

# Georgia Southern University McNair Scholars Journal

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# **TRiO**

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RONALD E. McNAIR  
POST-BACCALAUREATE  
ACHIEVEMENT PROGRAM

Scholarly Journal  
Summer 2004  
Volume 5

# Who is Ronald Ervin McNair?

Ronald E. McNair, the second African American to fly in space, was born in October 12, 1950 in Lake City, South Carolina. He attended North Carolina A&T State University where he graduated Magna Cum Laude with a B.S. degree in physics in 1971. McNair then enrolled in the prestigious Massachusetts Institute of Technology. In 1976, at the age of 26, he earned his Ph.D. in physics. McNair soon became a recognized expert in laser physics while working as a staff physicist with Hughes Research Laboratory. He was selected by NASA for the space shuttle program in 1978 and was mission specialist aboard the 1984 flight of the USS Challenger space shuttle.

After his death in the USS Challenger space shuttle accident in January 1986, members of Congress provided funding for the Ronald E. McNair Post-Baccalaureate Achievement Program. The goal is to encourage low-income, first generation students, as well as students who are traditionally under-represented in graduate schools, to expand their opportunities by pursuing doctoral studies.

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October 1, 2004

The Georgia Southern University Ronald E. McNair Post-baccalaureate Achievement Program is pleased to present its fifth issue of the *McNair Research Journal*. This journal is a compilation of articles produced by the 2003 cohort of McNair Scholars during the Fifth Annual Summer Research Institute held May 10-July 1, 2004. This scholarly work was completed with the assistance of a group of highly capable faculty mentors from Georgia Southern University. This *Journal* is designed to provide future doctoral students with a forum to publish their work. We are extremely proud of all of McNair Scholars for their academic acumen and their thirst for learning.

The McNair staff and scholars are indebted to the numerous individuals who shared in shaping the direction of the program since its inception at Georgia Southern University in 1998. First, thanks to Mrs. Mary Woods, Assistant Director of the McNair Program for her leadership and nurturing spirit. Secondly, thanks to Dr. Linda M. Bleicken Vice President for Student Affairs and Enrollment Management, for her untiring energy and encouragement. A special salute to Mrs. Peggy Morgan, Secretary/Data Clerk; thanks to Dr. Cordelia Douzenis-Zinskie, Associate Professor, Curriculum, Foundations and Research and Ms. Mildred Pate, Associate Professor, Writing and Linguistics, for their editorial support, to the faculty mentors and the McNair Advisory Council members for their dedication and support over the past year. Also, special thanks to Dr. Charles Hardy, Acting Dean of Academic Graduate Studies and Dr. John Diebolt, Associate Dean of Graduate Studies for their efforts. Our appreciation goes to Ms. Mecole Ingram Graduate Assistant for the McNair Program, for her work in organizing the journal.

Finally, a special thanks to the Educational Opportunity Programs staff for their support and encouragement during this past year.

You are invited to comment or make suggestions that may help to improve future issues of the *McNair Research Journal*. Direct any inquires to me at (912) 681-5458 or via email [sfoster@georgiasouthern.edu](mailto:sfoster@georgiasouthern.edu).  
**This document is funded by U.S. Department of Education Grant No. P217A030098.**

Sincerely yours,

A handwritten signature in cursive script that reads "Sue Hawks-Foster".

Ms. Sue Hawks-Foster  
Director, Educational Opportunity Programs

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## **FIFTY YEARS AFTER BROWN: AN ANALYSIS OF THE IMPACT OF BROWN ON THE EDUCATIONAL SYSTEM IN STATESBORO, GEORGIA**

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### **Abstract**

*This paper will examine three major milestones in Statesboro's education history: The 1954 Brown Decision, the 1971 USA v. Bulloch County Board of Education court case, and the implementation of tracking in the Statesboro school system. The author seeks to assess the extent to which any changes have taken place in the Statesboro school system since Brown.*

### **Introduction**

African American education has been a constant problem in American history. Generally, when studies are conducted about southern education, major cities like Atlanta and Memphis are chosen. Some of the same developments that took place in these large southern cities were also being implemented in rural parts of the South. With a Black population of 40%, Statesboro, Georgia, had five schools for African American students during the years 1968-69. These five schools enrolled 2,796 students, or 95% of the total African American student population.<sup>1</sup> Although a form of school integration had occurred in 1965, some citizens of Statesboro chose to group together and fight desegregation. The results were token integration, the closing of formerly all black schools, the founding of Bulloch Academy, classroom segregation, and tracking. Why fifty years after the *Brown* decision is there still a concerted effort to reaffirm segregation?

This paper will examine three major milestones in Statesboro's education history: The 1954 *Brown* Decision, the 1971 USA v. Bulloch County Board of Education court case, and the implementation of tracking in the Statesboro school system. The author seeks to assess the extent to which any changes have taken place in the Statesboro school system since *Brown*.

### **Literature Review**

The author used articles on school desegregation from the Bulloch Herald, Statesboro, Georgia, 1954-1993, Bulloch County Board of Education meeting minutes, court transcripts from the 1969-72 USA v. Bulloch County Board of Education court

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<sup>1</sup> Bryan Deever. Desegregation in a Southern School System, 1968-1974: Power Resistance and the Discourse of Exclusion. Journal of Education, Volume 174, Number 3, 1992. Paraphrased from page 70.

cases, and transcripts from interviews of Statesboro residents, former students, and administrators of Statesboro schools. The secondary sources that were most pertinent to this research were; Martin, Waldo. Brown v. Board of Education: A Brief History with Documents. Page, Jane., Pool, Harbinson. Beyond Tracking: Finding Success in Inclusive Schools. Patterson, James T. Brown v. Board of Education: A Civil Rights Milestone and Its Troubled Legacy. Resegregation of Public Schools the Third Generation, A Report on the Condition of Desegregation In America's Public Schools. Also, Bryan Deever's "Desegregation in a Southern School System, 1968-1974: Power Resistance and the Discourse of Exclusion."

### **1954 Brown vs. Board of Education Decision**

Few will contest that the 1954 *Brown v. Board of Education Topeka Kansas* decision was the most detrimental blow to legalized segregation. This decision overturned the widely held 1896 *Plessey v. Ferguson* where judges ruled it acceptable to segregate the races provided the facilities were equal. For educational purposes, nationally, this meant that blacks and whites could legally have separate schools as long as they were equal. This ruling coined the infamous term "Separate But Equal". It is a known fact that Black schools were not equal in some areas to white schools. *Plessy V. Ferguson* simply affirmed an existing reality on education. NAACP lawyers Charles Hamilton Houston, and later Thurgood Marshall, realized that there were enormous disparities between White and Black facilities, materials, and teachers salaries. The obvious discrepancies were apparent enough to make a strong appeal before the Supreme Court arguing against "Separate But Equal". With the help of the *Brown* decision, the NAACP was able to fight Jim Crow laws in the primary and secondary school systems.

### **American Apartheid**

Racism permeated every aspect of Black life in America, as noted by historian Waldo Martin:

These structures included severe job discrimination; political exclusion including disfranchisement; civic disabilities, such as exclusion from juries and prohibitions against black testimony in courts (typically in cases including black testimony against white); social ostracism and residential segregation; exclusion from the public domain of schools, churches, hotels, restaurants, pubs, halls, and conveyances: and anti-black terrorism.<sup>2</sup>

These were not the only ways that racism manifested itself in America. Blacks were also subjected to debt peonage, and worst of all the lynching against the Black population. Because of the Depression of 1930s and most importantly the Double V campaign taken up by people during World War II, Blacks began to have an attitude change. Blacks especially felt it was hypocritical to fight a war on communism abroad while being oppressed by Jim Crow in America. These events are important because they show that Blacks had to deal with an enormous amount of physical and mental stress. These events led up to the *Brown* decision that was to be the "pivotal move toward racial equality."<sup>3</sup>

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<sup>2</sup> Waldo Martin. Brown v. Board of Education: A Brief History with Documents. New York: Bedford/ St. Martin's, 1998. pg 3.

<sup>3</sup>Ibid, pg 6.

## **Brown**

In 1954 Linda Brown was denied admission to her local elementary school in Topeka because she was black. When, combined with several other cases, her suit reached the Supreme Court, that body, in an opinion by recently appointed Chief Justice Earl Warren, broke with long tradition and unanimously overruled the “separate but equal” doctrine of *Plessy v. Ferguson*, holding for the first time that de jure segregation in the public schools violated the principle of equal protection under the law guaranteed by the Fourteenth Amendment to the U.S. Constitution. This, ultimately, is known as the *Brown* decision.<sup>4</sup>

From its inception in 1909, the NAACP “lobbied for favorable legislative, judicial, and executive action . . . the organization endeavored to advance black civil rights agenda.”<sup>5</sup> The two lawyers most noted for working on the *Brown* case were Charles Houston and his protégé Thurgood Marshall. Both lawyers were sure that the only way to counter *Plessy v. Ferguson* was a broad-based attack on publicly segregated facilities, in general, and public schools in particular. Charles Hamilton Houston is known for his work on the Scottsboro boys’ case, but he was the engine behind collecting evidence for the *Brown* case. Houston was the Dean of Howard Law School, trained lawyers that later fought for civil rights and pioneered two fields of legal study and practice: civil rights law and public interest law.<sup>6</sup> Houston focused on the “social psychological data to argue the harmful affects of racism on whites and blacks.”<sup>7</sup> Houston felt that the easiest way to prove “separate but equal” unconstitutional was to show the enormous disparities [like facilities, budgets, and teachers’ salaries]<sup>8</sup> between white and black school systems. The NAACP strategy was three fold: 1. Desegregation of public graduate and professional schools, 2. Equalization of white and black teachers’ salaries, 3. equalization of elementary and secondary school facilities.

The NAACP was challenged in its effort for equal public facilities on many fronts. Some blacks argued that legal emphasis should be on economic issues. Others emphasized “the redistribution of wealth and across-the-board leveling of power and influence.”<sup>9</sup> There were also whites who felt that according to social Darwinism blacks were inferior and therefore should not be allowed to attend school with white children.

Although the NAACP was challenged, they were also supported. The “declining and social respectability of racism”<sup>10</sup> helped to ignite renewed interest in national integration. Two examples are: Gunnar Myrdal’s study of race relations in the United States *An American Dilemma* (1944), the Clark study (1953), and World War II. Myrdal’s report concluded that American racial stratification had adversely affected whites as well as blacks. Myrdal researched for four years to find discrepancies between myth and the actual realities of life for African Americans. The next study performed by Kenneth and Mamie Clark was conducted on school age children and showed that when whites and blacks were presented with dolls and were asked to choose which one they

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<sup>4</sup> Definition taken from Encyclopedia. com

<sup>5</sup> Martin, pg 7-8. information concurred in Black First book .

<sup>6</sup> Ibid, pg 9.

<sup>7</sup> Ibid, 11.

<sup>8</sup> Ibid, 13.

<sup>9</sup> Ibid, 15.

<sup>10</sup> Ibid, 19.

would prefer, both races held a majority preference for the white doll. The Clark study is important because it shows how blacks were psychologically inclined to self-hate because of the prejudices they endured. World War II is very important. Going to war with Germany because of their genocide of Jewish people represented a slap in the face to blacks in America. In the mostly segregated armies blacks were fighting a war to free an oppressed people. The “Double V” campaign was then launched to fight against prejudice abroad as well as apartheid in America.

In 1954 the Supreme Court passed *Brown I*, which gave the southern courts the responsibility to desegregate the school systems. *Brown II* established the doctrine of ‘all deliberate speed’ and the concept of ‘equitable principles’. In practice, the strength of *Brown II* was in the flexibility allowed to deal with particular situations. However, the decision’s weakness was in the lack of uniformity and the absence of a common set of standards.<sup>11</sup>

Just ten years after the *Brown* decisions the 1964 Civil Rights Act was passed. Title IV “prohibited discrimination on the basis of race in schools. From this point on, desegregation policy and enforcement became the responsibility of the judicial and the executive branches of government”.<sup>12</sup> Seeing that school districts needed technical assistance in the areas of; preparing desegregation plans, training personnel, revising curricula and materials, developing appropriate policies and procedures, and resolving confrontations related to desegregation issues.<sup>13</sup>

### **Southern Resistance to Integration**

After 1954 there was massive White resistance to school desegregation, particularly in the South. Forms of opposition included: the closing of public schools, the opening of private schools, sit ins, strikes<sup>14</sup>, violence and intimidation by the Ku Klux Klan, new segregation laws, Freedom of Choice plans, “White” citizens councils, busing, and token integration. At the collegiate level scholarships were provided for African American students to attend out of state colleges.

Statesboro used some of these same tactics to elude *Brown*. Because the *Brown I* decision only specified that all schools come up with plans to desegregate in 1954, and *Brown II* only states “With all deliberate speed” in 1955, most states were able to use *Brown II* to continue avoiding desegregation. It was not until Title IV of the 1964 Civil Rights Act that the government assumed a greater responsibility in education.

### **The 1964 Civil Rights Act**

The Civil Rights Act had a significant impact on Statesboro’s education. With the power of the federal government to withhold federal funding, most states began to take steps towards integrating their schools. The response of the Bulloch County School Board’s initial plan of resistance to desegregation, although reluctant, is indicated in an article titled “County Board Of Education Acts With Responsibility”<sup>15</sup>:

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<sup>11</sup> Ibid

<sup>12</sup> Ibid, 20.

<sup>13</sup> Ibid

<sup>14</sup> Patterson 101-2.

<sup>15</sup> *Statesboro Herald* Newspaper article from Aug 12, 1965.

As you are well aware the executive Department of our government of the United States got into the act on passage of the edict of Emancipation Proclamation by President Abraham Lincoln some one hundred years ago. Then through a series of court decisions on down through the years, during which it had been maintained or said was constitutional to have 'separate but equal schools facilities' were no longer constitutional. Just ten years after that the legislative branch of our government got into the act and passed the Civil Rights Act of 1964. And them just one year later, mind you, the Bureaucrats, if you want to call them that, got the thing in their hands and they're saying to us 'we'll chop your funds' if you don't comply with the Civil Rights Act of 1964, more specially Title VI.<sup>16</sup>

Statesboro's first attempt to integrate was the Freedom of Choice plans. These led to token integration, ability grouping, and later tracking.

### **The Freedom of Choice Plan, Token Integration**

Token integration in Statesboro was implemented through the "Freedom of Choice Plan"<sup>17</sup> of 1965. This document states that a student and their parents can decide which schools that student will attend. This placed the burden of integration not on the school officials but on the parents of the children. "Free Choice" plans were a common form of resistance in the South. The document looked good on paper, but no Whites signed up to go to Black schools and Blacks had difficulty getting accepted into the formerly all white schools.

Another reason why the Freedom of Choice plan was not fair to African American students was because it enforced the term "token integration"<sup>18</sup>. What this literally means is that African American students either by academic or athletic merit was how they were accepted into the previously all white schools. There is evidence to support that only groups of about 15-25 students were allowed to integrate at a time. In essence the Freedom of Choice plan gave the impression that students were free to choose where they wanted to go to school; in reality Black students had to be accepted into the schools they wished to attend. There was clearly no "Freedom of Choice". This system was not satisfactory for the federal judiciaries, so from 1969-1972 there were a series of three court cases brought against Bulloch County Board of Education.

### **USA vs. Bulloch County Board of Education 1969-1972**

In 1969 the USA vs. Bulloch County BOE case involved the token integration that had been reported by the Bulloch County BOE from 1967-1969. Data reported indicated that only a few blacks were allowed into each previously all white school, and there were no whites entering the previously all black schools. There is also evidence that the school board was cutting already meager funds from black schools, and this was the reason for William James High to lose its accreditation in 1968.<sup>19</sup>

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<sup>16</sup> Ibid. This was a speech to the Statesboro Rotary Club made by Mr. Edwin L. Wynn on August 2, 1965.

<sup>17</sup> This is from a copy of the Freedom of Choice plan issued by the Bulloch county Board of Education. This document was found in the Bulloch county school board archives.

<sup>18</sup> This definition was taken from two interviews H. Mays, and J. Abraham, this was information was also concurred from the acceptance groups that I photocopied from the Bulloch county school board minutes.

<sup>19</sup> Interview with Mr. H.Mays.

The 1971 court case dealt with the “desegregation of faculty and other staff, majority and minority transfer policy, transportation, school construction, and site selection”<sup>20</sup>. This was also the year that Bulloch Academy (the private white school) was established. It seems that White flight occurred in Statesboro as it was all over the South.

The 1972 court case “ordered the Defendant (Bulloch County Board of Education) to submit . . . criteria relative to purposes of hiring, firing, promotion, demotion, and placement of personnel in Bulloch County School District.” This case revolved around the treatment of African American education professionals; it specifically involved Mr. Julius Abraham. In an interview conducted by the author, Mr. Abraham indicated that he was the Head Principal at William James School and when they integrated he was made Co-Principal (like assistant principal) at the formerly all white school. This was a clear case of discrimination on the part of the Board of Education. Mr. Abraham and other African Americans filed suit and won their case. In fact the Board was ordered to correct his pay as principal; this included his back pay.

### **Tracking**

It can be proven that during the court cases of 1969-72, that some of the schools in Statesboro were already integrated and looking quite hopeful, and that the implementation of tracking was not only unnecessary but struck quite a serious blow to the blacks in the Bulloch County education system

Tracking or “homogeneous learning groups began as a modified form of ability grouping. This modified grouping arrangement evolved into strict grouping practices which separated students into three or more levels based on test scores and/or teacher recommendations”<sup>21</sup>. In a study conducted by the Office of Civil Rights in 1992-3 on two schools in Statesboro, it found that the Statesboro school system had in fact reseggregated. Dr. Billy Bice was the presiding school superintendent, his statement contained this: “It looks as though racially identifiable groups existed in all six schools studied during the initial review in January 1991.”<sup>22</sup> This statement alone cannot carry any weight, but it does give a glimpse as to the conditions of the still somewhat racially segregated schools in Statesboro. The article also goes on to give the points of view of the students, parents for and against tracking, teachers for and against tracking, and the members of the outside community that attended the school board meeting in 1991.

The most controversial things about tracking are as follows: It discriminates against minorities, and leaves the children labeled “slow” psychologically wounded. “Tracking decisions are usually made based on scores on reading test or teacher recommendations. . . A large disproportionate number of minorities are assigned to the lower track. Additionally, large numbers of poor people are assigned to the lower

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<sup>20</sup> *United States of America v. The Board of Education of Bulloch County, Georgia, J. H. Wyatt, Chairman; Raymond Hodges, W. C. Hodges, Dr. A. B. Daniel, Denver Lanier, Members; and Edwin L. Wynn, Superintendent of Public Schools, Bulloch County, Georgia, Civil Action Number 462*, in the United States District Court for the Southern District of Georgia, Swainsboro Division. (Government documents) taken from the second court case dated July 1, 1971.

<sup>21</sup> Jane Page and Fred Page. “Tracking and Research based Decision Making: A Georgia School System’s Dilemma”. *International Journal of Educational Reform*, Vol. 2., No.4. October 1993.

<sup>22</sup> *Ibid*, 409.

tracks.”<sup>23</sup> In the homogenous groups children learn with people considered to be at their same learning level. A person in favor of tracking is quoted as having said:

In my teaching experience there have been many things I have been able to do for students. . . But there are some things I have not been able to do. I have not been able to change a student's potential. I have not been able to change his socioeconomic level. I have not been able to change his home life. I have not been able to change the lack of parental support in some cases. I have not been able to change the lack of priority placed in education in some homes. I have not been able to change the fact that some children are not read to at home. Our children's education should not be held hostage to the social ills of this world and educators should address education with the reality that learning habits, motivation, self-determination, are learned very early at home and are primary to any child's achievement.<sup>24</sup>

This is an example of the effects of tracking. This teacher has low expectations of his minority students. Other harmful effects include some minorities are less equipped to deal with higher education, there is racial and sexual discrimination in school and employment practices, and school integration in the South has digressed. Needless to say tracking was finally ended in the Bulloch County school system in 1993.

## Conclusion

According to a report from the Desegregation Assistance Center (DAC), school segregation can be broken down into three segments. The First Generation Problem was “dismantling the dual systems of Black and white schools, the process known as physical desegregation.”<sup>25</sup> The study shows that national concerns were physical assignment plans, elimination of racial isolation, and elimination of biases and stereotypes. DAC offered writing plans, consultation, and plan implementation stereotyping and biases to school administration.<sup>26</sup>

The Second Generation slightly overcame physical segregation, but “the dual systems were evident in the attitudes, policies, practices, and programs provided by schools even when they were physically integrated.”<sup>27</sup> For example there was unequal access to classrooms, teaching biases, ability grouping (*also known as Tracking*), denial of equal access and equitable treatment for language minority students, and lastly gender was identified as a basis for desegregation.<sup>28</sup> The desegregation concerns are access to courses and programs, access to language development, and the elimination of practices which lead to isolation or differential treatment based on race, sex, and national origin.<sup>29</sup> The DAC offered the same services to the second generation but with added multicultural education.<sup>30</sup>

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<sup>23</sup> notes from Jane Page early 90's. This comes from a pamphlet that she used to take with her to talk to families in the Statesboro community about ending tracking in Statesboro.

<sup>24</sup> Page and Page, 412.

<sup>25</sup> Resegregation of public schools the third generation, A Report on the Condition of Desegregation In America's Public Schools, 1989. 4-54. pg 13.

<sup>26</sup> Ibid, 16.

<sup>27</sup> Ibid, 13.

<sup>28</sup> Ibid, 13-16.

<sup>29</sup> Ibid

<sup>30</sup> Ibid

The Third Generation of students, also in Statesboro, faces the problems of school resegregation. There is physical resegregation in the classrooms, unequal opportunities to learn, teachers lower expectations of minority students, and drastically different outcomes between white and minority students' test scores. For example, "while nearly 95 percent of the 3,600 youth surveyed could read a simple newspaper article, fewer than 40 percent could understand an article appearing on the opinion page, fewer than 10 percent could interpret an Emily Dickenson poem."<sup>31</sup> The main concern for the third generation is school reconstruction and teacher sensitivity training.<sup>32</sup>

Some of the conclusions that this study makes is that in order for Blacks to become successful in Statesboro there needs to be equal access to education. The Brown decision is an example of how federal legislature does not always yield the desired results. It is not until after WWII and the Civil Rights Act that Statesboro began to make educational progress. Statesboro desegregated physically in 1968 because of the loss of half a million in federal funds. Then the board of education installed ability grouping as another barrier to integration. Tracking was not ended until 1993, so Statesboro still has a long way to go to truly offer equal education. This paper is still a work in progress.

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<sup>31</sup> Ibid, 18.

<sup>32</sup> Ibid, 16-17.



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**THE USE OF NATURAL TRANSFORMATION IN *Actinobacillus pleuropneumoniae* TO GENERATE CONFIRMATORY MUTANTS IN A SEROTYPE 1 STRAIN**

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**Abstract**

*Actinobacillus pleuropneumoniae is the causative agent of porcine pleuropneumonia, a highly contagious respiratory disease with major economic implications for the swine industry worldwide. A. pleuropneumoniae produces four RTX toxins, ApxI-ApxIV, that are critical for the on-set of acute A. pleuropneumoniae infections in pigs. We previously generated A. pleuropneumoniae transposon mutants with decreased Apx toxin activity. The goal of this study was to introduce the insertionally inactivated genes into a clean genetic background to confirm that the Apx deficient phenotypes were due to the transposon insertion. We optimized the protocol for natural transformation and generated two confirmatory mutants. This protocol provides an easy and efficient means of transferring genomic mutations and will allow rapid generation of confirmatory mutants.*

**Introduction**

*A. pleuropneumoniae is the causative agent of porcine pleuropneumonia, a highly contagious respiratory disease with major economic implications for the swine industry worldwide (Tascon et al. 1996). A. pleuropneumoniae is responsible for acute and chronic, persistent infections (Nicolet, et al. 1992). Acute outbreaks are characterized by extensive hemorrhaging in the lungs, with a high mortality rate in 24 to 48 hours. Chronic infections can occur as a persistent disease and are characterized by abscesses, scars and fibrinous adhesions in the pleural cavity along with pulmonary necrosis. The latter form is of great concern because it manifests only as impairment of growth and increased susceptibility to secondary infections (Tascon et al. 1996). Transmission of the infection is by aerosol droplets from pig to pig or by direct contact (Jobert et al. 2000). Currently available vaccines are unsatisfactory for controlling the disease due to poor prevention of lung lesions, lack of cross-protection between serotypes and failure to prevent the carrier state and subsequent spread of the infection (Higgins et al. 1985; Rosendal et al. 1986). A better understanding of the pathology of the bacterial infection and the mechanisms that regulate virulence factor expression may lead to improved treatment and prevention of the disease.*

*A. pleuropneumoniae produces many virulence factors including four RTX toxins, ApxI-ApxIV, that are essential for pathogenicity (Tascon et al. 1996). The RTX*

toxins have been shown to be critical virulence factors for the on-set of acute *A. pleuropneumoniae* infections in pigs, with both ApxI and ApxII needed for full virulence (Tascon et al. 1994). Apx toxins are responsible for lung lesion production, impairment of immune response, increased inflammatory cytokine production, hemolytic activity, anti-phagocytic activity and induction of phagocyte respiratory bursts (Tascon et al. 1996).

Although Apx toxins are essential for *A. pleuropneumoniae* pathogenicity, very little is known about their regulation or the environmental signals that affect their production. Maximal *apxI* and *apxII* expression occurs at high cell density as the growth rate decreases (Jarma and Regassa 2004). Although oxygen availability decreases with an increase in cell density, oxygen limitation alone does not alter *apxI* or *apxII* expression (Jarma et al. 2004). ApxI expression is enhanced 10-fold by the addition of calcium to the growth medium at concentrations similar to those found in serum (Frey et al. 1994; Gygi et al. 1992). Iron may also modulate *A. pleuropneumoniae* ApxII production. Maudsley and Kadis (1986) reported that iron represses the production of ApxII when present in the growth medium at concentrations of 100 to 500 $\mu$ M, and a recent report implicated the global regulator Fur in ApxI toxin production (Chin et al. 2003). In an effort to identify potential regulatory pathways that modulate Apx toxin production, our laboratory has generated Apx deficient transposon mutants. To verify that the phenotype of the mutants is due to the transposon insertion, the mutation must be moved into a clean genetic background. The current techniques available for generation of confirmatory mutants using conditionally replicating or suicide vectors can be difficult and/or time consuming (Jansen et al. 1995; Mulks and Buysse 1995; Oswald et al. 1999; Sheehan et al. 2000; and Ward et al. 1998). However, a recent report by Bosse et al. (2004) suggested that *A. pleuropneumoniae* was capable of natural transformation. In this study, we used a modified natural transformation protocol to generate confirmatory mutants in a serotype 1 strain.

## Materials and Methods

**Bacterial strains and culture conditions.** All of the strains used in this study are derivatives of the *A. pleuropneumoniae* serotype 1 reference strain ATCC27088 (ApxI<sup>+</sup>ApxII<sup>+</sup>). RAS143 harbors a defined mutation in *apxIIA* (Jansen et al. 1995), such that it is able to produce only ApxI. The RAS143 derivative strains RAS128, RAS138 and RAS139 also have a mini-Tn10 transposon mutation (Regassa et al. 1998). *A. pleuropneumoniae* strains were routinely cultured in heart infusion broth supplemented with 10  $\mu$ g/ml  $\beta$ -NAD (V factor) at 37<sup>o</sup>C with shaking at 200 rpm or on GC Medium Base containing 1% Bacto Supplement VX and 10  $\mu$ g/ml  $\beta$ -NAD. Kanamycin (25 $\mu$ g/ml) was added as needed. After each experiment, the *A. pleuropneumoniae* cultures were inoculated into Luria-Bertani (LB) agar to confirm that they had not been contaminated; *A. pleuropneumoniae* does not grow on LB agar due to the lack of  $\beta$ -NAD. All growth media and supplements were purchased from Difco Laboratories (Detroit, MI, U.S.A.) with the exception of  $\beta$ -NAD and kanamycin (Sigma Chemical Company, St. Louis, MO, U.S.A.).

**DNA isolation.** *A. pleuropneumoniae* genomic DNA was isolated using the Qiagen DNeasy Tissue Kit (Qiagen Inc., Valencia, CA, USA). The concentration of the isolated DNA was determined on an ethidium bromide-stained 0.8% agarose gel.

