bound at California State University-Chico found that 68 percent of program graduates had completed a college certificate or degree or were still pursuing post-secondary education; these rates are comparable to national averages (Casey and Ferguson, 1999). A federal report described the impacts of Upward Bound on postsecondary outcomes 7 to 9 years after students' expected high school graduation dates. Sixty seven programs from two and four year colleges collected data on 1,524 participants and a control group of about 1,320 individuals between 1992 and 2004. This longitudinal study found that Upward Bound increased the likelihood of participants earning a postsecondary certificate or license from a vocational school, and increased postsecondary enrollment for students with lower educational aspirations at baseline. In addition, longer participation in Upward Bound was related to higher rates of postsecondary enrollment and completion. No detectable results were found as to Upward Bound's influence of overall postsecondary enrollment, type of institution attended, or likelihood of applying for financial aid (USDOE, 2009).

Gaining Early Awareness and Readiness for Undergraduate Programs (GEAR UP) helps to boost graduation rates and prepare low-income students to enter post-secondary education beginning in 7th grade and continuing through their high school years. The program provides students with services such as financial aid counseling,

academic advisement, assistance in applying to college, and exclusive access to scholarships (Edwards, 2010). In a study on GEAR UP participants in California, 72 percent of middle school students reported that the program changed their minds to pursue a college education, with 90 percent of students aspiring to obtain a Bachelor's degree or higher. Additionally, the number of 7th graders taking advanced math increased by over 1,000 students in a one-year time frame, and academic performance improved by over 50 percent across all middle schools (GEAR UP Inland Empire Program as cited in McCants, 2004).

Talent Search was started in 1975 to assist low-income students in applying for federal financial assistance to pursue post-secondary education. Participants include students ages 11 to 27 who have completed the 5th grade. Talent Search also reaches out to individuals who have dropped out of high school and encourages them to obtain their high school degree or GED and pursue post-secondary studies. Program components include financial aid counseling, information on post-secondary education, campus tours, admission assistance, entrance exam assistance, academic tutoring, mentoring programs, and informational workshops for family members (Edwards, 2010).

Precollege programs can lead to economic gains for participants as well as the community at large. A study on the financial benefits of a precollege program at a New Jersey university predicted that students participating in the program will earn significantly more over the course of their lifetimes compared to students uninvolved with precollege efforts. Male participants were projected to earn an average of \$286,000 more in their lifetimes than their non-program peers; female participants were projected to earn \$253,000 more in their lifetimes. In addition to individual financial gains, New

Jersey taxpayers also benefit from this program in the form of higher state tax revenues and less state spending on government services for crime, health, and welfare. The total monetary gain for New Jersey residents was estimated at \$203,000 per male participant and \$110,000 per female participant. Overall it is estimated that the New Jersey state government will save an average of \$70,000 per male participant and \$48,000 per female participant. In addition to financial benefits from the program at the state level, there is also the potential for savings to the federal government in the form of higher taxes and lower spending, further increasing the value of the program (Belfield, 2010).

Chapter II

Methods

This study investigated the relationship between academic achievement and academic identity as measured by four constructs. These constructs included (1) future orientation, (2) self-efficacy, (3) confidence in academic abilities, and (4) grit. A description of each construct is provided in Chapter I. The study utilized secondary data from a sample of participants from a precollege program. The following section describes the program, participants, measures, and procedures involved in data collection and analysis. This study aimed to answer the following research questions: (1) Does a relationship exist between academic achievement and any of the four academic identity variables? (2) In the case of a rejected null hypothesis, what is the unique contribution of each significant variable towards academic achievement?

Program

The present study utilized data from a precollege program operated by Rutgers University. The Rutgers Future Scholars Program (RFS) aims to help economically disadvantaged youth demonstrating academic potential succeed in high school, graduate from high school, and prepare for enrollment in an institution of higher education. The program is located at three sites across the state of New Jersey in Newark, New Brunswick/Piscataway and Camden. RFS collaborates with Rutgers University faculty, staff, departments, corporations, and community-based organizations to offer the program in over 110 middle and high schools in these cities. Program participants, called “Scholars,” are identified by their scholastic records and faculty nominations in their 7th grade year and receive academic services throughout high school. Students selected to participate in RFS must meet the following criteria: (a) attend public school, (b) be in good academic standing and demonstrate academic promise as of 7th grade, (c) demonstrate financial need (as measured by participation in a reduced lunch program), (d) receive recommendations school faculty members, and (e) be the first in their family to pursue higher education. Each year, RFS invites 200 7th grade students (25 from each participating city) to join a new cohort of Scholars (Rutgers Future Scholars, 2012; IRB proposal, 2012).

