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VOLUME 6 NUMBER 2

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CAN STUDENT PERSONALITY DIMENSIONS INFLUENCE ENTREPRENEURIAL CAREER DECISIONS?

Brice Jeff, Texas Southern University, Houston, TX
Delonia M. Cooley, Texas Southern University, TX

ABSTRACT

This study discriminates the entrepreneurial career intentions of university students using the Five-factor Model of Personality. The five factors include Extraversion, Agreeableness, Conscientiousness, Neuroticism, and Openness to Experience. Extraversion determines assertiveness versus timidity, Agreeableness measures sociability versus detachment, Conscientiousness determines responsibility versus impulsiveness, Neuroticism measures self-assurance versus insecurity, and Openness to Experience involves conformity versus independence. Results indicate that the personality dimensions Conscientiousness and Openness to Experience are positively, and Agreeableness is negatively, related to the formation of entrepreneurial career intentions within university students. Results, limitations, and conclusions are discussed.

INTRODUCTION

Entrepreneurship represents a multidimensional phenomenon that is one of the least understood concepts in the business literature (Palich & Bagby, 1995). Entrepreneurs have been described as confident individuals who act in the face of uncertainty (Knight, 1921), innovators who carry out new combinations (Schumpeter, 1934), or those who recognize and exploit opportunities that go unforeseen by others (Kirzner, 1973). Despite the variance, one common theme running throughout all of these definitions is that entrepreneurs are distinguished from others based on their identification, creation, and exploitation of market opportunities. There is a question, however, yet unanswered, as to what mechanisms may reliably contribute to the intent to pursue an entrepreneurial career in light of other alternatives. This paper seeks to investigate this question in the specific context of university students.

The paper proceeds as follows. First, past personality trait research concerning entrepreneurs is summarized and an alternative framework, the Five-Factor Model of Personality, is discussed. Second, hypotheses are developed to explain Five-Factor Model personality dimension relations to the development of

entrepreneurial career intentions within university students. Third, data collection methods are explained including a description of the sample and the survey instrument that was applied. Fourth, research methodology is applied to test the linkages between model dimensions and the development of entrepreneurial career intentions. Finally, study results are discussed and conclusions are elucidated.

PERSONALITY TRAITS AND ENTREPRENEURSHIP

The belief that entrepreneurs have distinctive psychological characteristics (traits) has a long tradition in entrepreneurship research (Gartner, 1988). Personality traits that have been repetitively mentioned as potential discriminators of entrepreneurs include a high need for achievement (Lachman, 1980; Schere, 1982; Begley & Boyd, 1987a; Carland & Carland, 1991), internal locus of control (Brockhaus & Nord, 1979), and risk taking propensity (Brockhaus, 1980; Sexton & Bowman, 1985; Masters & Meier, 1988). Unfortunately, the inconsistent results of trait-oriented research did not lead us to a definitive understanding of what induces individuals to engage in entrepreneurial behavior (Shaver & Scott, 1991; Ripsas, 1998). Several authors (Low & MacMillan, 1988; Gartner, 1988; Hatten, 1997) have concluded that there are likely no personality characteristics that can determine who will attempt to, or be, a successful entrepreneur. As Low & MacMillan (1988: 148) stress, "entrepreneurs tend to defy aggregation. They reside in the tails of the population distribution, and though they are expected to differ from the mean of society, the nature of their differences is not predictable." As a result, it seems that any attempt to profile entrepreneurs along mutually exclusive personality traits may be overly simplistic.

The primary focus of the trait-oriented approach has been the description of entrepreneurs as a unique group of individuals that can be differentiated from others based on the examination of a few lower-order personality characteristics. While an entrepreneur's proposed need to achieve (McClelland, 1961), internal locus of control (Begley & Boyd, 1987b), and acceptance of risk (Brockhaus & Horowitz, 1986) encompass the most common examinations of entrepreneurs in trait research, there remain many other traits that have not yet been tested. The psychology literature has numbered the list of individual traits that can be used to distinguish individuals from one another at over 18,000 (Cattell, 1947). However, this list has been compiled and reduced through the use of a priori assumptions, factor analysis, and cluster analysis to as few as three higher-order personality dimensions (Buss & Finn, 1987).

Personality dimension types represent distinct groupings of individual personality traits that interact with each other and are expressed by identifiable patterns of consistent behavior. While these dimensions incorporate all of the lower-order personality traits, the major empirical typologies differ from each other in the number of higher-order factors because some classifications utilize broader descriptive measures and, therefore, result in fewer of them. This study applies the Five-Factor Model of Personality (Fiske, 1949) as a basis for investigation because it is the most widely validated model in personality research (Barrick & Mount, 1991).

The Five-Factor Model of Personality

The Five-Factor Model of Personality (commonly called the Big Five) is a descriptive representation (typology) of the five major dispositional dimensions that encompass human personality. It has been used extensively in industrial psychology as a basis to measure job-related attitudes, person-organization fit, and other human resource inquiries. The personality factors comprising the Big Five are (1) Extraversion, which represents the inclination to be sociable, assertive, dynamic, and directive, (2) Agreeableness, representing the tendency to be friendly, cheerful, accommodating, and supportive, (3) Conscientiousness, comprised of two major subfactors, achievement and dependability, (4) Neuroticism, (also called Emotional Stability) which is the tendency to exhibit poor emotional adjustment and experience disparaging effects such as fear, anxiety, and rashness, and (5) Openness to Experience, which is the propensity to be inquisitive, creative, nonconforming and independent (Judge & Cable, 1997). Each dimension is scaled from high to low with high scores being representative of the most positive aspects of the dimension's characterization while low scores signify the reverse.

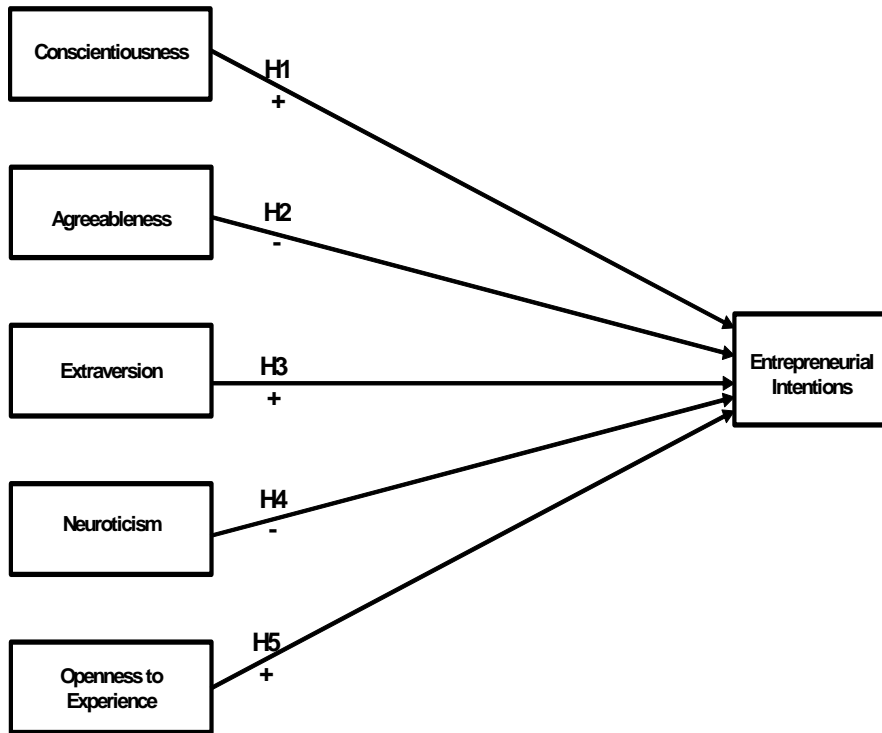
The origin of personality typing can be traced back to Galen's observations of Greek society in the Second Century A.D.. He framed his personality type designations on what was termed the four humors which were described as (1) Sanguine types (cheerful and upbeat), (2) Choleric types (hot-tempered and dramatic), (3) Melancholic types (fretful and worrying), and (4) Phlegmatic types (stolid and unflappable)(Hogan, 1990). While Galen's metaphors were advanced to suggest that personality types were stable and identifiable within ancient Greek culture, modern research on personality dispositions further generalizes this application to include individuals in all cultures. Staw & Ross (1985) and Staw, Bell, & Clausen (1986) performed several landmark longitudinal experiments and found that stable individual

personality disposition is formed by the age of adolescence and, thereby, makes it possible to predict future behavior and attitudes in spite of key situational changes. More concisely, Staw, Bell, & Clausen (1986) showed that dispositional measures of personality significantly and reliably predicted job attitudes and employment behavior over a span of fifty years. The pattern of dispositional decay indicated that adolescent-stage dispositions set in motion a consistent set of behaviors and choices that later produced important consequences for the individual. Thus, it has been demonstrated that personality dimensions (traits) may be stable across time and this evidence should allow us to apply the Five-Factor Model of Personality to identify enduring personality categories for groups of individuals within the populous.

DEVELOPMENT OF THE THEORETICAL MODEL AND HYPOTHESES

The focus of this research is to identify and validate dispositional variables that help to predict a university student's eventual decision to pursue an entrepreneurial career. As such, the theoretical model needs to be able to predict entrepreneurial intent. Past research has shown that intentions are quite predictive of behavior and this relationship has been well established in literature (Ajzen & Fishbein, 1980). Intent is a dependable predictor of human behavior in an assortment of circumstances, and has been deemed by many to represent the most successful forecaster of human action (Ajzen, 1991; Ajzen & Fishbein, 1980; Krueger, 1993; Krueger, 2000). Intentions are assumed to capture the essence of stimulating factors that influence behavior. They are signals of how intensely individuals are prepared to perform and how much effort they are prepared to commit to carry out the expected behavior. Broadly, the more robust the intent, the more probable it is to be able to foretell the anticipated behavior (Ajzen, 1991). Kim & Hunter (1993) found that intentions explained 67% of the variance in behavior and path analysis confirmed that the association between attitudes and behavior is fully explained by the attitude—intention and intention—behavior links (Krueger, 2000). Therefore, the research model for this study focuses on Big Five personality dimensions that may relate to entrepreneurial career decisions through the formation of entrepreneurial career intentions (See Figure 1).

Figure 1: Theoretical Research Model



Personality Dimensions (Five-Factor Model) and Their Relationship to Entrepreneurial Career Intentions

Intentions are a state of mind that direct a person's attention, experience, and behavior toward a specific object or method of behaving (Bird, 1992). In this study, the behavior that is implied is that of deciding to pursue entrepreneurship as a vocation or, more specifically, that of initiating actions related to starting a new business. Generally, the theoretical model suggests that several personality dimensions influence the formation of entrepreneurial career intentions and the resultant decision and behavior. Although some researchers claim that personality dispositions cannot predict any behavior directly (Davis-Blake & Pfeffer, 1989), there has been parallel research performed that has shown direct relationships to organizational culture preferences (Judge & Cable, 1997), employee absenteeism (Judge, Thoresen, & Martocchio, 1997), and job performance (Barrick & Mount, 1991). In fact, it has been demonstrated that individuals tend to seek out vocational situations that correspond with their personalities (Judge & Cable, 1997). Therefore, it is hypothesized that there may exist significant direct relationships between personality dimensions and a student's ultimate choice to pursue an entrepreneurial career.

Conscientiousness

Since Conscientious individuals value self-control (Judge, Higgins, Thoresen, & Barrick, 1999), they may likely form stronger entrepreneurial career intentions than others that preserve their independence. Further, Barrick & Mount (1991) demonstrated that Conscientious people are highly achievement oriented, ambitious, and persistent, which have been suggested as core characteristics of entrepreneurs (McClelland, 1961). Although it has also been demonstrated that Conscientious individuals are cautious and risk averse (Goldberg, 1990), these characteristics seem to mirror the working requirements of many new business developers (Chen, Greene, & Crick, 1998), who routinely mitigate the riskiness of new enterprises by business planning, market analysis, and the meticulous estimation of business costs and possible profits (Gatewood, Shaver, & Gartner, 1995). In addition, entrepreneurs tend to be confident individuals (Knight, 1921) who do not shun ambiguous situations (Begley & Boyd, 1987a). It is proposed that Conscientious students may possess enough confidence in their skills, through increased performance capabilities (Barrick & Mount, 1991), to be willing to accept the rigor of an entrepreneurial career. Thus, Hypothesis 1:

Conscientiousness is positively related to the formation of entrepreneurial career intentions in university students.

Agreeableness

Agreeableness is associated with passivity, dependence, and tradition (Costa & McCrae; 1992a, Goldberg, 1992). The traditional perception of entrepreneurs, as independent risk-takers (Sexton & Bowman, 1995), however, does not suggest any of the facets that Agreeableness denotes. Because agreeable individuals strongly value conformity and dependence (Judge & Cable, 1997), they are likely to be repelled by the innovative (Schumpeter, 1934) requirements of entrepreneurship and, therefore, refrain from forming entrepreneurial career plans. Thus, Hypothesis 2 : Agreeableness is negatively related to the formation of entrepreneurial career intentions in university students.