**Transformation assay.** *A. pleuropneumoniae* strain RAS143 was grown in brain heart infusion broth with 10 µg/ml NAD, and the growth was monitored at 600nm. 1-ml aliquots of culture were removed after 2.5 hours of growth. The aliquots were added to tubes containing either *EcoRI*-digested chromosomal DNA or undigested chromosomal DNA (approximately 150 ng). Control cultures received no DNA. The tubes were incubated for 30 minutes at 37°C and then 2 ml of brain heart infusion broth was added and the cultures were incubated at 37°C for an additional 100 minutes. 100µl aliquots were spread on GC/VX/NAD plates with kanamycin. The plates were incubated 24-48 hours at 37°C.

## Results

For the natural transformation, *A. pleuropneumoniae* strain RAS143 was grown in brain heart infusion broth with 10 µg/ml NAD (Figure 1). Cells for the transformation were harvested after 2.5 hours of growth; 1-ml aliquots were mixed with undigested or *EcoRI*-digested genomic DNA from the transposon mutants (RAS128, RAS138, or RAS139). After an incubation period, transformants were selected for on GC/VX/NAD plates with kanamycin. RAS143 is kanamycin sensitive but the transposon encodes for kanamycin resistance. Isolated colonies were observed on the test plates after 24-48 hours at 37°C (Table 1); no colonies were observed for the control transformations that

Table 1. Transformation Efficiency<sup>1</sup>

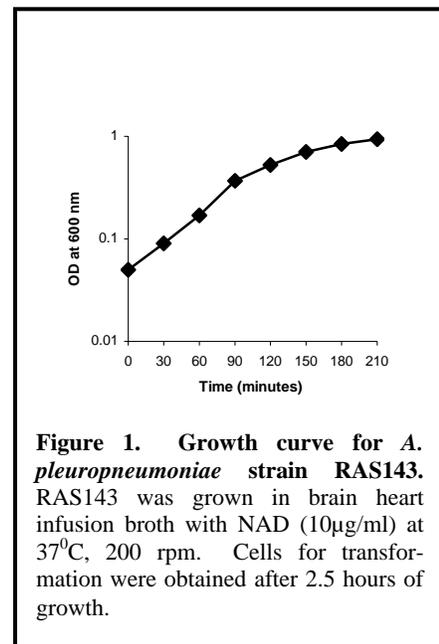
Strain	<i>EcoRI</i> -digested DNA	Undigested DNA
RAS128	2	0
RAS138	4	0
RAS139	0	0

<sup>1</sup> Number of transformants per milliliter using 150 ng of DNA per transformation.

lacked exogenous DNA. Transformants for mutants RAS128 and RAS138 were generated using *EcoRI*-digested DNA. No transformants were obtained with the undigested DNA.

## Discussion

The transformation efficiency for the RAS128 and RAS138 mutations was low, but similar to the efficiency seen in the recent report by Bosse et. al. (2004). Bosse et al. (2004) had efficiencies of 27-150 transformants per ml when 125 ng of DNA was used. In this study, 2-4 transformants per ml were obtained when approximately 150 ng of DNA was used. Although the frequency of transformation was low, natural transformation appears to provide a simple and rapid method for generating allelic replacements in *A. pleuropneumoniae*. Final verification of the



transformants will be done using DNA sequence analysis. After verification, this natural transformation protocol will be used to generate the remaining confirmatory mutants. This method should prove to be especially useful for studies that require the generation of numerous allelic replacements.

**Acknowledgements**

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## **GLOBAL OUTSOURCING: A STUDY OF ATTITUDES HELD BY GEORGIA SOUTHERN STUDENTS**

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### **Abstract**

*The tendency of U.S.A. companies to outsource jobs abroad is viewed as either negative or positive by many in the U.S.A. The issue of outsourcing abroad does not permit a clear-cut assessment of its long-term effects. Beyond competitive advantages and disadvantages are opinions and predictions of how outsourcing abroad affects the U.S.A. A survey of attitudes toward outsourcing jobs abroad was administered to 284 undergraduate and graduate Georgia Southern University students. Descriptive statistics, frequencies and MANOVA methods were used to analyze the data collected. Statistically significant differences of attitude were found among the students' level of knowledge, age, gender, major, and classification.*

### ***Global Outsourcing: A Study of Attitudes Held by Georgia Southern University Students***

#### **Introduction**

The attitudes that people hold are very important, especially when making significant decisions, because attitudes influence behavior. Attitudes are simply *learned predispositions to respond in consistently favorable or unfavorable manners with respect to given objects* (Fishbein & Ajzen, 1975). According to Staw & Ross (1985), employees with positive attitudes tend to remain positive about their jobs and employees with negative attitudes tend to remain negative about their jobs, over five years. Therefore, if a person has a positive or negative attitude, he or she is more likely to keep that attitude over time.

Attitudes are also related to behavioral intentions. According to Fishbein and Ajzen (1980), a person believes that a behavior has a specific outcome, and from this belief, he or she develops an attitude. Attitudes lead to intentions which cause people to exhibit consistent behaviors.

An understanding of attitudes is relevant to this study because the attitudes that students hold towards global outsourcing are influenced by their beliefs. Student beliefs concerning global outsourcing are directly related to the information used to introduce them to global outsourcing. It is predicted that students exposed to the detriments of global outsourcing have negative attitudes, and students informed of the benefits have positive attitudes.

Analyzing student attitudes towards global outsourcing is significant because

negative and positive beliefs of outsourcing cause students to have intentions that influence their career goals and decisions. For example, management students have a higher chance of making decisions regarding global outsourcing upon graduation because companies often decide to relocate some their business functions to other countries for economic gains. If a management college graduate, who holds a negative attitude towards global outsourcing, becomes employed by a business firm, the college graduate may become resentful of the company when board members decide to globally outsource labor. Feelings of resentment can possibly cause the college graduate to reduce his or her productivity. Even in the case that the college graduate does not reduce his or her productivity, it is unfortunate for any employee to work for a company that he or she views negatively.

In order for one to understand why companies globally outsource some of their job functions, he or she must understand the vitality of competition. Competition is a force that drives American businesses to operate in their most efficient forms. American firms maintain efficient and effective operations by “achieving a higher return on assets through less capital commitment and increasing the ability to adjust quickly to a changing environment through less commitment to in-house resources” (Insinga & Werle, 2000). Outsourcing is a strategy that allows companies to maximize their core competencies by utilizing limited resources to take advantage of competitive forces. These companies are also able to rapidly adjust to changing environments because they contract out many of their business functions to other businesses. Therefore, when changes occur, these companies simply have to search for qualified vendors to satisfy the new conditions. Outsourcing saves companies from costly tragedies that result from requirements to change or discontinue a business function (e.g. handling customer service calls).

Logically, global outsourcing of jobs is the tendency of a company to contract or outsource jobs outside of its home country for an economic gain. In the 1970's and 1980's, blue-collar jobs were challenged with global outsourcing (Murray & Kotabe, 1999). Global outsourcing first became popular in the textile and manufacturing industries (Madigan, 2003). Then, technological advances and service-related trade barrier reductions prompted service firms, such as telemarketing and back office jobs, to globally outsource (Murray & Kotabe, 1999). Today, the United States of America's educated class is threatened by global outsourcing just as the blue-collar class was challenged in the 1970's and 1980's (Mandel, 2003).

In the following research, Georgia Southern University students are used as a sample of collegiate opinions towards outsourcing jobs abroad. Student opinions are collected using a specially designed survey in order to ascertain the current student outlook on the job market for college graduates and the effects of international outsourcing.

The fundamental hypothesis for this research is: the more informed the college student is on the topic of outsourcing abroad, the less negatively that student perceives global outsourcing as having an effect on their post-baccalaureate job possibilities and domestic economic issues.

### **Literature Review: Trends in Outsourcing**

To date, outsourcing abroad has been mostly limited to blue-collar and unskilled workers. However, currently, white-collar and skilled labor jobs are being outsourced overseas in favor of lower wages and acceptable returns. Bardhan & Howe (2001) view outsourcing as a general practice that becomes most common during economic recession.

However, nearly \$100 billion were spent by American corporations in outsourcing contracts in 1996 alone, according to the New York City based Outsourcing Institute (Greco, 1997). Greco (1997) offers additional evidence in a survey of over 428 companies identified as the fastest growing businesses, over a period of five years. According to that survey of chief executives, all of the businesses used outsourcing domestically and internationally in their businesses.

The decision to outsource internationally is met with pressure from many directions. According to Insinga & Werle (2000), pressures to outsource internationally are primarily driven by a desire to enhance competitiveness through higher returns created by lowering capital commitments and increasing response time to changing product requirements. In essence, productivity is increased proportionately to efficiency and efficiency is increased through refactoring the employment hierarchy and re-engineering the production process. Outsourcing jobs abroad can provide a quick-fix solution. By contrast, Insinga & Werle (2000) identify the primary pitfall of outsourcing internationally as related to its upkeep and maintenance relative to localized workers. While the strategic intent is to move forward with product development, sometimes more time is required to resolve the day-to-day business problems amongst the outsourced group.

According to Murray & Kotabe (1999), a service firm will typically retain its core services intra-nationally (i.e. staying in the U.S.A.), regardless of the type or complexity of the core service. By contrast, the particularly unique aspects of any auxiliary services determine how and where they can be outsourced. Especially in the case of service providing businesses, outsourcing at the international level is a viable option since production and consumption of services need not occur simultaneously or in the same locale. Increasingly, firms are questioning “to where”, not “if” they should outsource.

### **Outsourcing - From a Management Perspective**

From a manager's perspective, there are wide variations among locally managed employees and remotely or indirectly managed workers. Takeishi (2001), after performing a study of the management of supplier involvement of automobile product development, concludes that outsourcing may not be effective without strong internal efforts on the part of the local management. Specifically, the quality of cooperatively developed component designs was found to have a direct correlation with three areas of the auto maker's management processes: problem-solving, communication, and level of knowledge. In other words, the ability to quickly recognize problems and potential hurdles and bypass or surpass them effectively is attained by maintaining a production cycle where both the management and supplying parties are fully informed of the development situation and future plans.

Takeishi (2001) adds that the more a corporation opts to rely on outsourcing for generating the modules for its final product, the more difficult it is to separate the product from a competitor's in the mind of the consumer. In essence, as the reliance on outsourced production increases, the aggregation of the suppliers becomes the real producer of the products, and the corporations themselves simply become vendors which package identical products.

Insinga & Werle (2000) provide a methodology for reviewing business outsourcing plans in order to reconstitute them into a sound strategic base for incorporating international workers into product development. First, the decision to outsource and benefits of outsourcing must be matched with the corporate business

strategy. Second, core products and services should be clearly identified and separated from the peripheral tasks which are available to be outsourced. Finally, strategic gaps, cost saving strategies and asset shedding strategies should be fully ascertained before offshore outsourcing can become an integral part of the company master strategy.

When considering foreign outsourcing, personal relationships, especially related to cultural differences, must be taken into account. Davey & Allgood (2002) note that in a case study of LEX (U.K.) and an outsourced Indian firm that core concepts to the business were often misunderstood, such as contracts, payment schedules, bank mandates, leasing vehicles, and company cars - none of which existed as commonplace in Indian society. Additionally, the foreign firm was fundamentally hierarchical in nature: even basic and minor decisions were consistently forwarded up a chain of command before an answer could be delivered to the parent firm. Davey & Allgood (2002) recommend several actions to facilitate successful international outsourcing: carefully consider the personnel quality of the international partner, maintain close involvement in both management and day-to-day operations, be sensitive to language and cultural issues and differences, and take initiative to ensure quality communication channels between the members of both parties.

Useem & Harder (2000) have a unique perspective on the kinds of managerial skills necessary to make offshore outsourcing a worthwhile corporate initiative. The new breed of managers should excel in four fields: strategic thinking, deal making, partnership governing, and managing change. This correlates with the views expressed by Insinga & Werle (2000). Using the term "lateral leadership", Useem & Harder (2000) express how upper management is solidly supportive of the lower management to make minor changes and to generate suggestions. In a survey of 423 managers at a variety of U.S. companies, 67 percent of the managers expressed a willingness to pay up to six percent more for an employee possessing a mastery of even one of the critical four areas outlined above. Of those, 40 percent were prepared to pay up to 11 percent of an increase.

### **Effects of Outsourcing**

Bardhan & Howe (2001) studied restructuring through foreign outsourcing, where foreign outsourcing was shown to account for between 25 and 40 percent of the rise in payroll inequality between blue and white collar workers in California within the years from 1987 through 1992. Leiblein, Reuer, & Dalsace (2002) investigated how international outsourcing, in production environments, affects the technological performance of a corporation as a relationship between governance decisions and the contractual hazards. However, their results indicated that the governance structure within a firm does not significantly impact technological performance.

Labor composition when outsourcing abroad is easily affected by technological change just as the use of trade prompts increased computerization. Increased computerization typically results in more technological change. Paul & Siegel (2001) identify this theory and use it to support the idea that as computerization prompts technological change; and technological change, in turn, prompts computerization, then jobs typically reserved for on-shore skilled and educated labor will be delivered to the international community. Trade is characterized as "labor saving for workers without a college education, yet labor using for workers with at least some college" (Paul and Siegel, 2001). However, cost savings is considered the final factor in outsourcing negotiations; while unskilled labor is the most popular outsourced medium, the demand for exported skilled labor steadily increases as well. Fundamentally, Paul and Siegel

(2001) demonstrate that technology has a wider change on labor composition in favor of highly educated workers.

### **Statement of the Problem**

Today's educated class is threatened with the issue of global outsourcing. Upon graduation, college students may be placed in a position of direct competition with global outsourcing. To facilitate problems that may arise from global outsourcing, students must be well informed about the topic.

Global outsourcing is an advancing practice. Many companies outsource their local job functions to other countries. Because other countries offer exceptional skills and lower labor costs, the likelihood of more jobs being transferred overseas is a great possibility. In the past, these jobs were preserved for America's educated class.

It is important to evaluate student attitudes toward global outsourcing because attitudes have effects on behaviors. Students with more positive attitudes towards outsourcing jobs abroad may not allow the issue of global outsourcing to be an intimidating factor that hinders their pursuit of competitive career opportunities.

In this study, Georgia Southern University student attitudes of global outsourcing will be measured by using a total of thirteen survey questions. The responses to the thirteen survey questions will then be compared among ages, gender, majors and classifications to determine if there are statistically significant factors among the demographics.

The following hypotheses of student attitudes toward global outsourcing will be examined:

- H1*: Students with greater knowledge are more positive.
- H2*: Students between the ages of 25-50 are more positive.
- H3*: Male students are more positive.
- H4*: Business students are more positive.
- H5*: Graduate students are more positive.

### **Method**

*(See Appendix A for Survey)*

#### *Participants and Design*

The hypotheses were tested with a survey of seventeen variables. Because there was no published test found to measure student attitudes of global outsourcing, the survey questions were carefully formulated. Debatable issues about global outsourcing, as expressed in text books, the media, and news paper articles, were used to formulate questions that measure how positively or negatively the issues are viewed. The questions of global outsourcing issues were then presented in a survey to measure the opinions or attitudes that students hold. Upon completion, several professors of business management and economics viewed the survey questions and concluded that they were appropriate. To check for clarity, non-participating students viewed the survey and indicated that questions were understandable.

All of the students used in this research were Georgia Southern University Students. Before administering the survey to students, the survey had to be approved by Georgia Southern University Office of Research Services and Sponsored Programs to be sure that the content of the survey adheres to federal regulations. The first step in

obtaining approval was to take a course containing the federal regulations to be followed when using human participation for research. Upon completion of the course, a test had to be passed before obtaining certification to administer the survey. After receiving certification, a cover letter, application, and consent form with Georgia's Southern's letter head were required. Once the forms submitted to the University's Internal Review Board (IRB) were approved, the surveys were administered to Georgia Southern University students.

To obtain an acceptable sample of students, a total of eight Georgia Southern classes were surveyed (5 business classes and 3 non-business classes). A total of 284 surveys were collected. Of the 284 surveys, fourteen had missing information. Fortunately, SPSS's operating system was able to take into account the missing data by calculating valid percentages. Of the students surveyed, there were 114 males and 140 females; 171 business students and 83 non-business students; 215 between the ages of 18-24 and 39 between the ages of 25-50; and 206 undergraduates and 48 graduate students.

### **Instrumentation and Procedure**

A survey containing 13 questions was used to test student attitudes of global outsourcing. Responses to these questions were measured using a Likert Scale from "five" (strongly agree) to "one" (strongly disagree). The survey questions were designed to have an equal number of positive and negative responses to reduce the tendency of participants to answer positively for each response.. Questions 1, 3, 5, 7, 9 and 11 were negative and questions 2, 4, 6, 8, 10 and 12 were positive statements. Question 13 was also used as a control to measure the attitudes of students who felt that they were knowledgeable or not knowledgeable about global outsourcing. The Likert Scale for question 13 was divided in two when coded: those who strongly agreed or agreed were labeled as having lots of knowledge about global outsourcing and those who disagreed or strongly disagreed labeled as having little knowledge of global outsourcing.

Using a Microsoft Excel and SPSS Spread sheet, the seventeen variables of data were keyed in for the 284 surveys. Questions 1-12 were keyed in according to the responses given on a scale of one to five. Question 13 and the students' ages, gender, major, and classification were used to determine if there were any significant relationships between these demographics and survey questions 1-13 to support or disprove the underlying hypotheses. Students with lots of knowledge about global outsourcing were coded as 1 and students with little knowledge of global outsourcing were coded as 2; students between the ages of 18-24 were coded as 1 and students between the ages of 25-50 were coded as 2; males were coded as 1 and females were coded as 2; business students were coded as 1 and non-business students were coded as 2; and undergraduates were coded as 1 and graduate students were coded as 2.

### **Results**

*(See Appendix B for Frequency and MANOVA Tables)*

Using SPSS software, frequencies and MANOVAs were used to analyze the data. The frequency table shows the Likert Scale scores for the survey questions. The MANOVA tables determine statistical significance among student attitudes and the hypotheses tested.

## **Discussion**

### *Hypothesis 1 and Results*

It was predicted that students with a greater knowledge of global outsourcing would have a more positive attitude. Statistical significance was found in survey questions 9 and 12. Students who indicated that they were knowledgeable about global outsourcing disagreed more so with the statement that outsourcing jobs abroad **does not** highly impact U.S.A. manufacturing jobs. Students who indicated that they were knowledgeable about global outsourcing disagreed more so with the statement that outsourcing jobs abroad increases employment opportunities for U.S.A. college graduates.

### *Hypothesis 2 and Results*

It was predicted that students between the ages of 25-50 have a more positive attitude toward global outsourcing than student between the ages of 18-24. Statistical significance was found in survey questions 3 and 4. Students between the ages of 18-24 disagreed more so with the statement that outsourcing jobs abroad **does not** allow U.S.A. companies to operate more efficiently. Students between the ages of 25-50 disagreed more so with the statement that outsourcing jobs abroad increases jobs in the U.S.A.

### *Hypothesis 3 and Results*

It was predicted that male students have a more positive attitude towards global outsourcing than female students. Statistical significance was found in survey questions 5, 10 and 13. Males agreed more so with the statement that outsourcing jobs abroad decreases U.S.A. companies' labor costs. Females disagreed more so with the statement that outsourcing jobs abroad highly impacts service-related jobs. Males agreed more so with the statement that outsourcing jobs abroad is a topic of concern that they are very knowledgeable about.

### *Hypothesis 4 and Results*

It was predicted that business students have a more positive attitude towards global outsourcing than non-business students. Statistical significance was found in survey questions 1, 3 and 13. Non-business students agreed more so with the statement that outsourcing jobs abroad **does not** improve the overall economy of the U.S.A. Business students disagreed more so with the statement that outsourcing jobs abroad **does not** allow U.S.A. companies to operate more efficiently. Non-business students agreed more so with the statement that outsourcing jobs abroad is a topic of concern that they are very knowledgeable about.

### *Hypothesis 5 and Results*

It was predicted that graduate students have a more positive attitude towards global outsourcing than undergraduate students. Statistical significance was found in survey questions 1, 8 and 13. Graduate students agreed more so with the statement that outsourcing jobs abroad **does not** improve the overall economy of the U.S.A. Undergraduates disagreed more so with the statement that outsourcing jobs abroad highly impacts U.S.A. technology-related jobs (e.g. software design). Graduate students agreed more so with the statement that outsourcing jobs abroad is a topic of concern that they are very knowledgeable about.

## **Limitations and Recommendations**

One limitation of this research is that there were no pre-existing and reliable tests that measure student attitudes toward global outsourcing. For example, one survey



question was used to measure the level of knowledge that students felt that they possessed about outsourcing jobs abroad. Unfortunately, it is difficult to measure the level of knowledge a person has of a particular subject. In the future, specific questions should be asked of how a student has gained knowledge of global outsourcing. For example, students can be asked to list any courses that they have taken which taught global outsourcing and/or scholarly literature that they have read about global outsourcing.

Another limitation is that only Georgia Southern University students were surveyed. A single study conducted on one college campus may not contain the sampling diversity required to determine a reliable conclusion concerning the differences in attitudes that America's educated class holds toward global outsourcing. For future studies, the attitudes that various countries, colleges, professions and social statuses have of global outsourcing can be measured. These attitudes are important because companies and cultures around the world are becoming increasingly global.

## Appendix A

### A Survey of Attitudes Toward Global Outsourcing

*By completing this survey, you confirm that you have read the Informed Consent, been given a copy for your records, and voluntarily agree to participate in the survey.*

Please let us know whether or not you agree or disagree with these statements. Please circle your response to each item as follows:

**5—strongly agree    4—agree    3—undecided    2—disagree    1—strongly disagree**

Definition of "outsourcing jobs abroad": An activity in which a U.S.A. based business relocates some of its business activities to another country.

In my opinion, outsourcing jobs abroad...

- |                                                                              |   |   |   |   |   |
|------------------------------------------------------------------------------|---|---|---|---|---|
| 1. does not improve the overall economy of the U.S.A.                        | 5 | 4 | 3 | 2 | 1 |
| 2. improves the overall economy of the country to which a job is outsourced. | 5 | 4 | 3 | 2 | 1 |
| 3. does not allow U.S.A. companies to operate more efficiently.              | 5 | 4 | 3 | 2 | 1 |
| 4. increases jobs in the U.S.A.                                              | 5 | 4 | 3 | 2 | 1 |
| 5. decreases U.S.A. companies' labor costs.                                  | 5 | 4 | 3 | 2 | 1 |
| 6. increases U.S.A. companies' profits.                                      | 5 | 4 | 3 | 2 | 1 |
| 7. decreases the price of U.S.A. products.                                   | 5 | 4 | 3 | 2 | 1 |
| 8. highly impacts U.S.A. technology-related jobs (e.g. software design).     | 5 | 4 | 3 | 2 | 1 |
| 9. does not highly impact U.S.A. manufacturing jobs.                         | 5 | 4 | 3 | 2 | 1 |
| 10. highly impacts U.S.A. service-related jobs.                              | 5 | 4 | 3 | 2 | 1 |
| 11. does not create <b>new</b> jobs and fields in the U.S.A.                 | 5 | 4 | 3 | 2 | 1 |
| 12. increases employment opportunities for U.S.A. college graduates.         | 5 | 4 | 3 | 2 | 1 |
| 13. is a topic of concern that I am very knowledgeable about.                | 5 | 4 | 3 | 2 | 1 |

**Age** \_\_\_\_\_ **Gender** M or F **Major** \_\_\_\_\_

**Classification (Circle)** Freshman    Sophomore    Junior    Senior    Graduate

**Appendix B**

**Frequency and Manova Tables**

**Table 1**

**Frequency Table for Variables 1-13**

Responses(Valid Percentage)

	SA	A	U	D	SD	Total
1. does not improve the overall economy of the U.S.A.	36(12.7)	65(22.9)	82(28.9)	80(28.2)	21(7.4)	284(100)
2. improves the overall economy of the country to which a job is outsourced.	51(18.0)	143(50.4)	56(19.7)	29(10.2)	5(1.8)	284(100)
3. does not allow U.S.A. companies to operate more efficiently.	14(4.9)	31(11.0)	70(24.7)	122(43.1)	46(16.3)	283(100)
4. increases jobs in the U.S.A.	10(3.5)	41(14.4)	42(14.8)	101(35.6)	90(31.7)	284(100)
5. decreases U.S.A. companies labor costs.	73(25.7)	135(47.5)	61(21.5)	13(4.6)	2(0.7)	284(100)
6. increases U.S.A. companies profits.	69(24.3)	143(50.4)	56(19.7)	14(4.9)	2(0.7)	284(100)
7. decreases the price of U.S.A. products.	18(6.3)	80(28.2)	106(37.3)	63(22.2)	17(6.0)	284(100)
8. highly impacts U.S.A. technology-related jobs (e.g. software design).	8(2.8)	33(11.6)	93(32.7)	116(40.8)	34(12.0)	284(100)
9. Does not highly impact U.S.A. manufacturing jobs.	0(0.0)	25(8.8)	68(24.0)	128(45.2)	62(21.9)	283(100)
10. highly impacts U.S.A, service-related jobs.	13(4.6)	53(18.8)	96(34.0)	92(32.6)	28(9.9)	282(100)
11. does not create new jobs and fields in the U.S.A.	59(20.8)	82(28.9)	65(22.9)	63(22.2)	15(5.3)	284(100)
12. increases employment opportunities for U.S.A. college graduates.	21(7.4)	64(22.5)	64(22.5)	81(28.5)	54(19.0)	284(100)
13. is a topic of concern that I am very knowledgeable about.	11(3.9)	74(26.1)	97(34.3)	70(24.7)	31(11.0)	283(100)

**Table 2**

**Analysis Using Multivariate MANOVA: Level of Knowledge as Factor**

Dependent Variables	Level of Knowledge	Mean	f	p
1. does not improve the overall economy of the U.S.A.	knowledgeable	2.78	2.05	0.13
	not knowledgeable	3.12		
2. improves the overall economy of the country to which a job is outsourced.	knowledgeable	3.82	0.62	0.54
	not knowledgeable	3.68		
3. does not allow U.S.A. companies to operate more efficiently.	knowledgeable	3.51	0.05	0.95
	not knowledgeable	3.55		
4. increases jobs in the U.S.A.	knowledgeable	2.15	0.27	0.77
	not knowledgeable	2.26		
5. decreases U.S.A. companies' labor costs.	knowledgeable	1.93	1.58	0.21
	not knowledgeable	2.09		
6. increases U.S.A. companies' profits.	knowledgeable	4.04	0.97	0.38
	not knowledgeable	3.89		
7. decreases the price of U.S.A. products.	knowledgeable	2.94	0.53	0.59
	not knowledgeable	3.00		
8. highly impacts U.S.A, technology-related jobs (e.g. software design).	knowledgeable	2.55	0.20	0.82
	not knowledgeable	2.47		
9. Does not highly impact U.S.A. manufacturing jobs.	knowledgeable	4.01	3.25	0.04
	not knowledgeable	3.75		
10. highly impacts U.S,A, service-related jobs.	knowledgeable	2.79	0.19	0.82
	not knowledgeable	2.75		

**Table 2 (Cont.)**

11. does not create <b>new</b> jobs and fields in the U.S.A.	knowledgeable	2.50	0.91	0.40
	not knowledgeable	2.73		
12. increases employment opportunities for U.S.A. college graduates.	knowledgeable	2.42	6.99	0.001
	not knowledgeable	3.03		

\*  $p < 0.05$  : significant,  $p > 0.05$  : not significant

**Table 3**

**Analysis Using Multivariate MANOVA: Age as Factor**

	Age	Mean	f	p
1. does not improve the overall economy of the U.S.A.	18-24	2.62	0.01	0.94
	25-50	2.64		
2. improves the overall economy of the country to which a job is outsourced.	18-24	3.80	0.64	0.43
	25-50	3.99		
3. does not allow U.S.A. companies to operate more efficiently.	18-24	3.69	4.53	0.03
	25-50	3.25		
4. increases jobs in the U.S.A.	18-24	2.61	8.31	0.004
	25-50	1.77		
5. decreases U.S.A. companies' labor costs.	18-24	2.03	1.47	0.23
	25-50	1.81		
6. increases U.S.A. companies' profits.	18-24	3.93	1.12	0.29
	25-50	4.20		
7. decreases the price of U.S.A. products.	18-24	3.06	0.06	0.80