Scholars who complete the program are eligible for admission to Rutgers University in their senior year of high school are offered admission to the university tuition-free for up to five years, made possible through federal, state, and private aid (Rutgers Future Scholars, 2012; program summary 2012). The goals of RFS are as follows:

“1) Increase the number of low-income academically promising students who complete high school and apply to and attend post-secondary educational institutions, including Rutgers University; and

2) Develop an adaptable model which encourages other four-year institutions of higher education to partner with school districts, other post-secondary institutions, community based organizations, state and local government, and the business community to have collective impact on and build educational opportunities for youth coming from under-served, low-income communities.”

(Program Summary, 2012)

RFS provides students with a comprehensive range of services including tutoring, study materials, enrichment, and mentoring. The form in which these services are offered varies slightly by program location. All Scholars have access to tutoring, mentoring, and academic enrichment services. Tutoring is offered on an optional basis to students with a B average or better in all of their classes; tutoring is mandatory if students hold an average of a C or lower in any of their academic classes. RFS Tutors are typically undergraduate students from the three Rutgers campuses. In New Brunswick/Piscataway, tutoring is offered several days per week after school at the students’ high schools. In Newark and Camden, tutoring is offered on the Rutgers campus in their respective cities. RFS Mentors, who are current Rutgers students, are also available to meet with students three days per week on the Rutgers campus located closest to the high school. In Newark and Camden, Scholars attend enrichment classes every other Saturday at their local Rutgers campus. These classes typically address academic content in science, technology, engineering, and math; as well as the Humanities and Social Sciences, hands-on learning, or art classes. In Camden, students may also engage in self-reflective activities or participate in community service events at local organizations. In New Brunswick/Piscataway, enrichment opportunities are offered in the form of workshops

held on the Rutgers campus four or five times per year. The workshops are designed to prepare students for college planning in addition to social aspects of college; events include financial aid workshops, open houses, and attending a Rutgers football game. Special college-preparatory services are also offered according to grade level. In Camden, 8th grade students receive assistance in applying to local magnet high schools. Eleventh and 12th grade Scholars in all three locations receive SAT instruction in a series of workshops offered throughout the year. Scholars are also invited to attend college tours and nearby institutions (Program Summary, 2012; Ragusa, 2013).

An additional feature of RFS is a residential summer component offered at all three program sites. Scholars are invited to live in the dorms of their local Rutgers campus and take classes for high school or college credit. The summer program is offered for students across all program cohorts for two weeks in July or August. Eighth grade students attend the summer program for eight days only. The summer program is run by RFS staff from the students' sending high schools. RFS Instructors include district faculty or individuals hired from an outside agency. Tenth and 11th grade students also receive SAT preparatory instruction. Rising juniors have the option to get internship experience with on or off campus job sites working in conjunction with RFS. These students go to their internships in the morning and attend classes in the afternoon. Academically-advanced rising seniors have the option of taking college classes for credit. In Newark and Camden, students are enrolled in classes alongside current Rutgers students. In New Brunswick, these classes are taught by university professors and outside instructors hired by RFS (Ragusa, 2013).

Participants

The participants in this study consisted of a sample of high school students enrolled in the Rutgers Future Scholars Program. Participants of RFS included approximately 1000 8th through 12th grade students attending public middle and high schools in Piscataway, New Brunswick, Newark, and Camden, New Jersey. At the time of survey implementation all students had the option to self-select out of the research study which resulted in removal from the sample. The actual sample for this study included those students who (a) self-selected to take the survey and (b) volunteered their academic information. As of August 2012, 703 students completed the RFS survey. Of these students, 413 also reported their academic grade point average. Further cases were removed from the analysis due to duplicate or missing information and outliers, leaving 257 participants in the study. Demographic information self-reported by participants included: gender, grade, and race. The sample consisted of 40.5 percent (n=104) males and 59.5 percent (n=153) females. Over one third of participants were in the 12th grade (n=94, 36.6%), approximately a quarter each were in 10th grade (n=59, 23.0%) or 11th grade (n=66, 25.7%), and the remaining participants were in 9th grade (n=38, 14.8%). Participants were primarily Hispanic (n=143, 55.6%) and Black (n=91, 35.5%). Because participants were instructed to select all responses that apply for race, the total number of responses exceeded the number of respondents. Table 2.1 lists the demographic information for the participants.

