ABSTRACT

Identity Correlates of Academic Achievement: How Influential are Self, Academic and
Ethnic Identity Statuses among College Students?

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The purpose of the study was to examine the effect of different identity statuses on academic achievement among a sample of students attending a community college. There were three identities of interest: ego, academic and ethnic. Participants' overall grade point average was used as the measure of academic achievement. Identity was conceptualized using the Eriksonian-Marcian theoretical approach with ego and academic identities having four statuses: (a) achieved, (b) foreclosed, (c) diffused and (d) moratorium. The ethnic identity had two statuses: (a) commitment (achieved) and (b) exploration. A total of 163 students participated in the study. The data were analyzed using a series of path analyses. Results revealed that in the ego identity model, the status with the strongest direct effect was the ego identity diffused status. In the academic identity model, the status with the strongest direct effect was the academic moratorium status. In the ethnic identity model, the statuses had similar direct effects on academic achievement. The academic moratorium identity emerged as the most salient identity status. The findings have implications for educators and students as to how identity impacts students' performance in the classroom.

Identity Correlates of Academic Achievement: How Influential are Self, Academic And Ethnic Identity Statuses among College Students?

by

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words of encouragement and fun times. I love you all. Thanks to the almighty God.

DEDICATION

For mama and dada

Whose values and morals helped to shape my identity

May their souls rest in Peace

CHAPTER ONE

Introduction

Identity is considered to be a complex psychosocial construct and one that has influenced numerous debates and research approaches since its inception. Identity is understood from multiple perspectives and is used within contexts of individuals, groups and cultures through the eyes of historians, social scientists and psychologists (Grotevant, 1998). In addition, as a result of its multidimensionality, identity has been defined in many ways often in relation to its focus of study. Stryker and Burke (2000) pointed out that the common usage of the identity concept often belies its considerable variability in its conceptual meanings and its theoretical role. They further pointed out that even in instances where its consideration is limited to sociology and social psychology, its variation is still considerable. Stryker and Burke identified three usages of identity that exist: (a) identity as it is used to refer to the culture of a people with no distinction being drawn between identity and ethnicity, (b) identity as it is used to refer to a common identification with a collectivity or social category, and (c) identity as it is used to refer to parts of a self that is composed of the meanings that persons attach to the multiple roles they play in highly differentiated societies. Kroger (2007) highlighted five general approaches to identity as well: historical, structural stage, sociocultural, narrative and psychosocial. All of these approaches were seen to consist of specific strengths and weaknesses.

In terms of identity research, Bosma (1995) differentiated three main approaches: (a) the Eriksonian-Marcian research tradition that emphasizes the developmental

perspective, (b) research on the self-concept, ideal self-concept and self-esteem, and (c) research on social identity as it pertains to group and category memberships. Cote and Levine (2002) proposed a taxonomy that defines social identity in terms of the individual's position in a social structure. Cote and Levine saw ego, personal and social identities as complementary in identity resolution where the personal identity represents concrete aspects of the individual experience in interactions and ego identity as the fundamental subjective sense of the personality. In spite of their emphases, the aforementioned research approaches and approaches to identity definition share an understanding of identity as a balance between sameness and change of the self, and between subjective and objective perspective (Bosma, 1995; Kroger, 2007). Developmentally the concept of identity refers to the way one defines him- or herself, the way one is recognized by others and in addition to one's subjective sense of coherence of personality and continuity over time (Grotevant, 1998).

In defining the concept identity, theorists assert that individuals have as many identities as distinct networks of relationships where they occupy positions and play roles. In essence, identities are internalized role expectations (Stryker & Burke, 2000). In understanding identities, it is imperative that one understand identity salience. Identity salience is defined as the probability that an identity will be invoked across a variety of situations or across individuals in a given situation (Stryker & Burke, 2000). Identities are cognitive schemas – internally stored information and meanings that serve as a framework for interpreting situations (Markus, 1977; Howard, 2000). Identities, therefore, serve as cognitive bases for defining situations, and they increase sensitivity and receptivity to certain cues for behavior. As such, the higher the salience of an

identity relative to other identities incorporated in the self, the greater the likelihood of

behavioral choices that are in accordance with the expectations attached to that identity

(Stryker & Burke, 2000). The salience of an identity reflects commitment to the role

relationships that requires that identity. In essence, commitment shapes identity salience

which in turn shapes role choice behavior (Stryker & Burke, 2000). The importance of

commitment to one's identity figures prominently in Erikson's (1950) and Marcia's

(1980) developmental conceptualization of identity where the achievement of an identity

is seen to occur through the processes of exploration and commitment. One has to be

committed to an identity for one to have achieved an identity. In researching identity, it

is also important that attention be paid to the intersecting of identities. Traditionally,

research has paid attention to a single identity such as gender or race, but it is equally

important to conduct analyses that pay attention to how identities intersect (O'Brien &

Howard, 1998; Frable, 1997) as individuals see themselves in different ways and these

identifications are affecting how individuals navigate their lives in one way or another.

So, for example, one may identify as Black with an achieved ego identity and an

academic identity that is in a state of exploration. It becomes important then for one to

examine the intertwining of these identities.

     Identity research has been centered mainly on the period of adolescence, but it is

equally important to explore the development of identity in adulthood especially among

young adults. For many of these individuals, they are at a stage in their lives where they

are solidifying who they are as an individual while working towards a career. This can

be a very tumultuous and life changing period and often requires a strong sense of self

and an awareness of one's values, goals and beliefs. Research has shown that the identity

formation process neither begins nor ends during the adolescent years (Kroger, 2007;

Kroger & Haslet, 1987, 1991; Marcia, 1980, 1993a; Whitbourne & VanManen, 1996;

Whitbourne, Zuschlag, Elliot & Waterman, 1992). Research has further shown that only

approximately half of young people have been found to obtain an achieved identity by

early adulthood (Kroger, 2000a, 2007). It should also be noted that Erikson later revised

his position on identity development and suggested that the formation of an adult identity

may also occur in young adulthood (Erikson, 1982). Hence, it is important to consider

identity and the role it plays in the lives of not only adolescents but also young adults.

Understanding the role that identity plays in the lives of young adults, especially how it

influences their academic achievement will provide useful information that may help

them to be successful in college and by extension in their later life. The present study

will take a developmental approach to ego identity, academic identity and ethnic identity

following the Eriksonian-Marcian research tradition in which identity is construed as a

self-structure that develops through qualitatively and quantitatively (Adams, 1998)

different stages.

Erikson's and Marcia's Developmental Theory of Ego Identity

Erikson's (1963, 1968, and 1980) psychosocial theory of development has been

central to the understanding of adolescent and young adult identity development. Erikson

described adolescence as a period of identity crisis and elaborated that late adolescence

and early adulthood are a time when individuals make choices as it relates to their values,

goals and beliefs through exploring options and experiencing crises. The decisions that

are made during this process result in the commitment to an identity. The resolution of

these crises is significant as it results in the ascendance of psychological strengths or ego

virtues. Ego virtues in turn provide the foundation for the building of success, happiness and fulfillment. Ego identity is seen as an inner structure that comprises both how experience is dealt with and the experiences that are considered important (Marcia, 1993a). Ego identity is shaped by one's biological and physiological characteristics (e.g., gender, physical appearance), psychological interests (e.g., needs, interests, feelings, defenses), and the social and cultural environment that provide the opportunities for expression and recognition of these needs and interests (Erikson, 1968; Kroger, 2007).

Marcia (1966, 1980, 1987, and 1993) elaborated on Erikson's work and posited four identity statuses that are germane to the process of identity development. Marcia (1980) defined identity as "a self-structure - an internal self-constructed, dynamic organization of drives, abilities, benefits and individual history" (p. 109). Marcia further stated that individuals with a better developed self-structure seem to be more aware of their own uniqueness and similarity to others and are also aware of their strengths and weaknesses in making their way into the world. Individuals with a less developed self-structure seem to be more confused about their distinctiveness from others and may rely on external sources to evaluate themselves. Marcia also pointed out that the identity structure is dynamic, with elements being added and discarded continually. It was further pointed out by Marcia that the "identity process neither begins nor ends with adolescence. It begins with the self-object differentiation at infancy and reaches the final phase with the self-mankind integration at old age" (p. 110).

Marcia's identity statuses were developed as a methodological device by means of which Erikson's theoretical notions about identity could be empirically investigated. Marcia (1964, 1966) developed a semi-structured interview to assess ego identity

statuses. The statuses are classified and defined in terms of the presence or absence of a

decision-making period or crisis and the extent to which there is personal investment or

commitment in two areas: (a) occupation and (b) ideology. Marcia presented four

statuses: (a) identity achievement, (b) foreclosure, (c) identity diffusion, (d) moratorium.

Identity achievements are individuals who have experienced a decision-making period

and are pursuing self-chosen occupation and ideological goals. *Foreclosures* are persons

who are also committed to occupational and ideological positions, but these have been

parentally chosen rather than self- chosen. They show little or no evidence of crisis.

Identity diffusions are individuals who have no set occupational or ideological direction

regardless of whether or not they may have experienced a decision-making period.

Moratoriums are individuals who are currently struggling with occupational and or

ideological issues; they are in an identity crisis. Research has empirically validated the

identity status classes and examined their patterns of development (e.g., Berzonsky &

Adams, 1999; Kroger, 2000a, 2000b, 2003a; Marcia, 1993a, 1993b; Schwartz, 2001;

Waterman, 1999). Kroger and Marcia (2011) pointed out that identity development

constitutes a stage in ego growth. They added that the primary function of the ego is to

mediate between internal states and the demands of the external reality in order for one to

function effectively in the world. As such, if an identity is achieved, then ego processes

should be stronger, more efficient and more able to deal with a complex task even in the

face of disruptive feelings. By extension, if the identity statuses accurately reflected

identity formation and ego strength, then it follows that individuals in higher or more

mature identity statuses (achievement and moratorium) should perform better on tasks

measuring academic potential under the stressful condition of evaluation apprehension

than individuals in lower or less mature (foreclosure and diffusion) statuses. This conceptualization of ego identity by Marcia has been extended to other areas of identity such as academic identity and ethnic identity. It should also be noted that unlike Marcia's semi-structured interview of identity statuses, objective measures were developed by Grotevant and Adams (1984) as well as Bennion and Adams (1986) to measure identity statuses using continuous scales.

<center>*Academic Identity*</center>

Was and Isaacson (2008) developed a self-report measure of academic identity (*Academic Identity Measure*; AIM) that consists of four statuses in accordance with Marcia's identity statuses. In addition, items were conceptualized around ten key topics that relates to the transition from high school to college. These topics were: (a) choosing a college, (b) reasons for college, (c) classroom attention, (d) priorities, (e) academic goals, (f) interest and motivation, (g) discipline (h) responding to failure, (i) persistence in the face of failure, and (j) volition. Was and Isaacson described *academic identity achievement* as a commitment to a set of academic values following a period of exploration. *Academic identity foreclosure* was described as a student's commitment to academic values and ideals adopted on the influence of significant others. *Academic identity diffusion* refers to a lack of exploration or commitment often accompanied by procrastination regarding decision pertaining to academic values. *Academic identity moratorium* was described as a time of academic indecision in which a student attempts to reach conclusions about his academic values and goals. Was and Isaacson hypothesized that the academic identity status that a student resides in would affect the

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strategies and types of behavior that the student adopted in an academic achievement setting.

Ethnic Identity

In understanding ethnic identity, it is important to distinguish it from *racial* identity. Cokley (2005) pointed out that there was conceptual confusion in the psychological literature between the constructs of ethnic and racial identity. Cokley (2007) further added that "the study of ethnic and racial identity is a uniquely challenging endeavor with competing conceptualizations and measurements that are influenced by ideology, political climate, and adherence to old paradigms as much as by advances in science" (p. 225). Psychologists working in this area have, however, agreed that racial and ethnic identities are related but different constructs (e.g., Helms, 1996; Helms & Talleyrand, 1997; Worrell & Gardner-Kitt, 2006). Racial identity is typically based on one's physical appearance (phenotype) whereas ethnic identity is typically based on cultural affiliations, including language, religion, country of origin, ethnic knowledge, preference for the group and so on (Frable, 1997; Phinney, 1996). It should be pointed out that there are theories in the literature related to Black and White racial identity (e.g., Cross & Vandiver, 2001; Helms, 1990a, 1990b; Sellers, Smith, Shelton, Rowley, & Chavous, 1998; Vandiver & Worrell, 2001). As it relates to ethnic identity, the major theory was postulated by Phinney (1989, 1990, & 1992). Phinney's theory of ethnic identity is generic and applies across ethnic groups making it suitable for the present research that will include students from different ethnicities. Cokley (2007) pointed out that when researchers are interested in how one sees herself relative to her cultural

beliefs, values and behaviors, then the appropriate construct to be studied (as in the present study) is ethnic identity.

Phinney, Dupont, Espinosa, Revill, and Sanders (1994) defined ethnic identity as "a feeling of belonging to one's group, a clear understanding of the meaning of one's membership, positive attitudes toward the group, familiarity with its history, and culture, and involvement in its practices" (p. 169). To this end, the *Multi-group Ethnic Identity Measure* (MIEM; Phinney, 1992) was developed to meet the need for a general measure that could assess ethnic identity across diverse ethnic groups. Hence, content specific to particular groups, such as cultural values and beliefs, was not included. The MEIM was informed by the developmental theories of Erikson (1968) and Marcia (1980). The MEIM is a 20 item instrument with 14 items measuring aspects of ethnic identity as identified above. The remaining 6 items on the MEIM assess the domain "other group orientation" that is "attitudes toward and interactions with ethnic groups other than one's own" (p. 161). Subsequent research has led to a revised measure of the MEIM (MEIM-R) with two established dimensions - exploration and commitment (Phinney & Ong, 2007). It is this version of the MEIM that will be utilized in the current study and its conceptualization is discussed below.