**Table 3 (Cont.)**

8. highly impacts U.S.A, technology-related jobs (e.g. software design).	25-50	3.12	0.01	0.93
	18-24	2.77		
9. Does not highly impact U.S.A. manufacturing jobs.	25-50	2.79	2.90	0.09
	18-24	3.80		
10. highly impacts U.S,A, service-related jobs.	25-50	4.21	1.82	0.18
	18-24	2.68		
11. does not create <b>new</b> jobs and fields in the U.S.A.	25-50	3.00	1.11	0.29
	18-24	2.52		
12. increases employment opportunities for U.S.A. college graduates.	25-50	2.06	1.47	0.23
	18-24	2.53		
13. is a topic of concern that I am very knowledgeable about.	25-50	2.06	0.92	0.34
	18-24	3.02		
	25-50	3.26		

\*  $p < 0.05$  : significant,  $p > 0.05$  : not significant

**Table 4**

**Analysis Using Multivariate MANOVA: Gender as Factor**

	Gender	Mean	f	p
1. does not improve the overall economy of the U.S.A.	male	3.00	0.31	0.58
	female	2.35		
2. improves the overall economy of the country to which a job is outsourced.	male	3.87	1.22	0.27
	female	3.91		

**Table 4 (Cont.)**

3. does not allow U.S.A. companies to operate more efficiently.	male	3.73	1.36	0.25
	female	3.27		
4. increases jobs in the U.S.A.	male	2.04	0.07	0.79
	female	2.30		
5. decreases U.S.A. companies' labor costs.	male	1.79	6.85	0.01
	female	2.01		
6. increases U.S.A. companies' profits.	male	4.08	0.06	0.80
	female	4.05		
7. decreases the price of U.S.A. products.	male	3.01	0.18	0.67
	female	3.15		
8. highly impacts U.S.A, technology-related jobs (e.g. software design).	male	2.78	1.09	0.30
	female	2.78		
9. Does not highly impact U.S.A. manufacturing jobs.	male	3.91	0.35	0.55
	female	4.08		
10. highly impacts U.S.A, service-related jobs.	male	3.20	9.92	0.002
	female	2.57		
11. does not create <b>new</b> jobs and fields in the U.S.A.	male	2.50	2.03	0.16
	female	2.14		
12. increases employment opportunities for U.S.A. college graduates.	male	2.41	0.03	0.86
	female	2.22		
13. is a topic of concern that I am very knowledgeable about.	male	3.35	12.37	0.001
	female	2.99		

**Table 5**

**Analysis Using Multivariate MANOVA: Major as Factor**

	Major	Mean	f	p
1. does not improve the overall economy of the U.S.A.	business	3.03	10.69	0.001
	non-business	2.10		
2. improves the overall economy of the country to which a job is outsourced.	business	3.79	1.01	0.32
	non-business	4.03		
3. does not allow U.S.A. companies' to operate more efficiently.	business	3.75	4.70	0.03
	non-business	3.09		
4. increases jobs in the U.S.A.	business	1.97	3.50	0.06
	non-business	2.48		
5. decreases U.S.A. companies' labor costs.	business	1.83	0.17	0.68
	non-business	2.03		
6. increases U.S.A. companies' profits.	business	4.02	0.02	0.90
	non-business	4.12		
7. decreases the price of U.S.A. products.	business	2.85	3.37	0.07
	non-business	3.41		
8. highly impacts U.S.A, technology-related jobs (e.g. software design).	business	2.84	0.02	0.88
	non-business	2.71		
9. Does not highly impact U.S.A. manufacturing jobs.	business	3.95	0.28	0.60
	non-business	4.08		



**Table 5 (Cont.)**

10. highly impacts U.S.A, service-related jobs.	business	3.05	0.96	0.33
	non-business	2.57		
11. does not create <b>new</b> jobs and fields in the U.S.A.	business	2.41	0.14	0.71
	non-business	2.14		
12. increases employment opportunities for U.S.A. college graduates.	business	2.45	0.75	0.39
	non-business	2.10		
13. is a topic of concern that I am very knowledgeable about.	business	2.96	4.25	0.04
	non-business	3.39		

\*  $p < 0.05$  : significant,  $p > 0.05$  : not significant

**Table 6**

**Analysis Using Multivariate MANOVA: Classification as Factor**

	Class	Mean	f	p
1. does not improve the overall economy of the U.S.A.	undergraduate	2.93	6.99	0.01
	graduate	2.23		
2. improves the overall economy of the country to which a job is outsourced.	undergraduate	3.80	0.86	0.35
	graduate	4.01		
3. does not allow U.S.A. companies to operate more efficiently.	undergraduate	3.50	0.29	0.59
	graduate	3.43		
4. increases jobs in the U.S.A.	undergraduate	2.08	1.83	0.18
	graduate	2.33		
5. decreases U.S.A. companies' labor costs.	undergraduate	2.02	1.99	0.16

**Table 6 (Cont.)**

6. increases U.S.A. companies' profits.	graduate	1.78	0.20	0.66
	undergraduate	4.10		
7. decreases the price of U.S.A. products.	graduate	4.01	1.09	0.30
	undergraduate	2.98		
8. highly impacts U.S.A, technology-related jobs (e.g. software design).	graduate	3.23	4.96	0.03
	undergraduate	2.50		
9. Does not highly impact U.S.A. manufacturing jobs.	graduate	3.16	0.95	0.33
	undergraduate	3.86		
10. highly impacts U.S,A, service-related jobs.	graduate	4.20	0.28	0.60
	undergraduate	2.80		
11. does not create <b>new</b> jobs and fields in the U.S.A.	graduate	2.90	0.00	0.96
	undergraduate	2.39		
12. increases employment opportunities for U.S.A. college graduates.	graduate	2.16	0.46	0.50
	undergraduate	2.42		
13. is a topic of concern that I am very knowledgeable about.	graduate	2.13	5.47	0.02
	undergraduate	2.94		
	graduate	3.42		

\*  $p < 0.05$  : significant,  $p > 0.05$  : not significant

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### **Author's Note**

Patricia Dugan, her husband and two sons are residents of Statesboro, Georgia. She was born in Pittsburgh, Pennsylvania. Mrs. Dugan is, currently, a Georgia Southern University student with a 3.33 cumulative grade point average. She studies business management with an emphasis on entrepreneurship. Upon obtaining a Bachelor's Degree of Business Administration in the Spring of 2006, Mrs. Dugan will pursue a Master's Degree. She also intends to earn a doctorate degree and teach at a university.

Beyond academic achievements, Mrs. Dugan is an active member of her community. She visits nursing homes and serves as a mentor to children. Mrs. Dugan is also an America Reads Tutor with a mission to improve the reading abilities of younger children. Her primary aspiration is to operate a not-for-profit organization that positively influences families and at-risk adolescents. Her motto is that education can improve the world, one mind at a time.

**A COMPARISON OF THEWELEIT'S RED NURSE/WHITE NURSE FIGURES  
WITH THE JEZEBEL/MAMMY FIGURES OF AFRICAN SLAVE WOMEN IN  
THE SOUTHERN, ANTE-BELLUM PLANTATION SYSTEM**

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**Abstract**

*This study examines some of the reasons why certain stereotypes about women were created. Many men, as they move from boyhood to adult manhood, have difficulties reconciling themselves to the fact that mother, or woman, can be nurturing as well as a person with sexual needs and desires. This study takes Theweleit's Red Nurse/White Nurse figures, created by German soldiers from the 1910s to the 1930s and compares them to the Jezebel/Mammy figures of African slave women in the American south. The results of this study found that the causes for the creation of these stereotypes was that men were discouraged from expressing their emotions while encouraged to keep rigid control over their bodies natural functions such as fluids, lusts, and desires.*

**Introduction**

Throughout the years men have wrestled with their relationship with women. They have tried to come to terms with how to view women. Women, after all, serve two drastically different roles at two drastically different times in a man's life. When he is young, in the pre-pubescent/pre-adolescent years, the woman serves as the caregiver and nurturer. He has no recognizable views of women in a sexual form (unless, of course, you are a follower of Freudian thought). However, as he gets older he begins to see women in a different light. Woman as mother, nurturer, and caregiver begins to take a lesser role in his burgeoning adulthood. In her place woman begins to be seen in a sexual light. This is natural as the child begins to recognize his own sexuality. However, for many men, in the course of the journey from boyhood to adult manhood they are unable to reconcile themselves with the idea that woman, or "mother", can be, both, a person with emotions capable of nurturing and giving care as well as a person with sexual needs and desires. The inability of these men to recognize the dual nature of women has caused the creation of stereotypes, or perceptions, relating to women that have lasted throughout the centuries. Two particular forms of these perceptions are the contrasting Red Nurse/White Nurse figures from Klaus Theweleit's book, *Male Fantasies Volume 1*, and the Jezebel/Mammy perceptions from the Plantation culture of the Ante-Bellum South. The Red Nurse and Jezebel are both representations of the way some men perceive women sexually. The White Nurse and Mammy are both representations of the ways that some men perceive woman in her motherly forms. Even though Theweleit's Red and White Nurses come from Germany in the 1910s to the 1930s they are quite comparable to the

Jezebel and Mammy figures of the American 18<sup>th</sup> and 19<sup>th</sup> centuries and will be the basis of comparisons for this paper.

Klaus Thewleit's book, *Male Fantasies Volume 1*, discusses the lives of German soldiers during the 1910s and 1930s, the years of World War I, the Prussian War and World War II. In this book he discusses the ways in which these soldiers viewed different types of women, particularly working class/proletarian women and aristocratic women. The term Red Nurse was used in reference to the women that worked for the "Red Army," meaning the Bolshevik, or Communist, Army. These women were usually working in the capacity of nurses for the Red Army and therefore became known as the Red Nurses. The German soldiers viewed the Red Army very negatively. The majority of the soldiers that Thewleit wrote about in his book were soldiers that were loyal to the German monarchy. Many of them were aristocrats, or at least above the working class proletariat. They were against the spread of the "Red Flood" into Germany, which threatened their country and their way of life. The Red Army's spread of Bolshevism was a call for the proletariat to rise up and unite. It was seen as sinful and animal-like by the Germans, the way that the "Reds" seemed to be open about their emotional and sexual desires. The German's did not understand or like the Communists. They saw them as rough, unrefined, and morally deficient. Since they did not have much opportunity to interact with them on the personal level this caused many rumors to arise about the Red Army, but particularly the Red Nurses.

The soldiers that Thewleit talked about in his book believed that their women, proper German women, should have nothing to do with the battlefield. The only role that German women should play in warfare was to give birth to German boys, raise them up to be strong and loyal young soldiers for Germany, and to support Germany by supporting their men. Women typically did not interact with men on the daily basis unless a husband, father, or brother accompanied them. And although they were supposed to support their country and their men they definitely were not to have anything to do with the actual aggression of war. Therefore, for the German soldiers to see men and women working on the side of the Red Army, their conclusion was that these women were prostitutes. In *Male Fantasies Volume 1* Klaus Thewleit states the nature of the soldiers' surprise. He quotes one particular soldier, Erhard Lucas, who felt that because of German workers reluctance "to elect women to political bodies (e.g. executive councils), inherited from the social-democratic tradition"<sup>1</sup> it was all the more surprising because, "Working class girls were active everywhere as a matter of course, going off to battle with their men—boyfriends, fiancés, husbands—or in some cases quite independently...."<sup>2</sup>

According to Thewleit these women helped to strengthen the German image of proletarian women as prostitutes. As a result, in the context of battle among men the role of these women as nurses was seen as a mask, a form of camouflage for what they really were. A press representative from Munster gleaned the following information from the soldiers in Wesel:

The mobilization of so-called Red Cross nurses is characteristic of the moral turpitude of the Red troops. These medical detachments are

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<sup>1</sup> Klaus Thewleit, *Male Fantasies Volume 1* (University of Minnesota Press, 1987), 80.

<sup>2</sup> Thewleit, 80

recruited exclusively from the ranks of *prostitutes*, especially from Oberhausen. Brothel inmates are put into service as Red Cross nurses.<sup>3</sup> The German soldiers had no substantive evidence that these women were actually brothel inmates or prostitutes. These were beliefs that were based on the misinformation of other German reports, as well as the biases caused by their dislike and distrust for the so-called Reds. They assigned certain traits to these “Red Nurses.” These traits illustrated their beliefs that the Red Army employed prostitutes and echoed their negative sentiments about proletarian women. Rumors abounded about these women. Unlike proper German women, these women were said to carry arms and follow their men into battle. They were believed to have sex in the middle of fields and forests, as only animals and whores would do. There was nothing that these women could do to effectively display their pride and prove their humanity to the Germans. As stated earlier, the “proper” German women that these soldiers were in relationships with rarely had close, intimate interactions with their men. Referring to an unspecified soldier Theweleit states, “The thing that irritates him (the soldier) the most is precisely the sympathetic notion that the women ‘attend to’ their men, even if the men aren’t wounded. This is what makes them whores.”<sup>4</sup> In short, the Red Nurse is seen as a woman of a lower social class, has low or no moral values, does men’s work (e.g. going into battle with men), and places herself in the company of men who are not appropriately related to them (i.e. husbands, fathers, brothers). They are not deserving of respect, indeed for some German soldiers death was the end that was most fitting for these women, these “prostitutes”. A scene from *Male Fantasies* illustrates this sentiment effectively. A German officer is witnessing a man and a woman having sex. Though the relationship being witnessed is clearly a “voluntary erotic relationship” between the two, the woman is viewed as a prostitute, particularly because the man is neither sick nor mortally wounded. The scene plays itself out as follows: “One such woman lay behind the bushes, in the most tender embrace with her lover. A grenade had caught her off guard in the practice of her true profession.”<sup>5</sup> Above all else the Red Nurse is a prostitute with no value, deserving of only death.

The White Nurse is the complete opposite of the Red Nurse. White Nurses were German women, primarily of the upper social classes. German soldiers viewed them with nothing but positivity and respect. She was the woman that the lower classed women desired to be. These women hated her although they desired to be in her position socially. These were the ideas and perceptions of the German soldiers.

The White Nurse was noble, beautiful, and rich. She was a “genuine countess, clearly above any suspicion of whoring.” She was the polar opposite of the Red Nurse. She was “a heroic mother figure.”<sup>6</sup> The White Nurse was a woman who stood courageous in the face of danger in order to take care of the sick and wounded soldiers. She comforted the young men. She encouraged them and eased their pain. And so that there was no doubt regarding her sexual virtue, she was married. She was rarely seen outside of the company of her husband or some other authoritative and protective male figure. Theweleit gave a fictional account of the epitome of the White Nurse from a particular Baltic novel. In this novel a man named Lieutenant Gerhart Willmut has been taken

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<sup>3</sup> Theweleit, 81

<sup>4</sup> Theweleit, 82

<sup>5</sup> Theweleit, 82

<sup>6</sup> Theweleit, 91

prisoner by the Latvians in the Red Army. He has been thrown into a dark dungeon where in between consciousness and unconsciousness he imagines a female figure in his cell. She is holding his head in her lap and looking into his eyes. "She is extraordinarily beautiful, but indescribably pale, almost white."<sup>7</sup> She asks him tenderly if he has been tortured. She strokes his forehead with long, cool hands as she encourages him to tell her. Later in the passage, as the Lieutenant begins to cry, he removes her hands from his forehead and wipes his eyes as an upset child would do. She asks who he is and he answers her dreamily. He responds by asking her her name and she responds by telling him that her name is Sandra, countess Fermor. As he begins to cry once more she wipes the tears from his eyes and tells him not to cry. The Countess was acting as a nurse and as a mother figure---encouraging, nurturing, attempting to ease his pain. She stays by his side even though at one point she narrowly escapes bodily harm when one of the Latvian women tries to arrange for her to be raped by a particular Mongolian man. When the Mongolian appears disinterested, however, the countess narrowly escapes the danger and degradation of rape. This woman was the epitome of the White Nurse. The example of what aristocratic, German womanhood was, and what all other women tried to be. Gentle, nurturing, and self-sacrificing she took care of others with little, or no, concern for her own welfare.

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In the 17<sup>th</sup>, 18<sup>th</sup>, and 19<sup>th</sup> centuries the American south saw the creation and spread of a system known as Plantation Slavery. It later became called the Peculiar Institution by some of those that survived its destruction, and those who came to study it in subsequent years. It was called the Peculiar Institution for the simple reason that the name implies. It was an institution peculiar to any other system of slavery in the world. In the plantation slave system of the south, enslaved African women were viewed with two prevailing images by their Masters and the other white men that were over them. These two images are the Jezebel figure and the Mammy figure. These two figures, over time, became the two primary ways in which African/African-American women were viewed in this country. It has only been within the past few decades that these images, or stereotypes, have begun to be removed. Many people do not know where the images of the black woman as Jezebel or as Mammy come from but it comes from that Peculiar Institution of American plantation slavery by white slaveholders at the expense of those women's bodies and even more so at the expense of their dignity.

In the American system of slavery the people that were enslaved were the property of their masters. But these enslaved peoples were more than simply the property of their masers; they were chattel property. They could not claim anything as their own, not even their bodies. This was especially true for the enslaved women. Many white slaveholders felt that because these women were their property they could do with them as they pleased. These slaveholders raped, molested, and otherwise sexually exploited the African women that they "owned." Their belief was that African women had low moral standards and an extremely high libido. These women were seen as seductresses out to get white men. They, therefore did not have a problem with the sexual advances that were made towards them, indeed their masters believed that they actually asked for it and wanted it.

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<sup>7</sup> Theweleit, 92



The notion that African women have low moral standards and an excessively high libido comes from the cultural misconceptions of the white men that first arrived in Africa. Debra Gray White explained their misconceptions in her book, *Ar'n't I a Woman? Female Slaves in the Plantation South*. She explains:

Unaccustomed to the requirements of a tropical climate, Europeans mistook seminudity for lewdness. Similarly, they misinterpreted African cultural traditions, so that polygamy was attributed to the African's uncontrolled lust, tribal dances were reduced to the level of orgy....<sup>8</sup>

These misconceptions were formed and taken back to Europe and America where, in Europe, Victorian values were prevalent. Sexuality was frowned upon; chastity and modesty were the laws of the land. In America public nudity, however minimal was associated with lasciviousness and promiscuity. These beliefs, when taken back to the slaveholding south, took deep root into the plantation culture and these ideas became truth. "Judge Harper of South Carolina believed that a large 'proportion of this class of [slave] females...set little value on chastity.'"<sup>9</sup> Ideas like those held by Judge Harper were what helped to perpetuate the beliefs of the Jezebel images.

Just as the Red Nurse had the White Nurse as her opposite, the Peculiar Institution's Jezebel had her opposite as well. The Mammy figure is found to be the opposite of the Jezebel figure. Though the background for the Mammy image cannot be traced back to Africa the way that the Jezebel images can, everything that the African slave woman, as Jezebel, was said to represent, the African slave woman, as Mammy, represented the opposite. Oftentimes the woman as Jezebel was a field hand, though there were times that house slaves were viewed that way as well. The Master saw the field hands as of a lower rank than the house slaves. Therefore Mammy was seen as a slave of higher "rank" than the Jezebel. As the "mammy" she was usually one of the slaves who lived in the House with the Master and Mistress. Unlike the Jezebel figure, Mammy was usually older, or at least appeared to be older to the people around her.

The image of Mammy taking care of the children, performing and supervising household chores, lending an ear and offering advice to master, mistress, and white children, was in keeping with the maternal or Victorian ideal of womanhood prevalent in nineteenth-century America.<sup>10</sup>

The Mammy figure was seen as a woman that was completely dedicated to the white family. "She was, in short, surrogate mistress and mother."<sup>11</sup>

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Red Nurse-Jezebel, White Nurse-Mammy. These figures are of different time periods, different political situations, different races, and different parts of the world. Yet despite their differences on the surface, there are more things about them that are fundamentally the same. The Red Nurse was a working class woman, a proletarian. She was viewed with disdain and was the victim of misinformation, lies, and, in some cases, violence. The German soldiers, who were of a higher social class and of a different

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<sup>8</sup> Debra Gray White, *Ar'n't I a Woman? Female Slaves in the Plantation South* (New York & London: W.W. Norton and Company, 1985), 29

<sup>9</sup> Marli F. Weiner, *Mistresses and Slaves: Plantation Women in South Carolina, 1830-1880* (Chicago: University of Illinois Press, 1998), 117

<sup>10</sup> White, *Ar'n't I a Woman...*, 56

<sup>11</sup> White, 49

nationality than her, misinterpreted the habits that they saw, take place between the women and men of the Red Army. They came to view these women as prostitutes and whores who were not much better than animals, not even deserving of basic human dignities. The same was true for the enslaved African women. The first Europeans to encounter African cultures misinterpreted them and took back vastly incorrect assumptions about African women, seeing them as lewd, sexually promiscuous women with uncontrollable, wonton animal lusts. These incorrect assumptions caused many of the African women that became enslaved to be the victims of sexual exploitation. The Jezebel image was thrust upon these women because of their low social class (i.e. being the chattel property of another human being) and the incorrect belief that these women had low morals and hyperactive libidos; it was believed that these women seduced white men and wanted all of the sexual advances and exploitations that they received.

The White Nurse and the Mammy figures are nearly identical. The White Nurse was an aristocratic woman who acted the part of a nurturing, caring mother or nurse. She cared for others with little or no regard for her own safety. She was the example for German womanhood. She was pure, almost always in the company of an authoritative/protector figure, especially a husband, so that there was no thought that she was a whore. The Mammy figure of the plantation south was viewed as of a higher class of slave, nearly as close to the top of the slave hierarchy as a slave could get. She was seen as better than the field slaves. She was an older woman and was viewed as asexual, rarely a victim of the sexual advances and exploitations that the Jezebel figures endured. In many cases the Mammy was supervisor of all that happened regarding the other slaves and the running of the House. She was a confidante, advisor, and caregiver for the children on the plantation, which could include the children of the Master and Mistress. She was seen, by her Master, to have little regard for her own comfort but rather for that of her young white charges and the welfare of the Master and Mistress. She was a surrogate mother and a surrogate mistress, in her Mistresses absence.

The fact that the Jezebel/Mammy figures and the Red Nurse/White Nurse figures are separated by over one hundred years yet still manage to have such stark similarities causes one to ask what it is that has caused these images to last for so long? Both of these images came from an era where emotions and sexuality, for men, were encouraged to be held inside. It was also a time when men and women were encouraged to remain in their separate spheres; where the roles of men and women were strictly drawn out. Both of these cultures, the German soldiers and the southern slaveholders, came into contact with societies that held different beliefs than theirs. The Bolsheviks and the African cultures represented what the German soldiers and the southern slaveholders had to repress within themselves because of their society. The Wilhelmine Era of Germany was very repressive in term of its ideas towards the body, bodily functions, and sexuality. It was encouraged for people, especially men, to keep strict control over their emotions, their bodily functions, as well as sexual appetites. To repress such things that are natural for the body to do or to desire is detrimental. Therefore one ends up with a hatred for the things that are natural, although this hatred is subconscious. The same was true for Victorian England. The Victorian Era was well known for its repressive ideologies. Since early America was based upon English culture and mores, the ideologies of the Victorian Era in England made their way across the water to the American southern plantation society. Therefore it can be said that the causes of the Red Nurse/White Nurse and the

Jezebel/Mammy figures stem from mans inability to come to terms with woman, or mother, as a nurturer and caregiver as well as a person with sexual needs and desires, and the inability to deal with the body and all of its functions: emotions, fluids, lusts, and desires. There is less repression of emotions and sexuality now than during either of the time periods of Theweleit's soldiers or the Peculiar Institution. Thus there has been some effort made to put an end to the stereotypes used for women. However, it has and will continue to be a slow process because although we live in an era that is less repressive than the Victorian or Wilhelmine eras, men are still encouraged to hold their emotions inside and to maintain strict control over their bodies. When we come to live in a society where men are encouraged to express themselves emotionally as well as physically then their repressed desires will stop being projected onto women in the forms of hatred and distrust.

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## THE EFFECTS OF TECHNOLOGICAL ADVANCEMENTS ON ETHICAL PRINCIPLES

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### Abstract

*This study examines the perceptions of progressing technology in various professional fields involving practices that may be considered unethical or immoral by some individuals. This study will investigate the changes in the social climate as a result of recent advancements that have been made in various areas including medical research and engineering. In addition, this study will explore the roots of morality and ethical standards and how they are related to advancements in genetic science. To add focus to this research, students and faculty of Georgia Southern University were surveyed on three controversial issues: Pre-Implantation Genetic Diagnosis (PGD), genetic cloning, and stem cell research. Using the results from the 73 subjects who were surveyed, the trend that was most apparent in observing how accepting a participant was of the issues involving genetic science was that the subjects' acceptance was most closely associated with their perspective field of study.*

### INTRODUCTION

According to the Oxford English Dictionary, ethics is defined as: (1) The science of morals; the department of study concerned with the principles of human duty; (2) The moral principles or system of a particular leader or school of thought; or (3) The rules of conduct recognized in certain associations or departments of human life. The field of ethics, also called moral philosophy, involves recommending concepts of right and wrong behavior. Philosophers today usually divide ethical theories into three general subject areas: metaethics, normative ethics, and applied ethics. Metaethics investigates where a person's ethical principles come from and what they mean. A study of metaethics seeks to find answers to questions focusing on the issues of universal truths such as the will of God and the role of reason in ethical judgments. Normative ethics is the process by which a person arrives at moral standards that regulate right and wrong conduct. This may involve articulating the good habits that a person should acquire, the duties that he or she should follow, or the consequences of his or her behavior on others. Finally, applied ethics involves examining specific controversial issues, such as abortion, animal rights, environmental concerns, homosexuality, capital punishment, or nuclear war. By utilizing the tools of normative and applied ethics, we are able to analyze and address the moral concerns of the people, and set a general ethical precedent that governs the decisions that each of us makes each day (Bandura, 1986).

Even though philosophers have clearly defined the methods by which they can approach discussions on controversial ethical issues, the problem that scientists and

philosophers are faced with is what conclusions should be drawn and what steps should be taken to resolve any negative effects that have arisen from these issues. Each person has his or her own opinion about what is right and wrong, and what should or should not be allowed to go on in society. This fact is clearly apparent on the topic of advancing technology in the areas of human testing and medical research. This study examines several specific controversial topics within these areas and analyzes the effects that their presence in society has on the opinions of the average American and the changing social climate.

#### THE DEVELOPMENT OF ETHICS

Morals include individual evaluations of good and bad, right and wrong, and values held by social systems (Turiel, 1983). There are several theories to explain how people develop morals; however, the most widely acknowledged is that of Dr. Lawrence Kohlberg, former professor of Psychology at Harvard University. Kohlberg defines three phases that people progress through sequentially, into their mid-twenties (1981). At the Pre-conventional level, the individuals are responsive to cultural rules and labels of good, bad, right, and wrong. These qualities are interpreted in terms of physical consequences or rewards. At the Conventional level, individuals conform to social order as determined by the various groups to which they belong. Laws and rules influence behavior in this stage. People at the Post-conventional level make an effort to define their personal moral values and principles by understanding principles of justice and social cooperation that underlie the norms and laws of society.

Bolich states, "Ethics gather the values a person holds into a system of moral principles to guide conduct (1998)." The problem that faces all of society is the matter of who sets this ethical guideline by which we are all expected to live. Established in 1995, The Society for Ethics (SE) serves the purpose of promoting philosophical research in ethics, broadly construed, including areas such as ethical theory, social and political philosophy, as well as areas of applied ethics such as legal, business, scientific, and medical ethics. However, despite the promotion of the SE and the efforts of the some of the most renowned philosophers, the truth of the matter is that a person's morals and sense of ethical values can be considered as nothing more than their personal feelings and opinions on a given issue. These opinions could be influenced by race, culture, religion, sex, and even economic standing. What appears to effect people's perception, for the largest part, is their education: who taught them and the foundations on which those teachings were based. When narrowing the scope of education to include those persons in college and those who have already reached their intended professional area, then there seems to be a trend: people's moral position usually correlates with their field of study. Some researchers have found that those persons involved in the medical field, human sciences, and engineering are more open-minded to advancements in science and technology. It is this distinction between ethical perceptions of different groups of people that can sometimes lead to a division in society.