Table 2.1
Gender, Grade, Race of Participants

	Number	Percentage
Gender		
Male	104	40.5
Female	153	59.5
Grade		
9	38	14.8
10	59	23.0
11	66	25.7
12	94	36.6
Race¹		
White	12	4.7
Black	91	35.5
Hispanic	143	55.6
Asian	11	4.3
Native Hawaiian/Pacific Islander	1	0.4
American Indian/Alaska Native	2	0.8
Other ²	14	5.4

¹Participants were instructed to select all responses that applied.

²Participants who selected “other” predominantly classified themselves as Brazilian, Guyanese Indian, Pakistani, Spanish, Trinidadian, or West Indian.

Additionally, the number and percentage of participants from the three program site locations was determined. Approximately half of participants were from the New Brunswick/Piscataway location (n=127, 49.4 percent), 41.2 percent were from the Newark program location (n=106), and the remaining participants were from the Camden location (n=24, 9.3 percent). Details can be found in Table 2.2 below.

Table 2.2
Distribution of participants across program sites

	Number	Percentage
Campus		
New Brunswick/Piscataway	127	49.4
Camden	24	9.3
Newark	106	41.2

Measures

The data used in this study came from a unique survey which was developed collaboratively by Rutgers researchers and program staff. Researchers selected constructs of relevance to the program's mission and intended outcomes. Based on these constructs, researchers selected tools based on a literature review of available scales measuring the selected constructs. Researchers selected existing measures based on their reliability and validity, with special consideration given to those tools which were validated with a population similar to the RFS student population. After the tool was assembled, it was sent to RFS partners working in the schools for review. Based on feedback, minor changes to the survey were made including the removal of one item and the addition of a definition to clarify one item (IRB, 2012; Ragusa, 2013).

The final version of the survey was comprised of a combination of measures validated on adolescents, as well as organic items designed to measure specific constructs not captured by the existing measures. While this measure included items pertaining to student demographics, technology use, identity development, social and academic skills, and extra-curricular participation, only data addressing the following constructs (as well as demographic data) was utilized in the present study. These constructs of interest included: (1) future orientation, (2) self-efficacy, (3) confidence in academic abilities, and (4) grit.

Content scales¹.

Future orientation.

The future orientation measure is an adaptation of the Mello Time Orientation tool. It was validated with adolescent populations and has a Cronbach's alpha of $\alpha=.80$.

¹ Language borrowed from IRB Proposal, 2012

Multiple scale items were removed because of their non-applicability to the current study, leaving eight items. A sample item from this scale includes, “Thinking about my future excites me.” Six organically developed items (“I believe...” statements) were also added to capture additional data relevant to this population and RFS research questions, for a total of fourteen items on future orientation. A sample of the organically developed items includes, “I believe I will graduate from college.” All adaptations were made with the collaboration of the researcher who developed the scale, Dr. Mello, to ensure the integrity of the measure. Items were rated on a 5 point Likert scale asking students to report if they “Totally Disagree,” “Moderately-Somewhat Disagree,” “Unsure/Don’t Know,” “Moderately-Somewhat Agree,” or “Totally Agree,” with the items. Reliability and validity data for the six original items was not available at the time of the present study. Additional steps may be taken by RFS in the future to develop a future orientation scale unique to the program to be validated with program participants.

Self-efficacy.

The self-efficacy measure is an adaptation of the General Self-Efficacy Scale (Schwarzer and Jerusalem, 1995). It was validated with adolescent populations and has a Cronbach’s alpha of $\alpha=.86$. Some items were removed because of their non-applicability to the current study; others were slightly rephrased to ensure clarity to the participants. This measure has nine items. Items were scored on a 4-point Likert scale asking students to report if the items are “Not at all true,” “Hardly true,” “Moderately true,” or “Exactly true.” A sample item from this scale is, “I can usually handle whatever comes my way.”

Confidence in Academic Abilities.

An organic measure of confidence in academic abilities was developed based on the McCue-Herlihy Academic Confidence Scale (1997). The RFS confidence in academic abilities measure has eighteen items and has been designed for use with an adolescent population (aged 12-18). Reliability and validity data for this scale was not available at the time of the present study. Items were scored using a 4-point Likert scale asking students to respond if they are “Unable to do this,” “Not confident I can do this,” “Confident I can do this,” or “Very confident I can do this,” for each item. A sample item from this scale is, “Understand information presented in class.”

Grit.