Ethnic identity is conceptualized as a multidimensional, dynamic construct that is developed over time through a process of exploration and commitment (Phinney, 1992; Roberts et al., 1999; Phinney & Ong, 2007). Ethnic identity has to begin with self-categorization, identification of oneself as a member of a particular group, and is considered to be the basic element of group identity (Ashmore et al., 2004). As such, it is imperative that in measuring identity, individuals are able to self-identify with a

particular group (Phinney & Ong, 2007). Commitment is another significant component of an ethnic identity (Ashmore et al., 2004) and refers to a strong attachment and a personal investment in a group (Ellemers, Spears, & Doosje, 1999; Roberts et al., 1999). When one uses the term ethnic identity in everyday language, it is referring to this type of commitment (Phinney & Ong, 2004). Exploration is also important to the conceptualization of ethnic identity and is defined as a process of seeking information and experiences relevant to one's ethnicity. Exploration may involve activities ranging from reading and talking to people, to attending cultural events. This period of exploration though pertinent to the period of adolescence is seen to be an ongoing process that may continue over time and possibly through life (Phinney, 2006; Phinney & Ong, 2007).

Though ethnic behaviors are often introduced in measures of ethnicity, Phinney and Ong pointed out that ethnic identity is an internal structure that can exist without behaviors and that behaviors should be considered separately from identity. Other important considerations to the conceptualization and measurement of ethnic identity were related to evaluation and in-group attitudes, importance and salience of an ethnic identity, ethnic identity and national identity (e.g., a United States citizen) as well as values and beliefs. Phinney and Ong pointed out that ethnic identity begins at birth (Ruble et al., 2004) and that like ego identity (Erikson, 1968); it undergoes major developmental changes in adolescence and young adulthood through the joint process of exploration and commitment (Phinney, 1989, 1993). In addition, in tandem with Marcia's (1980), identity statuses, individuals are expected to move from identity diffusion (lack of a clear identity), to either foreclosure (a commitment without

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exploration) or moratorium (a period of exploration) and finally to ethnic identity

achievement. The ethnic identity achievement is seen as a firm commitment to one's

ethnicity based on an exploration that has led to a clear understanding of ethnicity

(Phinney & Ong, 2006). Phinney and Ong (2007) further added that one could predict

that ethnic identity is more stable in individuals with an achieved identity than in those

who have not made a clear commitment. Table 1 summarizes the different identity

statuses that will be the focus of the present study.

Current Issues in Identity Development

Currently, identity development (ego, academic, ethnic) is not seen as a

straightforward process but one that is far more complex (e.g., Josselson, 1996; Kroger,

1996; Marcia, 1993b; Meeus, Iedema, Helsen, & Vollebergh, 1999). Individuals may

move in and out of identity statuses in a manner characterized by variability and

individual differences; nevertheless, commitments made after a period of exploration as

in identity achievement indicate internalization of self-regulatory mechanisms and thus

represents a more mature mode of psychosocial functioning (Bosma & Kunnen, 2001).

The identity achievement status is seen as the most developmentally sophisticated and

mature status while identity diffusion is seen as the least sophisticated, as postulated in

Erikson's (1950, 1968) theory. In addition, the importance of identity commitment to

personal well-being has been documented and identity achievement as well as foreclosure

may be considered the most adaptive psychological identity statuses (e,g., Berzonsky,

2003; Meeus et al., 1999; Vleioras & Bosma, 2005).

Educational environments, such as universities, were seen by Erikson (1968) as

"institutional moratoriums" as they are able to offer students a diversity of ideological

and occupational options. In addition, universities encourage self-exploration and identity formation. College environments have been found to be facilitative of adolescent identity formation (Luyckx et al., 2006). Besides university students, the community and technical college student population has been considered given that they are often seen as" "non-traditional" compared to the university student. The definition of a nontraditional student varies; however. According to Horn (1996) a nontraditional student is defined as an individual who, at a minimum, possesses one of the following characteristics: (a) has delayed enrollment following high school graduation, (b) is a part-time student for at least a part of the academic year, (c) works 35 hours or more per week while enrolled, (d) is considered financially independent under Community Colleges and Model of College Outcomes 583 financial aid qualification guidelines, and (e) is a *de facto* single parent. Kim (2000) also added that non-traditional students could be characterized by their background characteristics and at-risk behaviors. These background characteristics included ethnicity and socioeconomic status while at-risk behaviors included single parenthood, full-time employment or high school dropout. Levin (2007) pointed out that non-traditional students identify as an underrepresented minority. These students (non-traditional) are dealing with a completely different set of circumstances than the traditional college student. They have a different cultural background, income levels are such that they did not expect to go to college and have family obligations that cause them to work (DiMaria, 2008). As such, one may deduce that these characteristics in one way or another shapes the identity development of these students which may differ from students without these characteristics.

Horn (1996) further delineated nontraditional status as minimally nontraditional (possesses only one characteristic), moderately nontraditional (possesses two or three characteristics), and highly nontraditional (possesses four or more). According to the United States Department of Education (2002), in 1999–2000, 27% of students in higher education were traditional, 28% highly nontraditional, 28% moderately nontraditional, and 17% considered minimally nontraditional. Nontraditional students are more likely to attend a community college than traditional students (39%). In fact, the higher the number of nontraditional traits a student possesses, the more likely he or she is to choose a community college. Among the population of highly nontraditional students in college, 64% attend a community college (USDE, 2002). As such and based on the aforementioned characteristics of nontraditional students, the community and technical college campuses will provide a diverse population of students from which meaningful data on identity development and its relationship to academic achievement can be extracted.

Statement of the Problem

Researchers have long seen the importance of examining the role that identity plays in influencing how one navigates his or her life trajectories. In addition, identity has been linked to success in many areas of life, and identity achievement has been argued to be important to academic success (Berger, 1998). Syed, Azmitia and Cooper (2011) stated that theory and research in developmental and social psychology as well as education and sociology have shown that identity plays an important role in students' academic success. The research in this area, however, tends to be fragmented focusing on one specific type of identity (e.g., ethnicity) or one particular group of individuals

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(e.g., Blacks or Latinos). In addition, not much focus is placed on how different identities work together to influence one's performance in life. In addition, in research studies that look at identity and academic achievement, the focus is usually on student populations of four-year colleges and universities (Kroger, 2000). For the purposes of the present research, three types of identity were examined: (a) ego identity, (b) academic identity and (c) ethnic identity. Specific attention will be paid to the role of the achieved identity statuses. Data were collected from a sample of students attending a community college. This population was chosen as it is often neglected in identity research and also because they serve the needs of students who are considered nontraditional. The following research questions will be answered in this study:

1a. Is the magnitude of the direct effect of the achieved ego identity status on academic achievement stronger than the direct effects of any other ego identity status?

1b. Is the magnitude of the direct effect of the achieved academic identity status on academic achievement stronger than the direct effects of any other academic identity status?

1c. Is the magnitude of the direct effect of the ethnic commitment identity status on academic achievement stronger than the direct effects of any other ethnic identity status?

2. If questions 1a-1c show that the direct effects of the achieved identity status and ethnic commitment are the strongest then how much of the variance in academic achievement does the model consisting of the ego identity achieved scores, the academic identity achieved scores, and the ethnic commitment scores explain?

Table 1

Types of Identities and Statuses

Identity Type and Status	Description of Individual's Experience or Situation
Ego Identity Achieved	Have experienced a decision-making period and are pursuing self-chosen occupation and ideological goals.
Ego Identity Foreclosed	Have committed to occupational and ideological positions, but these have been parentally chosen rather than self-chosen.
Ego Identity Diffused	Have no set occupational or ideological direction regardless of whether or not they may have experienced a decision-making period.
Ego Identity Moratorium	Are currently struggling with occupational and or ideological issues; they are in an "identity crisis."
Academic Identity Achieved	Committed to a set of academic values/ideals following a period of exploration.
Academic Identity Foreclosed	Committed to academic values/ideals adopted under the influence of significant others.
Academic Identity Diffused	Lack of exploration or commitment often accompanied by procrastination regarding decisions pertaining to academic values.
Academic Identity Moratorium	Time of academic indecision in which a student attempts to reach conclusions about their academic values and goals.
Ethnic Identity Commitment	A strong attachment and a personal investment in a group.
Ethnic Identity Exploration	A process of seeking information and experiences relevant to one's ethnicity.

Significance of the Study

The present study is important as it provided important insight into how the different identities are related and how they influence academic achievement in a community college population. In addition, the current research is significant because it is examining the relationships that exist among different identities simultaneously rather than focusing on just one specific type of identity. By doing so, one will be able to see the unique and collective contribution that each identity makes to academic achievement. The results from this present study also served to refine the theoretical underpinning of identity research. It was shown that identity statuses affect one's academic achievement, and as such steps can be taken by educators to aid in the identity development of these students. Researchers have pointed out that one of the most significant developments in identity research has been the advent of identity interventions (Kroger & Marcia, 2011; Archer, 1994; Marcia, 1989). These interventions are aimed at promoting identity development in young adults which are relevant to late-modern societies in which individuals have little or no societal structure and guidance in helping them to form a sense of who they are (Schwartz, 2001). In essence, promoting identity development is increasingly important in a world that is characterized by an ever-accelerating rate of social, technological, and economic change as well as instant media access and global access to goods, people and ideas.

CHAPTER TWO

Review of the Literature

The various facets of identity are important to academic achievement in more ways than one, and knowledge of how identity influences academic achievement whether directly or indirectly especially in a college population that serve the needs of nontraditional students will help both students and educators make the college experience a success academically. Research has shown that major gains in identity are usually expected to take place during the college years (Waterman & Archer, 1990, Waterman, 1982). Waterman (1982) further pointed out that the most extensive advances in identity formation occur during the time spent in college and that the period immediately following college appears to most often involve a consolidation of the sense of identity. The college environment provides an opportunity for students to make important decisions as it relates to their occupation, friendship and romantic relationships. As such, for late adolescents who are entering college, it is a major step in achieving an adult identity (Montgomery & Cote, 2003). In addition, "college environments provide a diversity of experiences that can both trigger consideration of identity issues and suggest alternative resolutions for identity concerns" (Waterman, 1993, p. 53).

Arnet (2000) proposed that the years 18-25 should be considered as a time of emerging adulthood. In his paper addressing a theory of development from the late teens through the twenties, he concluded that "emerging adulthood merits scholarly attention as a distinct period of the life course in industrialized societies. It is in many respects the

age of possibilities, a period in which many different potential futures remain possible, and personal freedom and exploration are higher for most people than at any other time. It is also a period of life that is likely to grow in importance in the coming century, as countries around the world reach a point in their economic development where they may allow for the prolonged period of exploration and freedom from roles that constitutes emerging adulthood" (p. 479). Arnet further pointed out that the period of emerging adulthood is distinct demographically, distinct subjectively and distinct for identity explorations. Arnet posited that a key feature of emerging adulthood is that it is the period that offers the most opportunity for identity exploration in the areas of love, work and worldviews and went further to suggest that most identity explorations take place in emerging adulthood rather than adolescence. Arnet (2007) asked the question do we really need the term emerging adulthood. In answering, he pointed out that there are problems with other terms such as late adolescence, young adulthood, the transition to adulthood and youth. He stated that late adolescence does not work as individuals in their late teens and 20s are vastly different from the lives of most adolescents aged 10-17 and that unlike adolescents, individuals in the age group 18-25 are not going through puberty, are not in secondary school, are not legally defined as juveniles and have moved out of their parents household. Arnet added that young adulthood does not work as it has been used already to refer to diverse age periods from preteens to age 40 and that the transition to adulthood does not work as it focuses attention on the transition events that take place mainly at the beginning or end of the range. Similarly, the term youth does not work as it has been used to refer to a wide range of ages, from middle childhood through the 30s. In contrast, Arnet makes the point that the term emerging adulthood is

preferable because it is a new term that describes a new phenomenon characteristic of the changes that have taken place in industrialized societies in the past half century. These changes as it relates to the lives of young people include longer and more widespread participation in postsecondary education, greater tolerance of premarital sex and cohabitation and later ages of entering marriage and parenthood. It is these changes according to Arnet that has led to a new period of life course between adolescence and young adulthood. Furthermore, Arnet posited that emerging adulthood reflects the sense among many people in the late teens and early 20s worldwide that they are no longer adolescents but only partly adult, emerging into adulthood but not there as yet.

Since Arnet (2000; 2007) advanced his theory of emerging adulthood, several researchers have examined identity in relation to this period of development. Wangqvist and Frisen (2011) found that experiencing moratorium was related to higher levels of identity distress as well as psychological symptoms and that measure of identity distress were associated with higher levels of psychological symptoms. The authors concluded that, for some young people, the identity explorations of emerging adulthood can be accompanied by increased psychological symptoms, mediated by the experience of identity distress. Kunnen, Sappa, van Geert, and Bonica (2008) in examining the shape of commitment development in emerging adulthood found that clusters could be classified according to the identity status theory, either on a moratorium-achieved trajectory or as a stable trajectory in one of the four identity statuses. As expected, clusters with stable strong commitment had highest levels of well-being, and the moratorium-achieved clusters had highest levels of ego-development. Nelson (2009) in examining emerging adulthood in Romanian college students age 18-27 found that the

majority did not consider themselves adults. In addition, it was found that those young people who were struggling the most with their overall identity were emerging adults (i.e., those who did not think they were adults and had not taken on adult roles) and un - prepared adults (i.e., those young people who did not think they were adults but had taken on adult roles). In general, the authors found that emerging adulthood tended to be characterized as a state of moratorium – extensive exploration with little commitment among Romanian college students. McLean and Pratt (2006) found that among emerging adults, less sophisticated meaning was associated particularly with the less advanced diffusion and foreclosure statuses, and that more sophisticated meaning was associated with an overall identity maturity index. Meaning-making was defined as connecting the turning point to some aspect of or understanding of oneself.

Lewis (2003) further lends support to the study of college students and college environments in identity research. He pointed out that the college environment is uniquely useful for a number of reasons: (a) the age range (18-22) which is the age of identity resolution in most Westernized countries, (b) the college setting encourages active exploration of identity elements, and (c) the college environment provides exposure to a number of different ways to resolve identity issues. It is not farfetched to assume then that one's identity status in college will influence how he performs academically.