Extraversion

Extraversion is hypothesized to have a positive, direct relationship with the formation of entrepreneurial career intentions, since it has been demonstrated to strongly correlate with interest in enterprising occupations (Costa, McCrae, & Holland, 1984). Moreover, Extraverts are also aggressive and attracted to affiliative environments (Judge & Cable, 1997), which may be useful characteristics for prospective entrepreneurs who need to develop a network of external support or recruit new venture personnel (Chandler & Jansen, 1992). It can also be reasoned that students who are also prospective entrepreneurs should be energetic, outgoing, and sociable (extroverted) in order to interest potential investors or recruit key personnel as opposed to being shy, unassertive and withdrawn (introverted). Although Extraverts are attracted to groups, they tend to emerge as leaders, as opposed to followers, (Judge & Bono, 2000) and excel in typical entrepreneur-type work roles, such as personal sales (Vinchur & Schippmann, 1998). Since entrepreneurs may need extraverted tendencies to lead the development of new ventures and induce market changes through innovation (Schumpeter, 1934), it is possible that Extraverts may form stronger entrepreneurial career intentions than others. Thus,

Hypothesis 3 : Extraversion is positively related to the formation of entrepreneurial career intentions in university students.

Neuroticism

Neurotic individuals are not expected to have the self-confidence or affinity for innovation that is characteristic of entrepreneurs (Knight, 1921; Schumpeter, 1934). The general tendency to experience fear, sadness, anger, guilt, embarrassment, disgust, and anxiety is typical of individuals who score high on Neuroticism. In fact, past research has demonstrated that individuals who are highly neurotic are repelled by innovative cultures (Judge & Cable, 1997) and are dependent on others (Wiggins, 1996). Since leadership in innovative organizational ventures and the initiation of novel developments is core to the practice of entrepreneurship (Schumpeter, 1934), students who score high on Neuroticism are not expected to form strong entrepreneurial career goals. Thus, Hypothesis 4: Neuroticism is negatively related to the formation of entrepreneurial career intentions in university students.

Openness to Experience

Openness to Experience is the personality dimension that is expected to be most indicative of those who form stronger entrepreneurial career intentions than others. This dimension assesses personal characteristics such as curiosity, broadmindedness, and intelligence, which may be reflected in an entrepreneur's venturesome spirit (Knight, 1921). Open individuals are curious and willing to entertain novel ideas and unconventional values (Costa & McCrae, 1992b), like entrepreneurs (Kirzner, 1973). Because Open individuals are also nonconforming and autonomous (Goldberg, 1990), they should be less attracted to traditional employee roles and traditional organizational careers. Past research has confirmed that Open individuals are attracted to innovative organizational cultures (Judge & Cable, 1997). As such, Open individuals may be attracted to entrepreneurial occupations for the challenge that innovation denotes (Schumpeter, 1934). Further, Openness has been demonstrated to predict employment in enterprising environments (De Fruyt & Mervielde, 1999). Thus,

Hypothesis 5: Openness to Experience is positively related to the formation of entrepreneurial career intentions in university students.

METHODOLOGY

Sample Description and Data Collection

Krueger, Reilly, & Carsrud (2000) find that studies comprising samples of upper-division college students can uncover occupational inclinations at a time when respondents are wrestling with important career decisions. Such samples undoubtedly include subjects with a wide range of intentions and attitudes toward entrepreneurship. Due to the sensitivity of intentional processes to initial conditions (Kim & Hunter, 1993), it is important for researchers to study the onset of entrepreneurial phenomena before they occur. More precisely, study samples should include individuals who have not yet made a conscious decision to initiate new ventures. The sampling of only successful, current, or openly prospective entrepreneurs (e.g., college students majoring in entrepreneurship) introduces biases that subjugate data unpredictably, especially for rare phenomena (Krueger, Reilly, & Carsrud, 2000). While the exact details of a business may have not yet come together in the minds of most general upper-level college students, global career intentions should have (Scherer, Adams, Carley, & Weibe, 1989). Therefore, it is acceptable and appropriate to investigate entrepreneurial intent utilizing a sample of upper-level college students.

Approximately 404 students from a large southeastern university participated in this study on a voluntary basis utilizing an online, self-report data collection methodology. Subjects consisted of upper-level business undergraduates and Master of Business Administration (MBA) students in the concentrations of marketing, management, and accounting and professional-degree students from the College of Veterinary Medicine (CVM).

Upper-level undergraduate students in business, along with those pursuing the MBA, were appropriate primarily because their academic concentration implied that they had serious interest in pursuing a business career. Also, they were likely to offer a more informed range of interest in terms of business careers than students majoring in the sciences, liberal arts, humanities, or education. Since the intent to become an entrepreneur is a business career-related decision process, these upper-level business students offered a sample that was currently involved in such a process.

Veterinary students were appropriate for this study because the nature of their intended profession lends itself easily to the practice of entrepreneurship. In fact, the norm for success in the field of veterinary medicine is the ownership of a private practice. A recent report compiled by the three major veterinary associations in the United States demonstrates that of the approximately 64,000 veterinarians employed in the year 1997, 82% worked in private practice (Brown & Silverman, 1999). Thus, the tendency for veterinarians to become independent business owners is well established.

After exclusion of subjects with duplicate submissions and those whose survey questionnaires were only partially completed, the final sample totaled 351 individuals. This sample was equally represented between the genders, consisting of 175 (49.8%) males and 176 (50.2%) females. Subjects were primarily graduating undergraduate business seniors (71.2%) and 21 to 23 years old (71.1%). In fact, there were more CVM students (16%) than MBA students (12.8%). The majority of subjects were Caucasian (White) (83.7%) with the next significant representation being Black (11.4%), which is in accordance with national population percentage demographics.

MEASURES

Five Factor Model of Personality.

Conscientiousness, Agreeableness, Extraversion, Neuroticism, and Openness to Experience was assessed with the 60-item measure of the NEO Five Factor Personality Inventory-Form S (NEO-FFI-S)(Costa, McCrae, & Dye, 1991). The NEO-FFI-S was developed to evaluate the five major dimensions of normal personality: Conscientiousness (C), Agreeableness (A), Extraversion (E), Neuroticism (N), and Openness (O). Participants respond to sixty items on a five-point Likert-type scale ranging from strongly disagree (0) to strongly agree (4). The NEO-FFI-S was developed as a short version of the NEO Personality Inventory (NEO-PI; Costa & McCrae, 1985) by selecting the twelve items from the longer listing with the highest positive or negative factor loadings on each of the five resultant factors. Cronbach's alpha reliability estimates of .81, .72, .77, .86, and .73 were reported for the C, A, E, N, and O scales, respectively, for a sample of 1,539 adults (Costa & McCrae, 1992a). Construct validity of the NEO-FFI-S is indicated by correlations with self-report adjective factors of the five-factor model (see Costa & McCrae, 1992b). Internal consistency reliability for personality dimensions in this study was measured as .83, .72, .77, .83, and .73 for the C, A, E, N, and O scales, respectively, which is consistent with prior research (Defruyt & Mervielde, 1999).

Entrepreneurial Career Intention.

The level of entrepreneurial career intent for each participant was measured on a five-point Likert scale, which was adapted from an entrepreneurial decision scale ($\alpha = 0.92$) in Chen, Greene, & Crick (1998). In five items, respondents were asked how interested they were in setting up their own business; to what extent they had considered setting up their own business;

to what extent had they been preparing to set up their own business; how likely was it that they were going to try hard to set up their own business; and how soon were they likely to set up their own business. Principal components factor analysis with a varimax rotation revealed that all five of the entrepreneurial intent items in the scale loaded on only one factor, which demonstrates the unidimensionality of the construct. The internal consistency reliability of the scale was assessed with Cronbach's alpha (α), which was registered at 0.92. This measure is indicative of high scale internal consistency reliability (Nunnally & Bernstein, 1994). Entrepreneurial career intent composite scores were calculated by averaging the five items for each respondent.

Demographic and Background Information.

Information pertaining to each respondent's age, gender, ethnicity, and class was obtained to use as control variables in the analysis. Each of these control variables was recorded as non-continuous, categorical predictors.

ANALYSIS AND RESULTS

Correlation Matrix

Data was collected from all 351 respondents in the sample. An examination of the correlation matrix reveals that although some variables are significantly correlated, no correlation coefficient was greater than .371. A contribution to the construct validity of items in this study is that some of the measures are correlated significantly, but not highly enough to signify that any of them are measuring the same constructs (Nunnally & Bernstein, 1994).

Simple correlations showed that Agreeableness and Neuroticism were negatively, and Openness to Experience was positively, related to the formation of entrepreneurial career intentions. Furthermore, male participants expressed stronger intention toward becoming an entrepreneur than did female participants. Females were also found to be more Conscientious, Agreeable, Open to Experience, and more Neurotic than their male counterparts. Other correlations showed that while older individuals were more open to Experience, they were also less Extroverted than younger participants.

Hierarchical Regression Analysis

Hierarchical Multiple Regression was the principal technique of analysis used to assess the hypotheses in the investigation. All relevant variables were standardized prior to analysis. Cohen & Cohen (1983) suggest this method as useful when researchers aim to distinguish variance that is contributed by different predictor groups. In this analysis, the control variables (age, gender, ethnicity, and class) were entered as a group into the regression equation in the initial step before the five personality dimensions. Since the five personality factors were entered in a separate step in the analysis, the variance afforded to them is restricted to that which remained after removing the influence of the demographic predictors (Table 1).

Table 1: Results Of Regression Analysis

Regression F	Dependent R ²	Independent ΔR ²	Partial F	Beta (Standardized)
Step 1	Entrepreneurial career intentions			7.881***
.084	.084	7.881***		
			Gender	(.278)***
			Race	(.012)
			Class	.138*
			Age	.035
Step 2	Entrepreneurial career intentions			7.003***
.156	.072	5.858***		
			CONSCI	.131*
			AGREE	(.161)**
			EXTRA	.048
			NEURO	(.071)
			OPEN	.169***
Significant relationships in BOLD.	CONSCI			-
Conscientiousness				
N = 351	AGREE		-	Agreeableness
* $p < .05$	EXTRA		-	Extraversion
** $p < .01$	NEURO		-	Neuroticism
*** $p < .001$	OPEN		-	Openness to Experience
() - Negative relationships				

Principally, it was expected that people who are conscientious, extraverted, and open to experience are significantly more likely to form stronger entrepreneurial career intentions than others. Yet, those who are robustly

agreeable or neurotic were expected to be significantly resistant to the formation of entrepreneurial career intentions.

Step 1 of the regression analysis included demographic controls (gender, race, educational classification, and age) as independent variables and entrepreneurial career intentions as the dependent variable. The results of this initial regression equation ($F = 7.881$, $p < .001$) indicated that gender ($b = -.278$; $p < .001$) and educational classification ($b = .138$; $p < .05$) were significantly related to entrepreneurial career intentions. On closer inspection, these results may be interpreted as demonstrating that the female students in the sample as being significantly less likely, and students in higher educational classifications as being significantly more likely, to form entrepreneurial career intentions than others.

In the final step, all Five-factor model dimensions were entered. This resulted in an overall significant change in R^2 ($\Delta R^2 = .072$; $p < .001$), which is strongly supportive of the view that personality dimensions may directly influence the development of entrepreneurial career intentions. Specifically, results at this stage provide support for the projected positive relationships between Conscientiousness ($b = .131$; $p < .05$) (H1) and Openness to Experience ($b = .169$; $p < .001$) (H5) to the formation of entrepreneurial career intentions. Further, support was garnered for the forecasted negative relationship between Agreeableness ($b = -.161$; $p < .01$) (H2) and entrepreneurial career intentions. The hypothesized positive relation between Extraversion ($b = .048$; $p > .05$) (H3) and the formation of entrepreneurial intent was not supported. Neither was the proposed negative relationship linking Neuroticism ($b = -.071$; $p > .05$) (H4) and entrepreneurial intent.

DISCUSSION AND CONCLUSIONS

Summary of Findings

The purpose of this study was to investigate the assumption that some aspects of dispositional personality may be used to segregate potential entrepreneurs from others. The goal was to evaluate each of the Big Five personality dimensions for predictive influence on the formation of entrepreneurial career intentions in a group of university students. It was proposed that Conscientiousness, Extraversion, and Openness to Experience would positively, and Agreeableness and Neuroticism would negatively, influence entrepreneurial career intent within late stage university students. The empirical analysis of 351 students with business and professional educations

demonstrates that personality may indeed be useful to identify potential future entrepreneurs. However, only the dimensions of Conscientiousness, Openness to Experience, and Agreeableness yielded significant discriminatory results.

There exists a scant number of previous empirical inquiries that might shed some insight on the observed relationships. Judge & Cable (1997) demonstrated that Conscientiousness is negatively related to team-oriented work cultures. As such, the researchers determined that Conscientious people prefer individualism as opposed to collectivism. Hence, it follows that the current study would find that Conscientiousness is positively related to the formation of entrepreneurial career intentions as a vehicle for vocational independence. Since Conscientious individuals value high achievement, reliability, and order (Costa & McCrae, 1992b), it appears that they would rather not have their performance diminished by forced reliance on others. Consequently, the idea of an occupation, like entrepreneurship, where Conscientious individuals can excel independent of, or at least in control of, others is appealing to them and is consistent with the findings of Judge & Cable (1997).

Likewise, it was posited that Openness to Experience would also prove to be a valid predictor of entrepreneurial career intentions. In fact, it was suggested that this personality dimension might, possibly, be the most significant predictor of entrepreneurial intent in the analysis. Based on the level of significance for variables examined in the experiment, Openness was indeed the most prominent predictor of entrepreneurial career intentions. Principally, it was confirmed that university students who are willing to entertain novel ideas and unconventional values (Costa & McCrae, 1992a), nonconforming and autonomous (Goldberg, 1990), and inquisitive, open-minded, and intelligent (Judge & Cable, 1997) form stronger entrepreneurial career intentions than others. Therefore, the positive validity of Openness to Experience for the formation of entrepreneurial career intentions was strongly supported.