#### ETHICS & TECHNOLOGY

Society is forced to ponder the social implications of technology as the result of an increasing dependence on hardware, software, and related services (Severson, 1997). In many cases, people are unable to come to sensible decisions about the implications of certain issues because they are greatly misinformed about the specifics of that issue.

Several groups, including the International Society for Technology in Education (ISTE), advocate the inclusion of ethical issues as part of the technology curriculum in schools. This may prove to be successful with educating America's youth, but what about the adults who need to be informed.

It seems that there will always remain the problem of people forming opinions before all of the facts are known. A possible solution could be for people to fully educate themselves about an issue before taking a stance. This should hold especially true for ethical issues involving new technology. With the ever increasing amount of new discoveries being made in the scientific world, there is a subsequent amount new opportunities that come about as a result of these discoveries. With each new creation there is a chance that it will have a positive affect on society. The question that must be posed is do the positive affects of this new development outweigh the negative?

### Pre-Implantation Genetic Diagnosis

Pre-implantation genetic diagnosis (PGD) is a technique that permits analysis of the genetics of an embryo prior to transferring embryos to a woman undergoing in vitro fertilization. This genetic screening process is intended to weed out genetically defective human embryos before they have a chance to develop. PGD is usually requested by prospective parents who are concerned about passing an incurable genetically based disease or disorder to their child. As an offshoot, parents can also determine the sex of the embryos as well as other desired traits such as eye and hair color. It is these additional intentions for the use of PGD that has sparked controversy.

According to Dr. Anver Kuliev, director of research at the Reproductive Genetics Institute in Chicago, couples have the right to know about the availability of PGD technology (2002). "Using PGD is better than having children without testing them, because children who aren't tested will have a 50% risk of getting Alzheimer's disease." The elimination of the possibility of a child being born with a genetic disease is obviously an appealing outcome of the PGD technology, but for every positive aspect of this process, there may exist an equal number of negative consequences.

Dr. Gerard Magill, who is the executive director of the Center for Health Care Ethics at St. Louis University, feels that PGD is an example of medical research headed in the wrong direction. Magill opposes this technology because of the unlikely temptation of using PGD for enhancement purposes, such as having a baby with a certain eye color (2002). Magill feels that genetic research is better suited for and should be applied elsewhere in medical science. "If we have the capacity for saving children at the genetic level, I say that we should put our energies into finding appropriate therapies for newborn babies who already have the disease." This appears to be a more conscience and positive application of the PGD technology. There are obviously many points that could be made both for the use of PGD and against its use. However, there is still another application of the PGD technology that has not been previously mentioned and can be considered an entirely different and even more controversial issue, which is the creation of stem cell donor children.

### Stem Cell Research

Stem cells are essentially human cells that act almost as a blank canvas and have the potential to develop into many different cell types in the body. Serving as a sort of

repair system for the body, they can theoretically divide without limit to replenish other cells as long as the person or animal is still alive. When a stem cell divides, each new cell has the potential to either remain a stem cell or become another type of cell with a more specialized function, such as a muscle cell, a red blood cell, or a brain cell. For example, a stem cell could be taken into a lab and converted into a cardiac muscle cell and injected into a heart that's been damaged by a heart attack, and the stem cells could repair the damaged muscle. The application of stem cell research may sound somewhat promising; however, the many ethical questions come into play when the source of stem cells is examined.

Human stem cells are derived from fertilized embryos that are less than a week old. The majority of these stem cells are obtained from surplus embryos produced by In-Vitro Fertilization (IVF). These embryos used in IVF were originally produced to treat infertility and are donated especially for stem cell research with the informed consent of donor couples that no longer want the embryos for implantation. In virtually every IVF clinic in the world, surplus embryos are discarded if they are not donated to help other infertile couples (Cohen, 2001). Using this fact as motivation, scientists began using these unwanted embryos for research purposes.

Medical researchers have determined a method by which PGD can be employed in the creation of a donor child who is genetically matched with a preexisting sibling in need of a stem cell transplant. This raises the question of whether there should be limits and procedures protecting the child from exploitation before he or she becomes capable of making a decision about whether to donate (Wolf 2002). In 1994 researchers at the University of Minnesota, Rockefeller University, and Wayne State University first investigated the use of PGD to create a donor for siblings affected by Fanconi Anemia (FA). FA is a rare fatal disorder that is associated with bone marrow failure, leukemia, and marked cancer predisposition. It is inherited in a recessive gene carried by either the male or female parent. There are two purposes for the application of PGD in this context: to avoid the birth of a child with FA and to provide a genetically favorable donor for an FA-affected sibling in need of a stem cell transplant.

There are several approaches now in human clinical trials that utilize mature stem cells obtained from adults, such as blood-forming cells, neuron-forming cells and cartilage-forming cells (Cohen, 2001). However, because adult cells are already specialized, their potential to regenerate damaged tissue is very limited: skin cells will only become skin and cartilage cells will only become cartilage. Adults do not have stem cells in many vital organs, so when those tissues are damaged, scar tissue develops. Only embryonic stem cells, which have the capacity to become any kind of human tissue, have the potential to repair vital organs. For the donor embryo, its entire existence is based on the hope that it will help to save another person's life. The point that is made by those who oppose stem cell research is the question of whether these embryos are also considered to be human life (Cohen, 2001).

Some participants in this study stated that an embryo, regardless of the length of its development, is still a human life. Some people say their reasoning for opposing stem cell research is because life starts at conception whether that conception is done the natural way or done in a petri dish in an IVF lab somewhere (Cohen, 2001). They say that these leftover IVF embryos frozen in labs all over the country could at any time be implanted into a woman's uterus and become a child and, in fact, have pointed out that



some infertile couples have adopted these embryos and impregnated the wife and today have happy, healthy children.

Once again, there are many points that could be made both for the use of stem cell research and against its use. However, neither side is decidedly correct. Supporters and opposition to this technology both make strong cases to support their stance on the issue. On one hand, parents of sick children cannot believe that someone would deny them a possible cure. On the other side, people cannot believe that anyone would destroy a human embryo that, if implanted into a woman's uterus, could become a person. The truth is that no one person or group of people can decide what is right or wrong when it regards the value of human life.

### Genetic Cloning

The possibility of human cloning aroused worldwide interest and concern because of its scientific and ethical implications in 1997 with the creation of the first genetic clone of a mammal, "Dolly the Sheep" (GSLC, 2004). Cloning is the creation of an organism that is an exact genetic copy of another. This means that every single bit of DNA is the same between the two organisms. There are different types of cloning however, and cloning technologies can be used for other purposes besides producing the genetic twin of another organism. A basic understanding of the different types of cloning is the key to taking an informed stance on current public policy issues and making the best possible personal decisions (Casey, 2004). There are two different ways to make an exact genetic copy of an organism: artificial embryo twinning and somatic cell nuclear transfer.

Artificial embryo twinning is the relatively simplified version of cloning. As the name suggests, this technology mimics the natural process of creating identical twins. In nature, twins occur just after fertilization of an egg cell by a sperm cell. In rare cases, when the resulting fertilized egg, or zygote, tries to divide into a two-celled embryo, the two cells separate. Each cell continues dividing on its own, ultimately developing into a separate individual within the mother. Since the two cells came from the same zygote, the resulting individuals are genetically identical. Artificial embryo twinning uses the same approach, but it occurs in a laboratory instead of in the woman's body. This is accomplished by manually separating a very early embryo into individual cells, and then allowing each cell to divide and develop on its own. The resulting embryos are placed into a surrogate mother, where they are carried to term and delivered. Again, since all the embryos came from the same zygote, they are genetically identical.

Somatic Cell Nuclear Transfer (SCNT) uses a different approach than artificial embryo twinning, but it produces the same result: an exact clone, or genetic copy, of an individual. This was the method used to create "Dolly". A somatic cell is any cell in the body other than the two types of reproductive cells, sperm and egg. To make "Dolly", researchers isolated a somatic cell from an adult female sheep. Next, they transferred the nucleus from that cell to an egg cell from which the nucleus had been removed. After a couple of chemical adjustments, the egg cell, with its new nucleus, behaved just like a newly fertilized zygote. It developed into an embryo, which was implanted into a surrogate mother and carried to term. The lamb, Dolly, was an exact genetic replica of the adult female sheep that donated the somatic cell nucleus to the egg. She was the first ever mammal to be cloned from an adult somatic cell.

Of all the reasons to justify cloning, medical purposes seemingly have the most potential to benefit large numbers of people. Farm animals such as cows, sheep and goats are currently being genetically engineered to produce drugs or proteins that are useful in medicine. Cloning might be a faster way to produce large herds of genetically engineered animals. This appears to be a positive product of this technology in anyone's eyes, but opinions begin to waver when this same technology moves into the arena of human applications.

Up until this point, there has not been any attempt to clone a human being. Regardless of that fact, many people are uneasy about even the possibility that humans can and may be cloned in the future. These possibilities are well backed by the fact that successful research has been done on cloning animals. In an interview with CNN, Dr. Goran Klintmalm of the Baylor Institute of Transplantation Sciences speculated that these animals could be genetically modified and cloned to be organ donors for humans. However, even if animal-to-human transplants become feasible, there are still likely to be questions about whether such procedures are morally acceptable. "When you talk to patients and see surveys done with patients on organ waiting lists, if they're shown to be safe and effective, I think the people that have end-stage organ disease won't have a huge problem with animal organs for transplantation." Dr. Klintmalm believes that the overbearing ratio of the number of patients needing organ transplants to the number of actual organ donors should be motivation enough to experiment more with the cloning technologies. If new measures are taken to provide for further research in cloning, there is still likely to be much opposition.

## **PURPOSE OF STUDY**

As science and technology changes and advances with each passing day, scientists and engineers have been faced with a good question: Have certain advancements in technology pushed or surpassed the limits of the American ideals of ethics? This research is needed because the average American often wonders if the rights provided to them by the Constitution will be disregarded to make way for the next "big thing" in technology, or if their basic human rights will be voided as a result of the continuing research in the medical field which includes the use of human subjects. The purpose of this study is to examine the perceptions of progressing technology in various professional fields that involves practices that may be considered unethical or immoral by some individuals. This study also seeks to investigate the changes in the social climate as a result of recent advancements that have been made in various areas including medical research and engineering.

## **METHODOLOGY**

### **Instrument**

A survey requesting demographic information and responses regarding 16 items was created (Appendix A). The survey included statements based on three controversial issues: pre-implantation diagnosis, cloning, and stem cell research. Each participant was asked to rate his or her level of agreement with each of the statements. All survey items reflected situations likely to be viewed as unethical. Survey items were reviewed individually by 2 graduate students and 3 faculty members to verify the clarity and

significance of each item included within the survey. Modifications were made based on their feedback, and also the feedback provided by 17 undergraduate students who field-tested the survey. The items were not arranged in a particular order; however, they were grouped according to their significance to each of the sub-topics.

### **Sample**

The survey was administered to Georgia Southern University students and faculty. Both students and faculty members were chosen based on their availability and willingness to participate. To ensure a wide spectrum of subjects, the participants were randomly selected by the principal investigator by visiting several academic buildings on the Georgia Southern campus including the Recreational Activity Center and the Student Union. The study was conducted from June 2004 throughout July 2004. A total of 73 surveys were completed and included in the data analysis.

### **Data Analysis**

Seventy-three surveys were completed and analyzed for frequency. Each response to each question was then converted to a number from 1-5. Acceptability Scores were then summed and these sums were used for comparison purposes. On the acceptability scale, 1 represented an action that was definitely not acceptable, while a 5 represented an action that was definitely acceptable. These Acceptability Scores rate how agreeable the participant is with new technology. These totaled scores could range from 16 – 80, with the higher numbers indicating a person who is more accepting of the controversial advancements in technology. The results were then analyzed to determine whether there were significant differences of the Acceptability Scores and if they were connected to demographics. Also, an average response was calculated by finding the mean of the numbers that correspond to each response.

### **RESULTS**

This section includes the results from each question that was included in the survey. Each table shows the frequency that each available answer was chosen. Each table also includes the percentage that each of those frequency figures represents. Following the frequency tables for each question is the results for the Acceptability Score calculations. Initially, there were 16 items included in the survey; however, the first seven questions were eliminated from the results except for the Acceptability Score. These questions were eliminated from the survey because I chose to narrow my focus strictly to the ethical issues involved in genetics rather than a broader topic of technology at large.

**Frequency**

**Parents should be able to select their offspring based on desired genetic traits such as sex, eye color, etc.**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Agree	8	11.0	11.0	11.0
Balanced / Impartial	6	8.2	8.2	19.2
Disagree	12	16.4	16.4	35.6
Strongly Disagree	45	61.6	61.6	97.3
Not Enough Known	2	2.7	2.7	100.0
Total	73	100.0	100.0	

Statement 5 - “Parents should be able to select their offspring based on desired genetic traits such as sex, eye color, etc.” The highest percentage of responses fell in the *Strongly Disagree* category with 61.6 percent. The second highest percentage of responses fell in the *Disagree* category with 16.4 percent. This means that 78 percent of the participants disagree with this statement overall. The average response was **disagree**.

**Parents should be able to select their offspring based on genetic traits to avoid certain medical conditions.**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Agree	8	11.0	11.0	11.0
Agree	22	30.1	30.1	41.1
Balanced / Impartial	6	8.2	8.2	49.3
Disagree	16	21.9	21.9	71.2
Strongly Disagree	21	28.8	28.8	100.0
Total	73	100.0	100.0	

Statement 7 - “Parents should be able to select their offspring based on genetic traits to avoid certain medical conditions.” The highest percentage of responses fell in the *Agree* category with 30.1 percent. The second highest percentage of responses fell in the *Strongly Disagree* category with 28.8 percent. 31 percent of the participants agree with this statement while 51 percent disagree overall. The average response was **balanced**.

**The growing of organs and tissues from singular donor cells for medical research is acceptable.**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Agree	12	16.4	16.4	16.4
Agree	33	45.2	45.2	61.6
Balanced / Impartial	6	8.2	8.2	69.9
Disagree	4	5.5	5.5	75.3
Strongly Disagree	10	13.7	13.7	89.0
Not Enough Known	8	11.0	11.0	100.0
Total	73	100.0	100.0	

Statement 8 - “The growing of organs and tissues from singular donor cells for medical research is acceptable.” The highest percentage of responses fell in the *Agree* category with 45.2 percent. The second highest percentage of responses fell in the *Strongly Agree* category with 16.4 percent. 62 percent of the participants agree with this statement overall. The average response was **balanced**.

**Genetic cloning should be allowed for testing with the use of animals, but not humans.**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Agree	8	11.0	11.0	11.0
Agree	12	16.4	16.4	27.4
Balanced / Impartial	13	17.8	17.8	45.2
Disagree	16	21.9	21.9	67.1
Strongly Disagree	22	30.1	30.1	97.3
Not Enough Known	2	2.7	2.7	100.0
Total	73	100.0	100.0	

Statement 9 - “Genetic cloning should be allowed for testing with the use of animals, but not humans.” The highest percentage of responses fell in the *Strongly Disagree* category with 30.1 percent. The second highest percentage of responses fell in the *Disagree* category with 21.9 percent. 52 percent of the participants disagree with this statement overall. The average response was **balanced or disagree**.

**Cloning research should be allowed in developing more effective medications.**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	13	17.8	17.8	17.8
	Agree	18	24.7	24.7	42.5
	Balanced / Impartial	14	19.2	19.2	61.6
	Disagree	10	13.7	13.7	75.3
	Strongly Disagree	10	13.7	13.7	89.0
	Not Enough Known	8	11.0	11.0	100.0
	Total	73	100.0	100.0	

Statement 10 - “Cloning research should be allowed in developing more effective medications.” The highest percentage of responses fell in the *Agree* category with 24.7 percent. The second highest percentage of responses fell in the *Balanced/Impartial* category with 19.2 percent. 43 percent of the participants agree with this statement overall while 28 percent disagree. The average response was **balanced**.

**Cloning research is acceptable in the cases of curing or completely eliminating genetic diseases.**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	14	19.2	19.2	19.2
	Agree	21	28.8	28.8	47.9
	Balanced / Impartial	18	24.7	24.7	72.6
	Disagree	6	8.2	8.2	80.8
	Strongly Disagree	8	11.0	11.0	91.8
	Not Enough Known	6	8.2	8.2	100.0
	Total	73	100.0	100.0	

Statement 11 - “Cloning research is acceptable in the cases of curing or completely eliminating genetic diseases.” The highest percentage of responses fell in the *Agree* category with 28.8 percent. The second highest percentage of responses fell in the *Balanced/Impartial* category with 24.7 percent. 49 percent of the participants agree with this statement overall. The average response was **balanced**.

**Genetic modification of crops and livestock is justified to eliminate food born diseases.**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Agree	14	19.2	19.2	19.2
Agree	36	49.3	49.3	68.5
Balanced / Impartial	4	5.5	5.5	74.0
Disagree	9	12.3	12.3	86.3
Strongly Disagree	6	8.2	8.2	94.5
Not Enough Known	4	5.5	5.5	100.0
Total	73	100.0	100.0	

Statement 12 - “Genetic modification of crops and livestock is justified to eliminate food born diseases.” The highest percentage of responses fell in the *Agree* category with 49.3 percent. The second highest percentage of responses fell in the *Strongly Agree* category with 19.2 percent. 68 percent of the participants agree with this statement overall. The average response was **agree or balanced**.

**Genetic modification of crops and livestock is not justified to increase the yield of farms.**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Agree	4	5.5	5.5	5.5
Agree	24	32.9	32.9	38.4
Balanced / Impartial	16	21.9	21.9	60.3
Disagree	13	17.8	17.8	78.1
Strongly Disagree	8	11.0	11.0	89.0
Not Enough Known	8	11.0	11.0	100.0
Total	73	100.0	100.0	

Statement 13 - “Genetic modification of crops and livestock is not justified to increase the yield of farms.” The highest percentage of responses fell in the *Agree* category with 32.9 percent. The second highest percentage of responses fell in the *Balanced/Impartial* category with 21.9 percent. 38 percent of the participants agree with this statement overall while 29 percent disagree. The average response was **balanced**.

**The creation of human embryos strictly for the use of scientific and medical research is not acceptable.**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Agree	26	35.6	35.6	35.6
Agree	18	24.7	24.7	60.3
Disagree	16	21.9	21.9	82.2
Strongly Disagree	11	15.1	15.1	97.3
Not Enough Known	2	2.7	2.7	100.0
Total	73	100.0	100.0	

Statement 14 - “The creation of human embryos strictly for the use of scientific and medical research is not acceptable.” The highest percentage of responses fell in the *Strongly Agree* category with 35.6 percent. The second highest percentage of responses fell in the *Agree* category with 24.7 percent. 61 percent of the participants agree with this statement overall. The average response was **agree or balanced**.

**Human embryos created in a laboratory setting instead of normal reproductive methods should not be considered "human life."**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Agree	6	8.2	8.2	8.2
Agree	17	23.3	23.3	31.5
Balanced / Impartial	10	13.7	13.7	45.2
Disagree	16	21.9	21.9	67.1
Strongly Disagree	20	27.4	27.4	94.5
Not Enough Known	4	5.5	5.5	100.0
Total	73	100.0	100.0	

Statement 15 - “Human embryos created in a laboratory setting instead of normal reproductive methods should not be considered “human life.” The highest percentage of responses fell in the *Strongly Disagree* category with 27.4 percent. The second highest percentage of responses fell in the *Agree* category with 23.3 percent. 49 percent of the participants disagree with this statement overall while 31 percent disagree. The average responses were balanced or disagree.



**The use if human embryos in Stem Cell Research and abortion are two completely separate issues, and should not be compared.**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Strongly Agree	14	19.2	19.2	19.2
Agree	23	31.5	31.5	50.7
Balanced / Impartial	8	11.0	11.0	61.6
Disagree	8	11.0	11.0	72.6
Strongly Disagree	12	16.4	16.4	89.0
Not Enough Known	8	11.0	11.0	100.0
Total	73	100.0	100.0	

Statement 16 - “The use of human embryos in Stem Cell Research and abortion are two completely separate issues, and should not be compared.” The highest percentage of responses fell in the *Agree* category with 31.5 percent. The second highest percentage of responses fell in the *Strongly Agree* category with 19.2 percent. 51 percent of the participants agree with this statement overall while 27 percent disagree. The average response was **balanced**.

**Acceptability Scores**

Acceptability Scores (Table T1.1) are shown with the number of participants that received each score. Also included in the table is the percent of all participants that received each score. Statistics (Table T1.2) includes the determination of the maximum and minimum Acceptability Score as well as the average score of all the participants’ scores.

**AcceptabilityScore**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	31.00	2	2.7	2.7	2.7
	35.00	2	2.7	2.7	5.5
	37.00	2	2.7	2.7	8.2
	38.00	1	1.4	1.4	9.6
	39.00	2	2.7	2.7	12.3
	40.00	2	2.7	2.7	15.1
	45.00	5	6.8	6.8	21.9
	46.00	6	8.2	8.2	30.1
	47.00	2	2.7	2.7	32.9
	48.00	2	2.7	2.7	35.6
	49.00	13	17.8	17.8	53.4
	50.00	2	2.7	2.7	56.2
	51.00	2	2.7	2.7	58.9
	52.00	8	11.0	11.0	69.9
	53.00	2	2.7	2.7	72.6
	54.00	6	8.2	8.2	80.8
	56.00	4	5.5	5.5	86.3
	57.00	6	8.2	8.2	94.5
	65.00	2	2.7	2.7	97.3
	68.00	2	2.7	2.7	100.0
Total		73	100.0	100.0	

**Statistics**

AcceptabilityScore

N	Valid	73
	Missing	0
Mean		49.4521
Median		49.0000
Std. Deviation		7.47039
Range		37.00
Minimum		31.00
Maximum		68.00

**Gender**

While trying to recognize trends attributed to sex in the Acceptability Scores of participants, there was no significant difference between male scores and female scores. The males’ scores were slightly more than 5 percent higher than the scores of their female counterparts.

**Age**

While trying to recognize trends attributed to age in the Acceptability Scores of participants, there was a significant distinction. Those participants in the age range of 31 to 40, 10 percent less agreeable to the issues involving genetic experimentation than those in the 18 to 30 year old range. Those participants in the 40 to 55 age range were 17% less agreeable than those in the 31 to 40 range. This shows that the younger generations are more open to the controversial methods involved in the progressing field of genetic research.

**Field of Study**

Table T2.1 displays the field of study each participant and where they fall on the scale of the Acceptability. A blank square means no scores were calculated in that particular range for that field of study. For example, seven participants are Liberal Arts & Social Science majors **and** have scores in the range of 47 to 51.

<b>Acceptability Scores (T2.1)</b>	31-36	37-41	42-46	47-51	52-56	57-61	62-66
Business	1		3	6	3	1	
Health & Human Services	1	1	2	1	1	1	
Information Technology	1				2	1	
Liberal Arts & Social Science	1		2	7	6	2	
Science & Technology		5	3	7	5	1	1
Education		1	1		3		1

Table T2.2 displays the percentage of all the participants’ scores that is represented within each particular Acceptability Score range. For example, 9.6 percent of all participants were Science & Technology majors **and** had an Acceptability Score between 47 and 51.

<b>Acceptability Scores (T2.2)</b>	31-36	37-41	42-46	47-51	52-56	57-61	62-66
Business	1.4 %		4.1 %	8.2 %	4.1 %	1.4 %	
Health & Human Services	1.4 %	1.4 %	2.7 %	1.4 %	1.4 %	1.4 %	
Information Technology	1.4 %				2.7 %	1.4 %	
Liberal Arts & Social Science	1.4 %		2.7 %	9.6 %	8.2 %	2.7 %	

Science & Technology		6.8 %	4.1 %	9.6 %	6.8 %	1.4 %	1.4 %
Education		1.4 %	1.4 %		4.1 %		1.4 %

Table T2.3 displays the percentage of all the participants' in a specific field of study whose scores are within that particular Acceptability Score range. For example, 7.1 percent of participants who are Business majors had an Acceptability Score between 31-36.

<b>Acceptability Scores (T2.3)</b>	31-36	37-41	42-46	47-51	52-56	57-61	62-66
Business	7.1 %		21.4 %	42.9 %	21.4 %	7.1 %	
Health & Human Services	14.3 %	14.3 %	28.6 %	14.3 %	14.3 %	14.3 %	
Information Technology	25 %				50 %	25 %	
Liberal Arts & Social Science	5.6 5		11.1 %	38.9 %	33 %	11.1 %	
Science & Technology		22.7 %	13.6 %	31.8 %	22.7 %	4.5 %	4.5 %
Education		16.7 %	16.7 %		50 %		16.7 %

From chart T2.3 we notice that the higher Acceptability Scores belong to those students and faculty in the Science & Technology field of study, with those in Education and Information Technology not being far behind. Most of the Acceptability Scores; however, are slightly scattered and are not simply concentrated within one range or one field of study.

**DISCUSSION & CONCLUSION**

What has been gathered by analyzing the results is that peoples' perceptions of ethical values and how they apply to issues involving technology can be greatly affected by many factors. Gender and age have always been cited with causing a distinction between the views of people; however, through this study it has been discovered that a person's field of study can also play a part in his or her perceptions of ethics. Their field of study could be the cause or effect of them viewing a situation a certain. Maybe this person entered this field because their views differed from their peers initially, or maybe once this person entered this field, their perceptions were molded by the people surrounding them. Whatever the case may be, a trend has been noticed that those people who are in the same profession or those people who study the same subject matters tend to think alike in every aspect.

To be more specific, Science & Technology majors tended to be more accepting of the ethical issues that were posed about the topics of genetic research. This tendency to think alike may lie in the reality that these people are more knowledgeable about the

subject matter on which they were questioned. Those people outside of the realm of genetic science and medical may not exactly know every detail of the technologies that are mentioned throughout the course of this study, and therefore are unable to make well informed opinions about the repercussions of new discoveries in these areas. What everyone should strive to do is study to be opinionated: people should educate themselves on a topic before they decide to take a stance. It never hurts to know all of the facts.

As science progresses, we must acknowledge a call to weigh risks against benefits. Society needs to resist temptations of commercial or other pressures and must allocate ample time to appraise the risks of genetic research. The assessment should be backed-up with thorough practical investigations. Science has led to the provision of outstanding benefits to civilization in such fields as transport, energy, communications, health, whilst in pure science, the recent advances knowledge of cosmology and sub-nuclear physics is truly inspirational. The advances in the medical sciences are more worrying than those in the physical sciences: they seem bound to have a major and immediate impact on society. The ethical problems posed seem to belittle past worries such as disposal of radioactive wastes. Biotechnology, in particular potential applications of knowledge gained from the Genome Project, raises new and profound ethical issues. The pace of technological development in areas of medical science is very rapid, and a close watch must be kept on these developments. With each new step toward future technology we all need to be quite clear where the responsibilities for maintenance of ethical standards lie, and this is by no means self-evident.

Nearly every technology can be applied for good or evil (Brannigen, 2001). Supporters and opposition both make interesting points when arguments are brought up about these issues. However, these points may be valid only in the eyes of the people who make them. The ethical dilemmas that people are faced with when confronted with the issues of genetic research may resort to being judged on a case-by-case basis. We all anticipate that each discovery that is made is helpful to society as a whole, but yet some people are afraid that some technology will open a window to the deterioration of ethical standards that have long been upheld in this country. It is perfectly healthy to question the effects that new technology will have on society and the upstanding moral values of the people; however, the real question is whether we should be ruled by hope or fear.

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## **SURVIVOR GUILT AND FIRST-GENERATION COLLEGE STUDENTS: THE ROLE OF FAMILY SUPPORT**

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### **Abstract**

*Survivor guilt refers to the feeling of guilt or remorse when an individual survives or is successful when similar others are not. First-generation college students have many challenges, including the guilt for leaving friends or family behind. This study examined the prevalence of survivor guilt and its relationship to family support and emotional distress for first-generation (FG) college students as compared to non first-generation college students (NFG). Fifty-two undergraduate students completed surveys designed to measure survivor guilt, degree of family support, and emotional distress. Results showed that both FG and NFG students experience survivor guilt. However, the guilt experienced by the FG student is more highly correlated with family financial support whereas that experienced by the other students is correlated with familial psychological support. Implications for this pattern of findings are discussed.*

### **Survivor Guilt and First-Generation College Students: The Role of Family Support**

Survivor guilt is something that is usually ascribed to people who have experienced natural disasters or other catastrophic events and have lived while others around them have died. The concept can also describe less tragic situations in which others may have lived but have not been as successful, such as layoff situations (Brockner, Greenberg, Brockner, Bortz, Davy, & Carter, 1986). This term can also be used in academic settings to describe students who have come from families and/or neighborhoods when the majority of inhabitants were not able to or did not go to college (Piorkowski, 1983). First-generation students, those students whose parents did not attend college, may be more likely to experience survivor guilt. Studies have shown that first-generation (FG) students struggle more in higher education settings than their non first-generation (NFG) peers whose parents attended college (Komada, 2002; Occupational Outlook Quarterly, 1998/99; Pascarella, Pierson, Wolniak, & Terenzini, 2004). Survivor guilt may be a possible explanation or at least a contributory factor in their difficulties.