Grit is defined as perseverance and passion toward a specific goal (Duckworth, Peterson, Matthews, and Kelly, 2007). The grit measure is the Duckworth et al. scale (2007). It has 12 items and has been validated with adolescent populations. It has a Cronbach’s alpha of $\alpha=.85$. Items ranged on a 5-point Likert scale asking students to decide if the items are “Not at all like me,” “Not much like me,” “Somewhat like me,” “Mostly like me,” or “Very much like me.” A sample item from this scale is, “I finish whatever I begin.”

Table 2.3
Description of Scales

Scale	Original Measure	Number of Items	Item Types	Internal Consistency
Future Orientation	Mello Time Orientation tool (2010)	14	5 point Likert scale	$\alpha=.80$
Self-efficacy	General Self-Efficacy Scale (Schwarzer and Jerusalem, 1995)	9	4 point Likert scale	$\alpha=.86$
Confidence in Academic Abilities	McCue-Herlihy Academic Confidence Scale (1997)	18	4 point Likert scale	NA ¹
Grit	Duckworth et al. scale (2007)	12	5 point Likert scale	$\alpha=.85$

¹NA = Not Available. Statistics are currently being investigated.

Academic achievement.

Academic achievement consisted of self-reported grade point averages (GPA). Scholars report on their grades each quarter by logging into an online portal.² Student-reported grades are automatically converted by the portal to a universal scale used by the Rutgers undergraduate admissions department. A conversion formula maps grades to the Rutgers scale, a weighted GPA scale which ranges from 0 to 4.5 based on letter grade, percentage points, and level of course. Research supports that self-reporting of high school GPA is very accurate; approximately one percent of students report grades discrepant from those on their transcripts (Shaw & Mattern, 2009). Only participants who reported grades at the time of survey completion were eligible for inclusion in the present study.

² Online portal is a secure system which allows students to self-report demographic information, grades, and other information, as well as complete program surveys. The portal can be accessed online from any computer.

Procedures

The following procedures occurred prior to the present study.

Informed consent.

Prior to survey implementation, RFS researchers conducted in-person meetings with students and their parents. Researchers explained that the purpose of the survey is to monitor student perceptions of the program as well as their own performance, and that completing the survey poses minimal risk to students. Parents and students were given the opportunity to ask questions. In compliance with the institutional review board, parents were given consent forms and students were given assent forms to complete. Participants and their parents were permitted to submit the forms at that time or to take them home to complete and return them at a later date (Ragusa, 2013).

Survey implementation.

All participants completed the survey in July 2012 or August 2012 as part of their participation in the RFS summer session. Across the three campuses there were approximately 20-40 instances of survey implementation. In New Brunswick/Piscataway and Camden, students were brought to a computer lab on their local campus to complete the survey during an academic session. On the Newark campus, laptop computers were made available to students in their current classrooms to complete the survey during an academic session. The academic session was then turned over to RFS staff for the final 20 minutes of the class period. Classes typically consisted of between 15 and 30 students. In New Brunswick/Piscataway and Camden the survey implementation was led by RFS researchers, student assistants, or research assistants; in Newark, the sessions were led by trained staff of the RFS. Students were informed of the purpose of the

survey and were told that participation in the survey was optional and that they had the right to skip any items or stop taking the survey at any time. They were also informed that university resources such as counselors and program staff were available at any time if they needed to talk or had any questions (Ragusa, 2013).

Next, students were instructed to create a RFS portal account or to log into their existing accounts if they had already created one. All students accepted to RFS were given a login ID for the portal to access and report relevant information. They were then able to access the survey through Survey Monkey. Students logged in to their portal account, clicked a link to the survey, completed the survey, and submitted the survey. As students took the survey, RFS staff were present in case participants had questions. If a student asked a clarifying question about a particular item, staff were instructed to give a vague but prompting answer such as “make your best guess,” as to avoid influencing the student’s response. In most cases, students were permitted to leave the room as soon as they completed the survey. After all surveys were completed, staff tracked which items students deliberated on or skipped most often to determine if the survey should be revised for future implementation. No themes were found in student questions or responses (Ragusa, 2013).

Of note, the conditions under which students completed the surveys varied somewhat depending on a variety of factors. Scholars are asked to complete three surveys per academic year: (1) the survey used by the present study, (2) an evaluation of the academic year programming, and (3) an evaluation of summer programming. These surveys were designed to be taken at three different times throughout the years. However; due to challenges in scheduling computer lab time slots for students to

complete the surveys, there were several cases of students completing multiple surveys in a single session. This was most prevalent at the Camden campus, though it also occurred in some classes on the New Brunswick/Piscataway campus. Approximately 10 percent of participants completed all three surveys in a single session (Ragusa, 2013).