Lastly, it was affirmed that Agreeableness would be negatively associated with entrepreneurial career intentions. That is, it was expected that individuals who are highly trusting and dependent on others (Agreeable) would be repelled by the task requirements involving personal challenge, forcefulness, and independent activity that entrepreneurs must execute in the course of founding and developing new ventures (Chandler & Jansen, 1992). Thus, it was deemed highly unlikely that Agreeable individuals would form stronger entrepreneurial career intentions than others. The finding of a significant, negative association between Agreeableness and entrepreneurial career intentions is consistent with the findings of Judge & Cable (1997). The researchers found that job seekers who scored high on the dimension of

Agreeableness were significantly less attracted to aggressive, outcome-oriented, and decisive organizational environments. Since entrepreneurial careers have been described as requiring achievement oriented (McClelland, 1961), independent thinking (Kirzner, 1973), self-starters (Knight, 1921), it is a reasonable finding that Agreeable university students do not intend to pursue entrepreneurial careers.

Research Limitations

While the findings of this research appear fruitful, all results must be interpreted with regard to study limitations. The primary limitation of the current research was the sole use of university students as the sole class of respondents being studied. It should also be noted, however, that one of the primary strengths of the current study is that all individuals in the study were in the process of making career-related choices. Consequently, the idea of starting a business was a realistic option for them. It has been demonstrated that even early career intentions are good predictors of eventual behavior (Krueger, Reilly, & Carsrud, 2000; Trice, 1991). However, this does not avoid the problem in previous entrepreneurial research of including individuals in the sample who are not engaged in making specific entrepreneurial decisions (Gartner, 1989). According to some researchers, this approach to research sampling brings into question the soundness of the findings (Gartner, 1989). Since university students were the focus of this study, an attempt was made to include groups of students that may have advanced, or predisposed, opinions about pursuing entrepreneurial careers. The study focused on graduating business students, MBA students, and veterinary students. Each of these sub-samples are comprised of individuals who possess sophisticated business knowledge, attitudes, and ambitions, when compared to others, and represent an appropriate sample from which to study entrepreneurial career intentions (Krueger, Reilly, & Carsrud, 2000).

Conclusion

This study was intended to help instructors, researchers, and administrators better understand some of the mechanisms behind student career decisions in business. Due to the potential diagnostic value of intentions-based models to explain entrepreneurial behavior (Krueger, Reilly, & Carsrud, 2000; Kolvereid, 1996; Ajzen, 1991) the most important contribution of the current study is the utilization of a stable dispositional framework, the Five-factor Model

of Personality, to discern how personality relates to the formation of entrepreneurial career intentions. The results of the current study indicated that university students who are exceptionally open to Experience or Conscientious will, potentially, form stronger entrepreneurial career intentions than others. Conversely, the study results imply that highly Agreeable individuals will resist developing entrepreneurial career intentions more than others. These indications suggest that one way to identify people who are compatible and those who are incompatible, with the prospect of becoming entrepreneurs is to locate individuals who are open, conscientious, or disagreeable. It is suspected that some may doubt the practical feasibility of utilizing personality tests to discriminate between potential, and improbable, entrepreneurs. This reservation is particularly understandable when one reasons that much of the past entrepreneurship research failed to find consistent relationships between lower-order personality traits and behavior (Gartner, 1988; Shaver & Scott, 1991; Ripsas, 1998). However, the results of this study may provide some new insights for the development of inventive approaches to vocational counseling and entrepreneurship education. Given that higher-order personality dimensions (as opposed to lower-order traits) are related to potential entrepreneurial behavior, efforts in this direction are warranted.

Entrepreneurial research investigating the formation of entrepreneurial intentions could benefit from the current research findings. Intentions-based models, such as Azjen's Theory of Planned Behavior and the Shapero-Krueger Model of Entrepreneurial Intent (Krueger, Reilly, and Carsund, 2000), explain no more than 40% of the variance in entrepreneurial intentions (without considering the influence of personality dimensions). Thus, there is an opportunity to add unique variance to these models by incorporating significant personality dimension relationships from the current research. Since entrepreneurs perform a novel function in the economy (Schumpeter, 1934), individual entrepreneurship research, should focus on those characteristics that might make entrepreneurs different from others.

The results of the current research relationships will help academicians better understand how stable dispositions and malleable attitudes combine to form entrepreneurial career intentions. Since an adult's expressed personality evolves as a result of environmental influences before adolescence, this research holds potentially useful promise in regard to economic and community development. This is important to researchers, practitioners, and government officials because it may provide an initial framework to answer a diversity of potential theoretical inquiries, such as "Do personality dimensions reliably predict entrepreneurial career intentions across populations and cultures?" or "Is it

possible to influence the development of more industrious (entrepreneurial) communities through early intervention (preadolescent) behavioral training and business programs?" Clearly, the significance of the link between personality dimensions and entrepreneurship holds significant implications for improving domestic productivity.

While it is not postulated that a particular personality dimension profile will deterministically influence university students to pursue careers in entrepreneurship, it is considered useful to discern which variables possibly contribute to the formation of entrepreneurial career intent. While some researchers have determined that personality has no consistent effect, it is hoped that the findings of this, and supporting, research will instigate further experimentation utilizing the Five-Factor Model of Personality.

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PEDAGOGY AND THE REQUIREMENTS OF THE MODERN ORGANIZATION

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ABSTRACT

As educators we face many new challenges. Our classrooms are filled with a more diverse group of students than ever before. Classroom techniques that were once considered appropriate for nearly all situations may not be best suited to the often unique learning and cognitive styles of our current mix of students. Further, organizations today are asking that our students come with a new set of skill and capabilities. Communication, application, and interpersonal skills are coming to the forefront as various types of team based work units become the organizational norm. This paper considers a two-semester pedagogical experiment intended to explore non-traditional means of better meeting the needs of both our students and the organizations of which they will one day become apart.

INTRODUCTION

It is becoming increasingly apparent that traditional methodologies for the transference of information, such as the standard classroom lecture, in many cases no longer provide adequately for our students need to both learn in a more self direct manner and to develop the skills and competencies that are directly relevant in the modern workforce (Chickering and Gamson, 1987; Elam and Spotts, 2004; Gremler, Hoffman, Keaveney, and Wright, 2000; Johnson, Johnson, and Smith, 1991; Meyers and Jones, 1993; Weimer, 2002). Many organizations today, and perhaps most organizations of tomorrow, will be expecting their employees to know how to work together, to become comfortable with interdependence while at the same time be more responsible for their own motivation and learning, and to work with co-workers of diverse backgrounds, as job design within organizations increasingly will center around that of heterogeneous work groups and cross-functional teams. This then creates a need for a classroom environment and pedagogy that promotes and facilitates experiences in learning for students that better reflect the world found outside the classroom. Researchers have indicated that such a learning environment is promoted by activities that go beyond the traditional lecture such as experiential exercises, videos, and classroom discussions assisted by the instructor rather than presented by the instructor (Karns, 2005; Kolb, Rubin,

Osland, 2000).

It has been found that the traditional model of lecture, note taking, and individual examinations, often with a Bell-curve assumed or imposed, does little to enhance the desire and ability of students to learn and to work in groups. Furthermore, it has been found that the standard set of lectures, followed by an examination, can actually limit the amount of learning that takes place within the classroom (McKeachie, 1986; McKeachie and Kulik, 1975; Young, 2005). Pollio (1984) noted that students usually will pay attention to only about half of any given lecture. The rest of their time will be spent in some sort of mental wandering. In a study of introductory psychology students by Rickard, Rogers, Ellis, and Beidleman (1988), it was found that within four months students that had taken the course knew only marginally more about introductory psychology than did students that had not ever taken the course.

A final limitation of traditional lecture based learning that will be considered in this paper is that fact that today our classrooms are filled with a highly diverse group of students (Anderson, 1990). Differences include but are not limited to; age, gender, social class, ethnicity and national origin. Banks (1988) and Guild and Garger (1985), both note that all of these differences, as well as general cognitive differences in people, can lead to individuals having different learning styles that work best with them. With all of its limitations, Hoyt and Perera (2000) note that in a survey of faculty teaching methodology 45% of those surveyed indicated the use of lecture as their primary teaching pedagogy.

This paper will discuss an experiment in pedagogical methods taken over a one year period of time that took a radical departure from the lecture and test format of our traditional classrooms.

PEDAGOGICAL EXPERIMENT

Several researchers have noted that students learn by applying and doing, not just by listening and regurgitating (Finkel, 2000; Meyer and Jones, 1993; Peterson (2001). They suggest that student learning is most effective when they have an opportunity to apply concepts taught in the classroom, when they are the recipients of multiple teaching techniques in the classroom, and when they are aware of where they are in relationship to the course learning goals and what changes or gains have taken place.

In response to these assumptions, this project focused on how to improve the classroom learning experience and provide students with the opportunity to assess, to develop, to enhance, and to apply a collection of competencies or skills that are considered important for effective management

in modern organizations. These competencies were derived from eight types of managerial roles expected to be experienced within the career of a manager. These roles are that of : broker, innovator, producer, director, monitor, coordinator, mentor, and facilitator (Quinn, Faerman, Thompson, and McGrath, 1996).

A multiple step learning process was utilized in this effort. First, at the beginning of the course each student took a competency assessment exam covering the eight competency areas to be covered in the course during the semester. This was to provide the instructor and each student with an assessment of their beginning level of competency in each area.

Second, each student was placed into a work group within which all classroom activity was to be undertaken. A biography was received from each student indicating their age, gender, work experience, etc. Each group of four to five students, selected by the instructor, was made as diverse as the class composition allowed. These heterogeneous work groups were intended to familiarize students with working within groups in general. Perhaps more importantly, these work groups served to help them to learn from and to appreciate each others differences and to build on each others strengths and experiences.

Third, though mini-lectures were occasionally given, seldom lasting more than ten or fifteen minutes, learning in the classroom was primarily experientially based. Students were given case scenarios containing a situation in which a particular competency area had been ineffectively applied. The students were to discuss the case within their groups and determine as a group what they felt would be an appropriate and effective response to the case situation. These individual group responses would then be shared with the class as a whole. The exercise would conclude with a general discussion of the case lead by the instructor and the class as a whole. This technique was intended to help the students learn how to apply the knowledge they have received and developed, and to illustrate to them that there are often more than one good way to approach a common situation.

Fourth, to encourage students to prepare to engage in these group discussions, all students took an exam covering the information upon which each competency was based before the material was discussed in class and applied to a case scenario situation in their individual groups. This test was first taken by the individual student and then again as a group test where discussion of each question among the group members was encouraged. While admittedly this was an unorthodox approach to giving an exam, it helped to insure that each student came to class prepared to contribute in a meaningful way to the subsequent group case discussions, the overall learning

processes for the class as a whole, and, in fact, learn from the testing process as they engaged in group discussion of each test question.

At the end of the course, the students were again given a competency assessment exam to assess their ending level of competency for each of the eight competencies focused on during the course. This process became the basis for a self-assessment paper that each student was required to write, wherein they were to discuss their own level of competency in each of the eight areas and how it had changed during the course of the semester. This pre-assessment and post-assessment of the eight competencies were intended to indicate to what extent not just learning, but more importantly the ability to apply what had been learned, had taken place. As a final assessment technique, each student was to consider how they might most effectively use within an organization their areas of relative strength and how to overcome their areas of relative weakness.

At the conclusion of each course, all students were asked to fill out a detailed survey of the course, wherein they were to respond to questions regarding the advantages and disadvantages of the format of the class, as well as their satisfaction or dissatisfaction with each of the learning methodologies they had experienced in during the semester. In an effort to reduce the free-rider effect that could occur due to the very large proportion of each student's final grade being derived from group-based work, all groups provided a member evaluation that was 15% of the final grade for each group member. This evaluation was based on eight criteria of performance and contribution to the group effort provided by the instructor that including a written description of an A level, a C level, and an F level of performance and contribution.

RESULTS

This experiment in pedagogy was undertaken in a management class taught twice over a full fall and spring semester. From both classes a combined total of 29 students were available to provide their responses to the class format. Of this sample 63% were males and 37% were females; 91% were between the ages of 20 and 30 and 9% were above the age of 30. Finally, 86% of the students were Caucasian, 4% were Hispanic, and 4% were Asian. At the end of each semester, all students in the class were asked to respond to the following survey questions.

1. How would you rate the relative value of learning from group interactions as opposed to the learning received from a traditional lecture?
2. How would you rate the learning value of taking tests first as an individual

and then with your group?

1-much less valuable, 2-less valuable, 3-the same, 4-more valuable, 5-much more valuable ?

3. How did you feel about taking tests before the material was covered in class?

4. How did you like working with your group?

1-disliked strongly, 2-disliked, 3-neutral, 4-liked, 5-liked strongly

5. How useful did you find the various personal assessment instruments?

1-not useful at all, 2-not very useful, 3-neutral, 4-useful, 5-extremely useful

6. How would you rate this class overall?

1-Extremely poor, 2-poor, 3-average, 4-good, 5-outstanding

While admittedly 29 is a small sample size, the results taken over two semesters do provide a worthwhile initial look at how two groups of management students responded to the non-traditional format of the course as opposed to that of a more traditional lecture based course. Table 1 provides the mean responses to the survey questions along with the standard deviations. As the scale for the six questions being tested was from 1 to 5 (with 5 being the most positive response and one the most negative response) a null hypothesis of no difference between the mean found for each question and a mean value of three was tested using z-values. A mean response of three would represent both central tendency and a neutral response which one would consider the base-point for comparing the mean responses for each of the six questions.