The difficulties experienced by FG college students are notable. For example researchers have found that FG students enter higher education with many disadvantages, which seem to affect their college experiences. FG students typically come from lower socioeconomic backgrounds (Khanh, 2002; Pascarella, Pierson, Wolniak, & Terenzini, 2004; Komada, 2002; Ayala & Striplen, 2002). Consequently, these students are often



more likely to work while attending school (Occupational Outlook Quarterly, 1998/99; Pascarella, Pierson, Wolniak, & Terenzini, 2004). They are less likely to complete their degrees and almost twice as likely to drop out of school (Occupational Outlook Quarterly, 1998/99). They often experience feelings of not fitting in and indirect guidance lacking parental support (Komada, 2002). They are also more likely to earn lower grades and take less credit hours during the semester, especially in areas of social sciences, arts and humanities, and technical/preprofessional fields (Pascarella, Pierson, Wolniak, & Terenzini, 2004). They often feel less prepared as well as more worried about failing and financial aid than students whose parents attended college (Khanh, 2002). There is research noting these difficulties, but there is not much that answers why FG students have such a different experience from NFG. Perhaps survivor guilt can help explain some of the problems that they face.

Guilt can lead a person to be very self-destructive. Whether the guilt arises from wrongdoing or success, it can lower a person's esteem and sense of self worth. Survivor guilt is defined as worrying about being in a better position than others, and it has been identified as a threat to all aspects of well-being (O'Connor & Berry, 1996, 1997, 2000). It is a particular problem that is often overlooked in clinical settings, but addressing it may decrease feelings of shame and self-hatred (O'Connor & Berry, 1996). Survivor guilt has been studied in Holocaust survivors (Garwood, Claybury Psychiatric Hosp, Forest House Psychotherapy Clinic, 1996) and HIV positive and negative gay men (Jimenez-Sheppard & The Wright Inst, 1997). Berghold and Lock (2002) found that teenagers with Anorexia Nervosa experienced higher levels of guilt than teens not suffering from the illness. Survivor guilt significantly correlates with submissive behavior, while submissiveness correlates with feelings of fear (O'Connor, Berry, Weiss, Schweitzer, & Sevier, 2000). Survivor guilt has also been found to be highly correlated with shame (O'Connor & Berry, 1996). In a study examining the effects of merit-based and random lay-offs, Brockner, Davy, and Carter (1985) found that participants witnessing both the merit-based and random layoffs perceived the layoffs as unfair to the laid-off person. The individual that was not laid-off experienced survivor guilt and remorse. They also found evidence suggesting that this guilt affects performance, as well as emotional well-being.

In her book about eating disorders, Zerbe (1993) explained that guilt can stunt a person's healthy development and the progression towards achieving positive goals in life. This is especially true when the guilt is based on doing better than one's parents. Piorkowski (1983) examined survivor guilt in the university setting. She suggested that this concept may explain or account for the difficulties experienced by FG students. College often puts FG students in a position to not only be more successful than their parents, but often more successful than a lot of people in their lives. Therefore, the college experience may put a burden on these students that could potentially cause feelings of guilt and distress.

The present study was designed to test Piorkowski's hypotheses. Specifically, we wanted to explore the extent to which FG and NFG students experience survivor guilt. Because the research in this area has been scarce, our predictions were fairly general. First, we hypothesized that FG students would experience more survivor guilt than NFG students. We also felt that FG students would come from families that would not be able to relate to the college experience and therefore they would have less family support than

NFG students. Based on our first two hypotheses, we expected to find that these students would experience more emotional distress than NFG students. For both groups, we expected to find a negative correlation between survivor guilt and family support, with the correlation being stronger with FG students. This would suggest that as family support increases, students experience less survivor guilt. We also expected to find correlations between family support and emotional distress. Specifically, we hypothesized that for all students, family support would be negatively related to emotional distress. That is, the more family support received the less emotional distress the individual would experience. Since FG students may need family support to a greater extent than NFG students, we also hypothesized that there would be a strong negative relation between family support and experienced stress. This would mean that the more support students receive from their families then the less stress they experience while in school.

## Method

### *Participants*

Fifty-two (36 female, 16 male) undergraduate students enrolled in Introduction to Psychology courses at a regional university in the southeastern United States participated in the study. The volunteers consisted of 33 white students, 15 black students, and 2 interracial students, 1 Asian student, and 1 Haitian student. There were 5 freshmen, 19 sophomores, 21 juniors, and 7 seniors. Fifty of the students were full time students, and 2 were not. The participants used the study to fulfill a class requirement or to earn extra credit in their introductory psychology class.

### *Materials*

Participants responded to 42 questions in a large questionnaire that consisted of 4 sub-questionnaires. One of the sub-questionnaires was designed to assess the participant's first-generation status and demographic information (see Appendix A). Demographic information included questions such as, race, gender, major, etc. A second sub-questionnaire assessed the student's levels of emotional distress (see Appendix B). Emotional distress questions included ratings on difficulty functioning and general stressors. A third sub-questionnaire assessed the student's perceived level of family support (see Appendix C). When examining family support we asked the participant about experiences with financial and psychological support from the family. A fourth sub-questionnaire assessed the level of survivor guilt experienced by the student (see Appendix D). Survivor guilt questions included issues such as feelings of guilt and thoughts about family/friends at home. The researchers generated these questions because published tests for these constructs were not found in the time frame allowed by this project. Each sub-questionnaire was designed to test particular aspects of each issue. There were two clusters of questions pertaining to emotional distress, six clusters of questions pertaining to family support, and two clusters of questions in the survivor guilt sub-questionnaire. A detailed breakdown of these specific question clusters is in Table 1.

### Procedure

Participants were run in groups of 1 to 8. The order of the sub-questionnaires was counterbalanced such that across all participants an equal number of orders of the questionnaires was used. No time limit was placed on participants, but most students took no longer than 15 minutes to complete all questions. The experimenter collected the informed consent forms after they were read, signed, and dated. The participants were then instructed to answer the questionnaires that made up their packets. After the participants completed the packets, the experimenter collected the questionnaires and thanked the students for their participation.

### Results

The researchers defined first-generation (FG) college students as those whose parents nor grandparents attended college; non first-generation (NFG) students were those students whose parents or grandparents had at least some college education. There were 14 students who met the criteria for FG status, and 38 students who met the criteria for NFG status.

#### **Overall Differences between First-Generation and Non First-Generation Students**

To explore overall differences between FG and NFG students on measures of survivor guilt, family support and emotional distress—the researchers created summary score measures of these constructs by totaling participants’ responses on all questions within the sub-questionnaires (reverse coding where appropriate). Overall means are displayed in Table 2. T-test analyses revealed no significant differences between FG and NFG students with respect to each of these dimensions.

Next, in order to take a closer view of survivor guilt, family support, and emotional distress, participants’ responses were partitioned into separate scores reflecting the total of specific clusters of questions (See Table 1) embedded within each sub-questionnaire. FG and NFG responses were compared on each of these aspects. Mean responses are displayed in Table 3. Again, t-test analyses showed no differences between FG and NFG respondents on any of these specific aspects.

A more fine-grained analysis was then done by comparing FG and NFG responses on each individual question from all of the sub-questionnaires. Significant differences emerged on only two questions. One was related to family support (“I feel pressure from my family to succeed financially because I am attending the university.”) FG=5.0 (SD=2.22) versus NFG=3.84 (SD=1.85)  $t(50) = 1.90, p = .032$  (one-tailed). The other was related to emotional distress (“Overall stress level in your life”) FG=4.79 (SD=1.12) versus NFG = 4.05 (SD =1.41),  $t(50) = 1.75, p = .044$  (one-tailed).

#### **Relations among Survivor Guilt, Family Support, and Emotional Distress**

In order to examine how survivor guilt, family support, and emotional distress may be inter-related for FG and NFG students, we conducted two sets of Pearson correlation analyses. The first set of correlations was calculated among the overall summary scores for the three variables. One analysis was done with all participants’ data combined (collapsing across FG/NFG status). A second analysis was done separately for FG and NFG students (See Table 4). In the first analysis the only statistically significant relation to emerge was that between survivor guilt and family support,  $r(50) = -0.32, p <$

.05. The second analysis revealed, counter to predictions, that the correlation between survivor guilt and family support was driven exclusively by the NFG participants. Specifically, the correlations between survivor guilt and family support for FG and NFG students were .09 and -0.452, respectively.

A second set of correlations was calculated among the “specific question cluster” scores, i.e., the sums of the individual responses from questions reflecting specific aspects associated with survivor guilt, family support, and emotional distress (again, see Table 1 for a listing of these clusters). Correlations among all aspects were calculated separately for FG and NFG participants. These correlations are displayed in Table 5. The top panel of Table 5 contains the correlations for FG students, and the bottom panel contains correlations for NFG students.

#### Survivor Guilt and Family Support

The analyses showed that survivor guilt experienced by FG and NFG students had a different relational pattern to family support. With Both FG and NFG participants, a significant inverse relation emerged between survivor guilt pertaining to family (SGF) and friends and perceived financial support from the family (FFS),  $r(12) = -0.57$  and  $r(36) = -0.37$ , respectively. Interestingly, a similar inverse relation between survivor guilt related to “wasting money” attending college and perceived financial support emerged only with FG participants,  $r(12) = -0.55$ .

With NFG students, survivor guilt (pertaining to both aspects tested in this study) was significantly inversely related to perceived family psychological support. That is, for these students, survivor guilt increased as family psychological support decreased,  $r(36) = -.47$  for survivor guilt related to family and friends,  $r(36) = -0.49$  for survivor guilt related to attending college and “wasting money” doing so. Consistent with this finding, survivor guilt related to friends/family or attending college was inversely related to these students comfort with discussing problems at the university,  $r(36) = -0.34$ , and comfort with discussing successes,  $r(36) = -0.36$ .

#### Family Support and Emotional Distress

We used Pearson correlations to examine the relations between aspects pertaining to family support and emotional distress. Predictably, for all participants overall experienced stress was highly correlated with reported difficulties in sleeping, concentrating, and getting work done. Similarly, perceived psychological support from the family was highly correlated with students comfort in discussing problems, students’ perceptions of family support on academic matters, and perceptions of family support on non-academic matters.

Unique to FG students, a strong relation emerged between perceived psychological support from the family and a number of variables: overall experienced stress,  $r(12) = -0.72$ ; comfort in discussing problems at school,  $r(12) = -0.724$ ; and overall support on academic matters,  $r(12) = -0.703$ .

For the NFG students, significant relations emerged between perceived psychological support from the family and perceived financial support,  $r(36) = 0.67$ ; and between psychological support and comfort in discussing successes,  $r(36) = 0.85$ .

## Discussion

The purpose of this study was to examine differences between first-generation (FG) and non first-generation (NFG) college students, specifically in relation to roles of survivor guilt, family support, and emotional distress in the university setting. In general, we found that FG and NFG students do not differ in terms of overall survivor guilt, nor do they differ in terms of overall family support. One possible explanation for this is the higher numbers of students attending college in recent years. With more people having the opportunity to attend college, FG students may still be exposed to people who have attended college even though their parents did not attend, and this could decrease the amount of survivor guilt that these students experience. Also, some NFG students may have a significant amount of family and friends who do not attend college and this could cause these students to experience a considerable amount of survivor guilt. These factors may explain the similarities in survivor guilt experienced by the two groups. The lack of difference in perceived family support among the groups may be due to the different approaches that families have. Parents who did not attend college may be less supportive because they cannot relate to the experience; however, these parents may be extremely supportive because their children are accomplishing something that they were unable to. In contrast, parents who attended college may be less supportive because they feel that their children should do as well as they did, but these parents may also be more supportive because they are more familiar with the experience than parents who did not attend college.

A difference emerged between FG and NFG students when examining emotional distress. FG students reported feeling more pressure to succeed financially because they are attending the university. Financial freedom is associated with college degrees. Students are often told that the more education a person has the more financially stable that person will be. So, among FG students and their families this belief may be held quite strongly and may be a primary reason for attending college (Khanh, 2002). FG students also report feeling more stress in their lives than NFG students. These feelings might stem from FG students generally coming from lower socio-economic backgrounds and being more likely to work while in school (Occupational Outlook Quarterly, 1998/99).

When examining the Pearson correlations we found several significant relations. The negative relation that emerged between survivor guilt and family support was only obtained for the NFG students. That is, the amount of survivor guilt experienced by NFG students increased as support from their families decreased. The survivor guilt experienced by FG students may be more tied to financial support from the family and not from psychological support from the family. It is not the case; however, that psychological support is unimportant for FG students. We found that the overall stress experienced by the FG students increased as psychological support from the family decreased. However, this stress appears to be independent from feelings of survivor guilt.

Although we were able to make some interesting conclusions, the project does have some limitations that may affect the generalizability of the findings. First, we had a small sample size of FG students in our participant pool. The lower numbers in this group may have reduced power for the analyses involving FG students. As mentioned earlier, the researchers constructed all questions. Thus, the questions were not subjected

to validity studies. If this study were to be repeated, we suggest locating published tests for each of the constructs.

We hope that others will expand on this research, so that we can better understand the student population. Future research could focus on establishing a true measure of survivor guilt and its possible effects on college students. These findings could be used when counseling students and preparing them to deal with stressors during their college years. Researchers should consider dividing NFG students controlling for the amount of college education, or level of degree, their parents received. Research comparing races, genders, classifications, or majors may also be helpful in further understanding survivor guilt.

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Appendix A

Participant # \_\_\_\_\_

1. Do you consider yourself to be a first-generation college student? (A first-generation college student is a person whose parents (and grandparents) did not attend college).

Y N

2. Regardless of your answer to Question number 1, please answer the following by circling the appropriate response

<b>Relative</b>	<b>College</b>		<b>If yes, Graduate?</b>	
Mother	Y	N	Y	N
Father	Y	N	Y	N
Maternal Grandmother	Y	N	Y	N
Maternal Grandfather	Y	N	Y	N
Paternal Grandmother	Y	N	Y	N
Paternal Grandfather	Y	N	Y	N
Other relative _____	Y	N	Y	N

3. Age: \_\_\_\_\_

4. Your cumulative GPA: \_\_\_\_\_

(Circle the correct response)

5. Are you: male female

6. Race: Caucasian African American Hispanic Asian Other \_\_\_\_\_

7. Year in college: Freshman Sophomore Junior Senior

8. Are you a full time student? Y N

9. Are you employed while in school? Y N

10. If yes, how many hours per week do you work at this job? \_\_\_\_\_

11. What is your major at GSU: \_\_\_\_\_

12. Do you have friends from home that did not go to college? Y N

13. If yes, how many?

1-3 4-6 7 or more



Appendix B

Participant # \_\_\_\_\_

Using the following scale, please write a number reflecting your current experience with each of the following:

1	2	3	4	5	6	7
none			Moderate			Very High

- 14. Difficulty in Sleeping: \_\_\_\_\_
- 15. Difficulty Concentrating: \_\_\_\_\_
- 16. Difficulty getting work done: \_\_\_\_\_
- 17. Irregular Appetite (overeating or lack of appetite): \_\_\_\_\_
- 18. Level of Depression: \_\_\_\_\_
- 19. Level of Anxiety: \_\_\_\_\_
- 20. Overall Stress Level in your life: \_\_\_\_\_
- 21. Stress pertaining to academics at school (i.e., classes, school requirements): \_\_\_\_\_
- 22. Stress pertaining to non-school life (i.e., activities, friends at school): \_\_\_\_\_
- 23. Stress pertaining to home life (i.e., about your family, friends from home): \_\_\_\_\_
- 24. Stress pertaining to finances (i.e., about having enough money): \_\_\_\_\_

Appendix C

Participant # \_\_\_\_\_

Using the following scale, Please write a number (1 – 7) that reflects your endorsement of the each of the following statements:

1	2	3	4	5	6	7
strongly disagree			neutral			strongly agree

25. \_\_\_\_\_ I feel I can talk to my family about academic problems in school.
26. \_\_\_\_\_ I feel I can talk to my family about non-academic problems (e.g., social) in school.
27. \_\_\_\_\_ I feel I can talk to my family about my academic successes at the university.
28. \_\_\_\_\_ I feel I can talk to my family about my non-academic successes at the university.
29. \_\_\_\_\_ I have the psychological support of my immediate family.
30. \_\_\_\_\_ I feel pressure from my family to graduate from the university.
31. \_\_\_\_\_ I feel isolated from my family/friends back home.
32. \_\_\_\_\_ I feel frustrated when talking with my family/friends back home.
33. \_\_\_\_\_ I feel criticized by my family/friends back home.
34. \_\_\_\_\_ I feel pressure from my family to succeed financially because I am attending the university.
35. \_\_\_\_\_ I have the financial support of my immediate family.

Appendix D

Participant # \_\_\_\_\_

Using the following scale, please write a number (1 – 7) that reflects your endorsement of the each of the following statements:

1	2	3	4	5	6	7
strongly disagree			neutral			strongly agree

36. \_\_\_\_\_ I feel guilty for attending college.
37. \_\_\_\_\_ I often think about my friends from home who do not attend college.
38. \_\_\_\_\_ I deserve to be successful.
39. \_\_\_\_\_ I feel comfortable discussing college to family and friends back home.
40. \_\_\_\_\_ I feel guilty about wasting money on college.
41. \_\_\_\_\_ I feel responsible for the fate of my non-college attending friends.
42. \_\_\_\_\_ My success comes at the cost of friends/family who did not attend college.

Table 1. Specific clusters of questions within each sub-questionnaire

**Survivor Guilt Questionnaire**

- Guilt pertaining to relations with family and friends  
(Ex. “I often think about my friends from home who do not attend college.”)
- Guilt pertaining to attending college and “wasting money” doing so  
(Ex. “I feel guilty for attending college;” “I feel guilty for wasting money on college.”)

**Family Support Questionnaire**

- Psychological support from the family  
(Ex. “I have the psychological support of my immediate family.”)
- Financial support from the family  
(Ex. “I have the financial support of my immediate family.”)
- Ability to discuss academic and nonacademic problems with the family  
(Ex. “I feel like I can talk to my family about academic/nonacademic problems in school.”)
- Ability to discuss academic and nonacademic successes with the family

(Ex. “I feel like I can talk to my family about academic/nonacademic successes at the university.”)

- General family support regarding academic matters

(Ex. “I feel like I can talk to my family about academic problems/successes.”)

- General family support regarding nonacademic matters

(Ex. “I feel like I can talk to my family about nonacademic problems/successes.”)

### **Emotional Distress Questionnaire**

- Difficulty in general functioning

(Ex. “I have difficulty sleeping/concentrating/getting work done.”)

- Appetite irregularities
- Level of Depression
- Level of Anxiety
- Experienced stress pertaining to a variety of sources

(Ex. “ Amount of stress pertaining to academics at school (i.e., classes, school requirements).”)

Table 2. Overall summary scores for each sub-questionnaire

	N	Overall Survivor Guilt	Overall Family Support	Overall Emotional Distress
FG	14	13.14 (4.82)	60.07 (9.34)	38.43 (9.60)
NFG	38	14.26 (4.87)	58.66 (9.70)	38.47 (9.34)

*Note:* Standard deviations (SD) are in parentheses.

Table 3. Overall summary scores for specific question clusters

Survivor Guilt

	Family/Friends	Guilt for attending college
FG	8.36 (3.41)	3.21 (1.85)
NFG	8.92 (3.04)	3.55 (2.27)

Family Support

	Psychological	Financial	Problems	Successes	Academic	Non-Academic
FG	49.43 (9.39)	10.64 (2.59)	10.57 (3.03)	12.71 (1.49)	11.43 (2.03)	11.86 (2.03)
NFG	49.26 (7.70)	9.39 (2.70)	11.13 (2.72)	12.53 (2.30)	12.16 (2.78)	11.50 (2.36)

Emotional Distress

	Difficulty Functioning	Overall Stress Level
FG	9.29 (3.00)	58.14 (15.22)
NFG	10.24 (3.51)	57.74 (13.61)

*Note:* Standard deviations (SD) are in parentheses.

Table 4. Overall Summary Score Correlations

Survivor Guilt/Family Support	
FG	.085
NFG	-.452*

Family Support /Emotional Distress	
FG	-.714*
NFG	-.039

Survivor Guilt/ Emotional Distress	
FG	.014
NFG	.084

Note: Significant values are marked by \*s.

Table 5. Specific question cluster correlations for FG and NFG students

FG students

	EDD	EDS	FPS	FFS	FSP	FSS	FSA	FSN	SGF	SGG
EDD	-	.537*	-.496	.103	-.476	.123	-.313	-.308	-.041	.002
EDS	.537*	-	-.723**	-.114	-.724**	-.039	-.703**	-.407	-.408	.267
FPS	-.496	-.723**	-	-.158	.915**	.251	.761**	.789**	.305	.070
FFS	.103	-.114	-.158	-	-.393	-.009	-.423	-.171	-.568*	-.545*
FSP	-.476	-.724**	.915**	-.393	-	-.009	.908**	.763**	.462	.073
FSS	.123	-.039	.251	-.009	.243	-	.400	.697**	-.175	-.451
FSA	-.313	-.703*	.761**	-.423	.908**	.400	-	.651*	.399	-.067
FSN	-.308	-.407	.789**	-.171	.763**	.697**	.651*	-	.163	-.155
SGF	-.041	-.048	.305	-.568*	.462	-.175	-.399	.163	-	.549*
SGG	.002	.267	.070	-.545*	.073	-.451	-.067	-.155	.549*	-

Table 5. (continued)

NFG students

	EDD	EDS	FPS	FFS	FSP	FSS	FSA	FSN	SGF	SGG
EDD	-	.673**	.097	-.253	.096	.092	.088	.100	.126	.007
EDS	.673**	-	-.061	-.116	.023	.048	-.007	.083	.131	.125
FPS	.097	-.061	-	.666**	.766**	.848**	.819**	.767**	-.470**	-.489**
FFS	-.253	-.116	.666**	-	.449**	.524**	.479**	.478**	-.368*	-.266
FSP	.096	.023	.766**	.449**	-	.802**	.916**	.878**	-.273	-.344*
FSS	.092	.048	.848**	.524**	.802**	-	.884**	.886**	-.329*	-.363*
FSA	.088	-.007	.819**	.479**	.916	.884**	-	.764**	-.299	-.468**
FSN	.100	.083	.767**	.478**	.878**	.886**	.764**	-	-.292	-.209
SGF	.126	.131	-.470**	-.368*	-.273	-.329*	-.299	-.292	-	.448**
SGG	.007	.125	-.489**	-.266	-.344*	-.363*	-.468**	-.209	.448**	-

Note: Significant values with  $p < .05$  are marked by \*. Significant values with  $p < .01$  are marked by \*\*.

Key:

EDD-- emotional distress (difficulty functioning)

FSN—family support (non-academic)

FSP—family academic support

EDS—emotional distress (stress factor)

FSS—family support (success)

SGG—survivor guilt (guilt)

FPS—family psychological support (family/friends)

FSA—family support (academic)

SGF—survivor guilt

FFS—family financial support

## **EARLY WARNING SIGNS OF FRAUDULENT FINANCIAL REPORTING IN THE HEALTHCARE INDUSTRY**

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### **Abstract**

*This study examines fraudulent financial reporting in the healthcare industry. Recent events illustrate that fraudulent reporting is at epidemic levels. For instance, Forbes reports that the U.S. government believes that HealthSouth Corporation has been inflating earnings over the past several years. In fact, the Treadway Commission's study *Fraudulent Financial Reporting: 1987-1997, An Analysis of U.S. Public Companies*, noted that the healthcare industry was one of the top three industries with fraudulent reporting. If fraudulent reporting negatively impacts the provision of healthcare, then it is important to find early warning indicators of fraud in the healthcare industry. Some fraud cases are left unnoticed and uncovered only after the fraud has risen to spectacular levels. This study analyses whether early warning indicators of fraud in the healthcare industry exist. The study compares a sample of fraudulent reporters to a sample of reporters which have no indication of fraudulent reporting. The results indicate that fraudulent reports have decreased profitability, lower liquidity, and older assets. Also, it is possible to improve upon auditor reports in predicting fraudulent reporting.*

### **Introduction**

Fraudulent financial reporting is rising significantly, and the healthcare industry is no exception. On March 19, 2003, the Securities and Exchange Commission filed a lawsuit against HealthSouth stating that the company's officials had overstated earnings by \$1.4 billion since 1999. HealthSouth is the largest operator of inpatient rehabilitation and outpatient surgery centers in the nation, but is now fighting to remain solvent.

As the nation's largest operator, HealthSouth grew by acquiring other providers and now the services provided by its nearly 1,700 healthcare facilities may be compromised. This threat to the provision of healthcare services is larger than just HealthSouth outlets. As HealthSouth grew, other providers may have ceased operations. A healthcare consultant noted: "Some of my clients who can't compete with HealthSouth tell me they don't understand how HealthSouth can keep their costs that low." (Phyllis Costanza, a senior manager at Fairfax, Va.-based Lewin Group).

How was the fraud at HealthSouth exposed? Like so many other examples of fraudulent financial reporting, it was through an insider whistle blowing. Evidently, this whistleblower had been attempting to disclose the fraud since May, 2002.<sup>1</sup> If the fraud started in 1999 (some estimates are that it started in 1986 and amassed a \$2.5 billion

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<sup>1</sup> <http://academic.udayton.edu/philosophy/..%5CLawrenceUlrich/WhistleblowingAndHealthSouthFraud.htm>



value<sup>2</sup>), then early warning indicators of fraudulent reporting may benefit the healthcare industry so that services throughout the country are not threatened.

Prior studies suggest that financial ratios are important for hospital performance evaluation (Zeller et al., 1996, p. 161). Therefore, this study explores whether health related financial ratios can be used to help predict fraudulent reporting. First, an analysis of financial ratios is used to assess the differences in performance of fraud firms compared to non-fraud firms. Second, the analysis is used to examine the relationship among specific ratios and their ability to forecast fraud. The findings suggest that some financial ratios are associated with subsequent fraudulent financial reporting in the healthcare industry.

### **Literature Review and Hypothesis**

This study is based on prior studies on fraudulent reporting and financial ratio analysis. Research reveals that financial statement fraud seems to be concentrated in the technology, healthcare, and financial services industries (Beasley et al., 2000). Financial ratios of fraudulent reporting firms have been shown to be significantly different from other firms with no evidence of fraudulent reporting (Persons, 1995). However, healthcare industry ratios are somewhat unique (Zeller et al., 1996). Though some research does provide evidence about specific fraud techniques used in the healthcare industry, it fails to provide a foundation for identification of warning signs to detect fraud. This section reviews recent articles and places this current study in the context of previous research.

Beasley et al. (2000) points out that fraud is evident in the healthcare industry. This study analyzes 66 companies and focuses on the financial statement fraud techniques of technology, healthcare, and financial services industries within January 1987 and December 1997. The cases of fraudulent financial reporting are retrieved from the SEC's Accounting and Auditing Enforcement Releases (AAERs). In addition to the AAERs, Form 10-Ks and proxy statements for the companies identified for committing fraud are also evaluated. Data regarding non-fraud companies were obtained from the National Association of Corporate Directors (NACD). Statistical analyses are used to test the differences across industries and between fraud and non-fraud companies.

Beasley reveals that the two most common fraud techniques are overstatement of revenues and overstatement of assets. Also, companies in the technology and financial services industries are more likely to commit fraud. The authors compare the differences in governance mechanisms of fraud and non-fraud companies and reports that the governance mechanisms for fraudulent versus non-fraudulent companies differ significantly. Fraudulent companies are less likely to have outside directors on audit committees and boards, have infrequent audit committee meetings and very few internal audits.