Ego Identity and Academic Achievement

So how does ego identity relate to academic achievement? In the years following Marcia's identity status paradigm as well as Adam, Shea and Fitch's (1979) publication of the objective measure of academic identity statuses, several research studies have been

published on the relationship of identity statuses to a number of variables. Academic achievement was one such variable that was looked at in relation to an individual's ego identity. Cross and Allen (1970) in looking at ego identity status, adjustment and academic achievement found that college students who had achieved a strong identity performed better in college, were more likely to be task oriented and found their work more meaningful. Allan and Cross' sample, however, was limited to college males who were predominantly in their freshman year. Prager (2001) in looking at identity status among undergraduate college women found that those with an ego identity achievement status were older and had been in college longer than women in other ego identity statuses. Similarly, Marcia and Friedman (1970) in examining the ego identity status of college women found that individuals who had an achieved identity were enrolled in more difficult college majors than individuals who were in a diffused state of identity. Waterman and Waterman (1972) assessed the relationship between ego identity status and satisfaction with college among freshmen at a polytechnic institute; results showed that individuals who entered college in the achiever category of ego identity and who later withdrew, did so in good academic standing. Students who were in the foreclosed or diffused state withdrew due to poor academic work. Waterman and Waterman (1972) pointed out, however, that the relationship observed between ego identity status and grades of students withdrawing from the school cannot be attributed to a general difference among the statuses in academic performance since the grades of individuals who persisted in the four statuses did not vary significantly ($F < 1.00$). In a similar study, Berzonsky (1985) found that college students who had a diffused ego identity in their freshman year were more likely to be overachievers based on their predicted GPA, and a

significant association was found between students who were foreclosed and underachievement when they were freshmen. These early research studies were conducted mainly with Marcia's interview to assess ego identity status. Unlike objective measures often using a continuous scale, Marcia's interview was and is used to place individuals in a specific status category. As such, it also important to examine studies that have utilized objective, continuously scaled measures of ego identity.

The following studies utilized an objective measure of ego identity based on a Likert scale that provides continuous scores. Lange and Byrd (2002) found that students who had an achieved identity more accurately assessed their chances of success in a psychology course and were also able to use more efficient study strategies. In contrast, students without this achieved identity were more inaccurate in their estimates of their final grades and used less productive study strategies. Also, several studies have shown that individuals who are more advanced in their ego identity exploration have greater confidence in their academic abilities at university (Boyd, Hunt, Kandell, & Lucas, 2003; Berzonsky & Kuk, 2000) and are more likely to be in good academic standing and graduate college (Boyd et al., 2003). It has also been shown that positive ego identity formation (identity achieved) was indirectly related to academic success through ego virtues (Good & Adams, 2008). Ego virtues are characteristic strengths such as fidelity that the ego can use to help in resolving subsequent crisis (Carducci, 2009). Similarly, Berzonsky (1988, 1989, and 1993) has demonstrated that ego identity development may affect students' academic success by influencing their cognitive reasoning skills. More specifically, Berzonsky (1989, 1993) found that students with a formulated achieved ego identity were better able to set plans and strategies that helped them attain their goals.

Berzonsky's (1988, 1990) studies are important because they highlighted that individuals within the various ego identity statuses differed in their use of social-cognitive processes to solve problems, make decisions and process ego identity-relevant information; his research delineated three processing styles based on the development of ego identity and statuses combinations. Berzonsky found that individuals who had an *information-oriented* ego identity processing style tended to seek out, evaluate and use self-relevant information. These individuals were also less skeptical about their self-constructions and were willing to test and revise aspects of their ego identity when presented with discrepant feedback. Of note is that this particular style has been found to be characteristic of individuals who are considered to be achieved or in a state of moratorium according to Marcia's criteria (Berzonsky & Neimeyer, 1994; Streitmatter, 1993). Research further indicated that this informational ego identity processing style is positively associated with self-reflection, problem-focused coping efforts, cognitive complexity, vigilant decision making, conscientiousness, openness and agreeableness (Berzonsky, 1990, 1992; Berzonsky & Sullivan, 1992; Dollinger, 1995). One could, therefore, make the assumption that individuals who are in an ego identity achieved or moratorium status may utilize this style of processing information that in turn will lead to better academic achievement.

Berzonsky further found that individuals who utilized a *normative* ego identity processing style tended to conform to the prescriptions and expectations of significant others when dealing with questions and decisional situations about their ego identity. Research has shown that these individuals are likely to have a low tolerance for ambiguity as well as a strong need for structure and cognitive closure (Berzonsky &

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Kinney, 1995; Berzonsky & Sullivan, 1992; Dollinger, 1995). In addition, individuals who are considered as being foreclosed in their ego identity status according to Marcia have been found to rely on the normative ego identity processing approach to problem solving (Berzonsky & Neimeyer, 1994; Streitmatter, 1993); this, in turn will affect how they perform academically. One could further assume that these individuals would achieve less academically when compared to individuals who were more ego identity achieved. In essence, individuals with higher scores on the achieved status would be expected to be performing better academically. Finally, individuals who adopted a *diffused/avoidant* ego identity processing style tended to be reluctant to face up to and confront personal problems and decisions (Berzonsky & Neimeyer, 1994; Streitmatter, 1993). These procrastinations may have led them to be controlled by situational demands and incentives. This type of ego identity processing style has been found to be positively associated with avoidant coping, self-handicapping, other-directedness and maladaptive decisional strategies and negatively correlated with self-reflection, conscientiousness, and cognitive persistence (Berzonsky, 1994, 1998; Berzonsky & Ferrari, 1996; Dollinger, 1995). These individuals were further found to be categorized as ego identity diffused according to Marcia's paradigm (Berzonsky & Neimeyer, 1994; Streitmatter, 1993). Again, these individuals may be expected to perform less well academically in comparison to individuals who are achieved, in a moratorium or foreclosed in their ego identity status.

The above studies on ego identity statuses and academic achievement demonstrate the importance of considering ego identity in college populations. Since most of these studies were conducted with traditional four year college populations, it leaves room for

one to observe what transpires among students who are enrolled in a community college.

Firstly, the demographics (e.g., socio-economic status) of the students who attend

community colleges will most likely be different from that of traditional colleges (Horn,

1996; Kim, 2000; Levin, 2007; Dimaria, 2008). Secondly, these individuals' patterns of

identity development may be different as a result of demographics such as ethnicity and

socioeconomic status. In addition, the use of objective measures of identity will allow for

the examination of individuals on a status continuum rather than confining them to status

categories. The present research will also provide insight into how college students in the

different statuses process information and perform academically.

<center>*Academic Identity and Academic Achievement*</center>

Academic identity statuses also influence academic achievement. Academic

identity is different from ego identity in that academic identity is focused entirely on

one's academic goals and decisions. It should be noted, however, that the *Academic

Identity Measure* (AIM) modeled on Marcia's paradigm was developed in 2008. Since it

has only been approximately three years since the existence of this instrument, there is a

need (as it is fairly new) for research to be conducted with this particular instrument as it

relates to academic achievement. In addition, utilizing this instrument along with the ego

identity measure will provide useful information as it relates to the relationship between

these two instruments as they are developed from the same theoretical framework. It

should be noted also that the self-concept literature supports the argument that academic

identity should be considered as a distinct identity, separate from ego identity. This

separation has been supported by the hierarchical model of self-concept (seen to consist

of a general self-concept which is further subdivided into academic and non-academic

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self-concepts) put forth by Shavelson, Hubner and Stanton (1976; see also Marsh, 1990). In addition, its importance may be inferred through studies that look at academic self-concept and academic achievement. Some of these studies have shown that academic self-concept is positively related to academic achievement (e.g., Rodriguez, 2009; Marsh & Martin, 2011). King (2008) in looking at the academic self-concept among community college students found that academic self-concept was a positive and significant predictor of students' final grade in English. The academic self- concept is a cognitive appraisal of one's academic competence (Eggen & Kauchak, 2010) while the academic identity is arrived at through a process of exploration and commitment to one's academic values.

Was and Isaacson (2008) in their development of the AIM assessed its predictive validity by looking at the relationship between the statuses and final scores obtained on an introductory educational psychology course at a Midwestern state university. The final score was calculated as the sum of 12 exams and 12 quizzes administered throughout the semester. Results showed that the academic achieved status was positively correlated with final grades indicating that the higher the student scored on the AIM achievement status, the higher the grade received in the course. All the other academic statuses were negatively correlated with the course grade. Was, Al-Harthy, Stack-Oden and Isaacson (2009) through the use of path analysis have shown that the academic identity status of college students is related to the academic goals that they adopt. A subsequent study by Chorba, Was and Isaacson, (in press) found that adolescents and young adults who had a developed sense of academic identity (identity achieved) were less likely to adopt self-handicapping skills in academic settings while students with a less well-developed academic identity, in particular those who have not

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made a commitment to their values and goals tended to adopt self –handicapping

strategies. These results indicate that it is important to look at the relationship between

the academic identity and academic achievement. It must be pointed out that the

Academic Identity Measure was developed in 2008 approximately three years ago and as

such very little research has been conducted with this instrument as it relates to academic

achievement. Since this instrument was designed specifically to address identity statuses

in relation to academics (Was & Isaacson, 2008), it is imperative that the relationship

between the academic identity statuses and academic achievement be investigated.

<p align="center">*Ethnic Identity and Academic Achievement*</p>

Research in the area of ethnic identity has been largely centered on adolescents

and mostly focused on minority groups. Research on the relationship between ethnic

identity, as measured by the MEIM and academic achievement (as measured by GPA)

has provided mixed results. Yasui, Dorham and Dishion (2004) reported substantial

correlations between African Americans' scores on the MEIM's ethnic identity scale and

GPA ($r = .57$); a lower correlation is found for European Americans ($r = .24$). Yasui et al.

(2004) concluded that ethnic identity is a significant predictor of student academic

achievement. Worrell (2007), however, found that ethnic identity was a negative

predictor of academic achievement for African American academically talented

adolescent students. Still, other researchers have concluded that there is no relationship

among these variables (e.g., Guzman, 2002; Ivory, 2003; Velez-Yelin, 2002; Meyer,

2004; Shermack, 1996; Sobansky, 2004). These equivocal findings indicate the need for

more research into the relationship between ethnic identity and academic achievement.

When measures of ethnic identity other than the MEIM were used, it was shown that ethnic identity commitment (connectedness) predicted higher GPA across subsequent years and that this effect was stronger for adolescents with a high awareness of racism (Oyserman & Bybee, 2006). The racial identity of boys was seen to act as a buffer of negative classroom effects and peer racial discrimination upon later GPA (Chavous, Rivas-Drake, Smalls, Griffin & Cogburn, 2008). Ong, Phinney and Denniss (2006) found that ethnic identity predicted higher GPA two years later. Similarly, Smith et al. (1999) found that ethnic identity contributed to young people's perceptions of their ability to achieve academically, to find meaningful careers and to value prosocial means of goal attainment. These studies highlight the importance of considering how ethnic identity affects academic achievement and suggests that such a relationship may exist.

As it relates to college populations, Cokley and Chapman (2008) examined the roles of ethnic identity, anti-White attitudes and academic self-concept in African American student achievement at a historically Black university. The authors found that ethnic identity was indirectly linked with grade point average (GPA) through academic self-concept and devaluing academic success. Cokley and Chapman (2008) concluded that even in an indirect role, ethnic identity may be more important than anti-White attitudes in a model of African American academic achievement. Brouillard and Hartland (2005) found that ethnic identity did not predict academic achievement as measured by grade point averages among Mexican American university students. Considering these findings, there is room for further exploration as it relates to ethnic identity and academic achievement especially in students who attend community colleges. In addition, there is room to examine the relationship between ethnic identity

(as measured by the MEIM-R) and academic achievement. There is a need to consider alternative measures of academic achievement other than the GPA or in tandem with the GPA considering the equivocal findings on the relationship between ethnic identity and academic achievement.

Summary of Literature Review

Though these three identities (ego identity, academic identity and ethnic identity) are conceptualized similarly, developmentally they are in essence three distinct entities as they pertain to different aspects of one's life. The ego pertains to the personal self, academic identity is in relation to academic values and ethnic identity is in relation to a specific group of people. In addition, these identities may be influencing the academic achievement of young adults either separately (e.g., Lange & Byrd, 2002; Boyd, Hunt, Kandell, & Lucas, 2003; Was & Isaacson, 2008; Yasui et. al, 2004) or in combination. Furthermore, these three identities have been shown to have some influence on academic achievement. One of the main areas of life in which success is important and will affect later outcomes is that of schooling. Performing well in college is related to the life that one will lead in the future as well as to the growth and development of communities, societies and the world. There are many factors that influence how students perform in college, especially students who are in their early college life and identity (ego, academic and ethnic) statuses are certainly contenders (e.g., Al-Harthy, Stack-Oden & Isaacson, 2009; Berzonsky & Kuk, 2000; Cokley & Chapman, 2008). Based on the above literature review, there is a need to examine these identities simultaneously to assess their differential effects on academic achievement. The purpose of the present study, therefore, is to examine the effect of ego identity statuses, academic identity statuses, and

ethnic identity statuses on academic achievement among a sample of community college students. There are four primary research questions:

1a. Is the magnitude of the direct effect of the achieved ego identity status on academic achievement stronger than the direct effects of any other ego identity status?

1b. Is the magnitude of the direct effect of the achieved academic identity status on academic achievement stronger than the direct effects of any other academic identity status?

1c. Is the magnitude of the direct effect of the ethnic commitment identity status on academic achievement stronger than the direct effects of any other ethnic identity status?

2. If questions 1a-1c show that the direct effects of the achieved identity status and ethnic commitment are the strongest then how much of the variance in academic achievement does the model consisting of the ego identity achieved scores, the academic identity achieved scores, and the ethnic commitment scores explain?

CHAPTER THREE

Materials and Methods

Participants

A total of 163 community college students participated in the present study. This

sample size was determined based on *a priori* power calculations with a medium effect

size and acceptable power at .80. These students were drawn from a community college

in the southwest United States as inferences will be made to the population of community

college students within the United States. These individuals are considered non-

traditional students, young or emerging adults who are at the stage developmentally

where they are exploring and making commitments to their identities.

Demographic data for the population of community college students in the United

States and Texas are represented in Table 2 (American Association of Community

Colleges, 2012). These proportions were approximated in the sample. In order to obtain

the desired sample and demographic information, the vice president of research at the

community college was contacted, and the objectives of the study were outlined. The

vice president of research then randomly selected groups of students for participation in

the research based on their classes. Additional demographic information on the sample

indicated that the average age was 22.8 years ($SD = 6.4$). Though this age is similar to

students who attend traditional four-year universities, it must be pointed out that the

definition of a non-traditional student encompasses more than just age and is cumulative

of other conditions including whether the student is employed and or has dependents.