Table 1: Student Response to Course Evaluation Survey

SURVEY QUESTION	MEAN	STANDARD DEVIATION
Question #1	4.6724	0.5391
Question #2	4.0345	0.9814
Question #3	3.2759	1.4856
Question #4	4.1034	0.9763
Question #5	4.4828	0.6877
Question #6	4.6207	0.5615

The z-value tests using a 95% confidence level indicate that questions 1, 2, 4, 5, and 6 all were statistically different from the neutral response of three. Only question 3 was not statistically different. Thereby, the null hypothesis was rejected in five out of the six cases. The results further indicate that the students had the highest level of satisfaction with using group interaction based activities to replace lectures, the assessment instruments that indicated initial and subsequent levels of proficiency, and with the overall format of the class as a whole. Working within a group and taking tests both individually, and as a group received positive support. Taking tests before the material was covered in class received the lowest overall support. It is interesting to note however, that this procedure had the greatest variance. It was either strongly disliked or liked, with very few neutral opinions.

Johnson and Johnson (1989a) indicated that when much of the basis for a grade in a course is group based, overall grades will be higher than when grades are primarily based on individual achievement. In this current study, both classes received higher grades than would be expected in a traditional course. While this may be problematic for many administrators concerned with the issue of grade inflation, these authors suggest that the higher grades found in group based courses reflect the enhanced learning that occurs when people work together.

CONCLUSION

The results obtained by the author over the two semesters used for this pedagogical experiment reflect the findings of scholars and researchers of active learning processes. Students involved in the two experimental courses did find that working together in groups lead to higher overall levels of performance as was indicated by Hernandez (2002) and Kohn (1986). This result was evidenced by the much higher than average overall level of performance for the class as a whole and by the fact that only one person ever received an individual-test score, that exceeded that of the test score received by the member group. Many students noted their surprise at this result, but left convinced that working together provided better results than did individual effort.

Astin (1977) suggested that when students learn to cooperate together, rather than to compete against each other, their level of satisfaction with any given course will increase. This is important because as Astin further noted, student satisfaction is positively related to their motivation to learn. In addition, Hernandez (2002) and Johnson and Johnson (1989b) indicate that when students take courses that are formatted around a multi-method, active learning pedagogy they will experience a higher level of achievement relative to the learning goals of the course, they will utilize higher-level reasoning and critical thinking then would be done by students in a traditional lecture based course, and they will more likely be retained as students. In addition, as responsibility for learning is increasingly shared with students, their

involvement and satisfaction with the learning process will be enhanced (Chonko, 2003).

Finally, in addition to the above mentioned benefits, the author observed that the students developed a positive accepting relationship with their diverse group of peers and gained in social and interpersonal competencies. This benefit, derived from the pedagogical format utilized over two semesters, is increasingly being called for by organizations whose own workforces reflect an increasingly diverse group of individuals who are more and more being required to work together in a manner not required of workers ten or twenty years ago and to be increasingly responsible for their own motivation and learning.

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USING THE SARBANES-OXLEY ACT (SOX) OF 2002 TO TEACH CORPORATE GOVERNANCE IN BANK MANAGEMENT CLASSES

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ABSTRACT

This article is a pedagogical supplement to Bank Management textbooks designed to facilitate discussion regarding the incremental impact of SOX beyond the existing regulatory guidelines of FDICIA. This approach challenges students to evaluate the relevance of SOX and duplicate monitoring for regulated commercial banks.

INTRODUCTION

Several studies note that educators of accounting professionals need more information in order to teach students about the impact of the Sarbanes-Oxley Act (SOX) on accounting practices and management decision making (Williams and Hyman, p. 185; Johnson, p.68). The impetus for SOX stems from the failures of large, publicly-traded nonfinancial firms due to improper judgment and unethical behavior (Sinnott and Heffes p. 31). Thus, a key component of instruction regarding SOX is the integration of ethics and moral reasoning.

To date, no pedagogical study has analyzed the importance of SOX regarding compliance strategies for firms in the commercial banking industry. Banking is a highly regulated industry that already had auditing, corporate reporting and governance reforms for all institutions over \$500 million in assets (over \$1 billion in assets starting in 2006) and on their auditors under the Federal Deposit Insurance Corporation Improvement Act ("FDICIA") which became effective in 1992.

The purpose of this paper is two fold: 1) the first objective is to share insights about the similarities and differences in the legislations for the banking industry; and 2) the second objective is to examine whether publicly traded commercial banks were able to absorb the cost of SOX as reflected by their return on assets. Many of the requirements of FDICIA are similar to what the Sarbanes-Oxley Act of 2002 ("Sarbanes-Oxley") requires of all public companies; however, some differences do exist between the two acts. Since both FDICIA

and Sarbanes-Oxley have provisions dealing with audit committees, management responsibilities, internal control reporting, and auditor requirements, a supplement to textbooks that discusses the comparisons is needed. For example, in the *Bank Management* text written by Timothy Koch and Scott MacDonald Sarbanes-Oxley is not discussed in any of the chapters. Johnson (2005) finds that one-third of the accounting courses use one or more sources of supplemental reading in the syllabi.

LITERATURE REVIEW

According to Williams and Hyman (2005), most of the literature of SOX is practitioner-based or anecdotal. The main focus has been on the national cost of compliance and, recently, ethical reasoning. Bisoux's (2005) estimate of the national cost of compliance is \$35 billion. Similarly, Koehn and Del Vecchio (2004) review the cost effects of Sarbanes-Oxley upon public companies, as well as the legislated effects, the intended consequences and the unforeseen consequences. They presented the results "of survey by the law firm Foley & Lardner of 32 mid-size companies regarding the costs of Sarbanes-Oxley compliance" that showed the overall compliance cost for these companies increasing 88.3% from \$1,303,000 per year to \$2,463,000 per year.

Zhang (2005) investigates the economics consequences of SOX with market reaction to the announcement and subsequent passage of the legislation. The evidence of negative abnormal returns surrounding the announcement is consistent with the cost outweighing the benefits for nonfinancial publicly traded corporations. Zhang (2005) also find that firms with perceived weak governance experienced the most negative returns-a paradoxical finding. The monitoring legislated by SOX is not perceived as beneficial by the firms that need it the most.

The research regarding SOX for the banking industry is more limited. Eldridge and Kealey (2005) focus on the effect of Sarbanes-Oxley upon bank holding companies. They analyze whether actual audit cost increases for publicly traded bank holding companies. They find the "average increase in audit fees from 2003 to 2004 for our sample of banks is \$414,134, a 100-percent increase," and "conclude that the audit fee increase from 2003 to 2004 primarily attributable to the new SOA audit." Although this study shows the extent that bank holding companies have had significant cost increases due to Sarbanes-Oxley, it does not look into whether the publicly traded bank holding companies have been able to absorb the Sarbanes-Oxley related costs through improved operational efficiency that should pay for at least a portion if not all the additional

costs from Sarbanes-Oxley Act compliance. The study does not discuss the duplicity of monitoring associated with SOX and FDICIA.

It is known the publicly traded commercial banks absorbed the cost of FDICIA. Birr (1999) studies the initial effect of FDICIA upon the banking industry. She looked at multiple ratios within her study, but her major focus for profitability was upon return on average assets. She finds that the "mean value of ROA increased from 1.13% to 1.46%, which is a considerable increase of 29%" during the six (6) years following the enactment of FDICIA requirements in 1992. Thus, the enactment of FDICIA and its requirements upon banks did increase compliance costs for banks, but banks had operational improvements that not only covered the increased compliance costs but also added to the overall profitability of the bank. We analyze whether banks were able to absorb the cost associated with SOX in a similar manner.

A COMPARISON OF THE SARBANES-OXLEY ACT AND FDICIA

Audit Committees and Their Responsibilities

FDICIA requires each covered bank to have an audit committee composed entirely of directors, who are independent of management, and that the audit committee's mandated duties include reviewing with management and the covered bank's independent auditor the covered bank's financial and internal control reports. FDICIA has additional requirements for covered banks larger than \$3 billion in assets that state the audit committee must include one or more members with banking or related financial expertise, have access to its own outside counsel and exclude any large customer of the bank from committee membership. Finally, FDICIA permits a covered bank to rely on the audit committee of its holding company if the holding company meets the FDICIA requirements.

As for Sarbanes-Oxley, each public company is required to have an audit committee composed entirely of independent directors, but the SEC and Sarbanes-Oxley definition of independence is more strict than the FDIC and FDICIA definition. Like FDICIA, Sarbanes-Oxley requires the audit committee of each public company to have access to outside counsel or other advisors. Sarbanes-Oxley requires each public company to annually disclose whether its audit committee includes one or more financial experts with specific financial background and/or experience.

Responsibilities of Management

FDICIA requires each covered bank to file with the covered bank's regulators annual audited financial statements of the bank or its holding company. Management of a covered bank is required to file a report (1) acknowledging management's responsibility for preparing the bank's financial statements, maintaining adequate controls for financial reporting and complying with laws related to dividends and insider loans, (2) evaluating the effectiveness of the bank's financial reporting controls as of year-end and (3) assessing the bank's compliance with laws related to dividends and insider loans throughout the year under FDICIA. An independent auditor must attest to the report on the effectiveness of controls for financial reporting under FDICIA for a covered bank.

Management's responsibilities under Sarbanes-Oxley are again similar to those required under FDICIA. A public company's management was already required to annually file an audited financial statement with the SEC, so audited annual financial statements are not a specific requirement mentioned in Sarbanes-Oxley. However, Sarbanes-Oxley did add requirements that management must annually file a report acknowledging management's responsibility for preparing the company's financial statements and for maintaining adequate controls for financial reporting. Additionally, management must file a report evaluating the effectiveness of the company's financial reporting controls as of year-end under Sarbanes-Oxley.

Internal Control Reporting

FDICIA, as noted earlier, requires a covered bank's management to file with its regulators a report evaluating the effectiveness of the bank's financial reporting controls as of year-end. This required management report is to be filed in conjunction with a report of an independent auditor attesting to management's evaluation. The auditor's attestation under FDICIA is required to be made in accordance with generally accepted standards for attestation requirements such as AT 501. Finally, FDICIA permits a bank to rely on the auditor attestation of the bank's holding company.

Similar to FDICIA, Sarbanes-Oxley requires the company's independent accountants to attest to management's evaluation of the effectiveness of the company's financial reporting controls as of year-end. However, Sarbanes-Oxley also requires the independent auditors to attest to the effectiveness of the financial reporting controls, and the attestations under Sarbanes-Oxley are governed by the standards set by the Public Company Accounting Oversight Board ("PCAOB"). The PCAOB has issued Auditing Standard No. 2, which governs independent accountant's attestations to a public company's report on

internal controls for financial reporting. This standard requires both the company and its auditors to perform many more tests and to document both the controls and the testing and evaluation of those controls.

Requirements Placed upon the Auditors

FDICIA requires the independent auditors of a covered bank to be licensed by an appropriate state body, to agree to provide the bank's regulators access to the auditor's work papers, have peer review reports that are filed with the FDIC, to conform to the independence requirements of both the AICPA and SEC and to notify the bank's regulators whether they agree with the reasons stated by a former client for terminating the auditor's services. Sarbanes-Oxley requires the independent auditor to be both licensed by the appropriate state body and also registered with the PCAOB. The PCAOB regularly inspects the registered accountants for adherence to its standards; however, the PCAOB reserves the right to make these inspection reports available to bank regulators.

Table 1 compares the requirements for both laws. Since FDICIA precedes Sarbanes-Oxley, the table shows the incremental enforcement measures over time.

Table 1: Summary of a Comparison of the Sarbanes-Oxley Act (SOX) and FDICIA

	SOX (2002)	FDICIA (1992)
Audit Committees and Their Responsibilities	-Stricter definition of independent director -1 or 2 members with general financial expertise required -Committee must have access to outside counsel	-Independent directors required -1 or 2 members with banking expertise -Bank can use holding company's audit committee
Responsibilities of Management	-SEC already required audited reports - Must sign statement acknowledging	-Must file audited reports -Must sign statement acknowledging responsibility for

	SOX (2002)	FDICIA (1992)
	responsibility for contents in reports -Must have on file document on financial reporting controls	contents in reports -Document on financial reporting controls must be reviewed by independent auditors
Internal Control Reporting	-Each subsidiary must have financial reports and audits -More stringent GAAP standard requires which leads to more documentation	-Bank can rely on holding company's financial reports and audits -Control standards determined by bank regulators
Requirements Placed upon Auditors	-Licensed by both a state organization and the Public Company Accounting Oversight Board (PCAOB) -PCAOB provides inspection work papers to bank regulators	-Licensed by a state organization who provide bank regulators with inspection work papers -Peer (accounting) review of inspection reports -Auditor must notify bank regulators of reason for termination

THE IMPACT OF SOX COMPLIANCE COST ON BANK PROFITABILITY

Since the banking industry is a heavy regulated industry that is already following the provisions of FDICIA which a very similar to those of Sarbanes-Oxley, profitability of publicly traded bank holding companies may be adversely effected by the additional costs of compliance. In order to determine whether

Sarbanes-Oxley compliance affected the profitability of bank holding companies, the study examines whether return on average assets or return on average equity declined surrounding the implementation of SOX. Return on average assets measures how profitable the bank holding company uses its assets, but it does not consider how effective those assets have been financed. Return on average equity measures the return to shareholders of the bank holding company including both the profits generated by the assets of the bank holding company and the way in which those assets have been financed. Data is collected on all bank holding companies that filed consolidated regulatory reports with the Federal Reserve Bank from 2000 through 2005. The selection criteria resulted in a sample of 2,330 bank holding companies. The analysis compared the mean and median return on assets and return on equity of publicly traded and privately held bank holding companies.