Analysis

Quantitative categorical, ordinal, and interval data were reviewed by researchers, ensured for accuracy, and moved to an electronic database prior to use in the present study. After the surveys were closed and all data were received, researchers reviewed the data. Researchers pulled out the students' unique IDs and reviewed student records to collect student demographic information including gender, age, ethnicity, grade, and school; this information was merged into a single file. Student information reported in the survey was checked for accuracy to ensure that demographic information was consistent across both measures. These procedures ensured that the participants' data were confidential, though not anonymous. Procedures dictated that if any information did not match, information from the students' files would be included in the data set; however this issue did not arise for any of the participants.

After all data were assembled, a file of the data was created. Researchers cleaned the data by running basic frequencies to check for outliers and ensure that all answer choices were valid. Items missing at random were located and replaced with the scale mean for each participant. Negatively word items were reverse coded so they were measured from least socially-desirable to most socially-desirable. GPA data was merged from a separate file and matched based on the participants' ID numbers. All merging and analyses were completed using SPSS software.

The original data file contained 703 cases. Four hundred and forty two cases were removed due to missing GPA data or duplicate entries. In the event of seven cases of multiple entries of survey information, the most complete case was used. In the event of thirty six cases of multiple GPA data per participant ID, the first reported GPA was

used. An additional three cases were removed from the analysis for missing one or more full scales of data (confidence in academic abilities, grit, or both). Lastly, one 8th grade case was removed from the analysis for being out of the grade range for the population of interest (high school students). The remaining 257 cases were used in the present study (n = 257).

The present study utilized data from 257 respondents to answer the following research questions: (1) Does a relationship exist between academic achievement and any of the four academic identity variables? (2) In the case of a rejected null hypothesis, what is the unique contribution of each significant variable towards academic achievement? All analyses were completed using SPSS software. Analysis of participant gender, grade, race, and program site revealed the frequencies and percentages for these variables. See Tables 2.1 and 2.2 for descriptive statistics. A multiple regression analysis was conducted to test the aforementioned research questions. Findings associated with this analysis are discussed in Chapter III.

Chapter III

Results

The purpose of this study was to determine the relationship between academic identity and academic achievement in low-income urban adolescents. The four constructs defining academic identity were: future orientation, self-efficacy, confidence in academic abilities, and grit. Table 3.1 shows mean and standard deviation for the variables used in this study.

Table 3.1
Descriptive Statistics

	Mean	SD
GPA	3.35	.56
Future Orientation	4.45	.52
Self-Efficacy	3.27	.42
Confidence in Academic Abilities	3.32	.37
Grit	3.54	.52

The first research question asked if a relationship exists between the four academic identity variables and academic achievement. A multiple regression analysis was run to predict GPA from future orientation, self-efficacy, confidence in academic abilities, and grit. Together, these variables statistically significantly predicted GPA, $F(4, 252) = 4.051, p < .01, R^2 = .060$. A small correlation of $R = .246$ was found.

The second research question asked the unique contribution of each significant variable towards academic achievement. In the multiple regression model, none of the four variables added statistically significantly to the prediction of GPA ($p > .05$) independent of the others. A list of beta weights, significance, and semi-partial r can be seen in Table 3.2.

Table 3.2
Results of Multiple Regression Analysis

Variable	β	Standard Error	Sig.	Semi-partial r
(constant)	2.028	.371	.000	
Future Orientation	-.028	.074	.710	-.023
Self-Efficacy	.125	.105	.235	.073
Confidence in Academic Abilities	.215	.127	.091	.103
Grit	.077	.084	.361	.056

An examination of the bivariate correlations between the four identity variables and GPA revealed a small correlation for self-efficacy ($r=.20$), confidence in academic abilities ($r=.23$), and grit ($r=.18$) with a significance of $p<.01$. Table 3.3 illustrates these correlations. The relationship between future orientation and GPA was not statistically significant.

Table 3.3
Bivariate Correlations between Variables

Variable	1	2	3	4	5
1. GPA	-				
2. Future Orientation	.09	-			
3. Self-efficacy	.20*	.38*	-		
4. Confidence in Academic Abilities	.23*	.38*	.59*	-	
5. Grit	.18*	.41*	.46*	.56*	-

* $p<.01$

In an effort to examine potential multicollinearity between the variables, an additional post-hoc test was run to determine the variance inflation factor (VIF) between the four identity variables. Each independent variable was substituted for the dependent variable and correlated with the remaining three variables to determine the VIF; the test was repeated four times to allow future orientation, self-efficacy, confidence in academic abilities, and grit to each serve as the dependent variable. A VIF less than 2 was found

between every combination of future orientation, self-efficacy, confidence in academic abilities, and grit, indicating a low risk of multicollinearity between the variables.