Obeua S. Persons (1995) does not focus on financial reporting in the healthcare industry. However, the study does identify ratios that may be important in predicting fraud. Persons reviews 103 cases of financial statement fraud retrieved from Accounting Series Release (ASR), 1974-1981, and Accounting and Auditing Enforcement Releases (AAER), 1982-1991. The data for non-fraudulent financial reporters are retrieved from COMPUSTAT. Each Non-fraud firm is matched with a fraud firm with the same

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<sup>2</sup> [http://www.uow.edu.au/arts/sts/bmartin/dissent/documents/health/access\\_healthsouth.html](http://www.uow.edu.au/arts/sts/bmartin/dissent/documents/health/access_healthsouth.html)

characteristics of industry and time period. Ten financial statement ratios are identified to measure the financial performance of companies based on two methods: the model estimation method, a logistic procedure, and the jackknife method, an assessment of models' predictive ability.

Persons recognize that lead indicators detect fraud based on four aspects. Fraudulent firms are more likely than non-fraudulent firms to have higher financial leverage, lower capital turnover, a greater proportion of current assets, and smaller firm size. The model prediction finds that it is easier to detect firms with a high potential of committing fraud. The detection of these firms gives auditors and investors choices on whether or not to accept the high fraud-potential firms. Also, the SEC may closely monitor these firms in hopes of eventually deterring fraudulent financial reporting.

Zeller et al. (1996) examines critical ratios in the healthcare industry and finds that specific ratios are more important than others. Zeller identifies eight financial characteristics of hospital performance: 1) profitability; 2) return on equity, 3) fixed asset efficiency; 4) capital structure; 5) fixed asset age; 6) working capital efficiency; 7) liquidity; and 8) debt coverage based on a study of 2,189 hospitals. These characteristics can be used to improve the financial analysis of hospitals. Zeller points out that this study "is of importance to the health care industry because improved understanding of hospital performance reduces risk and helps management offer effective services within an efficient operating cost structure, benefiting all stakeholders (178)."

Zeller et al. (1997), in an effort to improve knowledge of hospital performance, extends their research and identifies only six financial characteristics: 1) profitability; 2) fixed asset efficiency; 3) capital structure; 4) fixed asset age; 5) working capital; and 6) liquidity. These characteristics are common for most hospitals. Zeller points out that "improved understanding of hospital performance reduces risk in decision making."

Lynn (1993) reports that compared to open hospitals, closed hospitals have higher leverage ratios and lower liquidity, capital efficiency, and assets availability. These indications can be evaluated in the mean and standard deviations in one and two years prior to closure. Logistic analysis finds that hospital closure can be reasonably predicted. Thorough analyses of variables show the most predictive variable is the profitability ratio one year prior to closure and a viability index two years prior. Twenty-one financial ratios are selected as possible indicators of future hospital closure. These ratios are selected based to relevance and availability.

This literature review finds that researchers argue that financial data provide some indication of fraudulent reporting. However, none of the studies considered specific early warning signs of fraudulent financial reporting in the healthcare industry. In an effort to forewarn auditors and increase awareness of all benefiting stakeholders, this study focuses on financial statement data relevant to fraudulent financial reporting and hypothesizes that health-related ratios are early warning indicators of fraud.

### **Sample Selection and Testing Procedures**

The purpose of study is to evaluate early warning signals for fraudulent financial reporting. The basic sample of fraudulent reporters is selected from the Securities and Exchange Commission's (SEC) litigation webpage (<http://www.sec.gov/litigation.shtml>). This page includes Accounting and Auditing Enforcement Releases (AAERs), as well as other investigations that have resulted in litigious actions by the SEC. Using the keyword

“healthcare”, 121 different web-documents were identified. Each document was reviewed to determine whether the SEC action concerned a healthcare company’s fraudulent reporting.<sup>3</sup> This resulted in 28 preliminary healthcare fraudulent reporters. In an effort to expand on prior research, an additional 6 firms were also provided by the authors of *Fraudulent Financial Reporting: Consideration of Industry Traits and Corporate Governance Mechanisms* (Beasley et al., 2000). Thus, the number of identified fraudulent reporters between 1983 and 2004 is 34 firms.

The second step in the sample selection is the collection of firm data from COMPUSTAT, EDGAR, or Hoover’s Online. Each fraud firm was traced to the database and financial data were retrieved for the three years proceeding the fraud year and for the fraud year. This step results in a final sample of 25 firms (see the Appendix for the list of firms).

The third step is to match the fraud firms to “non-fraud” firms. The matching criteria included: (1) the matched firm must be from the same Standard Industry Classification (SIC) code and (2) the matched firm must be of similar size. Firms in the same SIC code were ranked according to revenues and the closest two firms above and below the fraudulent firm are selected. This results in 99 “Non-fraud” firms.

Table 1 describes the ratios for the final fraud and matched sample of firms. The ratios selected are based on Zeller et al. (1997). For this study, however, depreciation expense and fund balances are not available for many firms. Consequently, the ratios in Table 1 are limited to only the basic ratios for each of the six healthcare performance categories.

Table 1  
FINANCIAL RATIO SUMMARY BY PERFORMANCE CATEGORY

RATIO	DEFINITION
<i>Profitability Ratios</i>	
Total margin TMAR	Net Income / Total Sales
Operating margin OMAR	Total Operating Income / Total Sales
Return on assets ROA	Net Income / Total Assets
Return on equity ROE	Net Income / Total Equity
<i>Fixed Asset Utilization Ratios</i>	
Fixed asset turnover FATO	Total Sales / Net Fixed Assets

<sup>3</sup> Reasons why a healthcare company identified in the SEC list may be excluded from the final sample include a firm whose shares were fraudulently traded by insiders or by third parties, or a firm whose required filings were submitted late.

Total asset turnover TATO	Total Sales / Gross Fixed Assets
<i>Financial Structure Ratio</i>	
Fixed asset financing FAF	Long-term Liabilities/ Net Fixed Assets
<i>Age of Equipment and Plant Ratio</i>	
Average age of plant AAP	Accumulated Depreciation / Gross Fixed Assets
<i>Efficiency of Investment in Current Assets Ratios</i>	
Current asset turnover CATO	Total Sales / Current Assets
Current ratio CR	Total Current Assets/ Total Current Liabilities
Days in accounts receivable DAR	Net Accounts Receivable/ (total Sales/ 365)
Average payment period APP	Total Current Liabilities/ (Total Operating Expenses/365)
<i>Liquidity</i>	
Times interest earned TIE	(Operating Income + Interest Expense)/Interest Expense
Days cash on hand DCH	Cash + Short-term Investments/ (Total Operating Expenses/365)

## Results

The preliminary analysis involves graphing the ratios of the fraud firms and the non-fraud firms and is presented in Figures 1 through 9. These graphs present the median ratio for each of the two groups on the vertical axis and the year (from -2, two years prior to fraud to 0, the year of fraud) on the horizontal axis. The profitability ratios are presented first. In all cases, the drop in the median Fraud firm ratio from year -2 to year -1 is substantial compared to the median Non-fraud firm.

Figure 1 TMAR

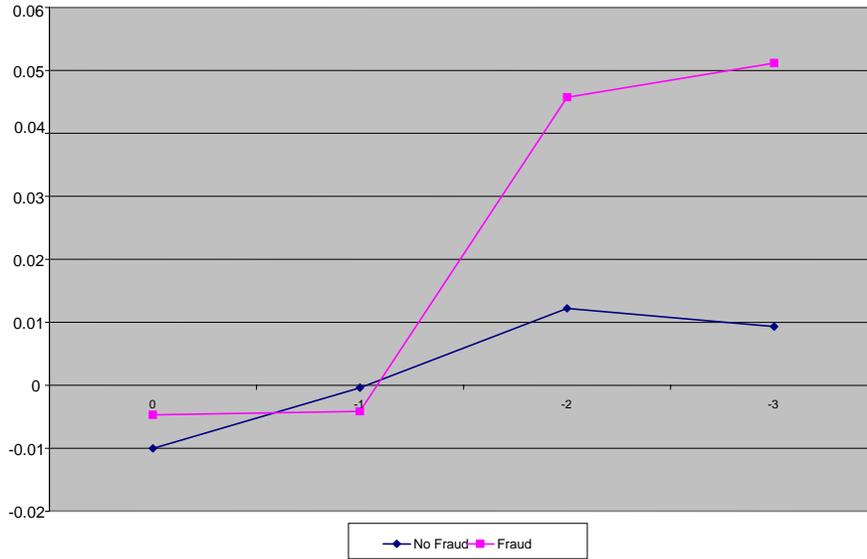


Figure 1 presents the Total Margin. The median Fraud TMAR in Year -2 is significantly different from the on-fraud median TMAR (Wilcoxon  $Z=1.77$ ), but year -1 and year 0 medians are not significantly different. Students t-test on the difference between the means is also significant for Year -2 ( $t=2.21$ ).

Figure 2 ROE

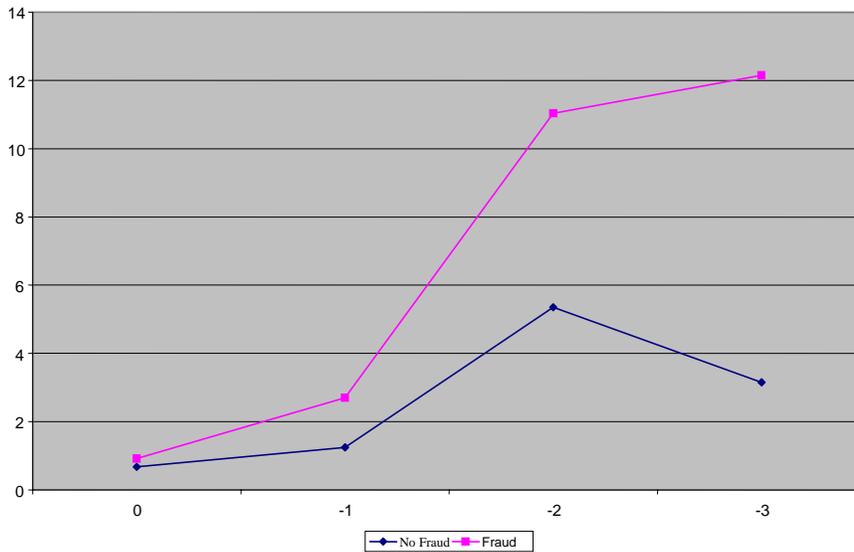


Figure 3 ROA

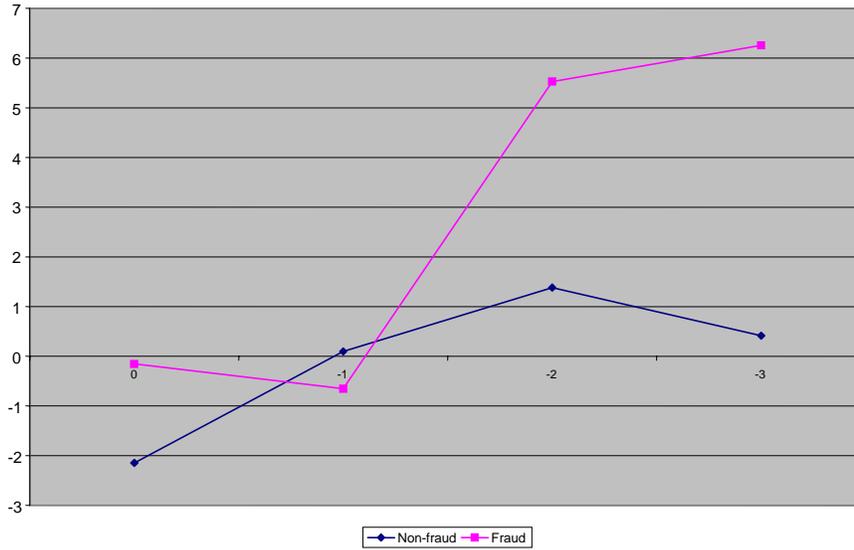


Figure 2 presents the Return on Equity and Figure 3 presents Return on Assets. The median Fraud ROE in Year -2 is significantly different from the Non-fraud median ROE (Wilcoxon  $Z=2.22$ ), but year -1 and year 0 medians are not significantly different. Students t-test on the difference between the means is also significant for Year -2 ( $t=2.33$ ). Similar results hold for ROA in Figure 3.

Figure 4 TATO

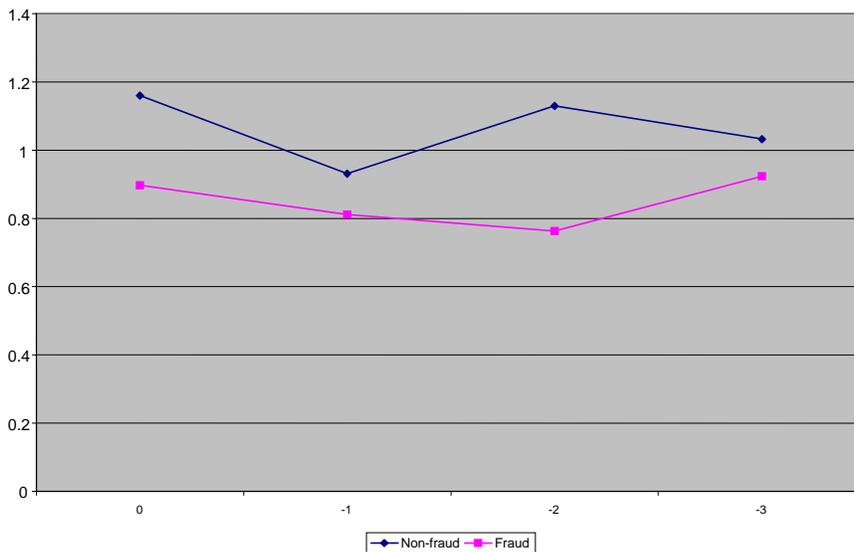


Figure 4 presents Total Asset Turnover. The median Fraud TATO in Year -2 is significantly different from the Non-fraud median ROE (Wilcoxon  $Z=1.63$ ), but year -1 and year 0 medians are not significantly different. Students t-test on the difference between the means is also significant for Year -2 ( $t=2.50$ ). The median Fraud TATO is always lower than the Non-fraud median TATO.

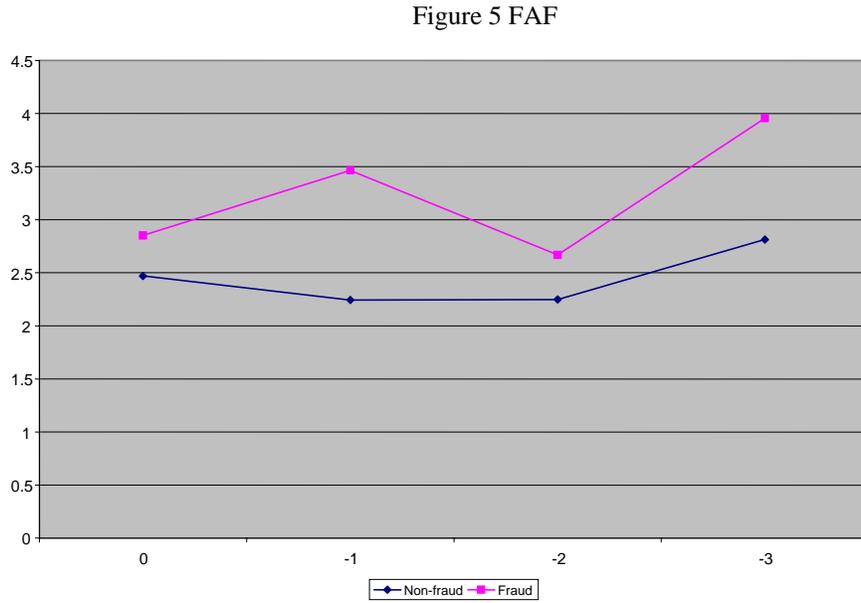


Figure 5 presents Fixed Asset Financing. The median FAF is difficult to assess due to fluctuations. Though Fraud firms have larger FAF ratios than non-fraud firms, no significant differences exist between years.

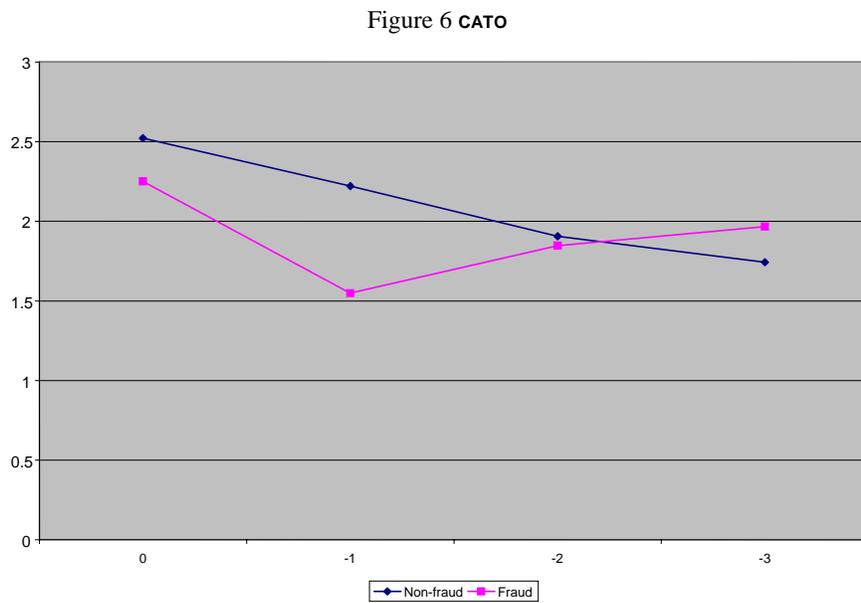


Figure 6 presents Current Asset Turnover. In accordance with Wilcoxon Z-stat and Students t-test (both with values of 1.85), the median Fraud CATO of year-1 is significantly different from the median non-fraud CATO.

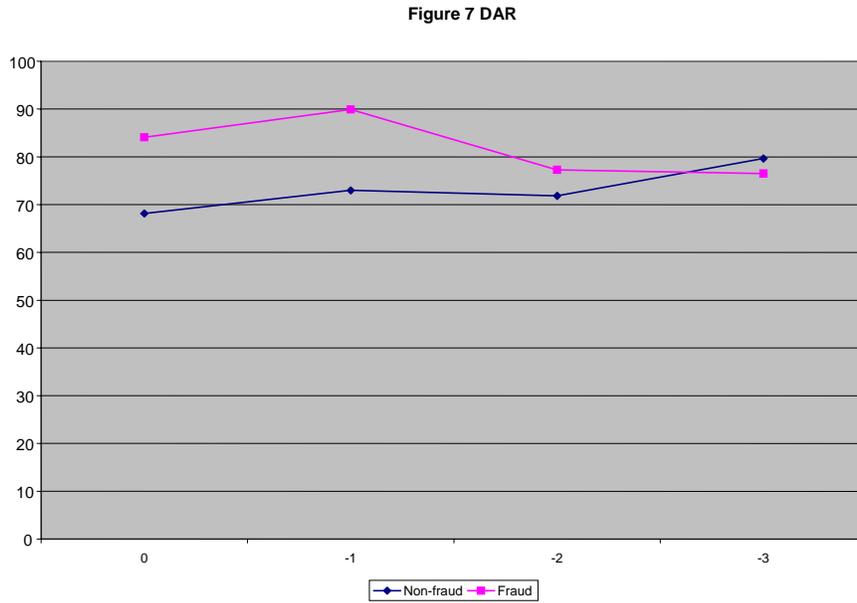


Figure 7 presents Days in Accounts Receivable. The median Fraud DAR for year-1 is significantly differently from Non-fraud DAR based both on Wilcoxon Z-stat of 1.53 and Students t-stat of 2.50.

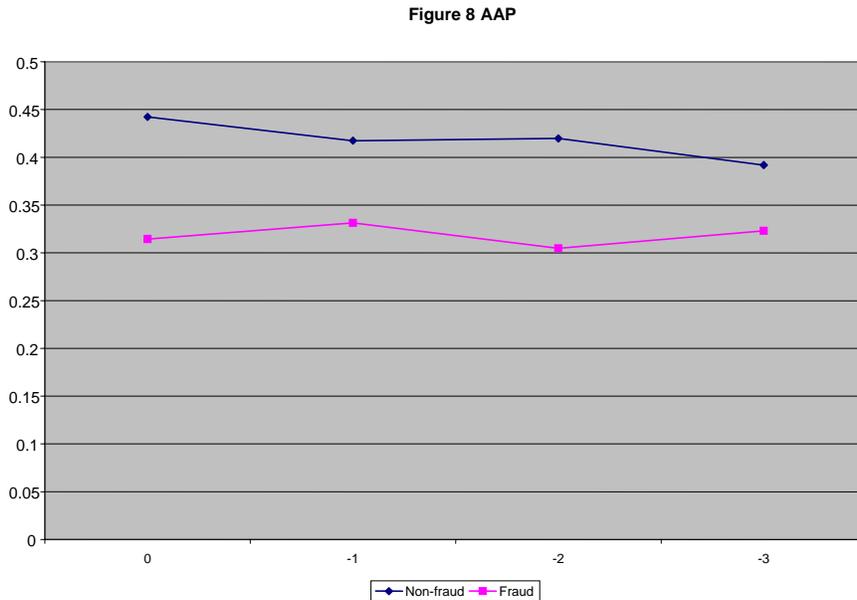




Figure 8 presents Average Age of Plant. According to Wilcoxon Z stat ( $Z= 2.92$  year 0; 2.50 year-1; 2.08 year-2) and Students t-stat ( $t=2.85$  year 0; 2.4 year-1; 1.79 year-2), the median Fraud AAP is significantly different from the non-fraud median AAP for year 0, year-1, and year -2.

Figure 9 DCH

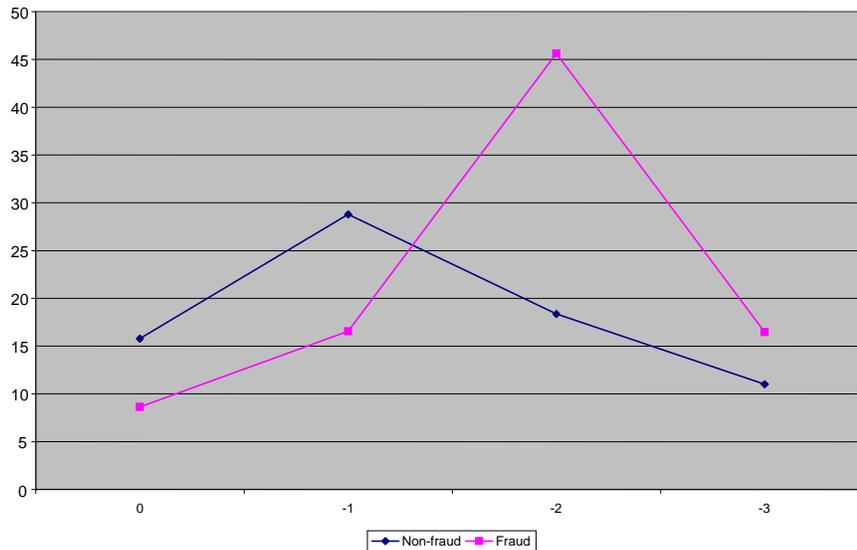


Figure 9 represents Days Cash on Hand. According to Wilcoxon ( $Z = 2.07$  year 0;  $Z = 1.54$  year -1), the median Fraud DCH is significantly different from the non-fraud median DCH in both year 0 and year 1. Students' t-stat reports insignificance in all years.

### Logistic Regression Results

Given that significant differences are observed for the years prior to the fraud year, it is expected that these variables can differentiate Fraud and Non-fraud companies. A question raised earlier asked whether the early warning signs can improve on the auditors' work. A logistic regression is used to examine this question and compares the auditor's report to the ratios. A logistic regression uses a dichotomous dependant variable, where 1 indicates a Fraud firm and 0 indicates a Non-fraud firm.

In Table 2, Model 1, the auditors' report measure is used to identify Fraud and Non-fraud companies. AUOP indicates the auditor's report. A qualified auditors report has a higher value, and the results indicate that the worse the report in the year of the fraud (Year 0), then the greater likelihood of fraudulent reporting; but AUOP for the other years offer little ability to separate the firm types. In separate regressions for year -1 and for year -2, the ratio variables produce little ability to differentiate between Fraud and Non-fraud companies. However, year 0 (fraud year) measures are able to differentiate between the types of companies and are presented in Table 2, Model 2. The results indicate that lower TMAR and DAR and greater AAP in the year fraud year are associated with fraudulent reporters. Model 2 weakly indicates that the lower the ROE in

the year 0, the more likely the firm is to report fraud. As in Model 1, AUOP for year 0 indicate that the worse the report, the greater likelihood of fraudulent reporting. The Model's Likelihood ratio is much larger than that of Model 1 (the auditor opinions alone) and suggests substantial improvement over the ability to differentiate Fraud companies from Non-fraud companies.

Because little significance was observed in the individual years, an alternative approach is presented in Model 3. The graphs (Figures 1-9) suggest that the change in some of the ratios between year -2 and year -1 is greater for Fraud companies. Based on this interpretation, new variables are formed that equal the difference in the ratios between year -1 and year -2. The results are presented in Table 2, Model 3.

In Model 3, the coefficients for the change in TATO, the change in CATO, and (weakly) the change in ROA suggest that in the years prior to a fraudulent reporting some ratios can be used to predict the fraud. As Total Asset turnover increases and Current Asset turnover decreases, the firm is more likely to be fraudulent. The sign of the change in TATO is not consistent with most interpretations of this ratio. An increase in TATO indicates an efficient company and would not be consistent with incentives to report fraudulently. Further investigation of this result is warranted. The Model 3 results also weakly indicate that as ROA decreases, the firm is more likely to report fraudulently. Like Model 2, Model 3's Likelihood Ratio is much larger than that of Model 1 (the auditor opinions alone) and suggests substantial improvement over the ability to differentiate Fraud companies from Non-fraud companies using financial ratio information prior to the fraud year.

Table 2

LOGISTIC REGRESSION RESULTS  
Coefficient (p-value)

variable	Model 1 Auditors' Report Model	Model 2 Year 0 Model	Model 3 Change (yr 2 to1) Model
Intercept	-2.34 (0.01)	-1.74 (0.13)	-3.34 (0.01)
TMAR		1.45 (0.05)	0.13 (0.40)
ROA		-0.03 (0.14)	-0.01 (0.18)
ROE		0.013 (0.28)	0.01 (0.92)
TATO		0.49 (0.41)	2.19 (0.04)
FAF		-0.01 (0.96)	-0.09 (0.28)
AAP		-5.49 (0.01)	-1.89 (0.59)
CATO		-0.05	-1.23

		(0.83)	(0.01)
DAR		0.01 (0.06)	0.01 (0.51)
DCH		-0.01 (0.73)	0.01 (0.75)
AUOP(0)	0.35 (0.07)	0.53 (0.02)	0.63 (0.01)
AUOP(-1)	0.17 (0.95)		
AUOP(-2)	-0.20 (0.56)		
Concordant	39%	77%	77%
Likelihood Ratio	3.72 (0.29)	19.33 (0.03)	18.34 (0.05)

### Conclusions

This study presents evidence that fraud firm ratios exhibit important differences in financial ratios in the years prior to the fraudulent report. These differences are used to identify Fraud firms from Non-fraud firms. The ability to differentiate the two types of firms is greater than differentiation based solely on the auditors' reports.