The results indicate that Sarbanes-Oxley may have had a negative impact upon the profitability of publicly traded bank holding companies. In each year following the passage of SOX, the publicly traded bank holding companies' profitability ratios declined appreciably. In contrast, privately held bank holding companies were able to overcome the additional cost as indicated by the rising trend in profitability ratios. The following tables and graphs show the results of the data analysis of the mean and median of the respective groups of bank holding companies.

Table 2: Profitability, Mean Return on Assets, Surrounding SOX for Public and Private Banks

	Mean Return on Average Assets				
	All	Public	Variance	Private	Variance
2005	1.18%	1.08%	-0.10%	1.23%	0.05%
2004	1.13%	1.06%	-0.07%	1.17%	0.04%
2003	1.14%	1.09%	-0.05%	1.17%	0.03%
2002	1.19%	1.13%	-0.06%	1.22%	0.03%
2001	1.09%	1.07%	-0.02%	1.11%	0.02%
2000	1.15%	1.13%	-0.02%	1.17%	0.02%

Table 2 provides the mean return on average assets for public and private banks from 2000 to 2005. Subsequent to the enactment of Sarbanes-Oxley, from 2002

to 2003, the median return on assets fell to 1.14% from 1.19% for the overall sample. During the same time period, the median return on assets fell from 1.13% to 1.09% for public banks and from 1.22% to 1.17% for private banks.

Table 3: Profitability, Median Return on Assets and Mean Return on Equity, Surrounding SOX for Public and Private Banks

	Median Return on Average Assets				
	All	Public	Variance	Private	Variance
2005	1.10%	1.07%	-0.03%	1.23%	0.13%
2004	1.08%	1.06%	-0.02%	1.17%	0.09%
2003	1.10%	1.09%	-0.01%	1.17%	0.07%
2002	1.14%	1.13%	-0.01%	1.22%	0.08%
2001	1.06%	1.07%	0.01%	1.11%	0.05%
2000	1.11%	1.13%	0.02%	1.17%	0.06%

	Mean Return on Average Equity				
	All	Public	Variance	Private	Variance
2005	13.46%	12.16%	-1.30%	14.15%	0.69%
2004	12.94%	11.94%	-1.00%	13.50%	0.56%
2003	12.97%	12.41%	-0.56%	13.30%	0.33%
2002	13.19%	12.62%	-0.57%	13.55%	0.36%
2001	12.24%	12.20%	-0.04%	12.27%	0.03%
2000	13.28%	13.15%	-0.13%	13.36%	0.08%

Table 3 provides the median return on average assets and mean return on average equity for public and private banks from 2000 to 2005. Subsequent to the enactment of Sarbanes-Oxley, from 2002 to 2003, the median return on assets fell to 1.10% from 1.14% for the overall sample. During the same time period, the median return on assets fell from 1.13% to 1.09% for public banks and from 1.22% to 1.17% for private banks. The mean return on equity fell only slightly. From 2002 to 2003, the return on equity declined to 12.97% from 13.19% for the entire sample.

Table 4: Profitability, Median Return on Equity, Surrounding SOX for Public and Private Banks

Median Return on Average Equity					
	All	Public	Variance	Private	Variance
2005	13.46%	12.16%	-1.30%	14.15%	0.69%
2004	12.94%	11.94%	-1.00%	13.50%	0.56%
2003	12.97%	12.41%	-0.56%	13.30%	0.33%
2002	13.19%	12.62%	-0.57%	13.55%	0.36%
2001	12.24%	12.20%	-0.04%	12.27%	0.03%
2000	13.28%	13.15%	-0.13%	13.36%	0.08%

Table 4 provides the median return on average equity for public and private banks from 2000 to 2005. Subsequent to the enactment of Sarbanes-Oxley, from 2002 to 2003, the median return on equity fell to 12.97% from 13.19% for the overall sample. During the same time period, the median return on equity fell from 12.62% to 12.41% for public banks and from 13.55% to 13.30% for private banks.

CONCLUSION

The information in this teaching supplement should be used to theoretically examine the importance of the Sarbanes Oxley Act to commercial banks. The new legislation appears to have impacted publicly traded and privately held commercial bank holding companies differently. Our pilot study, however, cannot directly link profitability to the costs imposed by SOX. The analysis has been helpful in stimulating discussion in the classroom. The results have helped students understand the importance of audit compliance rules and information asymmetry. More research, however, is needed to add to theory based knowledge. Further research should directly analyze the cost/benefit trade-off associated with SOX and measures of information asymmetry.

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CULTURALLY RELEVANT PEDAGOGICAL TECHNIQUES FOR TEACHING ECONOMICS AND BUSINESS COURSES TO AFRICAN AMERICAN STUDENTS

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ABSTRACT

This paper presents a basic rationale for using culturally relevant historical and contemporary economic and business experiences of African-Americans as a pedagogical technique to engage and motivate African American students. When students are able to relate economic and business issues to their own past and current experiences in America, it helps them to better understand and analyze the current predicament of African-Americans. Furthermore, it enhances students' learning of economics and business material and seems to empower them to better consider creative and innovative solutions for the African American community.

INTRODUCTION

In our years of teaching African-American students, we have been aware that many students view business areas, particularly economic theory and fundamentals, accounting, finance, marketing, and management theories as something foreign, Eurocentric, and unrelated to their own experiences. We remember our own sense of alienation as students when we listened to dry lectures irrelevant to our past or current experiences. Later, as professors, that sense of alienation continued. For instance, the first author remembers vividly sitting in a colleague's office who posted a picture on his wall depicting a timeline of economic thinkers. The absence of non-European economic thinkers appalled the first author. In another colleague's office, the second author observed multiple articles of new marketing and management techniques and tools espoused as best practices, but not one of the tools addressed any interest or relevance to the African American market. We instinctively knew that these experiences demonstrated gross inadequacies because all peoples have thought

of ways to solve business, economic, marketing and management issues that face them in terms of resource use (labor, capital, human capital and land) and output of goods and services for different markets.

While teaching AA students, both authors experienced a "disengagement of students" with the course materials. Students often state that the information in business and economics courses is abstract and not particularly relevant to their experience past or present. For example, one student taking the first author's class declared that she did not understand why she needed economics because she was a political science major with a minor in marketing. Other students complained that the terminology of the discipline seemed too abstract and the graphical and mathematical analyses of economics too difficult. The second author found students also complaining that the language of business was too abstract. Students claimed that since they were psychology majors with a minor in some business discipline or accounting/finance majors that the information regarding the other fields was "useless information" for their career success. They requested to be told just the numbers or a "cookbook" five step model. Even some of the "high achieving students" - that is - those who want to achieve high grade for high grades sake, or to keep academic scholarships learn by memorizing and do not necessarily engage the full learning process which would take them from information gathering to a deeper understanding of knowledge and corresponding implications.

We discussed this with a couple of colleagues who also spoke about a growing number of underperforming, bored or disinterested students. Some colleagues believed the high level of course material proved too difficult for students. Other colleagues thought that the students lacked motivation and therefore wouldn't do the work necessary to master the material. Though the words seemed to come out of compassion and/or frustration, their comments suggested the belief in the inherent intellectual incompetence or characterological inferiority of African American students. With this kind of attitude of some colleagues, the students tend to lose as the instructors already know the material. However, we believe that our community also loses and this increases the stakes on a micro and macro level.

As we reflected, we acknowledged that African American people, and in this case students, face the problem of constantly having their culture devalued in many areas (King, 1991) including business and economics. This type of devaluation undermines the confidence and at times interest of students. We believe that past and current culturally relevant activities/materials serve to under-gird student confidence and interests as opposed to undermining it. Identifying specific culturally relevant information and/or cases recognizes the

progressive contribution of African Americans and serves as value added for motivating students.

Considering our love of our respective disciplines as well as our students, we instinctively believed that there should be a way to get them more engaged in the topic. We looked for material that students could relate to and contextualize in a manner that demonstrated the relevance of the information. We started using more expansive (Bartolome, 1994) pedagogical techniques and material that not only improved our teaching but it also seemed to improve student learning.

PEDAGOGY

The first author had recently returned from doing research and teaching in Africa and had observed Africans in all areas of economic and business decision-making. While teaching in Africa, he learned to consistently *Africanize* courses: International Economics, Economic Development, and Applied Statistics, to make sure the African students found them relevant and applicable to their own economic experiences. Upon his return to the United States, he made it his mission to *African-Americanize*ⁱⁱ his courses in order to make them relevant to African-American students. By using this pedagogical approach, he hoped to avoid the complaints he had often heard from African-American students that economics wasn't relevant to them or to their course of study. He wanted students to really learn economics and to do that he found a way to motivate their interests in economics. He would begin by creating examples and cases of the African-American economic experience to make economics more relevant to his students. He began to African-Americanize fundamental economic concepts such as; the production possibility frontier curve, supply and demand analysis, and the flow charts. He wanted them to experience an economics course that they could relate to in their real world experiences, career, and personal finance decisions. Later, he focused his research on the African-American economic historical experience with the belief that African-Americans would become more enthusiastic about economics if they perceived economics as part of their history and everyday contemporary decision making process in businesses and as consumers in the market place.

The second author brought in relevant information that applied to African Americans in terms of their experiences as clients, consumers and owners within the business context. She linked the relevance of other business disciplines to marketing, organizational behavior and change, management, business research

methods, as well as utilizing the "STEP"ⁱⁱⁱ analysis, (Social, Technological, Economic and Political) to the contribution and success of major businesses within mainstream and African American Economy. As a result, students became more engaged in discussion, and began learning the material in a less cynical and disinterested manner. They became enthusiastic about the subject matter and began to engage in actual problem solving and planning. In a business corporate strategy course, the second author makes the development of Black case studies one of the major assignments. In addition to mainstream businesses, students examine various contemporary African American businesses such as financial institutions, advertising, publishing and entertainment companies. By taking a systematic approach in identifying what went well and how, and what did not go well and why, African American students begin to see the benefit of knowing and understanding how business disciplines (economics, business administration, marketing, management, entrepreneurship, finance, accounting, etc.) impact their understanding of the fundamentals in corporate strategy and business success. She instructs students in how to function as consultants (change agents). They then make recommendations to students role playing as actual business owners who have to navigate the often times unstable and rocky terrain of the business world. They discuss the many jobs these businesses may generate while examining the benefits of doing business with other African Americans which could facilitate the economic development of the African American community. Once students embrace this action oriented learning process (Kleinfield, 1992), it releases an empowering passion for learning and applying progressive strategies to solve business and economic issues facing African Americans.

We each went beyond existing materials and found discipline related information (African -American experiences both contemporary and historical) incorporated it in our respective courses. We then used discussion, group work, and consultation techniques that forced students to think individually and collectively about how to apply the material to their own community.

Our goal was to demonstrate the relevance by *African-Americanizing* the process and the content. In other words, we used African American content and our culturally-relevant "collective orientation" (Ladson-Billings, 1995) to develop a process that tapped into the collective interest and value of groups, and we used individual and group project assignments in and out of class. We utilized information that includes other groups' interest and progress so that they would be knowledgeable about the field overall, but we focused on the African-American experience. As scholar practitioners, we used the reflexive technique.^{iv} Most often, the intersection of culture and teaching rely solely on micro-analytic

or macro-analytic perspectives where researchers look only at the interpersonal relationships of teacher and student or only on test outcomes from the curriculum. However, we systematically incorporate both perspectives in the approach that includes innovative material/content, the teacher as well as the students in collaboration and reflection.

We committed (ourselves) to help students see that their ethnic group possesses valuable unique qualities on which they can capitalize and use as an ethnic source of wealth. Therefore, we believe that African Americans must acknowledge, protect and fully utilize their cultural capital.^v

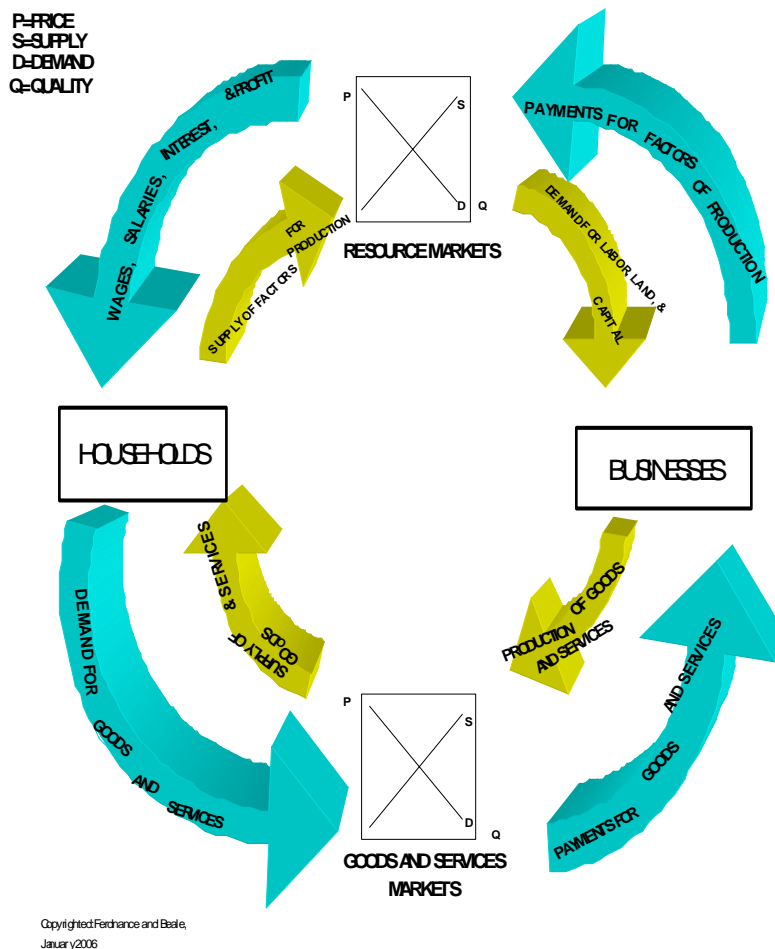
Below we will apply our pedagogy to the study of an Introduction to Economics course. We will use African-American contemporary and historical economic experiences to improve the effective teaching and learning of fundamental economics, crucial as a basis for all business courses, to African-American students. We will apply the methodology described above to the study of a simple economics flow chart of an economy.