Chapter IV

Discussion

The purpose of this study was to determine if a relationship existed between academic identity and academic achievement in low-income urban high school students. The research questions posed were: (1) Does a relationship exist between academic achievement and any of the four academic identity variables? (2) In the case of a rejected null hypothesis, what is the unique contribution of each significant variable towards academic achievement?

In response to the first research questions, the results indicated that a small statistically significant relationship existed between academic identity and academic achievement in the sample. Furthermore, academic identity could be used to explain six percent of the variability for participants' GPA ($R^2=.060$). When taken together, future orientation, self-efficacy, confidence in academic ability, and grit predicted GPA in the sample used in this study. While academic identity did not account for a large part of the variance for GPA, this relationship suggests that academic attitudes and academic performance are not independent of each other. While these findings were statistically significant, further consideration was necessary in determining the value of these findings. In finding a low VIF among future orientation, self-efficacy, confidence in academic abilities, and grit, this allowed for greater confidence in the findings.

In response to the second research question, none of the four identity variables made a significant unique contribution to GPA in the multiple regression analysis. Of note, confidence in academic abilities approached statistical significance ($p=.091$). Bivariate correlations did reveal small statistically significant correlations between

GPA and self-efficacy ($r=.20$), confidence in academic abilities ($r=.23$), and grit ($r=.18$); however correlations between the independent variables were stronger than correlations between the independent variable and the dependent variable. One explanation for this finding is that future orientation, self-efficacy, confidence in academic ability, and grit may be too similar for unique contributions to have been detected. Additionally, the restricted range in the sample of high achieving students did not reflect the general population of low-income urban high school students, as those included in the study were selected based on their academic merit. Because participants were all selected for participation in RFS based in part on academic record, faculty nominations, and desire to pursue secondary education, there was a strong selection bias in the sample which likely led to a restricted range of participants. It is possible that with a sample representing a wider range of students in terms of GPA, abilities, and commitment to academics, statistically significant contributions may have been detected.

No significant correlations were detected between future orientation and academic achievement. Of note, the construct of future orientation may have been particularly susceptible to program effects, as participation in the program may have influenced participants' attitudes and behaviors about setting goals and thinking about their futures, and that this bias may have been reflected in their responses. Furthermore, the average score for future orientation ($m = 4.45$) was relatively higher than the other academic identity constructs, which may have made it difficult to detect subtle relationships.

Limitations

The present study faced several limitations. One problematic element of this study was in the lack of clear and consistent definitions of the constructs as mentioned previously in the literature review. This issue threatened the construct validity in this study and begged the question of which constructs were actually being examined. Furthermore, because existing data was utilized in this study, the researchers were limited by the survey items used and could not examine specific constructs outside of those provided by RFS. Another issue inherent to the study was the historic Eurocentric tradition in which the identity formation literature is based. This model does not take into account the unique identity formation process individuals of diverse racial and ethnic backgrounds may experience. Furthermore, ethnic identity and other cultural factors may have served as confounding variables in the present dataset. As with any correlational study, causation could not be assumed in the present research.

Additional limitations could be attributed to shortcomings in the data collection process. As with all self-report data, one possible limitation was the chance of misreported information for reasons of social desirability to respond in a certain way, as well as inaccurate responses due to human error. Limitations to the generalizability of the study included the sample size and specific target population of the study. Additionally, the usable participant data was not even across demographic variables, which did not allow for analysis based on variables such as race or grade level. There was also an uneven distribution of participants across grade levels and program sites which threatened the internal validity of the study. Because all participants were recruited for participation in the RFS program, this likely led to a restricted range in the

sample. Participants were already identified as high achievers; there may have been stronger findings if the sample also included participants who were not selected for a precollege program based on academic merit. Additionally, random assignment was not possible in this study, further limiting the generalizability of the findings.

Future Research

Future research may address these limitations by better regulating the collection of student data to ensure a higher response rate. This would allow for further analysis of differences in the data based on race, gender, grade level, or other variables of interests. Additionally, the present study included data from only one time point. Future research may wish to examine the identity formation process over time in a longitudinal study as opposed to studying one time point. This design may yield the most meaningful results as it would allow for the examination of changes in the participants over time. This may be particularly relevant to identity formation as a developmental process.