The average grade point average (GPA) was 2.97 (SD = .64). In terms of employment, 96 (58.9%) of the students were employed, 7 (4.3%) self-employed and 60 (36.8%) unemployed. Of the students who were employed, 69 (73.4%) were employed part-time while 25 (26.6%) were full-time employees. The average monthly income reported was $969.62 (SD = 867.94) while the most frequently occurring monthly salary was $500.00. Related to marital status, 23 (14.1%) were married, 137 (84.0%) were single (never married) and 3 (1.8%) were divorced. A total of 44 students (27.0%) indicated that they had dependents with a majority (20; 12.4%) indicating that they had two dependents. One individual reported a total of 7 dependents. Related to scholarships and loans, 66 (40.7%) indicated that they had a scholarship while 84 (51.5%) indicated that they had a grant or loan. In addition, 147 (90.7%) were enrolled full-time with 42 (25.80%) being freshmen and 118 (72.4%) being sophomores. A total of 146 (90.1%) indicated that they plan to continue their education after graduation while the most cited reason for attending college was to transfer to a 4-year college or institution.

Table 2

Demographic Data for Community College Population in the United States

Characteristics	Community College (%)	Texas (%)	Sample (%)
Ethnicity			
White	54	49	55.3
African American	14	12	14.9
Hispanic	16	30	16.1
Asian/Pacific Islander	6	4	2.5
Other	10	2	1.9
Sex			
Male	43	42	47.9
Female	57	58	52.1

American Association of Community Colleges, 2012

Ego identity. Ego identity was measured with the *Extended Objective Measure of Ego Identity Status-2* (EOMEIS-2; Bennion & Adams, 1986; Schwartz, 2004). The EOMEIS is a 64-item measure with scores for each of the four identity statuses: (a) achievement, (b) foreclosed, (c) moratorium and (d) diffusion. Each status is assessed with 16 items with half of the items addressing questions related to ideological and interpersonal domains, respectively. The ideological domain addresses areas such as religious, occupational and political values; the interpersonal domain pays attention to areas such as dating, friendship and sex roles. The scores on the statuses can be collapsed across the ideological and interpersonal domains to yield a score for each participant on each of the four statuses, measuring their degree of endorsement of statements relating to each status. Scores are measured on an interval scale with ranges from 16 to 96 within each status. Average scores reported range from 44.4 to 65. 4 (Bennion & Adams, 1986). Higher scores within each status reflect higher levels of the particular identity status.

According to Adams and Bennion (1986), scores of the EOMEIS-2 have adequate reliability, and estimates of internal consistency range from .62 (SEM =3.30) to .75 (SEM = 3.15) on the Ideological sub-scales, and from .58 (SEM = 3.20) to .80 (SEM = 2.59) on the Interpersonal sub-scales among a sample of 106 college students. Similarly, Oconner (1995) reported internal consistencies ranging from .65 to .83 in a sample consisting of 418 students ranging from 8th through 13th grade and first year university students. In a review, Adams (1998) provided evidence of predictive, concurrent, discriminant, and construct validity. For example, predictive and concurrent validity were confirmed by the correspondence to theoretical prediction of the correlation of

identity subscales with measures of self-acceptance, intimacy, and authoritarianism. Discriminant validity indicated that for both the ideological and interpersonal subscales, achievement was either significantly uncorrelated or negatively correlated with other subscales. Construct validity evidence was drawn, among other sources, from six factor analysis studies, which showed theoretically consistent results. However, in five of these studies, Moratorium and Diffusion were found to share common variance and could be judged to load on a common factor. Finally, the EOMEIS-2 was found to have convergent validity with the interview methods of assessing identity status (Adams, 1998; Schwartz, 2001). Cronbach's alpha for each status within this sample were achieved (.78; SEM = 4.92); diffusion (.67; SEM = 5.51); foreclosure (.88; SEM = 4.51) and moratorium (.82; SEM = 4.90).

The EOMEIS-2 is responded to on a 6-point Likert scale ranging from strongly agree to strongly disagree. Scores for each status are continuous but can be used to classify and assign individuals to a given identity status. For the purposes of the present research, individuals were not categorized and scores within each status were utilized in a continuous manner. Berzonsky and Adams (1999) pointed out that "an advantage of objective status scales is that they provide continuous scores, making it possible to examine the full range of variation and to include them as variables in regression and causal models" (p. 584).

Academic identity. Academic identity was assessed with the *Academic Identity Measure* (AIM; Was & Isaacson, 2008). The AIM consists of four subscales, each with ten items that measure four academic stages: Achievement (a college education is a high priority for me), foreclosed (I never decided on my own about college), moratorium (my

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priorities in school are in transition) and diffuse (sometimes I think the reason I'm in college is I have nothing better to do). Items are scored on a 5-point Likert scale ranging from 1 (not at all like me) to 5 (very much like me). Scores range from 10 to 50 with means ranging from 18.40 to 39.14. Higher scores within each status reflect higher levels of the particular identity status.

Cronbach's alpha ranged from .76 (SEM = 2.33) to .85 (SEM = 2.82) in a sample of 421 undergraduate students. Confirmatory factor analyses supported the assumption that the measurement items represent the theoretical subscales to a reasonable degree (Was & Isaacson, 2008). Predictive validity was established through correlations with subscale scores on the AIM and grades on a psychology course. Results revealed that the achievement status scores were positively correlated with final grades. All other statuses scores were negatively correlated with final grades (Was & Isaacson, 2008). Discriminant validity was established by correlating the AIM with the *Identity Styles Inventory* (Berzonsky, 1992). All correlations were small to moderate suggesting that academic identity may be separate and distinguishable from global identity (Was & Isaacson, 2008). Since this is a relatively new scale, further studies are needed on the scores' reliability and validity. Cronbach's alpha for each status within this sample were achieved (.82; SEM =2.99); diffusion (.79; SEM = 2.81); foreclosure (.71; SEM = 3.48) and moratorium (.78; SEM = 4.23).

Ethnic identity. Ethnic identity was measured with the *Multi-group Ethnic Identity Measure – Revised* (MEIM-R; Phinney & Ong, 2007). The MEIM-R consists of 6 items measured on a Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Scores range from 3 to 15 on each subscale. The 6 items yield two subscales:

Exploration (I have often done things that will help me understand my ethnic background better) and *commitment* (I feel a strong attachment towards my own ethnic group). An open-ended question will precede these items that will elicit participants' spontaneous ethnic label along with a list of appropriate ethnic groups that participants can check to indicate their own ethnicity. These items allow for the grouping of individuals by self-reported ethnicity but do not reveal anything about the strength or valence of ethnic identity (Phinney & Ong, 2007). Scores are calculated as the means of items in each subscale. Higher scores within each subscale reflect higher levels of the particular identity status. Individuals will also be able to choose from a list of options, their particular ethnic group. Cronbach's alpha values indicated good internal consistency estimates for college students with the exploration subscale having a value of .76 (SEM = 0.44) and the commitment subscale a value of .78 (SEM = 0.41). The combined scale had a value of .81.

Exploratory and confirmatory analyses were conducted on the MEIM-R. Two independent samples of college students from a predominantly minority urban public university in southern California were used in the analyses (Phinney & Ong, 2007). The first sample consisted of 192 ethnically diverse university students who self-identified as follows: 70% Latino, 20% Asian American, 5% European American, 3% African American, and 2% mixed heritage or other background; 65% women and 35% men; and mean age, 17.9 years. The second sample consisted of 241 university students (51% Latino, 26% Asian American, 9% European American, 14% of mixed heritage or other; 78% women and 22% men; 26.5% foreign born; and mean age, 19.7 years). Results of the confirmatory factor analyses showed that the hypothesized correlated two-factor

model fit the data better than the alternative null, one-factor model or uncorrelated, two-factor model. Cronbach's alphas for each status within this sample were exploration (.42; SEM = 3.39) and commitment (.87; SEM = 1.02).

Academic Achievement. Students' overall grade point averages (GPA) were used as the measure of academic achievement. The scores for academic achievement were accessed through the colleges' records after appropriate informed consents were received. However, it should be noted that the GPA may not be the best indicator of academic achievement. Although college GPA has been the typical operationalization of academic performance used by researchers, research has shown that there are well-known sources of construct-irrelevant variance in GPA—particularly instructors' grading idiosyncrasies and differences between students in course choice (e.g., Elliott & Strenta, 1988; Ramist, Lewis, & McCamley, 1990; Willingham, 1985). More recently, Berry and Sackett (2009) indicated that care must be taken when using the GPA as an indicator of academic achievement as it is contaminated by the effects of individual differences in course choice. Nevertheless, the GPA does provide some indication of academic achievement and is still widely used in research looking at identity (e.g., Rodriguez, 2009; Worrell, 2007; Berzonsky, 1985). Attempts were made to utilize a different measure of outcome, but in the end due to issues relating to sample size, this did not prove feasible.

Procedures

The vice president of research at the community college provided written consent indicating approval for the study to be conducted at the community college and access to the students' academic records including their GPA. This written consent was attached along with other requisite material and submitted to the IRB. Upon receiving IRB

approval for the study, the vice president provided a list of professors whose classes would be participating in the study. These professors were contacted via email and the importance of the study explained to them. The professors then indicated their willingness to have their classes visited for the administration of the instruments.

Informed consents were obtained from the participants. Participants were guaranteed confidentiality as to their assessment responses and educational records. Their GPA scores were obtained from the community college's office of research and planning as the requisite informed consents were obtained with assistance from the vice president. Participants were administered the three measures of identity in a group setting at a single meeting during regular class time. The investigator collaborated with the participants and vice president as to an appropriate place, time and day for the administration of the assessments. A time table was agreed upon, and the principal investigator visited the participants' classrooms where the instruments were group administered. The principal investigator was present at all administrations. Participants were administered the MEIM-R followed by the AIM and finally the EOMEIS. These assessments were arranged in terms of length (number of items) from the shortest to the longest. The overall administration lasted approximately 25 minutes. Terms on the assessments were clarified by the principal investigator as needed without influencing the participants' responses. The participants were not compensated for their participation.

Analyses were performed in the statistical package for social sciences SPSS version 20.0 and the Analysis of Moment Structures (AMOS) version 20.0 (Arbuckle, 2006). GPA was missing for 22 of the participants. As there were no distinguishable patterns in the missing data, and each variable had responses from at least 99% of

sample, it is likely that the data are missing at random or completely at random (Little &

Rubin, 2002). Consequently, the missing data were handled by using the Full

Information Maximum Likelihood estimator for the parameters, which is a robust method

for dealing with missing values (Enders & Bandalos, 2001).

Analyses

To answer the research questions, a series of path analyses were performed. The

path analysis is considered the simplest form of structural equation modeling (SEM)

(Kenny, 1979; Kieth, 2006). According to Byrne (2012), SEM is a statistical

methodology that takes a confirmatory (hypothesis testing) approach to the analysis of a

structural theory that bears on some phenomenon. This theory is said to represent causal

processes that generate observations on multiple variables. There are two important

aspects of SEM: (a) the causal processes being studied are represented by a series of

regression equations and (b) the relations can be modeled pictorially to give a clearer

conceptualization of the theory under study (Byrne, 2012). In addition, SEM provides a

means of control for extraneous variables and measurement error (Hoyle, 1995;

Iacobucci, 2009).

The path analysis was selected as it was determined to be the best method for

answering the research questions and was also based on researchers' support of the use of

more sophisticated methodological procedures when examining identity statuses (e.g.,

vanHoof, 1999). Berzonsky and Adams (1999) also pointed out that:

> Identity researchers need to generate theoretically derived hypotheses and then
> subject them to rigorous empirical tests. Examples of several lines of research
> and methodological strategies that we think may bear fruit include using causal
> models to investigate direct and indirect effects of contextual and social-cognitive

variables on identity processes, using identity variables to identify students at risk for problem behaviors such as academic difficulties (pp. 586).

Kenny (1979) pointed out that path analysis should have a central position within social research based on three important reasons: (a) because most researchers either implicitly or explicitly construct models, a formal development of the method would assist these researchers; (b) it can assist the development, modification, and extension of measurement and substantive theory; and (c) it can give social science a stronger basis for applying theory to solving social problems. Kenny further pointed out that a "researcher who approaches data from a modeling approach is somewhat more likely to learn something new from the data. Ideally, the researcher starts with a model or formulates one. Then the researcher determines if the data to be analyzed can estimate the parameters of the model and if the data can falsify the model. Such estimation and testing reveal whether the model is too general, too simple, or just plain wrong" (p. 7). Though multiple regression and the path analysis are very similar, the path analysis is a more general form of multiple regression and enables one to depict models pictorially (Keith, 2006). It should also be pointed out that path analysis does not prove causality but provides a probabilistic statement about the relationship between variables (Keith, 2006).

Path analysis models depict the relationship between variables through the use of boxes and arrows. The boxes represent the variables that are connected by one-way arrows. These arrows indicate the hypothesized direction of causation. Curved ones represent the correlations among the variables.