Application: *African-Americanizing* a Simple Economic Flow Chart

The flow chart analysis starts with the mainstream economy usually depicted in the introduction to macroeconomics textbooks. Then students are asked to consider modifying it to the economic experiences of the current African-American economy. This took a lot of contemplation and reflection on their part before they begin to see the difference between the two models. Lastly, the students are asked to solve the problems with the contemporary African-American flow chart. Below, we begin with the mainstream economy flow chart.

Mainstream Economy Flow Chart

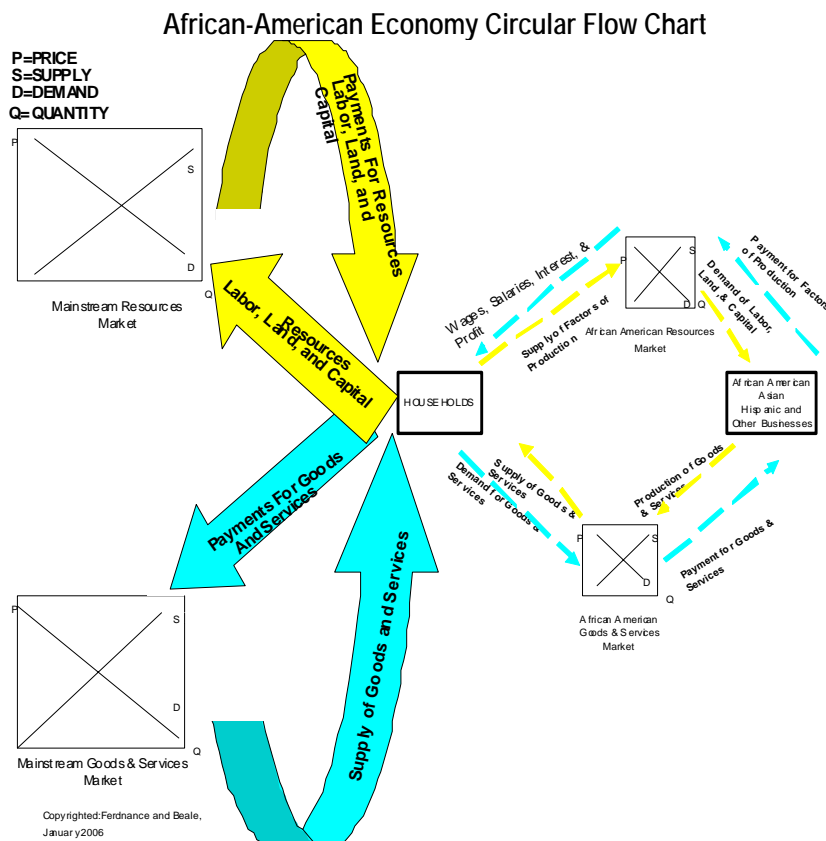
The flow chart in general teaches the economics' students the nature of the flow of goods and services and resources in the economy. It also demonstrates the payments for these flows through the goods and services and resource markets. The economic agents are represented by the households and businesses. Below is the flow chart representing the mainstream economy



The above flow chart illustrates the demand and supply flows of goods and services and resources between households and businesses. It is among the simplest of flow charts for an economy because it only includes households and businesses. Government, banking, and the foreign trade sector are excluded. The households supply factors of production to businesses through the resource

markets for which they are paid wages, salaries, interests, rents, and profits by businesses. The businesses supply goods and services to households through the goods and services market for which they receive payments for those goods and services from consumers represented by the households. The payments for goods and services constitute the revenues of the businesses. The above flow chart demonstrates no leakages therefore the economy experiences a perfect circular flow and payment flows are recycled through the economy. The perfect enclosed circular flow represents equilibrium in the economy, where everything produced is purchased.

After working with the students to make sure they understand the basics of the mainstream flow chart, we began a class discussion on how well the flow chart resembles the African-American economic experience. The class begins a lively discussion on the major differences of the African-American economic experience. Students point out the existence of illegal economy, bootlegging, the smaller flows, and most importantly, the leakages, and, outflows within the African-American economy with its negative economic consequences. The discourse generates a feeling of ownership of the flow chart analysis in the students. It is no longer abstract and foreign to their experiences but now it is an integral part of their economic experience and therefore becomes part of their understanding and knowledge. They are then given the task of creating a flow chart that represents the African-American economy. Below is an example of an African-Americanized version of the mainstream flow chart. This exercise enhances the understanding of the fundamental economic lessons of the flow chart.



The African-American economy flow chart is quite different from the mainstream economy flow chart. First of all, the African-American economy is much smaller than the mainstream economy flow chart because the African-American economy is approximately 700 billion dollars versus the mainstream economy which is approximately 7 trillion dollars. Therefore the African-American economy is less than one tenth of the mainstream economy and it is an economic enclave (a semi-independent economy within the mainstream

economy). Therefore the scale of the flow chart for the African-American economy is much weaker. Secondly, the flows of supply and demand are much smaller. This is demonstrated by the smaller broken lines which are hyphenated. Third, the other major difference between the flow charts is that the African-American economy has large leakages or outflows from the households to the mainstream economy. The first major outflow is a resource outflow. Most of the African American labor is supplied to the mainstream resource market. In terms of resources, land, labor and capital, African Americans supply mainly labor to the resource markets. The second major outflow from the African American Economy represents payments for goods and services to the mainstream market. While purchases of goods and services are made to the mainstream goods and services market, instead of the African-American goods and services market (that is African-American owned businesses), this means there are significant outflows instead of inflows which hurt the capacity of the African-American economy to grow and develop. Also within the circular flow for the African-American businesses, the rectangle is divided up into three or more portions because the African-American business person competes against a growing variety of other ethnic businesses such as Asian and Hispanic. Therefore, even the internal flow of payments for goods and services are not going all to the African-American businesses. Other ethnic groups compete effectively for the flow of payments to African American businesses. As a consequence of these outflows to mainstream and other ethnic markets, African American businesses and economy are weakened.

When the African-American flow chart is introduced and co-created between the students and professor, they become excited and begin to more fully understand the nature of the flows and the similarities and differences between the African-American and mainstream economy. They learn the nature of flows in terms of weak versus strong flows. They also realize that the agents are of different sizes comparatively and that the flows of resources from households to businesses are weak due to the small income and wealth of African-American households. They begin to understand that the largest flows are outflows from the community, where consumption from households flows outside the community to foreign businesses inside the community, such as the Korean grocer or beauty supplier, the Hispanic bodega, and the Chinese Restaurants. Once they see this connection between the traditional flow chart and the modified flow chart of the African American economy they begin to embrace the fundamentals of the flow chart because now they can relate it to what is going on in their own communities.

Now the flow chart has relevance to their economic experiences. Usually

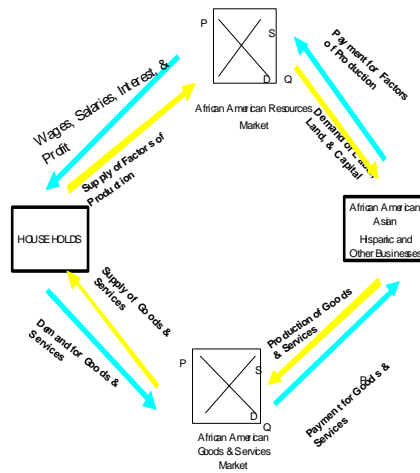
a discussion erupts around the question of how we reverse these flow leakages or plug-up the enormous leakages that drain our economy of needed finances for asset and wealth creation. The instructor advises the students that to understand how to solve these problems currently facing the black economy we have to understand the history of the black economic experience.

While some students focus on the negative aspects of the current African-American circular flow chart and develop a sense of hopelessness/helplessness in terms of finding solutions, introducing another African-American circular flow chart based on our economic history serves to counter these negative feelings. Our goal here is to develop a sense of hope not of hopelessness so that they are empowered to work toward solving the economic issues facing the African-American community.

The third flow chart is modified to depict the nature of resource and goods and services flows in the historical black townships in the Midwest or South and/or black communities in large urban areas of the 1920s, when segregation dictated that African-American communities had to be economically independent and self-reliant. These townships and communities are characterized as black economic enclaves. In these black townships such as Mound Doro, Florida; Mound Bayou, Mississippi, Tulsa and Boley, Oklahoma, and Durham, North Carolina, (Brophy & Kennedy; 2002, Johnson, 1998; Painter, 1968, and Tolson, 1972) the black dollar was often recycled approximately one hundred times. Therefore, in this flow chart, the largest flows are between the households supplying resources to the businesses and the businesses selling goods and services to the households. In addition the business sector is enlarged and domestic (African-American owned) instead of foreign (other ethnic groups), and the flows outside the community are minimized. Therefore the increased flows within the community translate into a much higher level of recycling of the black dollar. This increase in recycling gives African- Americans more access to the black dollar to use to finance the purchase of assets/businesses that can produce and re-circulate more black dollars. It strengthened the African American Economy. Students begin to really understand the importance of the black dollar circulating and realize that to solve the problem in the current African-American economy they have to create conditions where the black dollars is increasingly recycled in the African-American community.

P=PRICE
S=SUPPLY
D=DEMAND
Q=QUANTITY

Black Economic Endave



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Lessons Learned

When we cover these three flow charts with the emphasis of the flow charts modified to fit the African-American experience, the students learn a number of valuable lessons. These lessons help them retain the fundamentals of the models and they better understand the role of households, businesses, and markets as economic agents in the economy.

The Fundamentals of Economics Relate to All People :

The first lesson learned by the students is that economics is not exclusive

to one race or ethnic group, but that all grapple with the problems of resources and goods and services flows. Therefore, economics is not an alien or purely Eurocentric pursuit, but relates directly to our understanding of our communities and their current economic status and how all ethnic groups are involved in economic decision making.

Perception of the Relevance of Economics:

African-Americans perception of economics changes, when they see how these fundamental tools actually relate to helping them understand the current predicament of the African-American economy. The predicament now is finally explained in economic terms. The lack of access and control of resources stymies the flow of resources to businesses and therefore slows down the growth of business that in turn weakens the income and wealth accumulation of African-American households. Then the consumption choices of African-Americans weakens the businesses because we tend not to buy from our own but from foreign businesses in the community that we have allowed to replace former black businesses. Therefore, students begin to see that the tools of the flow chart are crucial to understand the current economic crisis facing the African-American community and thereby their interest in the study of economics accelerates.

Hope for the Future by Looking at the Past:

The students are not left in a hopeless state given the current economic predicament of the African-American economy but they are left with hope given their understanding of the historic black townships. For them, these black townships demonstrate the actual success of black people in recycling the black dollar over and over again through the creation of successful businesses, efficient resource use, and growing and prosperous households. This enables African-Americans to move beyond hopelessness and come up with solutions that will help the African-American economy move beyond its current economic crisis. Now that they have seen that it actually did occur in the past, they know that it is really feasible that it can happen again. Therefore, in addition to learning the economic fundamentals of the flow chart, they also gain confidence by learning the economic language and tools that they can use their understanding of the flow chart, modified to depict the African American economic historical experience, to improve upon the current negative economic conditions in the African American economy. They have seen the proof of success in the black townships of the past and now know it can be repeated. Now all they have to do is study these townships to find the ways to recreate the conditions that made them prosperous.

SUMMARY

This style of teaching economic and business theory while motivating the student to learn the subject and apply it to understand the economic problems facing African-Americans gives them hope and helps to develop their initiative to discover and potentially implement solutions. Our experience has been that students really engage this process and it is indicated by the amount of energy and enthusiasm of relevant classroom discussion which incorporates and demonstrates a more thoughtful and insightful approach to the class assignments. These conclusions come directly out of experiences in trying to *African-Americanize* economic and business material to make them more relevant to the African-American experience.

We are advocating a thrust towards embracing a more culturally relevant pedagogy as postulated by Ladson-Billings (1995). We have identified the use and development of historically genuine "true" Black case studies written to reflect the "relevance" of African American past to current day and future impact. Since college professors often have research as well as teaching emphasis, it seemed reasonable that we take the scholarly approach to what we continue to do in the classroom formally and informally as it is action research (participating and observing what actually goes on in the classroom).

We have conceptually addressed our pedagogical propositions to improve the teaching and learning of business and economics to African American students. Future research should address the issues by collecting more qualitative and quantitative data such as pre/post survey questions. Ideally one would do a control group of students who were with a teacher who did not use culturally relevant information with the purpose of African-Americanizing the content and process of the class. The questions should tap the cognitive, affective and behavioral dimensions of student learning.

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NOTES

1. African-Americanize is a phrase we use to explain the practice of making a course relevant to students of African descent in America. We do this by creating cases, using data, or carry out research on topics related to the African-American experience and then using these culturally relevant topics to

help students learn and understand business and economic concepts. By doing this, we motivate African-American students to learn more effectively in economics and business courses.

2. STEP (Social, Technical, Economic, Political) analysis is an acronym that is used to remind students to incorporate these important influences in their business problem identification, solving and analyses.