Other variables that have been found to be related to academic achievement should be considered in the future. In 2012, Richardson, Abraham, and Bond conducted a meta-analysis of 50 variables and their relation to college GPA. These variables included 42 non-intellective constructs divided into five conceptually overlapping research areas: (1) personality traits, (2) motivational factors, (3) self-regulatory learning strategies, (4) students' approaches to learning, and (5) psychosocial contextual influences. Traditional measures (intelligence, SAT, ACT, high school GPA, and A level points) correlated with college GPA have all been found to be highly predictive of college GPA, with high school GPA, SAT scores, and ACT scores accounting for approximately 25 percent of the variance in college GPA. Of the non-intellective measures studied, academic self-efficacy produced a medium correlation ($r = .31$) and performance self-efficacy produced a strong correlation ($r = .59$). Overall, their research concluded that the most important predictors of college GPA (in order) are high school grades, SAT or ACT scores, the

extent to which one plans for and targets specific grades, and one's ability to persist in challenging academic situations (Willingham, 2013).

Recommendations

Based on the present study, several recommendations can be made to RFS staff in terms of implementation, fidelity monitoring, and data collection. For future research by RFS, participant data may be more meaningful if they have a control group by which to compare the data. A matched-pairs system or random sample of participants and non-participants would allow for a greater range of variability and would allow researchers to directly compare outcomes of participants to those of similar others. In working with the data, a recommendation would be to facilitate more complete and direct access to the data, such as the ability to access to the data directly through the online portal. Several obstacles were encountered over the course of this study due to missing or duplicate data in the datasets, as well as differentiating between data that was collected at different time points. If possible, alternative methods of data assembly should be considered.

In thinking about the survey measures, a recommendation is that the scale for confidence in academic abilities be reconsidered in what it is measuring. Specifically, the construct seems theoretically similar to the construct of academic self-efficacy, a specific type of self-efficacy related to a student's beliefs about their academic abilities (Lampert, 2007). The similarity of these scales is supported by the strong correlation between self-efficacy and confidence in academic abilities in this study ($r = .59$). Existing scales tested for their psychometric properties likely exist in the literature and may be useful to RFS in the future. Alternatively, RFS staff may consider removing one of these scales from the survey; this may eliminate redundancy and possibly increase survey completion by reducing the number of items participants are asked to answer.

The findings in this study suggest it may be relevant to consider and foster academic identity in assisting students to prepare for college. Of note, self-efficacy may be the most meaningful identity variable to consider incorporation into the program as it has been found to be correlated with college GPA (Richardson, et al., 2012). Furthermore, efforts to build students' self-efficacy may be incorporated into the program through very small changes to the program staff training. Self-efficacy enhancement can be easily integrated into academic programs through social learning theory by having teachers model the learning process, allowing students reflect on their grades, and encouraging students set goals for themselves and monitor their progress (Richardson et al., 2012; Schunk 2012). Promoting such training in the program may lead to increased self-efficacy of program participants.

For students in precollege programs like RFS, it may also be important to focus on other variables that are associated with high school GPA. Since high school GPA is the most predictive variable of college GPA, and the purpose of these programs is to increase acceptance of students into college and promote success for these students in college, academic supports are of utmost importance for precollege programs. Promotion of academic identity, personality traits, or non-academic behaviors may be considered secondary to enhancing academic skills.

Conclusions

Given its limitations, the present study alone offered insufficient evidence to support the value of assessing academic identity to predict academic achievement in low-income urban high school students. While a small statistically significant relationship between academic identity and academic achievement was found, these results are of limited value due to the specific demographics of the sample, single time-point design, and restricted range of participants. However, this study did uncover some important observations about the process of researching and evaluating precollege programs. In addition, through its limitations this study pointed out several improvements that can be made to future research on variables associated with academic achievement in high school students.

In terms of identity formation, implications from this study suggested that identity formation is an extremely complex process and involves myriad variables. Furthermore, the process may be different for each person based on race, gender, and other variables. One may also conclude that assessing academic identity as a whole may be more meaningful than looking at the unique contribution of the constructs that make up academic identity. Based on the design of this study, conclusions one can draw about academic identity formation are limited, however future research following the same cohort over time may give more insight into the process of academic identity formation. Future research may also be interested in studying academic identity with a more diverse population, as the sample used in the present study is unique and the results may not be generalizable to other groups.