Models. Different path analysis models were used to address the research questions that were previously postulated in this paper. Figure 1 depicts the model that was used to answer the first question:

- *Is the magnitude of the direct effect of the achieved ego identity status on academic achievement stronger than the direct effects of any other ego identity status?*

GPA was the outcome of interest while the different ego identity statuses (ego identity achieved, ego identity foreclosed, ego identity diffused, and ego identity moratorium) served as the predictor variables. It was hypothesized that scores within the ego identity achieved status will have the strongest effect on achievement (as indicated by an unbroken arrow) and that this relationship will be positive. In addition scores within the ego identity diffused status hypothesized to correlate with scores within the ego identity moratorium status based on research (Adams, 1998; Schwartz, 2001).
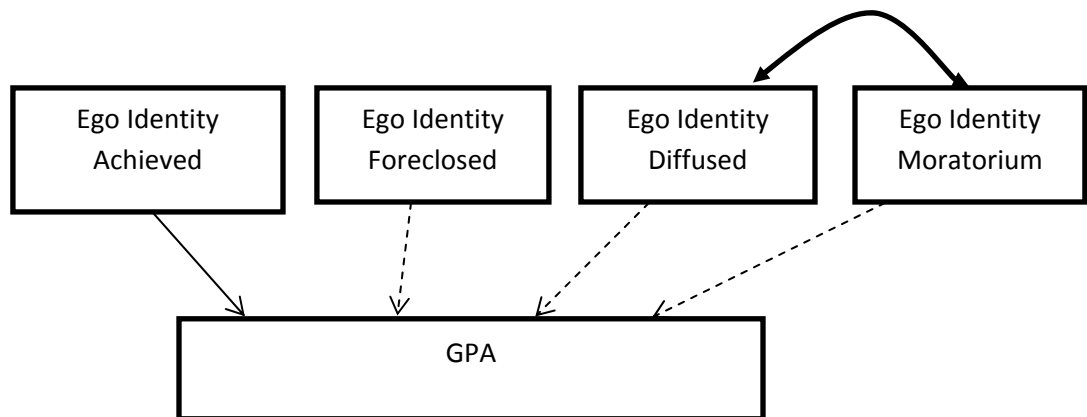

Figure 1. Direct effect of ego identity status on achievement

Figure 2 depicts the model that was used to answer the second research question:

- *Is the magnitude of the direct effect of the achieved academic identity status on academic achievement stronger than the direct effects of any other academic identity status?*

GPA was the outcome of interest while the different academic identity statuses (academic identity achieved, academic identity foreclosed, academic identity diffused, and academic identity moratorium) served as the predictor variables. It is hypothesized that scores within the academic identity achieved status will have the strongest effect on achievement and that this relationship will be positive.

Figure 2. Direct effect of academic identity status on achievement

Figure 3 depicts the model that was used to answer the third research question:

- *Is the magnitude of the direct effect of the ethnic commitment identity status on academic achievement stronger than the direct effects of any other ethnic identity status?*

GPA was the outcome of interest while the different ethnic identity statuses (ethnic identity commitment, ethnic identity exploration) served as the predictor variables. It is

hypothesized that scores within the ethnic identity commitment status will have the strongest effect on achievement and that this relationship will be positive. In addition scores within the ethnic identity commitment status are hypothesized to correlate with scores within the ethnic identity exploration status based on research (Phinney & Ong, 2007).
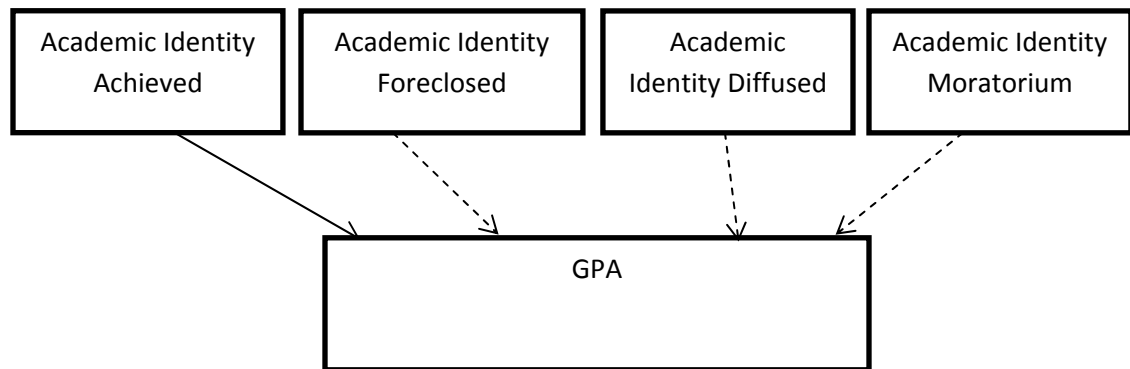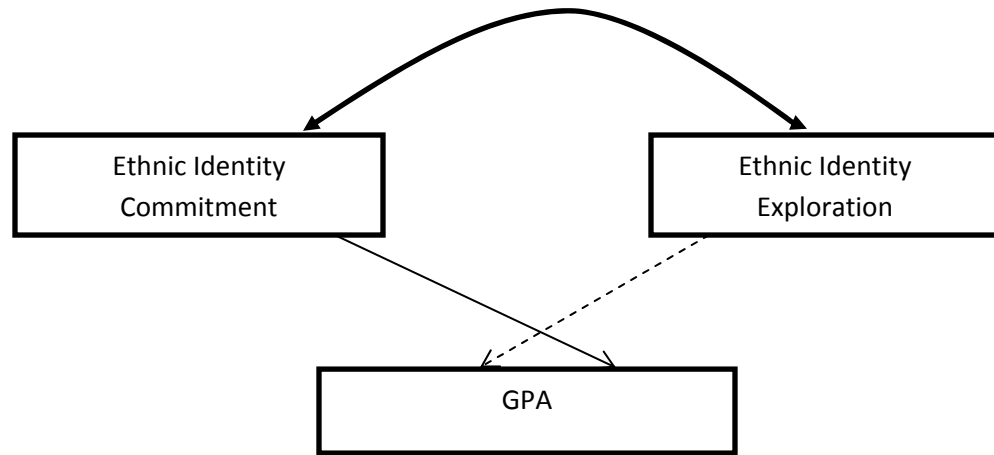

Figure 3. Direct effect of ethnic identity status on achievement

Figure 4 depicts the model that was used to answer the fourth research question:

- *If questions 1a-1c show that the direct effects of the achieved identity status are the strongest then how much of the variance in academic achievement does the model consisting of the ego identity achieved scores, the academic identity achieved scores, and the ethnic commitment scores explain?*

GPA was the outcome of interest while the different achieved identity statuses (ego identity achieved, academic identity achieved, and ethnic identity commitment) served as the predictor variables. It is hypothesized that the direct effects will be strong and positive. It is further hypothesized that this model will explain more variance in academic achievement than the models specified in Questions 1a-1c. It is also

hypothesized that the achieved identity statuses are correlated and that the academic achieved identity status will have the strongest direct effect.
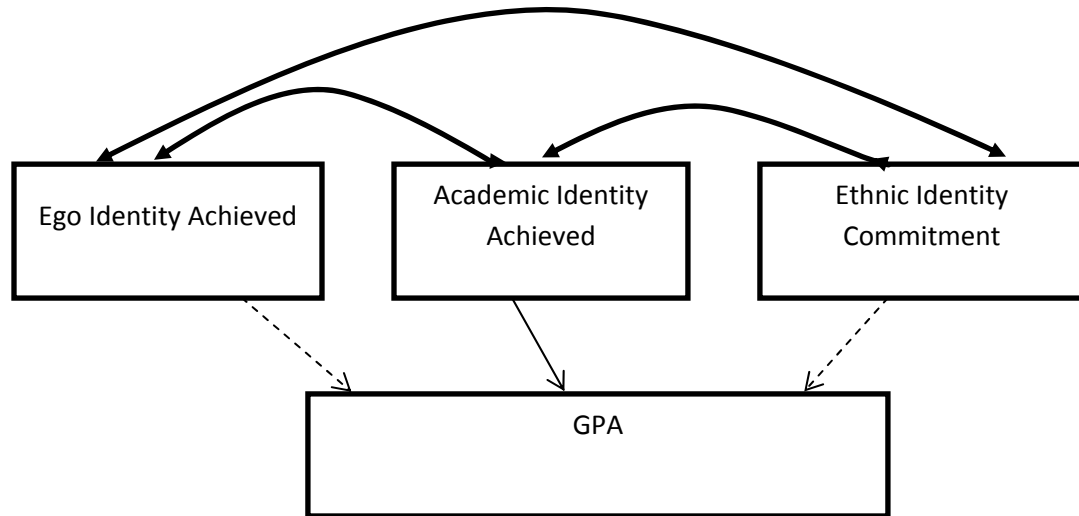
Figure 4. Direct effect of the achieved identity statuses on achievement

Since the magnitude of the direct effects and the variance explained are the focus of this study, the R^2 will be used to assess the overall fit of the model in tandem with the standard error of measurement. However, there are some important information to note regarding the use of the R^2. According to Hagquist and Stenbeck (1998) the R^2 evaluates the agreement between the model and the observed data and as such is a goodness of fit measure. They cautioned however that although the measure always has the same 0–1 range, there is no way of knowing how much variance must be explained in order for the fit to be good enough. In addition, they further stated that the R^2 does not have a known distribution when the residual unexplained variation is random and as such it is not possible to test whether all the systematic variation has been accounted for. Therefore, although R^2 evaluates the goodness of fit it is not a decisive goodness of fit test statistic.

Another criticism levied at the R^2 is that the measure is "sample-specific" in the same way as correlation coefficients are. What this means is that its value may differ greatly between different samples even when the "causal" relationship between two variables is the same and all the estimated (unstandardized) regression coefficients are identical. This is due to the fact that the variance in the dependent variable may differ between the different samples (Berry and Feldman, 1985). Despite these drawbacks, some researchers support the use of R^2 in evaluating models. Lewis-Beck and Skalaban (1990) pointed out that the R^2 has several characteristics that are appealing, they are: (a) it has a fixed upper limit as well as a fixed lower one, (b) it can easily be evaluated and does not require access to other measures, (c) it provides a baseline – in the form of a line where a '1' is perfect fit and '0' is no fit all – which makes it possible to judge the predictive capability of a model. Since Lewis-Beck and Skalaban (1990) also regard R^2 as inherently a baseline, they are of the opinion that "...a model R^2 may be used as a base to which estimates from rival models may be fruitfully compared" (p. 159). The R^2 was thus chosen as it is easily interpreted.

To assess the strength of the direct effects, standardized and unstandardized path coefficients were computed. Unstandardized parameter estimates retain scaling information of the variables involved and are interpreted only with reference to the scales of those variables. In other words, unstandardized estimates indicate the number of units change in the dependent variable per unit change in the independent variable when all remaining independent variables are at their mean (Hoyle, 1995). Standardized parameter estimates however are transformations of unstandardized estimates that remove scaling information and as such allows for informal comparisons of parameters

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throughout a model. In other words, standardized estimates index the number of standard

deviation change in the independent variable when all remaining independent variables

are zero. Standardized parameter estimates also correspond to effect-size estimates

(Hoyle, 1995). Standardized path coefficients with absolute values less than 0.10 may

indicate a "small" effect, values around 0.30, a "medium" effect and values greater than

or equal to 0.50, a "large" effect (Kline, 2005). In addition, standardized path

coefficients are interpreted without regard for their significance value. Armstrong (2007)

stated that significance tests are unnecessary even when properly used and interpreted.

Lambdin (2012) pointed out that p values are not empirical and should not be used to

evaluate data.

Assumptions

There were two main assumptions of SEM that were considered in the present

study. First, the data are multivariate normal. This assumption is particularly important

for maximum likelihood estimation because the maximum likelihood estimator is derived

directly from the expression for the multivariate normal distribution (Byrne, 2012). In

order to test for multivariate normality, the variables should be examined for multivariate

skewness and kurtosis. Data that are multivariate kurtotic are especially problematic in

SEM. When the multivariate distribution of the observed variables has both tails and

peaks, it is said to be multivariate kurtotic (Byrne, 2012). If this assumption is violated,

model fit and standard errors may be biased or irregular (Tinsley & Brown, 2000).

Although it is difficult to test for multivariate normality, there are certain procedures that

will enable the researcher to draw conclusions regarding multivariate normality. This

may be done by examining univariate normality and skewness and kurtosis (Burdenski,

2000). To test for univariate normality, the Kolmoggorov-Smirnov (K-S) test was used

to on the standardized residual of the dependent variable to see whether it deviates

significantly from normality. Results of the K-S test revealed that GPA, D (141) = .061,

p = .20 was significantly normal. Testing for univariate normality (when assessing for

multivariate normality) is practical as univariate normality is a necessary condition

(although it does not guarantee it) for multivariate normality (Field, 2009). Next, the

kurtosis and skewness of the dependent variable was also examined to ascertain the

presence of deviant values. For skewness, the value was (-2.33) while for kurtosis, it was

(-0.54) based on the Z distribution. Field suggests that with large samples, absolute

values of skewness and kurtosis may be compared to values one would expect to get by

chance alone with absolute values above 3.29 being significant at $p < .001$. As such the

values obtained in this data was within the acceptable range. Second, the sample size

should be sufficiently large. There is no clear cut guideline or rule to follow when

choosing a sample size (Tinsley & Brown, 2000). Different researchers have

recommended different sample sizes for obtaining accurate solutions to model fitting

(Bentler & Chou, 1987; Hu & Bentler, 1995, Iacobucci, 2010; Bagozzi, 2010).

Prior to testing the model, three other assumptions were tested. First, there should

be no perfect linear relationship between two or more of the predictors (the assumption of

multicollinearity). To assess this, the variance inflation factor (VIF) was observed for

each model. VIF is a statistic used to measure possible multicollinearity amongst the

predictor or explanatory variables. VIF is computed as (1/(1-R2)) for each of the k – 1

independent variable equations (Robinson & Schumacker, 2009). Field (2009) suggested

that VIF values above 10 are causes of concern. According to the VIF values obtained in

this data set for each model, multicollinearity was not violated. Second, for any two

observations, the residual terms should be uncorrelated (the assumption of independent

errors). This is assessed by the Durbin Watson test and each model was assessed

separately. Field (2009) suggests that values less than 1 or greater than 3 are a cause for

concern and that the value should be closer to 2. This assumption was not violated with a

Durbin-Watson value of 2.0 for each model. Durbin Watson and VIF values for each

model are presented in Table 3.

Table 3

Summary of Durbin Watson and VIF Values

Models	Durbin Watson	VIF
Ego Identity Model	1.87	
Ego Identity Achieved		1.08
Ego Identity Foreclosed		1.09
Ego Identity Diffusion		1.50
Ego Identity Moratorium		1.46
Academic Identity Model	1.71	
Academic Identity Achieved		1.70
Academic Identity Foreclosed		1.91
Academic Identity Diffusion		2.45
Academic Identity Moratorium		1.20
Ethnic Identity Model	1.87	
Ethnic Identity Commitment		1.24
Ethnic Identity Exploration		1.24
Achieved Statuses Identity Model	1.80	
Ego Identity Achieved		1.11
Academic Identity Achieved		1.13
Ethnic Identity Commitment		1.04
Identity Statuses with Strongest Effects Model	1.71	
Ego Identity Diffusion		1.18
Academic Identity Achieved		1.22
Academic Identity Moratorium		1.28

Third; the mean values of the outcome variable for each increment of the predictors

should lie along a straight line (the assumption of linearity). This was assessed separately

for each model. Plots of the residuals for each model (Field, 2009) revealed that linearity

was not violated (please see appendix A). Results from the bivariate correlation matrix

for each model showed that the predictors were not highly correlated (please see appendix A).