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Appendix: Sample Firms

Name of Company	Ticker Symbol	Year of Fraud
ACCUHEALTH INC	AHLTQ	1988
ALLOU HEALTHCARE INC	ALUHQ	2002
BAAN COMPANY NV	BAANF	1999
CYBEAR GROUP	CYBA	2000
CYPRESS BIOSCIENCE INC	CYPB	1993
DIAGNOSTEK INC	DXK.	1992
FUTURE HEALTHCARE INC	FHCI	1992
GATEWAY MEDICAL SYSTEMS INC	GMSI.1	1987
HBO & CO	HBOC	1992
HEALTH IMAGES INC	HII.2	1985
HEALTH MANAGEMENT/DE	3HMIS	1994
HEALTHCARE SERVICES GROUP	HCSG	1990
HEALTHSOUTH CORP	3HLSH	1999
MEDCOM USA INC	3EMED	1997
NORTHSTAR HEALTH SVCS INC	3NSTR.	1994
NOVATEK INTERNATIONAL INC	NVTKQ	1996
PARACELSUS HEALTHCARE CORP	3PLHCQ	1996
QUADRAMED CORP	3QMDC	1998
SABRATEK CORP	SBTKQ	1998
SEROLOGICALS CORP	SERO	1999
SRI/SURGICAL EXPRESS INC	STRC	2001
SUNRISE MEDICAL INC	SMD.1	1995
T2 MEDICAL INC	TSQ	1993
UNISON HEALTHCARE CORP	3UNHC	1999
VANTAGEMED CORP	3VMDC	2001

**BET ON BLACK:  
A CONTENT ANALYSIS OF AFRICAN AMERICAN REPRESENTATION IN  
COMMERCIALS ON BET**

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**Abstract**

*This exploratory study examines the portrayal and representation of African Americans in commercials aired on Black Entertainment Television. Past literature contradicts concerning the effects of Caucasian idealized beauty types on African Americans and also shows that African Americans are under-represented or portrayed stereotypically in televised and magazine advertisements. This research seeks to show if this under representation of African Americans is also displayed on a channel that specifically targets African American audiences. Ads from primetime BET were examined and compared to past literature on race representation and facial features of African Americans in television advertisements. The researcher devised a 3-part coding system based on racial composition, product type and skin color and hair length/ texture of African Americans in the ads. The researcher focused specifically on the facial appearance of African Americans in commercials aired on BET. Results indicate that there are more advertisements aired on Black Entertainment Television that contain only Caucasian characters, than ads that contain only African American characters. The researcher also found that most African American women in ads on BET have features that are phenotypically Caucasian.*

**BET on Black:**

**A Content Analysis of African American Representations in Commercials on BET**

The hierarchical caste system based on skin color extends beyond the history of the United States and is seen in countries and culture around the world. In most cases, the fairer skinned are at the top of this system, while the darker skinned are at the bottom (Hall, 2003). The negative connotations that are associated with the words “black,” and “dark,” are in direct contrast with the positive connotations one associates with the words “white” and “light.” These connotations among other socioeconomic conventions have become the premise for hundreds of years of oppression and forced second-class citizenship of darker skinned peoples (Hall, 2003; Hill, 2000).

Traditionally slaves with lighter skin were granted more privileges and better workstations than darker skinned slaves (Keenan, 1996). Despite the one hundred year removal from legalized slavery the notion of “lighter as better” has been passed down throughout generations in the African American community so that any features--ranging from hair texture, to nose and lip size, to skin color--that are not commonly associated with being of African decent are embraced and regarded as superior. Today, African Americans tend to refer to themselves as shades of black or brown rather than just black or brown; this is referred to as “color consciousness” which has been defined as the tendency for African Americans to react to particular colors of brown skin (Bond & Cash, 1992). This problem is also termed “colorism” and refers to the prejudices and discrimination that have continually been directed against African Americans by African Americans based on the darkness or lightness of their skin (Blair, 2002).

The social problem of colorism and the representation of African Americans in television are closely related. Advertisements help to define social norms and expectations (Goffman, 1976). These expectations range from ideals about gender roles to perceived traditional socioeconomic standings of peoples from particular races. Many Americans do not believe that they are affected by advertisements (Key, 2002); yet several studies examine the effect of advertisements on personal perceptions of attractiveness using the social comparison theory. Televised images of attractiveness play a role in self-perceptions of body image (Cattarin, Thompson & Thomas, 2000). Results about the effects of televised images on African American females are contradictory. While some studies (Frisby, 2004) indicate that African American females are affected by televised images of attractiveness, other studies (Duke, 2000; Milkie, 1999) show that African American teenaged girls do not feel as if they are affected by magazine advertisements.

Because advertisers are gradually recognizing the power of African American dollars (Sherman, 2004) and because advertisements define social norms it is safe to deduce that African Americans are affected by advertisements and advertisers are trying to use ads in which African Americans can identify. Rising income and population levels give African Americans more buying power than any other minority group in America (Smith, 2002). With the constant bombardment of images from the media, some African Americans find it difficult to live in a culture in which European features are the standard of beauty (Ashe, 1995). Improper use of skin lightening creams and continuous use of chemical hair straighteners, despite the known health risks, are proof of the pressure to fit into the white beauty type. In fact, skin color satisfaction plays an important role in the overall view of body image in African American females (Falconer & Neville, 2000).

Several studies have examined the types of African Americans that advertisers choose to include in advertisements and the roles that these African Americans play in the ads. Colfax and Sternberg (1972) suggested that oftentimes, the only African Americans portrayed in advertisements are those that are less threatening to whites. The longitudinal study examined African American characters that appeared in magazine advertisements from four mass circulation magazines between the years of 1965 and 1970. They categorized the character types of African Americans used in advertisements based on interaction with members from other racial backgrounds in the advertisements, the products sold, and the job position of the African American characters in the ads. They catalogued nine types: The ad-black as celebrity, the token ad-black, the all-races

together ad, the “non-commodity” advertisement, the “exotic” advertisement, the black image as child-image, the black image as female, the ad-black as loser, the black worker-in context (1972). These types are as relevant today as they were 30 years ago. Today one can see advertisements that fit into all of the Colfax/Sternberg categories, such as the “the ad-black as celebrity” in which African American celebrities with mainstream fame through sports or entertainment are portrayed or the “all race together ad” in which characters from as many racial backgrounds as possible are used in one ad. Not only are the findings from this study relevant to magazine advertisements, but they can also be considered in research about African Americans in television advertisements.

Through both quantitative and qualitative research social scientists have tried to find the features that make an individual universally perceived as attractive. Researchers have even gone as far as to measure the nose, the eyes, mouth and jaw line to determine which diameters are perceived as most attractive (Cunningham, 1986; Rhodes, Sumich, & Byatt, 1999) found that symmetry does not play an important role in what is considered attractive. Another researcher created a coding system for the types of attractiveness used by advertisers in advertisements. Solomon’s coding system included 8 categories: classic beauty, feminine, sensual, exotic, cut, girl-next-door, sex kitten, and trendy (1992). Attractiveness is a tool used prevalently in advertising and advertisers tend to cast the most attractive models for television advertisements. The exception to this technique is when the ad is a parody, in which case the use of an attractive model would defeat the purpose of the ad.

Females are usually the focus of attractiveness standards in media as a whole and they are pressured to believe that some types of beauty are superior to other types of beauty (Englis, Solomon, & Ashmore, 1994; Keith & Herring, 1991). Most studies examine the relationship between attractiveness and advertisements and focus on body image, not facial characteristics. Some studies show that perceptions of ideal body images are race specific and that skin color is not a factor in determining attractiveness in the African American community (Jackson & McGill, 1996). Hall (2002) shows that skin color is the second major predictor of attractiveness among African American males and females.

There are also studies that investigate the facial characteristics of African Americans in advertisements. Based on darkness of skin, eye color, hair texture, nose shape, and lip prominence, Keenan (1996) observed that most African Americans in advertisements have Caucasian features and that African American women in advertisements possess more Caucasian features than African American men. Keenan’s findings seem to support the notion that non-threatening are used in magazine advertisements. Another study examines the correlation between American sociopolitical events and the physical appearance of African Americans in magazines. Leslie (1995) found that between the early sixties and late seventies, during the Black Power movement in America, there was an increase in models that were darker skinned with natural hair and wearing clothing that is typically considered Afrocentric in *Ebony* magazine, a magazine that targets African Americans. Advertisers capitalize on trends in the African American community and modify the portrayals as necessary.

To the researcher’s knowledge, no studies have been conducted on the representation and portrayal of African Americans in commercials on BET. Black Entertainment Television has established itself as a network for African Americans (Hoovers, 2004). Although this network targets African Americans, the researcher questions if the problem



of under-representation exists in commercials aired on Black Entertainment Television. In 1990, F. Jones explored the relationship between the black audience and Black Entertainment Television. He tested the correlation between education level and racial orientation of BET viewers. Even though he focused on BET programming instead of the advertisements on BET, Jones' study is relevant because it is the only research conducted that explores the relationship between BET and its target audience.

### Research Questions and Hypotheses

Past research has shown that people are affected by advertisements both on television and in magazines. Previous studies address the issues of the portrayal of African American men, women, and children in magazine advertisements and a few address the under-representation and negative portrayals in television shows and in commercials. Studies that focus strictly on the portrayal of African American women and men in magazine advertisements show that African Americans are typically portrayed in stereotypical or subservient roles in relation to their Caucasian counterparts. Past literature suggests that attractive people are used in advertisements for particular products and services (Caballero, Lumpkin, & Madden, 1989) and that Caucasians seem to respond better to less threatening images of African Americans in advertisements (Colfax & Sternberg, 1972). This literature lends to the question: How are African American portrayed in advertisements for an African American audience, such as the audience of BET?

The overall purposes of this study are to determine whether African Americans are under-represented in commercials aired on a channel that caters specifically to the African American community and to determine which facial features and hair length/textures advertisers are portraying to the African American community as attractive. First, the researcher seeks to determine whether commercials aired on BET that contains African Americans. Secondly, the researcher seeks to determine the quantity of commercials that contain African Americans, promote color consciousness, or colorism, and reinforce the European, or white beauty standard. To achieve these purposes two hypotheses have been formulated.

The first hypothesis ( $H_1$ ) is that Black Entertainment Television will air more commercials with African American characters. This hypothesis was formed on the basis that the target audience of Black Entertainment Television is the African American community. Black Entertainment Television reaches 98% of African American homes in the United States and stresses to current and potential advertisers that the African American community has over \$680 billion (Sherman, 2004). African Americans comprise seventy-eight percent of the network's viewing audience. The second hypothesis ( $H_2$ ) is that African Americans in these commercials will have lighter skin and loosely textured hair. Humphrey and Shuman suggest that advertisers depict consumers the way that they feel consumers are most comfortable being characterized (1984). Hill suggests that African Americans tend to perceive lighter skinned African Americans as more attractive than darker skinned African Americans (2002). Since attractive models are used to sell products, advertisers depict consumers the way that they would like to be characterized (Humphrey & Shuman, 1984) and advertisers use African American characters that are non-threatening to Caucasians (Colfax & Sternberg, 1972).

## **Methodology**

To answer the research questions and to test the two hypotheses Black Entertainment Television was recorded for one regular programming week, Monday through Friday from 7pm to 11pm during the week of May 31, 2004. The researcher then analyzed the commercials that aired on Black Entertainment during the designated time by keeping a count of the total number of commercials aired, the races of the people who appeared in each commercial, the predominate race in each commercial, and the product advertised in each commercial. Each commercial was viewed multiple times in an effort to produce consistency in coding.

The coding system for this study has three major parts. The researcher determined the overall placement of the commercial based on racial composition to determine the accuracy of the first hypothesis. All commercials that contain no actors are labeled “non-actor.” These are commercials that contain no actors and use voice-overs, animation, animals, and/or text. Commercials that only have African American characters are labeled “black.” All commercials that only have Caucasian characters are labeled “white.” Finally, all commercials that contain at least two characters that appear to be of different racial backgrounds are labeled “multiracial.”

The researcher viewed each commercial at least 3 times to determine the racial breakdown of each commercial. All major characters in the commercials were counted to determine the race of the actors in each commercial. The characters in the commercials considered “major characters” were those who had speaking parts, were captured in close up shots, or came in direct contact with the product being sold in the commercial. The researcher determined the number of the multiracial commercials that were predominately white, predominately black, and predominately “other people of color.” Secondly, the researcher classified the commercials based on the product sold in the commercials. Advertisements promoting BET programming were not included in the overall commercial count, nor were the people categorized to ensure an accurate count.

Further coding for African Americans based on skin color and hair texture/length was necessary to answer the second hypothesis. Therefore, the researcher determined the skin color and hair length/texture of all major characters that were African American or appeared to be of African decent. All major characters that appeared to be African American or to be of African decent were coded according to a system devised by the researcher. Each African American major character was designated by a 2 to 3 letter code.

The researcher determined which skin tones would be considered light, medium brown and dark. For the purpose of this research the following definitions were used to classify the skin color of the characters in the commercials. “Light skinned” very light brown to yellow. The letter designated for “light skinned” is “L.” “Medium brown” are African Americans with brown skin that have brown skin that falls between the classifications of light skinned and dark skinned. The letter designated for “medium brown” is the “M.” “Dark skinned” is skin that is dark brown to very dark brown skin. The letter designated for “dark skinned” is “D” (see Figure 1).

Variance in hair texture is more prevalent in African American women due to chemical alteration. Men were only coded based on hair length. The coding for length for men is different from the coding for women. The coding for men is as follows: the letter “B” designates all men with bald heads. The letter “F” is designated for all men

who have hair that is cut closely to their scalps and appears less than one inch in length. All men who have medium sized afros, those that appear to extend 1-4 inches from their face or short to medium length locs, that are at least 1 inch long (popularly referred to as 'dreadlocks') are designated with the letters "NM." All men who have large afros that appear to extend 4 or more inches from their face are designated with the letter "NL" (see Figure 2).

Both hair texture and length were considered when coding African American women. Hair length was judged based on length and texture. "Long" hair is defined as hair that is at least shoulder length that appears to have been chemically altered or is curly or wavy. Long hair was designated with the letter "L". All women who appear to be wearing their hair in its natural high textured state were designated with the letter "N." Length of the hair was not considered for any women assigned the letter "N." "Short" hair is defined as haircuts that are the length fall between shoulder length and ear level and appears chemically altered or "relaxed". All hair that is distinguished as short was designated the letters "SR" (see Figure 3).

#### Results and Discussion

The researcher viewed 723 commercials (see Table 1, Figure 4). 148 of those commercials were identified as "non-actor" commercials. Of the remaining 575 commercials with actor portrayals, 47.3% (272) of the ads were categorized as "white" commercials, 30.1% (173) were "multiracial," and 22.6% were "black" commercials (see Table 1, Figure 5). Additionally, contrary to the findings of Colfax and Sternberg (1972), there were more instances in which African American men (284) were used in advertisements over African American women (209) (see Figure 6).

These findings show that although African Americans comprise a large majority of Black Entertainment Television's regular viewing audience (78%) and BET reaches 98% of African-American homes, they represent a minority of the characters in the commercials aired by that network (see Table 1, Figure 5). These findings disprove the first research question and hypothesis, that Black Entertainment Television will air more commercials with African American characters. African Americans are under-represented in advertisements aired on BET, a network that specifically targets the African American community. When comparing the number of "black" commercials and the number of "multiracial" commercials, the results support Leslie's (1995) study in which there were more instances of African Americans in racially mixed advertisements than in advertisements that contain only African Americans (see Table 1, Figure 5).

As the literature suggested, there is a positive correlation between perceptions of attractiveness and media portrayals of ideal body types and facial attractiveness. The second research question focused on portrayals of attractiveness in the commercials on BET. Forty one percent of the ads with African American actresses in commercials aired (86) had light skin with straight, wavy, or loosely curled hair (see Figures 7 and 8). The researcher concludes that in the case of African American women, advertisers portray the idealized beauty image as African American women with light skin and long, straight hair. Of the 284 ads with African American actors, there were 84 instances in which African American actors had dark skin and closely cut hair. Although this is the majority, it is important to note that there were 73 instances in which African American actors with medium brown skin with closely cut hair were used. The difference in these numbers is so minor so it cannot be fairly determined that one type is favored over the

other. Therefore, the idealized image for African American men as portrayed in commercials aired on BET is men with dark or medium brown skin with closely cut hair (see Figures 9 and 10).

These results imply that commercials aired on Black Entertainment Television could possibly reinforce perceptions of attractiveness and colorism in the African American community. This seems to support Brown's (1993) claim that conventional media emphasizes color consciousness by using models, not just African American models, with light complexions and Caucasian features. While the idealized image of beauty in mainstream media is associated with Caucasian features; thin, straight, light haired, light skinned, and light-eyed women, an idealized beauty image exists in the African American community as well. African American females do not wish that they were white (Duke, 2000; Milkie, 1999) but this study proves that within the confines of "blackness" there is a portrayed black idealized beauty image that emulates the white idealized beauty image; light skin with straight or wavy long hair.

Black Entertainment Television has received criticism in the past by prominent African American figures such as Spike Lee and Bill Cosby for lack of programming and for the portrayals of African Americans in music videos. Critics of Lee and Cosby may argue that it is the responsibility of parents to control the viewing habits of their children. While the responsibility of child rearing rests heavily on parents, network executives must take some responsibility on the product they distribute to their viewing audience.

As already stated, African Americans are affected by the white idealized beauty image, especially African American women. One of the main objectives of this study was to call attention to the fact that African American women are not safe from the unattainable beauty image, even on a network that caters specifically to the African American community. Self-esteem issues and colorism in the African American community will become an even more prevalent problem if African American teenage girls are constantly bombarded by unrealistic images of women that society deems attractive. While social comparison is an issue that all males and females face due to the media, the African American woman, whose hair is too nappy, skin is too dark, hips and behind too big, lips too big, and nose too broad, is more likely to suffer emotionally from the white beauty standard. Any magazine or network that claims to cater to the African American community should work on dispelling these images for the well being of their viewers and the African American community as a whole.

#### Limitations and Further Research

As already stated, a number of studies examine the relationship between African Americans and context and type of advertisements. While the media has a history of portraying African Americans in subordinate and inferior roles in relation to Caucasians, (Coltrane & Messineo, 2000), Colfax and Sternberg (1972) found that advertisers include African Americans that will be perceived as less threatening to Caucasians and will use African American women and children in advertisements more frequently than African American males. The images of African American women in early commercials, which can only be described as overt racism, have virtually disappeared and been replaced with more subtle forms of misrepresentation (Coltrane & Messineo, 2000).

Future studies should examine the advertisements aired on Black Entertainment Television on a broader scope by analyzing commercials and surveying regular viewers

to find a correlation between perceptions of attractiveness and portrayals of attractiveness. Hill (2002) used a skin color palette and interviewing to determine which skin colors are perceived as most attractive in African Americans, by African Americans. Researchers that seek to find a consensus of which skin colors are attractive to African Americans could utilize a skin color palette and compare the popular skin colors with those portrayed in commercials on BET. A positive correlation would indicate that commercials effect or shape perceptions of attractiveness on some level. Additional research may help BET and other networks that target African Americans, better identify with their intended audience. Further research should also address questions from some critics who will attribute the large number of Caucasians in these advertisements to the recent purchase of Black Entertainment Television, by Viacom in 2000. Future studies could also examine the feminine black idealized beauty image as portrayed in music video aired on BET.

Finally, the researcher did not employ methods such as inter-rater moderators or triangulation to analyze data. Usage of such methods could add to consistency in coding and accuracy. Other researchers used other methods, such the Pantone Matching System as a way to match the skin colors of African Americans in magazine advertisements (Keenan, 1996). This system could be used as a point of reference and could also help with consistency in coding in future research.

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Table 1

*Racial Composition of Primary Actors in Commercials aired on BET.*

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	Non-actor	Multiracial	White	*Black	TDCC
Monday	29	26	43	23	121
Tuesday	34	39	60	34	167
Wednesday	27	31	48	23	129
Thursday	26	47	80	27	180
Friday	32	30	41	23	126
Totals (RCT)	148	173	272	130	723

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*Note. TDCC=Total Daily Commercial Count.*

## Figure Captions

*Figure 1.* Examples of skin colors.

*Figure 2.* Examples of hair textures for women.

*Figure 3.* Examples of hair textures for men.

*Figure 4.* Total Commercials aired on BET. TCC= Total Commercial Count

*Figure 5.* Racial Composition of commercials aired by day. RCT=Racial Composition Count.

*Figure 6.* African American men and women in commercials on BET.

*Figure 7.* Skin Color and Hair Length/Texture count for African American females by day. LL=light skinned with long, straight or wavy/curly hair; ML=medium brown with long, straight or wavy/curly hair; DL=dark skinned with long, straight with natural/kinky/highly textured hair or wavy/curly hair; LN=light skinned with natural/kinky/highly textured hair; MN= medium with natural/kinky/highly textured hair; DN=dark skinned with natural/kinky/highly textured hair; LSR=Light skinned with short to medium length relaxed hair; MSR= medium brown with short to medium length relaxed hair; DSR=dark skinned with short to medium length relaxed hair.

*Figure 8.* Overall count for skin color and hair length/textures for females. LL=light skinned with long, straight or wavy/curly hair; ML=medium brown with long, straight or wavy/curly hair; DL=dark skinned with long, straight with natural/kinky/highly textured hair or wavy/curly hair; LN=light skinned with natural/kinky/highly textured hair; MN= medium with natural/kinky/highly textured hair; DN=dark skinned with natural/kinky/highly textured hair; LSR=Light skinned with short to medium length relaxed hair; MSR= medium brown with short to medium length relaxed hair; DSR=dark skinned with short to medium length relaxed hair.

*Figure 9.* Skin Color and Hair Length/Texture count for African American males by day. LB=Light skinned with bald head; MB=medium with bald head; DB=dark skinned with bald head; LF=light skinned with “fade”/closely cut hair; MF=medium brown with “fade”/closely cut hair; DF=dark skinned with “fade”/closely cut hair; LNM; light skinned with medium length natural hair; MNM= medium brown with medium length natural hair; DNM=dark skinned with medium length natural hair; LNL=light skinned with long natural hair; MNL=medium brown with long natural hair; DNL=dark skinned with long natural hair

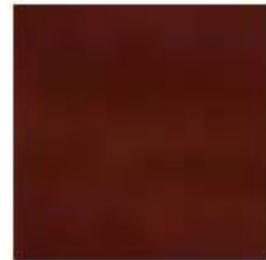
*Figure 10.* Overall count for skin color and hair length/textures for males. LB=Light skinned with bald head; MB=medium with bald head; DB=dark skinned with bald head; LF=light skinned with “fade”/closely cut hair; MF=medium brown with “fade”/closely cut hair; DF=dark skinned with “fade”/closely cut hair; LNM; light skinned with medium length natural hair; MNM= medium brown with medium length natural hair; DNM=dark skinned with medium length natural hair; LNL=light skinned with long natural hair; MNL=medium brown with long natural hair; DNL=dark skinned with long natural hair



**Light skinned**



**Medium brown**



**Dark skinned**

Figure 1. Examples of skin colors.



relaxed



curly/wavy



curly/wavy



natural/highly textured



Figure 2. Examples of hair textures for women.



"fade"/ close cut



long natural



short/medium natural

*Figure 3.* Examples of hair textures for men

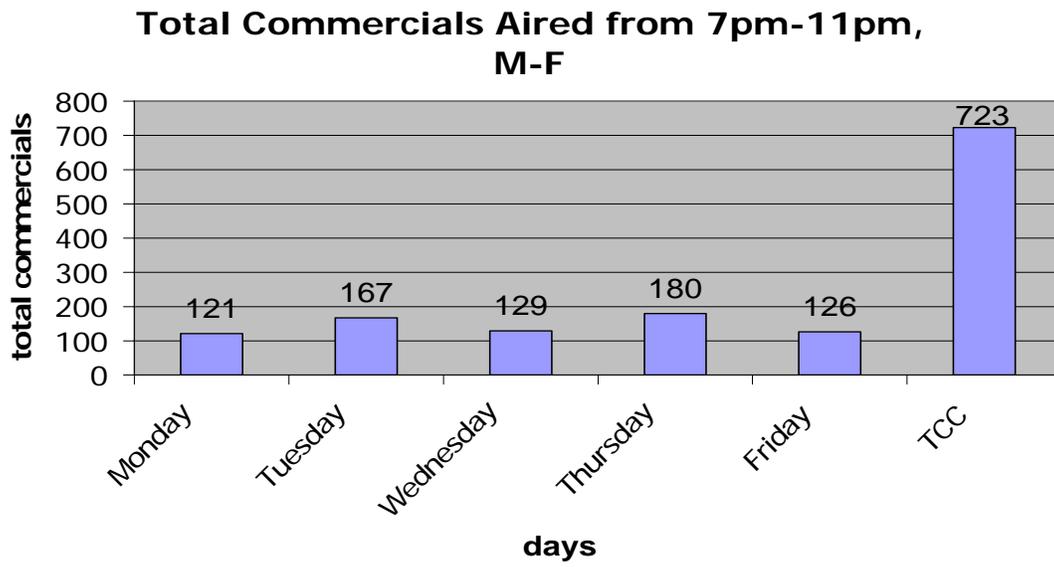


Figure 4. Total Commercials aired on BET. TCC= Total Commercial Count.

### Racial composition of commercials aired from 7pm-11pm

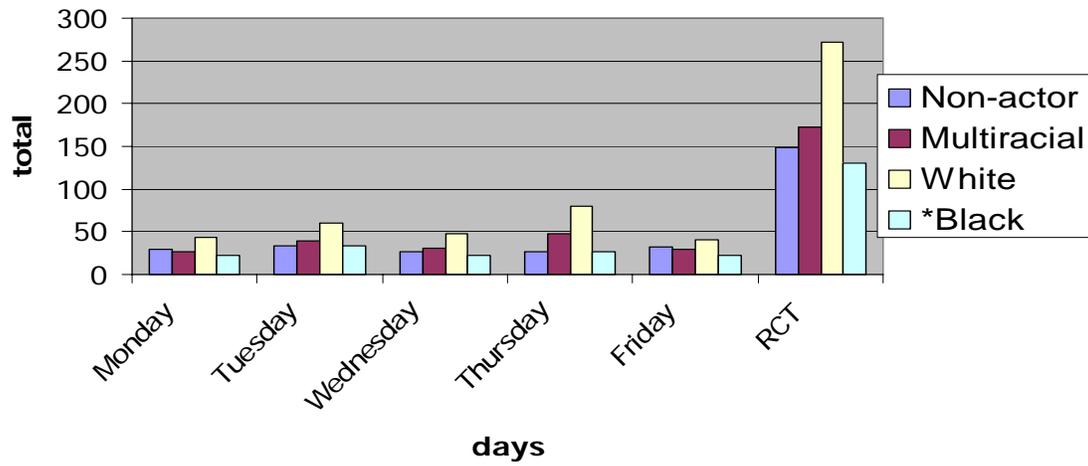


Figure 5. Racial Composition of commercials aired by day. RCT=Racial Composition Count.

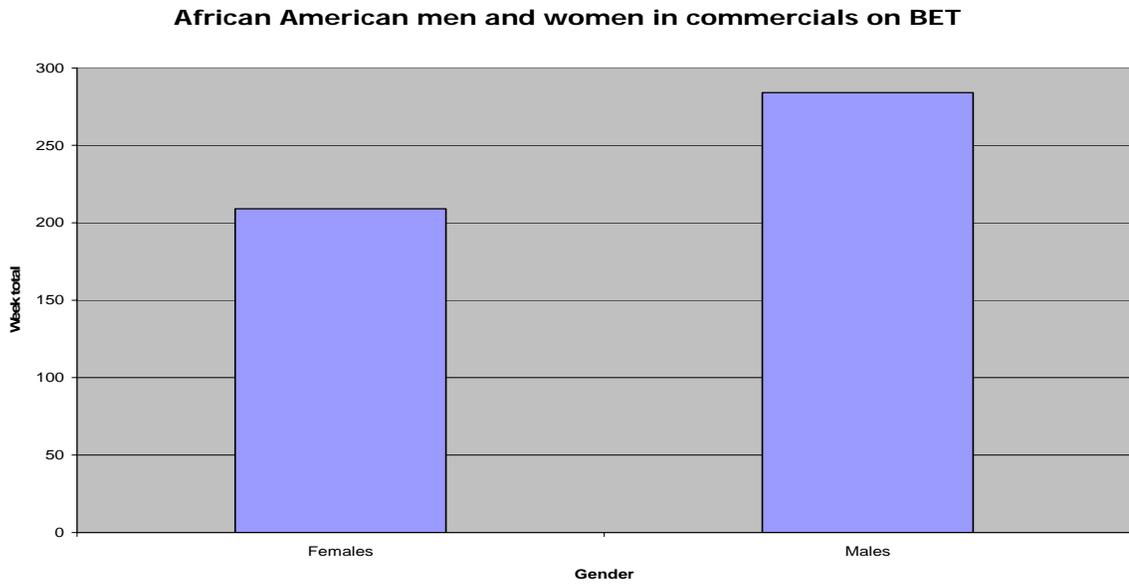


Figure 6. African American men and women in commercials on BET.