3. Reflexive is a term used to illuminate action research tradition where teachers reflect on their teaching practices to solve pedagogical problems. (Carr & Jemmis, 1986; Elliot, 1991)

4. Cultural Capital refers to the unique cultural practices and experiences of an ethnic group, such that capital can be transformed into a wealth-creating entity. For example, the experiences of African-Americans through slavery, Jim Crow segregation, racism, and discrimination gave birth to unique art forms by African-Americans such as the blues and jazz which yielded wealth but mainly to European-Americans because they came to own the mechanisms that commoditized this cultural capital. The same could be said of Hip-Hop today.

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Ruby Beale co-authored a book, *Developing Competencies to Manage Diversity* with Taylor Cox. She has published several articles and has consulted with numerous corporations, national, state and local agencies, not for profit and grass roots organizations, universities and school districts nationwide

STANDARDIZED TESTING: IS IT EFFECTIVE FOR AFRICAN-AMERICAN BUSINESS STUDENTS?

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Jonathan Jefferson, Clark Atlanta University, Atlanta, GA

ABSTRACT

The purpose of this research is to better understand the relationship between standardized test scores and college success. Specifically, this research seeks to study the interaction between standardized test scores and academic success among African-American business students at Clark Atlanta University. A time-series multiple-regression analysis was used to understand the relationship between the current grade point averages (GPAs) of sophomore business students and their ACT and/or SAT scores and high school GPAs. This is an important area of study because many of the criticisms associated with standardized testing are related to minority populations. The results of the study suggest that the high school GPAs of sophomore students in the Clark Atlanta University School of Business, are the strongest predictor of sophomore GPAs. The analysis clearly shows that there is a strong, positive, and significant relationship between high school GPAs and sophomore GPAs. Although the relationships are weaker, the data also suggest that ACT and SAT scores are also predictive of sophomore GPAs.

INTRODUCTION

The purpose of this research is to better understand the relationship between standardized test scores and college success. Specifically, this research seeks to better understand the interaction between standardized test scores and academic success among African-American business students at Clark Atlanta University (CAU). A time-series multiple regression analysis is used to understand the relationship between the current grade point averages (GPAs) of sophomores in the business school, and their ACT and/or SAT scores and high school GPAs. This study is important because it can help to better understand the impact of standardized testing among an all African-American subject panel within a specific discipline.

STANDARDIZED TESTING

The use of standardized testing is quite controversial. Bowen & Bok (1998) suggest that the use of SAT scores in the admissions process has

increasingly become more controversial. Fleming (1998) states, "The controversy over whether standardized tests like the SAT and the ACT are fair to ethnic minorities continues to rage." In today's academic environment, the use of standardized tests has become common place, and are used at every level in the educational system. Lam (1993) suggests that reflected in federal guidelines, state mandates, and local district policies is the use of standardized test scores to make high stakes decisions regarding academic placement, scholarships, graduation, and promotions. Although there are many criticisms associated with standardized testing, this review will focus on the two issues that are most relevant to this research. These issues include the use and predictability associated with standardized testing. Specifically, this discussion will provide an overview of standardized testing, the primary college entrance exams, the interface between standardized testing and African-Americans, and the Clark Atlanta University School of Business.

Although standardized testing has been part of the US educational landscape for many years, the emphasis on standardized testing has seen a resurgence since the 1980s. Prior to the 1980s, there was a movement to explore authentic testing (Hewitt & Homan, 2004). Wiggins (1990) suggests that authentic assessments present the student with the full array of tasks that mirror the priorities and challenges found in the best instructional activities including conducting research, writing, revising, discussing papers, providing an engaging oral analysis of a recent political event, or collaborating with others in a debate. However, this movement was short-lived.

Since the 1980s, the use of standardized testing has increased significantly (Hewitt & Homan, 2004; Harris & Longstreet, 1990). For example, the Educational Testing Service (ETS), which is one of the primary providers of standardized tests, had yearly sales that went from \$106 million in 1980 to \$380 million in 1996 (Hewitt & Homan, 2004). Since then their sales have continued to grow. By 2003, ETS had yearly sales of \$620 million (International Directory of Company Histories, 2004). On the surface, this move back to standardized testing was understandable because there are many positive aspects associated with standardized testing.

Generally, standardized testing allows for a more objective assessment, are typically easier to score, and offer an easily understood scorecard that ranks each student. Harris & Longstreet (1990) suggest that the overwhelming virtue of standardized testing appears to be that they provide a reliable measure of accountability for the educational leadership, politicians, and public. This link to accountability has been inviting for the educational community and decision-makers. As a result, many of the solutions offered by the educational community

have relied heavily on standardized testing. Lam (1993) suggests that the most recent educational reform efforts have either mandated a new form of testing or further expanded the use of standardized testing.

Standardized testing is equally important to higher education in the US. Every year millions of college students take standardized tests, which are submitted to the many colleges and universities across the nation. Greene & Green (2004) suggest that for college bound families, standardized testing remains one of the most stressful, frustrating, limiting, and controversial aspects of the college planning and admissions process. In most cases, the scores on standardized tests will play a major role in determining whether or not an aspiring college student will be accepted into the college of their choice. Hawkins (2005) states, "The right scores on these tests can get you into the school of your choice, be it undergraduate, graduate, medical school, or law school." When applying to college, there is often a minimum score that is necessary in order to be considered for admissions. Achieving the minimum score does not ensure admission into the institution.

However, not achieving the minimum score can result in a denial of admissions. Although most colleges and universities do evaluate other factors like previous GPAs, recommendations, and essays, these measures are viewed as being more subjective than standardized test scores. Berkowitz (1998) suggests that because admissions officers cannot determine the true ability of each applicant in terms of academic aptitude due to discrepancies between the quality of previous education, recommendations, and courses, they value better information about applicants and the only way to get standardized information about an applicant is to measure them with a uniform test. Bowen & Bok (1998) agree with this perspective and suggest that admissions officers generally view these tests as a useful part of the assessment process because they provide some common ground for evaluating the records of students who come from high schools with very different academic standards.

Standardized test scores have become a critical aspect of whether or not a student gets accepted into college. This heavy utilization can sometimes be problematic as it can minimize the focus on other criteria that can be used in determining merit. Although there is a tremendous amount of controversy over the use of these, the practice of utilizing standardized tests in academic decision-making does not appear to be ending any time soon.

College Entrance Exams

Every year thousands of high school students go through the process of applying to the college and/or university of their choice. The process of applying to college can be tedious, complicated, and stressful. In most cases, the process requires students to complete a college application, provide recommendations, write an essay, submit their high school transcripts, and take a college entrance exam. However, much of the stress comes from the high stakes college entrance exam. Since many colleges and universities actively embrace standardized test scores as a part of the overall admissions process, these scores continue to be an intricate part of determining whether or not a student will gain admission into a US college or university.

At the undergraduate level, the most widely used college entrance exams for admissions are the Scholastic Aptitude Test (SAT) and the American College Test (ACT) (Greene & Greene, 2004). In 2003, 1.4 million high school students took the SAT and 1.2 million students took the ACT (Greene & Greene, 2004; Anonymous, 2003). Historically, the SAT was preferred at more elite schools and the ACT was preferred at Midwestern and Southern schools; however, recently most colleges will accept both the SAT and ACT (Collegeview, 2005). Although most colleges accept both the SAT and ACT, these tests are structured differently and test different attributes. The SAT is more of an aptitude test, which is structured to test critical thinking and problem solving skills. The ACT is more of a test of knowledge and is structured to test what a student has learned thus far (ACT, 2005). In addition, both tests have recently been updated for the high school students who graduated in 2005. The new SAT test began in March 2005 and the new ACT began in February 2005 (College Admissions Services, 2005). Some of the updates to the SAT include changing the verbal section to critical thinking, adding short reading passages to critical thinking, removal of quantitative comparisons in the math section, adding more advanced mathematics, a new writing section, and the total score has gone up from 1800 to 2400, while the ACT will add an optional 30 minute writing section (College Admissions Services, 2005).

However, critics of standardized testing suggest that this type of testing does not accurately predict long-term college academic success. These critics suggest that standardized testing does not measure many of the attributes that will influence long-term academic success. Steele (2004) states, "Standardized tests are to real school performance what free-throw shooting is to basketball playing – not unrelated, but capturing only a small set of relevant skills." A standardized test can only measure a limited number of attributes, but there are a variety of factors that can influence whether or not a student succeeds academically. Darling-Hammond & Lieberman (1992) suggest that many

standardized tests exclude many kinds of knowledge and types of performance that are expected from students. Chenoweth (1997) suggests that standardized test scores do not take into account a student's motivation or the teaching institution's ability to teach. Finally, Young (1990) insists that a fair evaluation of qualifications should rest on the individual's own relevant performance, not statistical inferences. Although the majority of U.S. colleges and universities require that a candidate for their institution have an acceptable test score from one of the major college entrance exams, there is little evidence that suggests the ACT and/or SAT can predict long-term success. Many studies have shown that these standardized test scores only correlate to the first year of college success. The College Board (2005), which develops and gives the SAT, suggests that the tests scores for the 2005 SAT scores only correlated to first year college grades. Specifically, the writing section correlated about .46 and the English section correlated about .32 with first year college grades. Kurlaender and Orfield (1999) found that the score on the SAT predicts very little and only measures about 18% of the factors that determine a person's first year college grades. Linda Wightman, a professor at the University of North Carolina, showed that there is only a modest correlation of standardized test scores with first-year college grades (Chang, Witt-Sandis, & Hakuta, 1999).

Nonetheless, the use of college entrance exams goes far beyond determining first year college success. Darling-Hammond & Lieberman (1992) suggest that reliance on these test scores has become problematic as they have been used more and more to make educational decisions. Although most institutions of higher learning recognize the limitations associated with standardized testing, few of them have eliminated the requirement for SAT and ACT test scores. Chenoweth (1997) suggested that some college presidents acknowledge the limitations associated with standardized test scores; but that these same institutions would publish a press release if their average freshmen SAT scores went up. Although it is not the most common practice, there are a few colleges and universities that do not require college entrance exams. For example, both Bowdoin College and Bates College, highly selective private colleges, do not require standardized test scores and have maintained their level of academic performance and graduation rates (Greene & Greene, 2004). However, most colleges and universities continue to require college entrance exams. In some cases, institutions have completely ignored the research findings and are actively increasing the minimums for standardized test scores. For example, the University of North Dakota has raised the admissions standards for the Fall 2005 cohort (Goenner & Snaith, 2004). The minimum ACT score went from 17 to 21 and the minimum GPA went from 2.25 to 2.5. In

addition, other colleges and/or universities that are considering or have already raised admissions standards include institutions in Louisiana, Nevada, North Dakota, and Oregon (Goenner & Snaith, 2004).

African-Americans & College Entrance Exams

Although using standardized testing does have some predictive value, much of the literature suggests that standardized testing is not the best predictor of academic success for minorities. Hoffman and Lowitzki (2005) suggest that for African-Americans standardized tests are related to academic achievement, though the relationship is not as strong as the relationship to high school GPAs. In addition, when comparing standardized scores across races, minorities generally score lower than non-minorities. African-Americans and other minority test takers typically score much lower than white students on the SAT (FairTest, 2005).

One area of debate regarding standardized testing is the fairness of the types of tests. The debate centers on whether or not the questions on many standardized tests are applicable to the experiences of all people in society or if the questions are skewed towards one racial and economic group. Some critics suggest that the average standardized test is oriented towards the middle-class experience. Berkowitz (1998) suggests that standardized tests have been attacked for being poor indicators of skill, biased against certain social classes, and unfair to those with poor test-taking skills. This criticism suggests that the types of questions on standardized tests are not generally applicable to the public at large and do not include questions that are oriented towards the experiences and education of people in lower socioeconomic environments. The National Center for Fair and Open Testing (2005) states that, "... SAT has always favored students who can afford coaching over those who cannot, students from wealthy suburban schools over those from poor urban school systems, and men over women." This can provide an unfair advantage to students who come from predominantly middle-class environments. At the same time, this can be an unfair disadvantage to students who do not come from predominantly middle-class environments.

There is another area of discussion that suggests minorities do not perform as well on standardized tests because many have not had the exposure to rigorous high school curriculums or access to the college preparatory courses that can help to increase the scores on standardized tests. The debate centers around whether or not minorities have sufficient access to rigorous curriculums and college preparatory courses that can help them to

perform better on standardized tests. Bowen and Bok (1998) state, "In general, black students are more likely than white students to come from educational backgrounds that will not adequately prepare them for the challenges of college. Richard Ferguson, ACT's Chief Executive Officer, suggested that black students were less likely than others to take tough college preparatory courses and often does not receive the proper college planning information or counseling (Anonymous, 2003). Dervarics (2005) suggests that about half of white students and two-thirds of Asian students took a math course beyond Algebra II, while only one-third of African-Americans, Hispanics, and American-Indians took a math course beyond Algebra II. Chenoweth (1997) suggests that one of the problems is that too many poor, African-American, and Latino students do not have access to these rigorous types of curriculums. Although a study guide for one of these tests is fairly inexpensive, the highly effective courses and tutors can cost thousands of dollars (Hamilton, 2005). However, if minorities had greater access to more rigorous curriculums, the chances of their test scores going up would likely increase. Deverics (2005) states, "The lack of access is troublesome, since minority students show dramatically higher achievement when offered an opportunity to participate in these courses. Chenoweth (1997) suggests that both the College Board and ACT acknowledge that when students, in all ethnic and income groups, take rigorous college preparatory curriculums they have better test scores.