CHAPTER FOUR

Results

The results are presented according to the aforementioned research questions.

Each research question is addressed separately. Descriptive statistics and summary

results for each model are presented in tables. In addition, results pertaining to the

magnitude of the direct effects and their meanings are explained in text. Special attention

is paid to those variables that had the strongest direct effects in each model and the

percentage variance in the dependent variable explained by each model is also given.

Question 1a

The first research question asked was**,** is the magnitude of the direct effect of the

achieved ego identity status on academic achievement stronger than the direct effects of

any other ego identity status? To answer this question**,** results of the path analysis

revealed that the ego identity achievement status did not have the strongest direct effect

on GPA. Of the remaining three ego identity statuses, only the ego identity diffusion

status had a significant direct effect on GPA. The standardized direct (unmediated) effect

of the ego identity diffusion status on GPA was -.217 and this effect was the strongest. In

essence, due to the direct effect of the ego identity diffusion status on GPA, when scores

on the ego identity diffusion status increase by one standard deviation, GPA decreases by

.217 standard deviations holding the other variables constant. The ego identity

foreclosure status had the next strongest direct effect in the model. The standardized

direct (unmediated) effect of the ego identity foreclosure status on GPA was -.135. In

essence, due to the direct effect of the ego identity foreclosure status on GPA, when

scores on the ego identity foreclosure increase by one standard deviation, GPA decreases

by .135 standard deviations holding the other variables constant. In addition, this model

explained 9.4% of the variance in GPA with the diffusion and moratorium statuses being

significantly correlated ($r = +.53$) as hypothesized. Descriptive statistics are provided in

Table 4 while model statistics are provided in Table 5.

Table 4

Descriptive Statistics for the Ego Identity Model

Variable	M	SD
Ego Identity Achieved	66.14	10.67
Ego Identity Foreclosed	42.15	13.90
Ego Identity Diffusion	46.54	9.74
Ego Identity Moratorium	48.81	11.61

Table 5

Summary of Causal Effects for Ego Identity Model

Variables	Standardized Effect	Unstandardized Effects	SE	*p*	*95% CI*
Ego Identity Achieved	-.098	-.006	.005	.222	[-.016, .004]
Ego Identity Foreclosed	-.135	-.006	.004	.094	[-.014, .001]
Ego Identity Diffusion	-.217	-.014	.006	.021*	[-.027, -.002]
Ego Identity Moratorium	-.064	-.003	.005	.502	[-.014, .007]

Note. CI = Confidence Interval; * $p < .05$; $R^2 = .094$.

Question 1b

The second research question was, is the magnitude of the direct effect of the

achieved academic identity status on academic achievement stronger than the direct

effects of any other academic identity status? To answer this research question, results of

the path analysis revealed that the academic identity achievement status had a direct

effect on GPA. The standardized effect of the academic identity achievement status on

GPA was .175. In essence, due to the direct effect of the academic identity achievement status on GPA, when scores on the academic achievement status increase by one standard deviation, GPA increases by .175 standard deviations holding the other variables constant. This direct effect, however, was not the strongest. Of the remaining three academic identity statuses, the academic identity moratorium status had the strongest direct effect on GPA. The standardized direct effect of the academic identity moratorium status was -.238. In essence, due to the direct effect of the academic identity moratorium status on GPA, when scores on the academic identity moratorium status increase by one standard deviation, GPA decreases by .238 standard deviations controlling for the other variables. This model explained 9.3% of the variance in GPA. Descriptive statistics are provided in Table 6 while model statistics are provided in Table 7.

Table 6

Descriptive Statistics for the Academic Identity Model

Variable	*M*	*SD*
Academic Identity Achieved	37.62	7.05
Academic Identity Foreclosed	26.66	6.47
Academic Identity Diffusion	18.58	6.00
Academic Identity Moratorium	24.93	9.34

Table 7

Summary of Causal Effects for the Academic Identity Model

Variables	Standardized Effect	Unstandardized Effects	SE	*p*	*95% CI*
Academic Identity Achieved	.175	.015	.007	.030*	[-.003, .034]
Academic Identity Foreclosed	-.008	-.001	.008	.918	[-.018, .016]]
Academic Identity Diffusion	-.075	-.008	.008	.351	[-.033, .018]
Academic Identity Moratorium	-.238	-.016	.005	.003*	[-.030, -.001]

Note. CI = Confidence Interval; *p* < .05; R^2=.093.

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Question 1c

The third research question was, is the magnitude of the direct effect of the ethnic commitment identity status on academic achievement stronger than the direct effects of any other ethnic identity status? To answer this question, results of the path analysis revealed that the ethnic identity commitment status did not have the strongest direct effect on GPA. Interestingly both ethnic identity statuses appear to be operating similarly in their effect on GPA. The standardized direct (unmediated) effect of the ethnic identity commitment status on GPA was .077. In essence, due to the direct effect of the ethnic identity commitment status on GPA, when scores on the ethnic identity commitment status increase by one standard deviation, GPA increases by .077 standard deviations holding the other variables constant. Similarly, the standardized direct (unmediated) effect of the ethnic identity exploration status on GPA was -.075. In essence, due to the direct effect of the ethnic identity exploration status on GPA, when scores on the ethnic identity exploration status increases by one standard deviation, GPA decreases by .075 standard deviations holding the other variables constant. In addition, the ethnic exploration and commitment statuses were significantly correlated ($r = .430$) as hypothesized. Descriptive statistics are provided in Table 8 while model statistics are provided in Table 9.

Table 8

Descriptive Statistics for the Ethnic Identity Model

Variable	*M*	*SD*
Ethnic Identity Commitment	3.53	.94
Ethnic Identity Exploration	3.12	1.48

Table 9

Summary of Causal Effects for the Ethnic Identity Model

Variables	Standardized Effect	Unstandardized Effects	*SE*	*p*	*95% CI*
Ethnic Identity Commitment	.077	.052	.063	.425	[-.108, .044]
Ethnic Identity Exploration	-.075	-.032	.040	.408	[.072, .176]

Note. CI = Confidence Interval; $R^2 = .007$.

Question 2

The final research question was, if questions 1a to 1c show that the direct effects

of the achieved identity status and ethnic commitment are the strongest then how much of

the variance in academic achievement does the model consisting of the ego identity

achieved scores, the academic identity achieved scores and the ethnic commitment scores

explain? To answer this question, results of the path analysis revealed that the academic

identity achievement status had the strongest direct effect on GPA. The standardized

direct effect of the academic identity achievement status was .363. In essence, due to the

direct effect of the academic identity achievement status on GPA, when scores on the

academic identity achievement increases by one standard deviation, GPA increases by

.363 standard deviations controlling for the other variables. Interestingly in this model,

the ego identity achievement status had a significant effect on GPA but was negatively

correlated with GPA. The standardized direct effect of the ego identity achievement

status on GPA was -.207 indicating that as scores on the ego identity achievement status

increase by one standard deviation, GPA decreases by .207 standard deviation controlling

for the other variables. The academic identity achieved status had the strongest direct

effect on GPA in this model as hypothesized with a medium effect. Ethnic identity had a

very small direct effect. In addition, ego identity achievement was correlated with

academic identity achievement ($r = .317$) while academic identity achievement was

correlated with ethnic commitment ($r = .176$). This model explained 12.7% of the

variance in GPA. Model statistics are provided in Table 10.

Table 10

Summary of Causal Effects for the Achieved Statuses Identity Model

Variables	Standardized Effect	Unstandardized Effect	SE	*p*	*95% CI*
Ego Identity Achieved	-.207	-.012	.005	.013*	[-.021, -.002]
Academic Identity Achieved	.363	.033	.008	.001*	[.018, .048]
Ethnic Identity Commitment	-.001	-.001	.054	.990	[-.108, .106]

Note. CI = Confidence Interval; *p* < .05; $R^2=.127$.

It should be pointed out however, that since the final model was predicated on the

identity statuses that had the strongest direct effects, based on the aforementioned results

obtained in the preceding models, this model was revised. The new proposed model

contained the ego identity diffusion status, the academic identity moratorium status and

the academic identity achievement status. Results of the path analysis revealed that the

academic achievement identity status had a significant direct effect on GPA. The

standardized direct effect of the academic identity achievement on GPA was .174

indicating that as scores on the academic identity achievement increased by one standard

deviation, GPA increases by .174 standard deviations controlling for the other variables.

Further results indicated that the academic identity moratorium status had a significant

direct effect on GPA. The standardized direct effect of the academic identity moratorium

on GPA was -.244 indicating that as academic identity moratorium increases by one

standard deviation, GPA decreases by .244 standard deviation holding the other variables

constant. This status had the strongest effect in the model. The ego identity diffusion

status had a small direct effect on GPA. The standardized direct (unmediated) effect of

the ego identity diffusion on GPA was -.133. In essence, due to the direct effect of the

ego identity diffusion status on GPA, when scores on the ego identity diffusion status

increase by one standard deviation, GPA decreases by .217 standard deviations holding

the other variables constant. The model explained 10.7% of the variance in GPA. Model

statistics are provided in Table 11.

Table 11

Summary of Causal Effects for the Identity Statuses with Strongest Effects Model

Variables	Standardized Effect	Unstandardized Effect	SE	*p*	*95% CI*
Ego Identity Diffused	-.133	-.008	.005	.096	[-.019, .002]
Academic Identity Achieved	.174	-.016	.005	.002*	[.000, .031]
Academic Identity Moratorium	-.244	.015	.007	.030*	[.028, -.004]

Note. CI = Confidence Interval; *p* < .05; R^2=.107.

Overall, the results show that identity may have an impact on academic

performance. The identity status that appears to have the strongest direct effect on GPA

was the academic identity moratorium status. This was followed by the academic

identity achievement status. In the ego identity statuses' model, the statuses with the

strongest direct effects were the ego identity diffusion and ego identity foreclosure

statuses. In the academic identity statuses' model, the statuses with the strongest direct

effects were the academic identity achieved and the academic identity moratorium

statuses. In the ethnic identity statuses' model, both statuses (ethnic identity commitment

and ethnic identity exploration) had similar direct effects on GPA. In the achieved

identity statuses' model, the academic identity achieved status had the strongest direct

effect on GPA with the ego identity achieved status reporting a small direct effect. In the

identity statuses with the strongest effects model, all identity statuses had small to

medium direct effects on GPA with the academic identity moratorium status having the

strongest direct effect on GPA in the model. As it relates to the ego, academic and ethnic

identity models, the achieved identity status in each model had the highest mean.

CHAPTER FIVE

Discussion and Conclusions

As outlined previously, different models were tested to assess the direct effects of different identity statuses on academic achievement. The three identities of interest were the ego identity, the academic identity and the ethnic identity. The ego identity and academic identity each had four statuses: (a) achieved, (b) foreclosed, (c) diffusion and (d) moratorium. The ethnic identity had two statuses: commitment (achieved) and exploration. It was hypothesized that within each model, the achieved identity status would have the strongest direct effect. However, this finding was not supported. Nevertheless, the findings overall, underscore the importance of considering identity and its influence on academic achievement. The findings are discussed both at a specific and general level. In other words, the findings are discussed as it pertains to each identity and then within the larger context of identity development. Attention is also paid to sample characteristics including descriptive data. Future research and limitations as well as the implications of the findings are also discussed.

Results of the current study suggest that identity plays an important role in academic achievement. Waterman (1982) conceded that the most extensive advances in identity development occur during the time spent in college, and according to Arnett (2000) these individuals are said to be in a period of emerging adulthood. As such, participants in the current study are at a time in their lives when they are presented with numerous circumstances and experiences that will shape the decisions they make as well as their identities. Some of the participants were married, employed, had children, had

plans for further education while at the same time being current students. How they

navigate all those areas of their lives will have a lasting impact on who they are as

individuals. It may very well be then, that individuals in this sample may be struggling

with their identities or shifting between the different statuses rather than having a clearly

defined status. Although the means for the achieved statuses were the highest in this

sample, assessment scores on the other statuses were relatively close to each other; in

addition, scores on the achieved status were not at the upper end of the spectrum.

Research has shown that only approximately one half of young people obtain an achieved

identity by early or emerging adulthood (Kroger, 2000a, 2007). Considering then that

college campuses are seen as institutional moratoriums for identity formation (Erikson,

1968) and considering the increasing technological age that current students find

themselves in (Arnet, 2000), identity development becomes even more complex.

Therefore, its impact on different aspects of life especially for the college student

becomes even more important. It makes sense to evaluate how academic achievement is

impacted by identity development especially for college level students.

The Ego Identity Model

The first model paid attention to the ego identity statuses and their relationship to

GPA. The findings from this model were quite interesting with the ego identity diffusion

status being the strongest and having a negative, direct effect on GPA. The ego identity

diffusion status describes individuals who have no set occupational or ideological

direction regardless of whether or not they may have experienced a decision-making

period. It follows then that, individuals high in a diffused state would most likely be

performing less well academically thereby attaining lower GPAs. This finding is

supported in the literature by a number of researchers who have pointed out that these individuals tend to adopt a diffused/avoidant ego identity processing style that is positively associated with avoidant coping, self-handicapping, other-directedness and maladaptive decisional strategies and negatively correlated with self-reflection, conscientiousness, and cognitive persistence (Berzonsky, 1994, 1998; Berzonsky & Ferrari, 1996; Dollinger, 1995). In addition, these individuals may be reluctant to confront personal problems and decisions which in turn may lead them to be controlled by situational demands and incentives (Berzonsky & Neimeyer, 1994; Streitmatter, 1993). It could be argued then that individuals with a more diffused ego identity status may engage in behaviors that may hamper not only academic performance but also success in life. Students in an ego identity diffused state may pay little attention to their future or to the long term consequences of their choices and may be non-committal (Berzonsky, 1993). These characteristics may affect how they operate in their academic life in that they may procrastinate often or choose to write term papers, for example, the night before its due date. This in turn may result in poor academic performance.