When thinking about the implications for precollege programs, specifically RFS, the limitations in this study bring to light the difficulties of operating and evaluating a precollege program. Of note, it may be especially challenging to ensure the fidelity of the program across multiple program sites, which in turn creates challenges for data collection and ultimately the findings may become less meaningful. Furthermore, if there are disparities in data collection across sites, there may be other differences in the programming; the program it may not be delivered equitably across sites. Thus, precollege programs may choose to take extra measures to monitor program fidelity.

Finally, based on this study one may conclude that academic identity is just one of many factors that predict academic achievement. Because of this, it may be of interest to do further research in the area of academic identity; however it is important to study other variables as well. When thinking about how these implications may play out in a school setting, it may be of interest for adults working with low-income urban youth to formally or informally assess their students' academic identity, or at least their goal-setting, perceptions of their abilities, and persistence. Since a relationship, albeit small, has been established between academic identity and academic achievement, students' attitudes may be predictive of their academic performance, meaning assessing for academic identity can be one (of many) red flags used to identify youth at-risk of academic failure. Further research would be needed to confirm this type of hypothesis.

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Appendix A

Rutgers Future Scholars Annual Assessment (select scales)

Thank you for agreeing to participate in our survey. This survey is completely voluntary. There are no wrong answers, and you can skip any questions you do not feel comfortable with. All of your answers are confidential and will not be shared with anyone.

Please read each set of instructions carefully and pay close attention to the answer options as they change between questions.

1. Please rate each statement by marking the box in the column that applies:

	Statement	Totally Disagree	Moderately Disagree	Unsure/Don't Know	Moderately Agree	Totally Agree
FO	I look forward to my future.					
FO	I have negative feelings about my current situation.					
FO	I am pleased with the present.					
FO	I don't like to think about my future.					
FO	Thinking ahead is pointless.					
FO	Overall, I feel happy with my life right now.					
FO	Thinking about my future excites me.					
FO	When I am making decisions, I consider the long term consequences that may result from them.					
FO	I believe I will get into college.					
FO	I believe I will go to college.					
FO	I believe I will graduate from college.					
FO	I believe I will be successful in my life.					
FO	I believe I will be happy later in life.					
FO	I believe I will achieve my dreams.					

2. Please indicate the truthfulness of each statement by marking the box in the column that applies:

	Statement	Not true at all	Hardly true	Moderately true	Exactly true
SE	I can always manage to solve difficult problems if I try hard enough.				
SE	If someone opposes me, I can find the means and ways to get what I want.				
SE	It is easy for me to stick to my goals and accomplish them.				
SE	I am confident that I could deal well with unexpected events.				
SE	I know how to handle situations that arise unexpectedly because I know how to use the resources I have available to me.				
SE	I can solve most problems if I invest the necessary effort.				
SE	I can remain calm when facing difficulties because I can rely on my ability to handle things.				
SE	When I am confronted with a problem, I can usually find several solutions.				
SE	I can usually handle whatever comes my way.				

3. Please rate your confidence in the areas below by marking the box in the column that applies:

	Statement	Unable to do this	Not confident I can do this	Confident I can do this	Very confident I can do this
CN	Write a high-quality research paper or term paper in MLA format				
CN	Listen carefully during a difficult class				
CN	Maintain good grades (at least a B or better) in most courses				
CN	Understand the material I read in textbooks				
CN	Evaluate the quality of information in something I am reading				
CN	Evaluate an author's potential biases				

	in something I am reading.				
CN	Understand information presented in class				
CN	Participate in a class discussion				
CN	Explain a concept or idea to another student				
CN	Gain respect from teachers				
CN	Let teachers and staff know when things are not going well academically				
CN	Let my family know when things are not going well academically				
CN	Attend class regularly				
CN	Balance school and family responsibilities				
CN	Complete tasks and assignments on time				
CN	Handle stress of going to school				
CN	Taking “objective” tests (multiple choice, true/false, matching)				
CN	Taking “essay” tests (writing paragraphs to question topics)				

4. Please rate the extent to which each statement below describes you by marking the box in the column that applies:

	Statement	Not like me at all	Not much like me	Somewhat like me	Mostly like me	Very much like me
G	I have overcome setbacks to conquer an important challenge.					
G	New ideas and projects sometimes distract me from previous ones.					
G	My interests change from year to year.					
G	Setbacks don't discourage me.					
G	I have been obsessed with a certain idea or project for a short time but later lost interest.					
G	I am a hard worker.					
G	I often set a goal but later choose to pursue a different one.					

G	I have difficulty maintaining my focus on projects that take more than a few months to complete.					
G	I finish whatever I begin.					
G	I have achieved a goal that took years of work.					
G	I become interested in new pursuits every few months.					
G	I am diligent.					