Relevant Research

There are two areas of research that are particularly relevant to this study. These areas are the use of standardized testing for African-American students at Historically Black Colleges & Universities (HBCUs) and the use of standardized testing for African-American business students. Generally, the research streams seem to suggest that standardized test scores can have stronger predictive power for African-Americans in certain settings. Although it is limited, there is some research that suggests standardized tests are more predictive for African-American college students when used to predict academic success at HBCUs. This perspective suggests that typically African-Americans attending HBCUs will have a smoother transition into college life and, as a result, some non-academic factors become less important. Fleming (2002) found that the SAT more accurately predicts academic success for African-American students who are attending Black rather than White colleges. Hoffman and Lowitzki (2005) state, "In settings where students of color are not the minority and where it is reasonable to believe that matriculation does not present a

significant level of culture shock, standardized tests become stronger predictors of academic success." In a 1998 study, Garcia & Fleming concluded that standardized test scores predict academic performance much better for Black students who attend predominantly Black colleges, with the same consistency and level of prediction usually found for White students in predominantly white schools.

In addition, there is minimal evidence that standardized testing is linked to some measures of success among African-American business students, specifically accounting majors. In 1991, a study concluded that African-American accounting students in Intermediate Accounting with a score of 18 or above on the ACT performed significantly better in Intermediate Accounting than students with lower scores (Booker, 1991). In 1993, a study among African-American accounting and non-accounting majors, found that a positive correlation exists between both the composite and Math ACT scores and the student's performance (Ward, Ward, Wilson, & Deck, 1993). This study suggested that students who received an "A" in the principles of accounting course had significantly higher composite and math ACT scores than students with any other grade. Although these research streams are limited, both areas of discussion seem to suggest that standardized testing can be predictive for African-Americans in certain situations. This research will continue to explore this area of research by studying the relationship between African-American business students at a HBCU and standardized test scores.

CLARK ATLANTA UNIVERSITY SCHOOL OF BUSINESS

This research focuses on students who attend Clark Atlanta University (CAU), which is a private, predominantly African-American university located in Atlanta, GA. CAU is one of the many HBCUs in the US, which have traditionally served and educated predominantly African-American students. According to the US Department of Education, there are 105 HBCUs in the US. This includes fifty 4-year private institutions, forty 4-year public institutions, eleven 2-year public institutions, and three 2-year private institutions. CAU was formed in 1988 through the merger of Clark College and Atlanta University. Currently, the university has an enrollment of ~4,400 students. The admissions criteria at CAU include the following: 1) recommendations from a counselor and teacher, 2) official high school transcript, 3) SAT or ACT score, and 4) a 500 word essay. The minimum criteria include a 2.5 GPA on a 4.0 scale and either a 900 on the SAT or a 19 on the ACT.

Although the School of Business is not categorized as elite, it is competitive and is generally well regarded. For example, it is a consistent top ten producer of African-American undergraduate business majors and the graduate program was cited as being a great return on investment by Business Week (CAU Strategic Plan, 2004). The undergraduate program offers a Bachelors degree in Business Administration with concentrations in Decision Sciences, Finance, Marketing, or Management. In addition, the school offers a Bachelors degree in Accounting and Economics. The graduate programs offer a Master of Business Administration (MBA) and a Master of Accountancy. The MBA program allows for concentrations in Finance, Marketing, or Decision Sciences. The School of Business has been accredited by the Association to Advance Collegiate Schools of Business (AACSB) since 1974. The size of the School of Business is typically about 1,000 students, which represents about 25% of the total student enrollment at CAU (CAU Strategic Plan, 2004).

RESEARCH DESIGN

Overall, the literature suggests that the field of standardized testing has continued to grow despite many criticisms. In addition, the use of standardized tests can often have far reaching consequences for students across the US. This is particularly true when looking at college admissions. Many colleges and universities continue to use and place emphasis on college entrance exams. However, limited research suggests that in some cases standardized testing can be used as a predictive tool among African-American students. Although this research stream is limited, it justifies further inquiry.

This study will further explore this research stream. Specifically, this research will help to better understand the relationship between standardized test scores and academic success among African-American business students at CAU. This relationship will be evaluated at the undergraduate level, where a time-series multiple regression analysis will be utilized to understand the relationship between the current GPAs of sophomores in the business school and their ACT and/or SAT scores and high school GPAs. Therefore, the research question and hypotheses for this study are as follows:

Research Question: Are standardized test scores predictive of academic success among sophomore business students at Clark Atlanta University?

H₁: Standardized test scores are predictive of academic success for sophomore business students at Clark Atlanta University.

H₀: Standardized test scores are not predictive of academic success for sophomore business students at Clark Atlanta University.

This study utilized secondary data. These data were derived from the records of sophomore business students at Clark Atlanta University. There are 5 years of data, which include the academic years 2000-2001 thru 2005-2006. It should also be noted that all of the information that could be used for identification purposes has been removed. The data set includes information on the students current cumulative GPA, high school GPA, SAT and/or ACT scores, number of hours taken, financial aid reward, gender, and age.

The dependent variable in this study will be the current cumulative GPA. The independent variables in this study will include the high school GPA and SAT and/or ACT score. The composite scores for both the SAT and ACT were utilized as measurements for these variables. The SAT scores from Verbal and Mathematics sections were combined for a total SAT Composite score, while the ACT Composite scores were provided. The control variables for this study include the number of hours taken, financial aid reward, gender, and age. As a result, the multiple regression equation for this study is as follows:

$$\text{Current Sophomore GPA} = a + b_1(\text{High School GPA}) + b_2(\text{Standardized Test Score}) + b_3(\text{Number of Hours Taken}) + b_4(\text{Financial Aid Reward}) + b_5(\text{Gender}) + b_6(\text{Age}) + \epsilon$$

DATA ANALYSIS AND RESULTS

Overall, this data set covered 5 academic years and reviewed over 2,800 records of sophomore students in the CAU School of Business. Similar to the national statistics, the majority of these students, 62%, took the SAT, while only 38% took the ACT. The discussion below will review the descriptive statistics and the results of this time-series multiple regression analysis.

ACT Results

For the ACT, there were 1,098 student records. The mean scores were 2.77 for current GPA, 3.0 for high school GPA, 19 for ACT, 22 for age, 41 for number of hours taken, and \$17,404 for the financial aid reward that academic year. In addition, 69% were female and 31% were male. Please see Table #1 for the specific information.

Table 1: ACT Descriptive Statistics

Measure	Frequency
- Number of Records	1,098
- Number of Females	758 (69%)
- Number of Males	340 (31%)
Measure	Mean
- Cumulative GPA	2.77
- High School GPA	3.00
- ACT Score	19
- Age	22
- Number of Hours	41
- Financial Award	\$17,404

Overall, the ACT results appear to be consistent with previous studies regarding the predictability of standardized testing among African-American students at HBCUs. The results suggest that for sophomore business students at CAU, that their ACT composite score is more predicative of academic success than their high school GPA (Table #2). However, these results do not support the previous studies that suggest high school GPAs are better at predicting academic success than standardized test scores. Although both high school GPAs and ACT standardized test scores have strong and significant relationships with the current GPA, the strongest relationship is between the ACT composite scores and the current GPA. The standardized beta for the relationship between ACT composite scores and current GPAs is .324 and is highly significant, while the standardized beta for the relationship between high school GPAs and current GPA is .308 and highly significant. In addition, there is a positive relationship between gender and the current GPA, with a standardized beta of .214. Although the relationship is much weaker than the ACT Score and high school GPA relationship, it is significant.

The regression model appears to be satisfactory because it does not appear to have multicollinearity or autocorrelation. The VIF static was used to determine whether or not multicollinearity was present. The VIF values ranged from 1.043 to 1.278, which are in the acceptable range and do not suggest multicollinearity. The Durbin-Watson statistic was run to determine if autocorrelation was present. Similarly, the Durbin-Watson static was in the

acceptable range with a value of 1.186. The adjusted R² statistic, which estimates how closely each model fits the data by adjusting for each additional independent variable in the model, was also utilized. The result was .396. This may appear to be low; however, this is an acceptable value for this study. Many studies have indicated that other factors like parent's education, household income, and social acceptance are important when determining overall college success. Since this study did not include all of the relevant variables, this R² is acceptable and inline with expectations.

Table 2: ACT Regression Results

Variable	Beta	T-Value	Sig.	VIF
HS GPA	.308	11.619	.000***	1.278
ACT-Comp	.324	12.448	.000***	1.230
Hrs. Earned	-.057	-2.393	.017*	1.043
Financial Aid	.022	.894	.372	1.133
Gender	.214	-1.821	.000***	1.061
Age	-.046	8.856	.069	1.181
N = 1,098				
Adjusted R ² = .396				
Durbin-Watson = 1.186				

*p≤.05; **p≤.01; ***p≤.001

SAT Results

For the SAT, there were 1,772 student records. The mean scores were 2.72 for current GPA, 2.90 for high school GPA, 899 for SAT, 41 for number of hours taken, 22 for age, and \$17,159 for the financial aid reward that academic year. In addition, 66% were female and 34% were male. Please see Table #3 for the specific information.

Table 3: SAT Descriptive Statistics

Measure	Frequency
- Total Number of Records	1,772
- Number of Females	1,170 (66%)
- Number of Males	602 (34%)
Measure	Mean
- Cumulative GPA	2.72
- High School GPA	2.90
- SAT Score	899
- Number of Hours	41
- Age	22
- Financial Aid Reward	\$17,159

The results for the SAT scores provide support the perspective that other factors like GPAs are more predictive of academic success. These results are slightly contradictory to the ACT results. Although the student's high school GPA and SAT scores have positive and significant relationships with their current cumulative GPA (Table #4), the relationship with high school GPAs is stronger. The relationship between high school GPAs and current GPAs has a standardized beta of .347 that is highly significant, while the relationship between SAT scores and current GPA had a standardized beta of .268 that is significant. Similar to the ACT results, there is a positive and significant relationship between gender and the current GPA, with a standardized beta of .183. This model appears to be satisfactory, as it did not appear to have multicollinearity or autocorrelation. The VIF statistic ranged from 1.047 to 1.147 and the Durbin-Watson statistic is 1.092, which are all in the acceptable range. Finally, the R² statistic is .298, which as discussed previously, was expected and is acceptable.

Table 4: SAT Regression Results

Variable	Beta	T-Value	Sig.	VIF
HS GPA	.347	16.892	.000***	1.147
SAT Scores	.268	13.453	.000***	1.084
Hrs. Earned	-.014	-.691	.489	1.047
Financial Aid	.045	2.167	.030*	1.105
Gender	.183	9.297	.000***	1.051
Age	-.007	-.354	.723	1.089
N = 1,772				
Adjusted R ² = .298				
Durbin-Watson = 1.092				

* $p \leq .05$; ** $p \leq .01$; *** $p \leq .001$

Overall Findings

This analysis suggests that a student's high school GPA, ACT score, and SAT score are all predicative of a sophomore business student's academic success at CAU. Overall, the relationship between the high school GPA and current GPA had the strongest relationship, with a .347 standardized beta that was highly significant. Therefore, this research does suggest that high school GPAs are the best indicator of academic success among African-American business students at CAU. However, there were also positive and significant relationships with both the ACT and SAT. The next strongest relationship was between ACT scores and current GPAs, with a .324 standardized beta that was highly significant, while the relationship between SAT scores and current GPAs had a .257 standardized beta and was highly significant. As a result, the research hypothesis, which suggests that standardized tests are predicative of a sophomore business student's success, is accepted. The null hypothesis, which suggests that standardized test scores are not predicative of a sophomore business student's success, is rejected.

Another interesting aspect of this research was the impact of gender on academic success. Although the impact was not as strong as high school GPAs or college entrance exams, the results seem to suggest that being a female in this environment may be a slight advantage versus being a male. Unfortunately,

this research was not designed to better understand the interaction between gender and academic success. However, based on these results, it is an area that should be further explored.

Finally, these results seem to suggest that a student's ACT score is a better predictor of academic success than their SAT scores. Although both of the relationships were highly significant, the relationship between ACT scores and current GPAs was stronger than the relationship between SAT scores and current GPAs. In addition, the adjusted R^2 statistic was slightly stronger for the ACT results. Given these results, it would appear that ACT scores are slightly more powerful at predicating academic success among sophomore business students at CAU. Although the results are not overwhelming, the ACT appears to be a better predictor.

Research Limitations

There are a couple of limitations that should be included in this discussion. These limitations are 1) the research is limited to one HBCU and 2) sophomore business students may have limited exposure to business courses. First, this study is limited to one HBCU. To have a deeper understanding of the overall impact of GPAs and standardized tests scores among African-American business students at HBCUs, it may be helpful to evaluate more than school. Second, the typical student in the School of Business will have only taken 2 to 4 business courses by the end of their sophomore year. Since CAU is a liberal arts university, the freshman and sophomore curriculum is primarily focused on general education. The typical student will take the majority of their business courses during their junior and senior years. As a result, the influence presented from business courses may be limited. These research limitations do not rise to the level of invalidating this study or the results. However, it is important to point out the limitations to ensure clarity regarding the data, analysis, and results.

CONCLUSION

The results of the study suggest that the high school GPA of a sophomore student in the Clark Atlanta University School of Business is the best predictor of their sophomore GPA. The analysis clearly shows that there is a strong, positive, and significant relationship between high school GPAs and sophomore GPAs. Although the relationships are weaker, the data also suggest that ACT Composite and SAT Composite scores are also predictive of

sophomore GPAs. As a result, the research hypothesis, which suggests that standardized tests scores are predictive of sophomore business students' college success, was accepted.

The implications of this study suggest that it is appropriate for Clark Atlanta University to continue to utilize both high school GPAs and standardized tests scores as a part of the admissions process. However, the decision-makers should be mindful of the differences between these measures and the ability of these measures to help determine who is acceptable for college admission. Given the controversy regarding standardized tests scores and minorities, Clark Atlanta University should be mindful of overusing or misusing standardized tests scores when evaluating the fit of a potential candidate.

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