The ego identity foreclosed status had a small negative direct effect on GPA in the model as well. Interestingly, the literature suggests that the identity foreclosure status is adaptive psychologically (e.g., Berzonsky, 2003; Meeus et al., 1999; Vleioras & Bosma, 2005); yet in the current sample the direct effect was negative suggesting that as scores in the ego identity foreclosure increased, GPA decreased. However, if one considers the description of the ego identity foreclosure status, then this finding is not surprising. For example, although individuals within an ego identity foreclosure status are thought to be committed, their ideological and occupational positions are parentally chosen. In other

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words, these students would not have made their choices themselves and may be trying to please their parents. This may result in distress for these students who in turn may not perform well academically. Thus, although it may seem like they have made a commitment, they have not explored and may be undecided in their identity commitment.

The magnitude of the direct effect of the ego identity diffused status suggests that the diffused state is salient to academic achievement. This finding further suggests that it is more important to pay attention to individuals with a diffused identity in comparison to individuals who may be foreclosed, achieved or in a moratorium. Also, of all the ego identity statuses, it could be argued that the ego identity diffused status may be having more of an impact on GPA than any other ego identity status. It is well supported in the literature that individuals who are in an ego identity achieved status perform well academically, but this finding highlights the need to identify individuals who are in a diffused state and to help them to leave that state as it may be detrimental to their academic performance. Waterman and Waterman (1972) found that college students who withdrew from college due to poor academic performance were in an ego identity diffused state. Considering that community college students tend to be saddled with additional issues that may affect their persistence in college, then being in an ego identity diffused state with no sense of direction may make it easier for them to make the decision to stop attending school or if they persist to earn poor grades. Understanding too that community college students are in a period of emerging adulthood that is characterized more by identity exploration rather than commitment may provide one explanation as to the very small and negative direct effect of the ego identity achieved status in the model. One would have expected the ego identity achieved status to be significantly related and

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to have a strong direct effect on GPA in this model; however its effect may have been

suppressed by the effect of the ego identity diffused.

The Academic Identity Model

As it relates to the academic identity statuses, results of the current study suggest

that the academic identity achieved status and the academic identity moratorium status

may have more of an impact on GPA when compared to the other academic identity

statuses. An individual who is said to be in an academic identity achieved status is

committed to a set of academic values/ideals following a period of exploration.

However, an individual who is in an academic identity moratorium is in a period of

indecision during which he or she attempts to reach conclusions about his or her

academic values and goals. It was not surprising then that there was a significant direct

effect of academic identity achievement on GPA as these individuals would have a set of

academic values that they are committed to and as such would exert the effort needed to

complete their academic goals. Interestingly, this academic identity status did not have

the strongest direct effect and again begs the question of the importance of paying

attention to students who are in an academic identity achieved state in comparison to

students who are in the less committed academic identity statuses. The data seem to be

suggesting that it is the students who are in the other statuses that may need attention.

Despite this finding, however, it is important to note that the academic identity achieved

status had a positive direct effect on GPA indicating that it serves students well to have a

sense of commitment as it relates to their academic values. Students who are in an

academic identity achievement state are more firmly committed to their learning and task

goals. They are also more likely to adopt a mastery oriented approach to their goals that

will lead to more success in the classroom (Was, Al-Harthy, Stack-Oden & Isaacson, 2009). However, students who are in an academic identity moratorium may adopt goals that are not mastery oriented which may affect their academic performance negatively (Was et al., 2009).

As evident in the findings, the academic identity moratorium had the strongest effect on GPA. Its direct effect was negative indicating that as scores in this status increased, then GPA also decreased. It could very well be that students within this status may be unable to accurately appraise their academic competence (King, 2008; Rodriguez, 2009; Marsh & Martin, 2011). Being able to cognitively appraise one's academic competence could provide useful information that the student could use to improve their academic performance. The findings further suggest that while exploration is a necessary process towards commitment to an identity, it does not benefit the individual to stay in an extended period of exploration. Again, the data shows that a lack of commitment to an academic identity will impact academic performance negatively. This model explained 9.3% of the variance in GPA.

The Ethnic Identity Model

As it relates to ethnic identity, results of the current study suggest that ethnic identity has a small direct effect on academic achievement. This finding is not surprising as several studies (e.g., Cokley & Chapman, 2008; Brouillard & Hartland, 2005; Ong et.al., 2006) have shown mixed results relating to the impact of ethnic identity on academic achievement. It may very well be that ethnic identity does not have an effect on academic achievement. In addition, unlike the previous models where one could isolate the status with the strongest effect, both statuses in the ethnic identity model had

similar direct effects.   Still, when placed within the larger context of identity

development and academic achievement, it may be more prudent to consider the impact

of ego identity and academic identity rather than ethnic identity.

The Achieved Statuses Identity Model

When the achieved identity statuses (ego identity achieved, academic identity

achieved and ethnic commitment) were tested in a model, results revealed that the ego

identity achieved status and the academic identity achieved status had significant direct

effects on GPA. The ego identity achieved status had a negative, direct effect on GPA

while the academic identity achieved status had a positive direct effect on GPA. The

academic identity achieved status had the strongest effect on GPA as hypothesized. The

argument could be made that the academic identity achieved status is germane to

academic achievement and as such should have the strongest effect in this model as was

found. In contrast, though the ego identity achieved status reflects a commitment to

one's occupation and ideological goals, its effect may be mediated by other variables or

is less strong in the presence of the academic identity achieved status. Nonetheless, the

negative direct effect of the ego identity achieved status in this model puts into

perspective the importance of considering academic identity and begs the question of

whether it is important to consider ego identity and ethnic identity when examining

academic achievement.

These results may be further indicating that academic identity is separate and

apart from the ego identity and that they are different constructs as is suggested in the

literature (Was & Isaacson, 2008). The self-concept literature has shown that academic

identity needs to be distinguished from a more global identity (Shavelson, Hubner, &

Stanton, 1976; Marsh, 1990). In addition, these findings further put into perspective the notion that individuals may move in and out of identity statuses due to variability and individual differences (Bosma & Kunnen, 2001). Therefore an individual may have an achieved academic identity while also having an ego identity that is diffused. It is also worth noting that this model explained 12.7% of the variance in GPA indicating that the ego identity achieved status and the academic identity achieved status are important to academic achievement and success in the classroom.

The Strongest Effects Model

Finally, the identity statuses that had the strongest effects were tested in a model. Results revealed that the academic identity moratorium status and the academic identity achieved status had positive and negative direct effects on GPA, respectively. However, the ego identity diffused status had a smaller direct effect on GPA. Again, the academic identity statuses emerged as the strongest predictors of GPA with the academic identity moratorium having the strongest effect. It may very well be that in the same way that Erikson (1968) thought of universities as moratoriums for ego identity development, it could also be the case for academic identity development. However, since college students are expected to perform well academically, being in a state of academic moratorium is not adaptive. Students have a limited amount of time in which to reach conclusions about their values and goals. Unlike the development of ego identity, which may lend itself to a prolonged period of development; since the academic identity is more specific to academic achievement and time in college is more defined in terms of length, the period of exploration may be more protracted. As such, college students who spend a longer time in a state of moratorium, when compared to students who may be more

achieved in their identity development, may be performing less well academically. This model explained 10.7% of the variance in GPA. These results further substantiate the view that having an academic achieved identity maybe superior to any other identity statuses in explaining GPA.

General Overview

Overall, the results suggest that when considering different identities (ego, academic and ethnic) and their relationship to academic achievement, it is the academic identity that is salient to performance in the classroom. The salience of an identity is important to how one behaves in specific situations. Stryker and Burke (2000) pointed out that the higher the salience of an identity relative to other identities, the greater the likelihood of behavioral choices that are in accordance with the expectations attached to that identity. The salience of an identity reflects commitment to the role relationships that require that identity. Therefore students with a commitment to their academic identity as reflected in an academic identity achieved status will behave in ways that are commensurate with that identity. These students may be the ones, who despite challenges, will adopt study strategies and goals that will ensure their success in the classroom. Lange and Byrd (2002) demonstrated in their study that students who had an achieved identity were able to assess more accurately their chances of success in a psychology course and were able to use more efficient study strategies. Although Lange and Byrd were focusing on the ego identity, their findings can be extended to the academic identity as both identities were conceptualized similarly using the Eriksonian-Marcian approach to development. Several other researchers have shown that it is superior to have an achieved identity status especially within an academic setting because

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those students with an achieved identity tend to be more confident in their academic abilities (Boyd, Hunt, Kandell, & Lucas, 2003; Berzonsky and Kuk, 2000) and are more likely to be in good academic standing and graduate college (Boyd et al., 2003). The achieved identity status is also seen as the most adaptive psychological identity status (Berzonsky, 2003; Meeus et al., 1999; Vleioras & Bosma, 2005) and may operate as a protective factor or buffer for individuals who face challenges to their identities and other areas of life.

Was and Isaacson (2008) in their development and study of the AIM found that students who had higher scores on the academic identity achieved status received higher grades in their course while all the other academic identity statuses were negatively correlated with the course grade. Was and Isaacon's findings are similar to the findings obtained in the current study where the academic identity achieved status had a positive, direct effect on GPA while the academic identity moratorium status and others had negative, direct effects on GPA. Chorba, Was and Isaacson (in press) in a subsequent study found that university students with an achieved academic identity status were less likely to report self-handicapping behaviors. These findings indicate that students with an achieved academic identity status have made a commitment to their academic values, are secure in their understanding of their academic goals and are more likely to adopt strategies to ensure their success. Conversely, students who are in an academic identity moratorium status may be uncertain about their academic careers, may be indecisive as to which steps to take and may not be utilizing effective strategies in the classroom. It is not surprising then that the academic identity moratorium status had a negative effect on

GPA as found in the current study and was positively correlated with self-handicapping behaviors (Chorba et al, in press).

The current findings further beg the question of whether it is necessary to conceptualize identity according to the traditional four statuses. The literature seems to provide more support for the achieved and moratorium identities rather than the foreclosed or diffused. Some researchers have already shown that during the period of emerging adulthood, identity seems to follow a trajectory of moratorium- achievement (e.g., Kunnen, Sappa, van Geert & Bonica, 2008). Also, the period of emerging adulthood seems to lend itself to greater exploration that may lead to more individuals being in a state of moratorium when compared to other statuses. It could very well be that adults in their identity development may move back and forth between the achieved and moratorium statuses depending on their experiences. Additionally, it could be that this process constitutes a crisis similar to the one conceptualized in adolescents by Erikson and as such will need to be resolved. The challenge then is for the individual to resolve this crisis resulting in an identity that is achieved and stable over time.

The current findings are interesting when placed in the theoretical framework of identity development and the period of development in which these students find themselves. While it is important for exploration to take place, the length of time of exploration cannot go on indefinitely. Erikson spoke about individuals being able to resolve their crises and that the whole process of identity development is predicated on the individual making a commitment to an identity. However, the process of making a commitment to an identity is a very complex one (e.g., Josseelson, 1996; Kroger, 1996; Marcia, 1993b; Meeus et al. 1999) and very few guidelines are provided on how to

resolve one's identity crisis or how to successfully move from a less adaptive status to a more psychologically advanced one. If college campuses are moratoriums by their very nature then how does the student navigate this course while performing well academically? Could it be that the college environment exacerbates the identity development process rather than foster it? Also could it be that some college campuses lend themselves to prolonged states of exploration than others? For example, a majority of the students in the current sample indicated that they planned to pursue further education, which may indicate that there are decisions still to be made. The fact that a majority of the sample indicated that they planned to pursue further education was expected as they were community college students. There may also be several other factors that may contribute to individuals being in a state of moratorium such as a lack of confidence in one's decision making skills, inadequate knowledge relating to the decision to be made, competing alternatives and inability to make commitments.

The foreclosed identity status is considered to be adaptive psychologically (e.g., Berzonsky, 2003, Vleioras &Bosma, 2005). While there is merit in considering the value of having a commitment to one's occupational and ideological positions or academic values/ideals albeit one that is parentally chosen or chosen under the influence of other significant others, the extent to which this is psychologically adaptive may need to be reconsidered. As was found in the current study, the foreclosure identity status had a negative, direct effect on GPA, which may be an indication that it may not be as adaptive as purported. The fact too that parents and other significant others wield such influence in one's identity development has implications for the progression of identity development. How much guidance should one give in the process of identity

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development? How can one provide guidance but allow for the individual to make his or her choices?

One also has to consider that there is no single identity and that the importance of any identity may be contextual. It becomes important then for one to consider the context in which an identity is operating. Thus, for college students, their academic identity may be more important to their academic success than their ego or ethnic identity. Whereas for personal and social reasons, the ego identity may be more important and for individuals who may be actively involved in their ethnic group, their ethnic identity may be more important. In addition, as one moves from one context to the next, different identities become more salient. It would seem then that not only would identity be contextual but it may also be fluid or dynamic – changing as the situation deems fit.

While this study examined three identities that were conceptualized similarly theoretically, the argument could be made that they are three distinct identities that operate differently in the life of the individual. Though the literature supports their influence on academic achievement separately, the findings from the current study show that they may operate in combination as well. From the findings in the current study, the model that had the highest percentage of variance in academic achievement explained was the model that contained the ego identity achieved status, the academic identity achieved status and the ethnic identity commitment status. Perhaps it is more important to consider how the combinations of different types of statuses from different identities impact each other and the life of the individual. For example, while it is important to have an achieved ego identity, having an ego identity that is not achieved may be less detrimental if one's academic identity is achieved within an academic context. Albeit, if

the context changes, then a different identity may emerge as being more important. Could it be then that one is able to adapt their identity to the context within which one is placed?

The period of emerging adulthood presents new opportunities for identity development. As pointed out by Arnett (2000), the twenty-first century presents prolonged periods for the exploration of one's identity. Interestingly, researchers who examined identity development in this period of adulthood have found that there are high levels of distress for individuals in the moratorium state (Wangqvist & Frisen, 2011), while there is greater understanding of oneself among individuals with an achieved identity (McLean & Pratt, 2006). Since this period lends itself to exploration, the distress experienced by some individuals is not surprising. These individuals may be struggling to define themselves as adults while at the same time trying to meet the expectations of what being an adult means in the real world. For students in college who may still be dependent on their parents for financial support, making decisions about life may be even more difficult as there may be pressure to please parents since there is still some level of dependence on them. For community college students who may have added responsibilities, navigating this period of development while performing well in school may be very challenging. As such making a commitment to one's academic values and goals very early in one's academic life will be advantageous. Could it be then, that it is those students who are able to shorten their length of exploration in this period of development who are able to get to an achieved identity status and thus are able to perform well academically?

Finally, it must be pointed out that the findings from the current study have practical significance for educators, clinicians and various student populations. Identity is a psychosocial construct and as such presents challenges in its understanding and measurement. Nevertheless identity development figures prominently in psychological research and has been the focus of research since the 1960s. The literature review has shown that identity does impact success in life and specifically academic achievement. How one performs in school has implications for the remainder of one's life journey and as such attention must be paid to any factor that may hinder or facilitate success in the classroom. It may very well be that the understanding of identity statuses, in particular the academic identity statuses, may provide much needed answers. In addition, the role that institutions should play in this developmental process must be considered.

Implication of Study

The findings of the current study hold a number of implications for educators in higher education settings and particularly at the community college level. Students with a less developed identity are likely to adopt ineffective strategies that will affect their academic pursuits. It is therefore imperative that these students be identified early into their freshmen experiences so that steps can be taken to help them develop an academic or ego identity that will seek to maximize their students' experiences and performance in the classroom. While more emphasis should be placed on students who do not have an achieved sense of identity, it is still important to put mechanisms in place that will ensure that this achieved sense of identity is maintained. To this end, it is suggested that students' identities be assessed at the beginning and end of each school year throughout their academic life. This could be facilitated by the student affairs department. By doing

this, students affairs will have information to evaluate students' progress and how best to serve the needs of the students. Thus, if a student is found to have a diffused or moratorium identity, then this issue can be dealt with before the rigor of the academic semester. It is further recommended that colleges take baseline data on the identity of their students and then use that for program evaluation purposes. This is important as research has shown that it is possible to have identity interventions (Schwartz, 2001) that promote the development of identity in adolescents and young adults.

The implication of the current study becomes even more important when one considers the issue of retention at the college level and especially at the community college. While there are numerous factors that affect retention, little interest is paid to psychosocial factors such as identity, which as the data suggest may be impacting students' academic success. It may be that it is far easier to decide to leave college when faced with challenges such as poor academic performance or financial struggle if one is not committed to his or her academic values. When this is put within the framework of the community college where it is shown that these students are already burdened by a myriad of other factors, it is even more important to consider their academic commitment.

Finally it is important to consider identity interventions in helping students to navigate their identity development and to emerge in one of the more psychologically adaptive status. Kroger and Marcia pointed out that research into intervention methods that may facilitate identity development is in an infantile stage but that research on the actual applications of identity status interventions has begun only recently. Such interventions have targeted areas such as knowledge, attitudes, and the

exploration/commitment dimension of identity in marginalized youth. Schwartz (2001) in examining the state of identity interventions added that results have been moderate but promising and that the future of identity interventions appears to lie in facilitating exploration in diffused and foreclosed adolescents and young adults. Schwartz further added that recent intervention studies have operationalized identity processes from Kurtine's (1999) theory because of its "emphasis on self-directed development in adolescence and adulthood, use of critical skills as a handle for facilitating exploration, and use of critical discussion in addressing real life problems" (p. 47). It should also be pointed out that interventions should be tailored to the population being studied and will vary depending on the identity statuses. Therefore guided interventions can be developed that will facilitate exploration and move students towards a more achieved identity state. This is especially crucial for students who may be more diffused in their identity as they have no sense of direction. These students may need a push or guided exploration of identity choices in which they might be interested.

Future Research and Limitations

Future research should consider a mediator model in understanding the interrelationships of different identities in influencing academic performance. Based on the findings obtained in the current study and the fact that only direct effects were considered, it is important to ascertain if the ego identity is mediated by the academic identity and vice versa. It may also be important to conduct a longitudinal study to ascertain the changes in identity statuses if any throughout a students' academic life. Also, considering the drawbacks to using the GPA as an indicator of academic achievement, future research should utilize better measures of academic achievement

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(e.g., standardized measures). The inconsistency in the findings as demonstrated by the standardized effects of the statuses in different models may be a feature of the outcome variable, sample size and characteristics, the instruments used or a combination of these factors. There is also room for many studies assessing how identity development is shaped by factors such as age, gender, socioeconomic status among others. Future studies may also need to be conducted with a wide array of samples especially culturally to test the theoretical utility of the achieved-moratorium model. Also, attention should be paid individual differences and how this may impact the identity development process.

Conclusion

Identity appears to have some impact on academic achievement with academic identity being more salient to academic achievement. More specifically, the academic identity moratorium status appears to be significantly related to academic achievement through an inverse relationship. Therefore it is imperative that students' identity be assessed and intervention be put in place for those who may be in a high state of academic identity moratorium. Similarly, attention must be paid to students whose ego identity may be in a diffused state. Students whose ego identities are diffused and whose academic identities may be in a moratorium may be particularly vulnerable to low academic achievement. While some research studies have shown that ethnic identity may be related to academic achievement, when looking at identities as a whole, it may be more important to consider the impact of the ego and academic identity statuses on academic achievement.

The community college students who may be said to be in a period of emerging adulthood were considered. These students are at a stage in their life when there are

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numerous opportunities to explore their identities. Given the importance of having an

achieved identity, it is important that these students be afforded the requisite help to

ensure the development of an achieved identity status especially academically. Thus it is

important for student affairs department at the community college level and other

institutions of higher education have mechanisms in place to assist students with this

process. It is imperative that these institutions focus on the psychosocial needs of their

students as well. It is suggested that this research may serve to provide direction to both

policy and practice to improve academic outcomes for students. Therefore, despite the

limitations of this study, the findings are valid and contribute to the literature on identity

development.

APPENDIX

APPENDIX

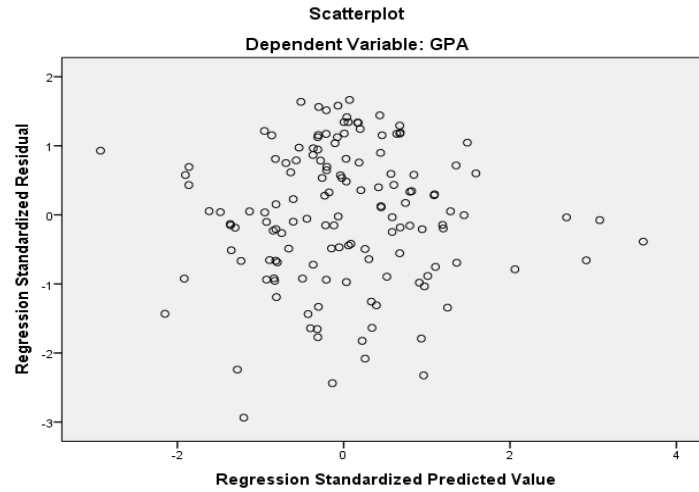Linearity Plots and Bivariate Correlations for Each Model

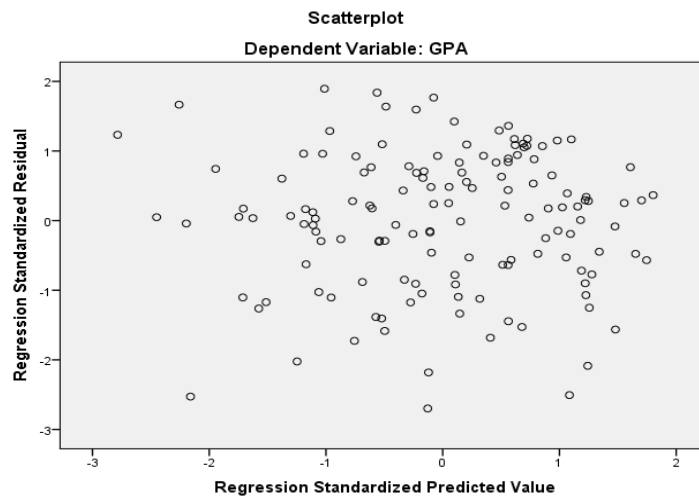Figure A.1. Ego Identity Model: Linearity Plot

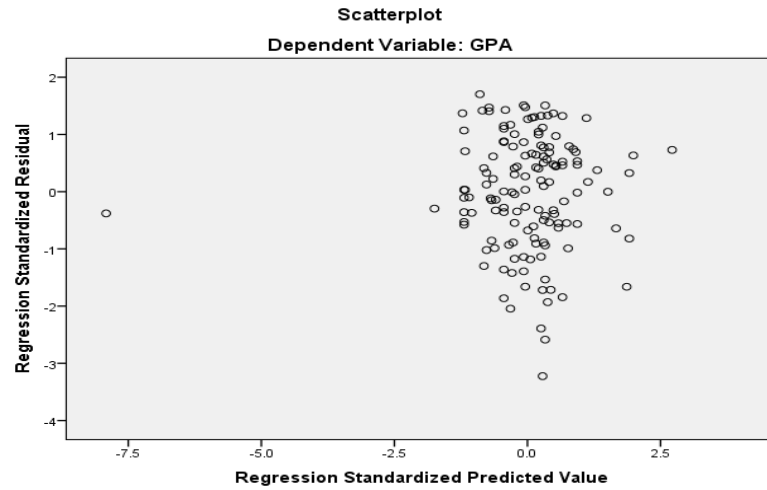Figure A.2. Academic Identity Model: Linearity Plot

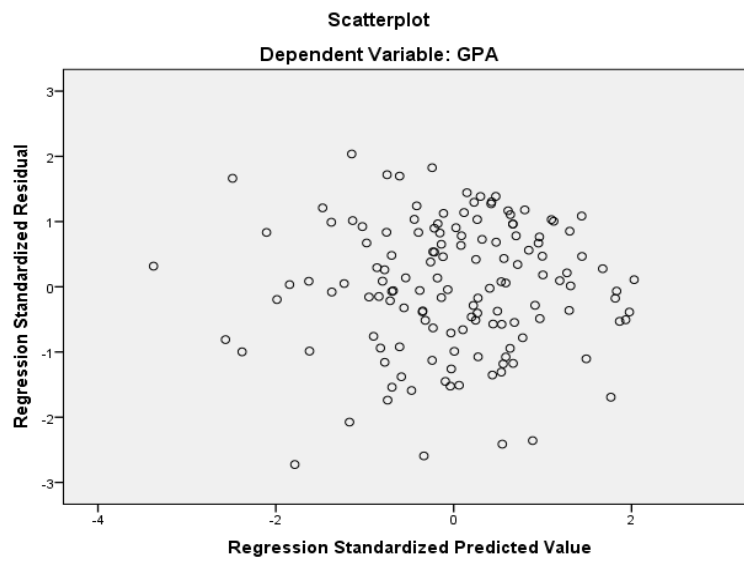Figure A.3. Ethnic Identity Model: Linearity Plot

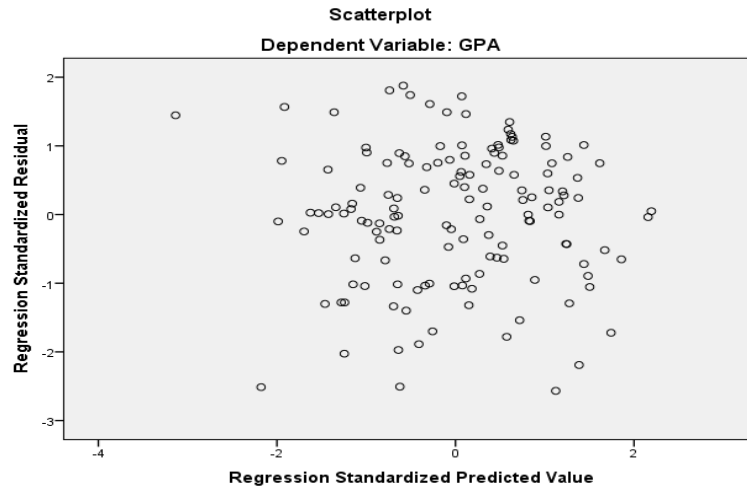Figure A.4. Achieved Status Model: Linearity Plot

Figure A.5. Strongest Effects Model: Linearity Plot

Table A.1

Bivariate Correlations: Ego Identity Model

Models	Ego Identity Achieved	Ego Identity Foreclosed	Ego Identity Diffusion	Ego Identity Moratorium
		Pearson's *r*		
Ego Identity Achieved	1	.120	-.119	.136
Ego Identity Foreclosed	.120	1	.189	.293
Ego Identity Diffusion	-.119	.189	1	.525
Ego Identity Moratorium	.136	.293	.525	1

Table A.2

Bivariate Correlations: Academic Identity Model

Models	Academic Identity Achieved	Academic Identity Foreclosed	Academic Identity Diffusion	Academic Identity Moratorium
		Pearson's *r*		
Academic Identity Achieved	1	.206	-.575	-.409
Academic Identity Foreclosed	.206	1	.128	.156
Academic Identity Diffusion	-.575	.128	1	.690
Academic Identity Moratorium	-.409	.156	.690	1

Table A.3

Bivariate Correlations: Ethnic Identity Model

Models	Ethnic Identity Commitment	Ethnic Identity Exploration
	Pearson's *r*	
Ethnic Identity Commitment	1	.430
Ethnic Identity Exploration	.430	1

Table A.4

Bivariate Correlations: Achieved Statuses Identity Model

Models	Ego Identity Achieved	Academic Identity Achieved	Ethnic Identity Commitment
		Pearson's *r*	
Ego Identity Achieved	1	.317	.098
Academic Identity Achieved	.317	1	.177
Ethnic Identity Commitment	.098	.177	1

Table A.5

Bivariate Correlations: Identity Statuses with Strongest Effects Model

Models	Ego Identity Diffused	Academic Identity Achieved	Academic Identity Moratorium
		Pearson's *r*	
Ego Identity Diffused	1	-.297	.344
Academic Identity Achieved	-.297	1	-.409
Academic Identity Moratorium	.344	-.409	1

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