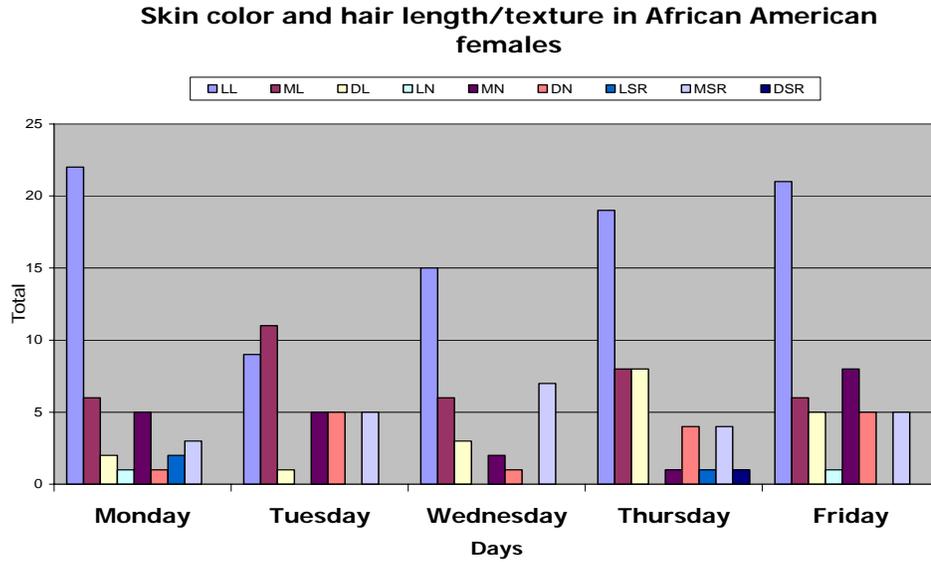
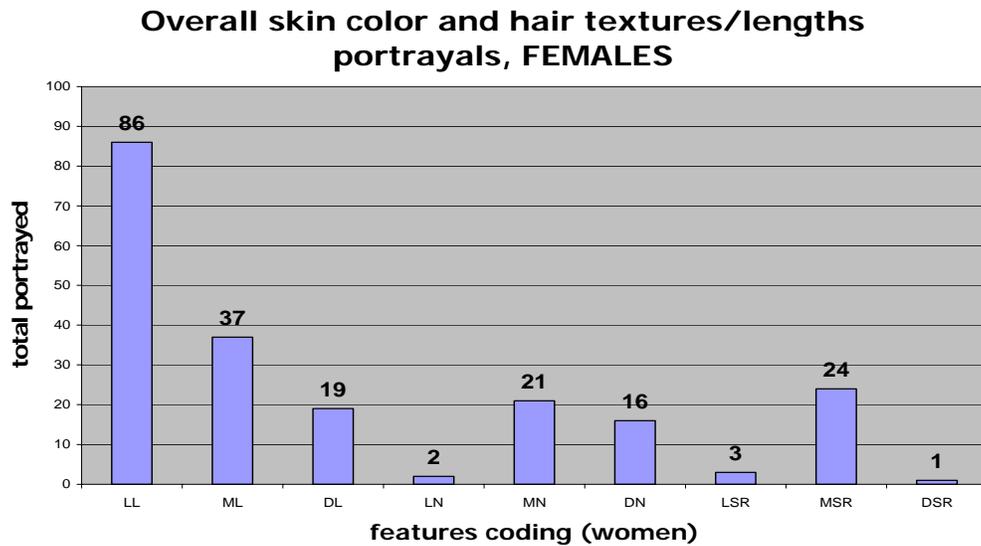


Figure 7. Skin Color and Hair Length/Texture count for African American females by day. LL=light skinned with long, straight or wavy/curly hair; ML=medium brown with long, straight or wavy/curly hair; DL=dark skinned with long, straight with natural/kinky/highly textured hair or wavy/curly hair; LN=light skinned with natural/kinky/highly textured hair; MN= medium with natural/kinky/highly textured hair; DN=dark skinned with natural/kinky/highly textured hair; LSR=Light skinned with short to medium length relaxed hair; MSR= medium brown with short to medium length relaxed hair; DSR=dark skinned with short to medium length relaxed hair.





*Figure 8.* Overall count for skin color and hair length/textures for females. LL=light skinned with long, straight or wavy/curly hair; ML=medium brown with long, straight or wavy/curly hair; DL=dark skinned with long, straight with natural/kinky/highly textured hair or wavy/curly hair; LN=light skinned with natural/kinky/highly textured hair; MN=medium with natural/kinky/highly textured hair; DN=dark skinned with natural/kinky/highly textured hair; LSR=Light skinned with short to medium length relaxed hair; MSR= medium brown with short to medium length relaxed hair; DSR=dark skinned with short to medium length relaxed hair.

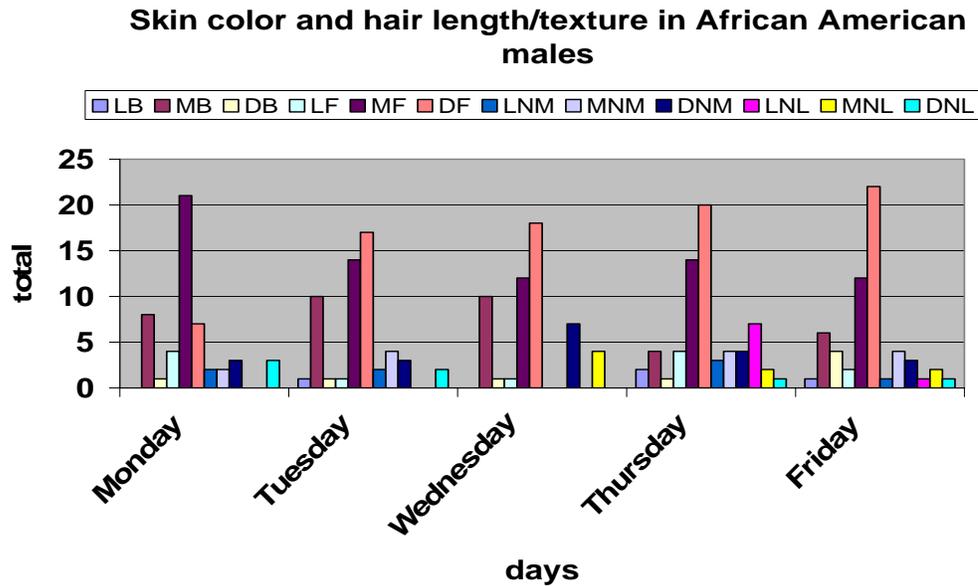


Figure 9. Skin Color and Hair Length/Texture count for African American males by day. LB=Light skinned with bald head; MB=medium with bald head; DB=dark skinned with bald head; LF=light skinned with “fade”/closely cut hair; MF=medium brown with “fade”/closely cut hair; DF=dark skinned with “fade”/closely cut hair; LNM; light skinned with medium length natural hair; MNM= medium brown with medium length natural hair; DNM=dark skinned with medium length natural hair; LNL=light skinned with long natural hair; MNL=medium brown with long natural hair; DNL=dark skinned with long natural hair.

### Overall skin color and hair textures/lengths portrayals, MALES

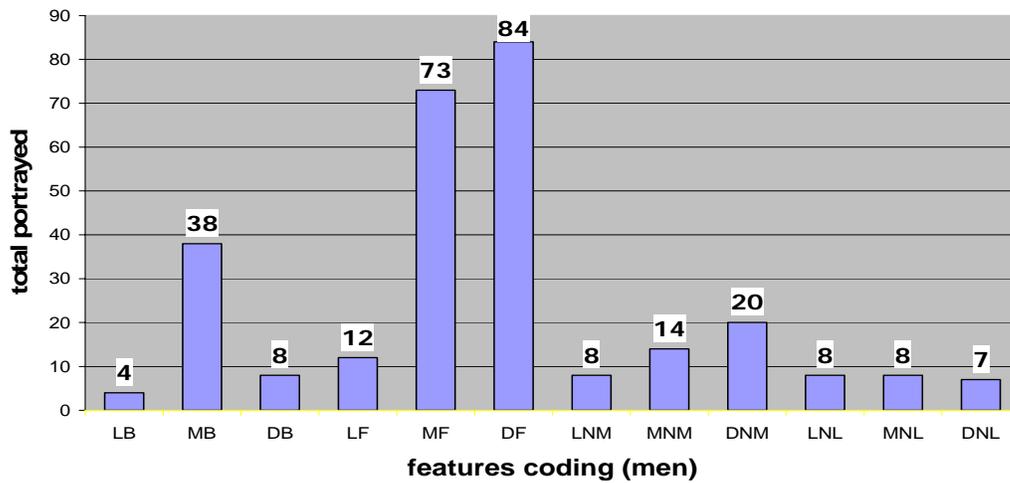


Figure 10. Overall count for skin color and hair length/textures for males. LB=Light skinned with bald head; MB=medium with bald head; DB=dark skinned with bald head; LF=light skinned with “fade”/closely cut hair; MF=medium brown with “fade”/closely cut hair; DF=dark skinned with “fade”/closely cut hair; LNM; light skinned with medium length natural hair; MNM= medium brown with medium length natural hair; DNM=dark skinned with medium length natural hair; LNL=light skinned with long natural hair; MNL=medium brown with long natural hair; DNL=dark skinned with long natural hair.

## **WHO WILL BE AFFECTED BY THE PROPOSED CHANGES TO THE HOPE SCHOLARSHIP?**

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### **Abstract**

*My research examines what effects the proposed changes to the HOPE Scholarship will have on college students and high school students wishing to attend a Georgia college or university. Of concern is whether the changes to the HOPE Scholarship severely limit the ability of certain groups of students to attend or continue attending college. The potential effects of current and future proposed changes will be evaluated. This will be accomplished by defining how each proposed change will affect different groups using data from a survey of Georgia Southern University students.*

### **Introduction**

Books, tuition, mandatory fees. The list of college expenses goes on and on. However, in 1993 Georgia Governor Zell Miller established the HOPE Scholarship, the Georgia Lottery funded program that gives college students substantial help with covering the costs of a college education. HOPE stands for **H**elping **O**utstanding **P**upils **E**ducationally. At its inception in 1993, the HOPE Scholarship had some limitations; the adjusted gross income of the family had to be below \$66,000. It was raised to \$100,000 in 1994 and eliminated in 1995; if the student was awarded any other federal financial aid, HOPE only paid the difference of expenses and other financial aid. However, in 1995 limitations were dropped, and the HOPE Scholarship became purely merit-based (Dynarski, 2000). Any student graduating from a Georgia high school with a B average and maintaining that average throughout college was eligible. The HOPE Scholarship covers a book allowance per semester, mandatory fees, and tuition for Georgia residents attending a Georgia public college or university (HOPE Regulations, 2003).

Since its beginnings in 1993 over \$1.8 billion dollars has been awarded to over 700,000 students (HOPE Regulations, 2003). This program has received so much exposure and national recognition that President Clinton established a similar plan. His plan was called were called the HOPE Scholarship tax credit and the Lifetime Learning Credits which gave tax credits to certain taxpayers. The HOPE Scholarship has resulted in the National Association of State Student Grant and Aid Programs (NASSGAP) ranking Georgia as number one among the nation in academic-based financial aid for the

six consecutive years from 1998-2004. (Helping Outstanding Pupils Educationally, 2004).

Unfortunately, this very popular program is in financial trouble. The HOPE Scholarship has awarded so many students so much money it may be short by 434 million dollars by 2008 (Selingo, 2003). As a way to reduce the number of students rewarded, legislators are suggesting proposed changes in order to keep funding available. Some of the proposed changes that are being considered are reinstating an income cap, linking the scholarship to a cutoff score on the SAT, eliminating coverage for textbooks and fees, standardizing a B average at the high school level, and checking GPA hours more frequently (Jacobson 2003). These proposed changes may have drastic effects on certain groups of people, and the purpose of this study is to identify those groups that would be the most disadvantaged by some of the proposed changes.

## **LITERATURE REVIEW**

Literature pertaining to the variables that I am using in my research is limited; the amount of research available varies significantly depending on which variable is being considered. Pettys and Wright conducted a study in which they discovered the importance of HOPE to black students. They found that in Georgia, thousands of African American students who were pursuing higher education might not have been given that chance if it was not for the HOPE Scholarship. Since the initiation of the HOPE Scholarship in 1993, blacks attending Georgia colleges increased by nearly thirty-three percent (Pettys and Wright, 1999).

There has been debate over the Scholastic Aptitude Test (SAT) for years. Many people think it is biased towards blacks because blacks tend not to perform as well on the SAT as their white counterparts. One possible cause is that blacks do not have access to costly SAT preparation material. Another cause is that schools which are predominantly black might be of lower quality than those which are mostly whites. The books are outdated and teachers are underpaid. As a result, blacks do not have an education sufficient enough to do well on the SAT; therefore, linking the HOPE Scholarship to a SAT cutoff score has really caused some controversy. Jacobson found that if HOPE set its cutoff score at 1000, 67.4% of African-American students who received HOPE in 2000 would not have been eligible as opposed to 32.4% of white students (Jacobson, 2003).

Selingo conducted a similar study with similar results in 2003. Selingo found also that if the cutoff score of the SAT had been 1000, 60% of African-American students who received HOPE would have been ineligible. Selingo also found that if the cutoff score had been 1000, over 39% of all HOPE recipients (regardless of race, sex, etc.) in 2003 would have been ineligible (Selingo, 2003).

. In her study, Marsh examined the importance of location. Using 150,000 freshmen, she found no significance difference in the number of urban and rural students who received the Scholarship. This was an important find because studies done up to that time suggested that urban students surpassed rural students academically (Marsh, 1995).

Another source of controversy over the HOPE Scholarship is that individuals who pay the most into it receive the least in benefits. In their research Rubenstein and Scafidi

issued a survey to various homes to collect information on the family's income and lottery playing. They found that lower income households tend to spend more on lottery, but that higher income households tend to receive a higher level of benefits from the lottery. They also found that the lower income households spend more money on the lottery than they actually receive in benefits (Rubenstein and Scafidi, 2002).

Dynarski conducted a study to estimate what effects financial aid has on college attendance. She came to the conclusion that not only has the HOPE Scholarship widened the gap between the number of students who go to college from upper- and lower-class families, but also that the HOPE Scholarship had widened the gap between the number of blacks and whites who attend college (Dynarski, 2000).

In her study of HOPE retention, Marsh found that a statistically significant gender gap did not exist. This was an important finding for her because previous studies had shown that college females have higher grade points averages than college males, and therefore it would seem logical to assume they would have a higher retention rate of the scholarship. (Marsh, 1995).

### CHANGES THAT HAVE BEEN MADE TO THE HOPE SCHOLARSHIP

As of May 2004, some changes were made to the Hope Scholarship. In addition to having regular checkpoints at every 30, 60, and 90 hours, HOPE will also check at the end of every spring semester for full-time students. Part-time student's eligibility will be checked every three semesters. There was also a change made with mandatory fees. HOPE will pay no more than the amount that was set in the 2003-2004 academic year. Triggers have also been put into place if lottery revenues keep declining. In the 2005-2006 academic year, if the lottery budget is less than the previous year, book allowances may be reduced to \$150 per academic year for full-time students and \$75 for part-time students. In the 2006-2007 school year, if the lottery budget is less than the previous year, the book allowance will be eliminated for everyone except Pell Grant recipients. In the 2007-2008 school year, if the lottery budget is smaller than the previous year, fees will be eliminated for everyone, but Pell recipients will continue to receive a book allowance. Another change that could occur in 2007 is a standard grade point average set at a 3.0 instead of requiring a "B" for students graduating from high school. This would be required because a "B" differs from one school to another (Attempt to save HOPE, 2004). As we can see, numerous changes have already been made to the scholarship. I still believe that it is important to examine the effects of the other changes that were proposed because it is more than likely that they will be considered again in the future especially if the revenues from the lottery continue to decline.

### **HYPOTHESIS**

- 1) More blacks than whites will be disadvantaged by the proposed changes to the HOPE Scholarship.
- 2) Students from lower income families will be the most disadvantaged by the proposed changes to the HOPE Scholarship.
- 3) Females will be the most disadvantaged by the proposed changes to the HOPE Scholarship.
- 4) Rural students will be the most disadvantaged by the proposed changes to the HOPE Scholarship.

- 5) Students with lower SAT scores will be the most disadvantaged by the proposed changes to the HOPE Scholarship.
- 6) Reinstating an income cap will allow more money to be available for the students who really need it.

## **METHODOLOGY**

### **Participants**

A survey was given to approximately 200 Georgia Southern University students. The classes were carefully chosen so that the survey would not be biased. For example, I mostly surveyed core classes because they contain students from different backgrounds and different majors. This would represent the population of Georgia Southern more accurately than surveying a senior-level engineering or finance course.

### **Survey**

A survey consisting of 37 questions was given to find out how students finance their college education. The first page of the survey was a consent form. The students were asked to keep the consent form for their records. The survey consisted of five parts: "Questions about You", "Questions about Family", "Family's Income", and "College Finance". The third page consisted of the fifth part in which the students answered one of three sets of open-ended questions as it applied to their specific situation.

### **Procedure**

After the surveys were finished, I coded each response and entered it into an Excel spreadsheet. For example, Question 2 asks for race. The five answers listed on the survey were Black, White, Hispanic, Mixed, and Other. If the students chose "Black" as their response, I entered "1" into Excel. If they chose "White", then I entered "2" into Excel. If they chose Hispanic, then I entered "3" into Excel and so on. If students chose not answer a question then I entered "99". My mentor converted the Excel file into a SAS file which performed the many cross-tabulations of my variables. For example, the program cross-tabulated those who still have the scholarship by SAT scores, and it cross-tabulated those who ever received the scholarship by gender.

## **DEFINITIONS OF VARIABLES USED IN RESULTS**

### ***Race***

"Black" and "White" are the only two races represented individually in my analysis because other races did not make up a significant portion to be considered. However, all races are used in the totals, and those which are not "Black" or "White" are grouped into the category "Other".

### ***Income***

We chose \$70,000 as the point for high income because it is closest to HOPE's original income cap \$66,000.

Low income = income of the student's family is below \$70,000

High income = income of the student's family is \$70,000 or above

### ***SAT***

The score 1060 was chosen because it was the median SAT for students entering Georgia Southern University in Fall 2003.

Low SAT = below 1060  
 High SAT = 1060 or above

**Location**

The students themselves chose whether the town or city they came from was rural or urban.

## RESULTS

**TABLE 1**

<b>INCOME</b>		
	<b>Below \$70,000</b>	<b>\$70,000 and above</b>
<b>Ever received HOPE Scholarship (144)</b>	63 (44%)	81 (56%)

**TABLE 2**

<b>BREAKDOWN OF SAT SCORES</b>	
<b>High SAT (1060 or higher)</b>	75 (50%)
<b>Low SAT (below 1060)</b>	74 (50%)
<b>Total</b>	149

**TABLE 3**

<b>STILL HAVE HOPE BY SAT SCORES</b>		
	<b>Still Have HOPE Scholarship</b>	<b>Had HOPE Scholarship but lost it</b>
<b>Low SAT (69)</b>	25 (36%)	44 (64%)
<b>High SAT (58)</b>	24 (41%)	34 (59%)
<b>Total (127)</b>	49 (39%)	78 (61%)



**TABLE 4**

<b>HOPE RECIPIENTS BY GENDER</b>		
	<b>Still Have HOPE Scholarship</b>	<b>Had HOPE Scholarship but lost it</b>
<b>Male (74)</b>	22 (30%)	52 (70%)
<b>Female (87)</b>	35 (40%)	52 (60%)
<b>Total (161)</b>	57 (35%)	104 (65%)

**TABLE 5**

<b>STILL HAVE HOPE BY GENDER</b>		
	<b>Below \$70,000</b>	<b>\$70,000 and above</b>
<b>Male (21)</b>	10 (48%)	11 (52%)
<b>Female (31)</b>	14 (45%)	17 (55%)
<b>Total (52)</b>	24 (46%)	28 (54%)

**TABLE 6**

<b>BREAKDOWN OF LOCATION</b>	
<b>Rural</b>	79 (48%)
<b>Urban</b>	85 (52%)
<b>Total</b>	164

**TABLE 7**

<b>STILL HAVE HOPE BY LOCATION (controlling for low-income)</b>	
<b>Rural</b>	14 (61%)
<b>Urban</b>	9 (39%)
<b>Total</b>	23

**TABLE 8**

<b>STILL HAVE BY LOCATION (controlling for high-income)</b>	
<b>Rural</b>	13 (52%)
<b>Urban</b>	12 (48%)
<b>Total</b>	25

**TABLE 9**

<b>INCOME BY LOCATION (controlling for still have)</b>		
	<b>Below \$70,000</b>	<b>\$70,000 and above</b>
<b>Rural (27)</b>	14 (52%)	13 (48%)
<b>Urban (21)</b>	9 (43%)	12 (57%)
<b>Total (48)</b>	23 (48%)	25 (52%)

**TABLE 10**

<b>RECEPTION BY RACE</b>	
<b>Black</b>	40 (28%)
<b>White</b>	96 (67%)
<b>Other</b>	8 (5%)
<b>Total</b>	144

**TABLE 11**

<b>RACE BY INCOME (controlling for reception)</b>		
	<b>Below \$70,000</b>	<b>\$70,000 and above</b>
<b>Black (40)</b>	24 (60%)	16 (40%)
<b>White (96)</b>	35 (36%)	61 (64%)
<b>Other (8)</b>	4 (50%)	4 (50%)
<b>Total (144)</b>	63 (44%)	81 (56%)

**TABLE 12**

<b>RACE BY INCOME (controlling for still have the scholarship)</b>		
	<b>Below \$70,000</b>	<b>\$70,000 and above</b>
<b>Black (11)</b>	7 (64%)	4 (36%)
<b>White (37)</b>	15 (41%)	22 (59%)
<b>Other (4)</b>	2 (50%)	2 (50%)
<b>Total (52)</b>	24 (46%)	28 (54%)

**TABLE 13**

<b>RACE BY INCOME (controlling for had it and lost it)</b>		
	<b>Below \$70,000</b>	<b>\$70,000 and above</b>
<b>Black (30)</b>	18 (60%)	12 (40%)
<b>White (59)</b>	20 (34%)	39 (66%)
<b>Other (4)</b>	2 (50%)	2 (50%)
<b>Total (93)</b>	40 (43%)	53 (57%)

## **DISCUSSION**

The purpose of this research was to identify those particular groups that would be the most disadvantaged by the changes in the HOPE Scholarship. Rubenstein and Scafidi found that the students who paid the most into the scholarship received the least benefits. In other words, lower-income people pay by purchasing lottery while the upper-income received the rewards. I found that to be true in numerous sections of my results. In terms of income, I found that 56% of students who have ever received the scholarship are high-income while 44% are low-income. I also found that in terms of gender, the group that holds on to the scholarship at a higher rate is high-income women. In terms of race, the highest group of people to ever receive the scholarship is high-income white women. This proves that if an income cap was set below \$70,000, there would be a large amount of extra revenues left for the low-income students.

Seligo found in his study that if the SAT cutoff score had been 1000, over 39% of students in 2003 would have been ineligible. For my research I used 1060 instead of 1000. I used the median score of 1060 which divided put half of the students into the High SAT category and half of the students into the Low SAT category. I noticed one important fact. The SAT should not be used because it is not a good predictor of who does good in college, and therefore is not a good predictor of who retains the HOPE Scholarship. Placing a cutoff score would only prohibit the students with low SAT scores from receiving the scholarship who have about the same chance of keeping as students with high SAT scores.

Marsh found in her study that a significant gender gap did not exist. My research however seems to agree with the research done previously to Marsh's research. In my research I found that females have a higher chance of coming into college with the scholarship and high income females have the highest rate of holding on to the scholarship than the other groups. Therefore, females would be the most disadvantaged.

Marsh found that there was no significant difference between the number urban and rural students who received the scholarship. In my studies I found that rural students (whether they are low income or high income) hold on to the scholarship at a higher rate than urban students. This disagrees with studies done previous to Marsh's study because they found that urban students surpassed rural students academically. Therefore, rural

students would be the most disadvantaged by the proposed changes to the HOPE Scholarship.

In their research Pettys and Wright found that thousands of African American students might not have come to college if it was not for the HOPE Scholarship. I find similar results in my research. 28% of students who have ever received the scholarship are blacks, and 67% of students who ever received the scholarship are whites. 10% of all students who still have the scholarship are low-income blacks. 1 out of 10 people is pretty significant when taking into consideration that such a small portion of people ever to receive the HOPE Scholarship are black. This says that low-income blacks are really holding to the scholarship, and that changes in the amount could have drastic effects on them.

### **LIMITATION**

This paper had its limitations. I only surveyed students at Georgia Southern University. Perhaps if I had surveyed students at other colleges in Georgia, I could have possibly obtained different results. Another limitation is that I only issued 200 surveys. I probably could have obtained a better sample if I had did about 1000-1500 surveys, but time did not permit. Another limitation with the surveys is that I had to throw some of the questions. There were lots of surveys where people seem to just randomly skip questions. As I mentioned earlier, time was a limitation. There were plenty of other categories in my survey that could have cross-tabulated. For example, I could have perform other cross-tabulations using major, mother's occupation, or father's occupation.

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**THE ENVIRONMENTAL pH AFFECTS on *Actinobacillus pleuropneumoniae* ApxI TOXIN PRODUCTION**

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**Abstract**

*Actinobacillus pleuropneumoniae causes porcine pleuropneumonia, which is a highly contagious respiratory disease that infects pigs. A. pleuropneumoniae produces four toxins, ApxI-ApxIV, that are largely responsible for the pathology of the disease. Currently, there is no vaccine available to adequately control porcine pleuropneumonia. A better understanding of the environmental signals that modulate Apx production may lead to improved methods of disease prevention. The goal of this study was to examine how changes in the pH level affected the production of ApxI toxin, as A. pleuropneumoniae may encounter different pH levels during the course of an infection. The experimental design involved growth of an ApxI-producing A. pleuropneumoniae strain in batch cultures at pHs of 6.5, 7.0, 7.5, and 8.0. The effect of pH on ApxI toxin production was determined by examining culture supernatant samples for hemolytic activity. The growth curve revealed no significant difference in bacterial growth for the different media. Maximal hemolytic activity was observed for the bacteria grown at pH 7.5 and lower levels of hemolytic activity were seen for samples prepared from the cultures grown at pHs 6.5, 7.0, and 8.0. These findings suggest that A. pleuropneumoniae ApxI toxin production was affected by the pH of the growth medium, with maximal production occurring at pH 7.5.*

**Introduction**

*A. pleuropneumoniae causes porcine pleuropneumonia, which is a highly contagious respiratory disease among pigs; the disease often results in severe losses in the swine industry (Nicolet et al. 1992). The infection can occur as acute outbreaks with a high mortality rate in 24 to 48 hours or the infections can become a chronic disease that impairs growth and increases the susceptibility to secondary infections (Ruben et al. 1996). The acute outbreaks are characterized as hemorrhagic pneumonia with pleurisy (Liggett et al. 1987; Bertram 1988, 1990). If the infections become chronic then the animal may suffer from lesions, scarring, and adhesions of the lungs. The disease can spread from pig to pig by way of aerosol droplets or by direct contact (Jobert et al. 2000).*

*The vaccines currently available do not control the disease; they reduce mortality, but do not prevent the disease or the development of chronic lesions (Higgins et al. 1985; Fenwick & Osburn 1986). Pigs that survive the disease develop immunity to the bacteria and are protected from future infections (Nielson et al. 1979, 1984; Inzana et al. 1991);*

however, the antigens responsible for generating this immunity are still unknown. In order to create a more effective vaccine, there must be a better understanding about the production of bacterial factors that cause the disease. Among the known virulence factors, the Apx toxins appear to be critical for the disease; however, little is known about the regulation of these toxins.

During the course of an infection, the bacteria that produce Apx toxins encounter numerous environmental conditions that could serve as cues to alter gene expression, including pH variations. Apx toxins are members of a larger family of toxins referred to as RTX toxins that include *E. coli*  $\alpha$ -hemolysin and *Mannheimia haemolytica* leukotoxin (Welch et al. 1995). Strathdee and Lo have shown that the *M. haemolytica* leukotoxin is optimally produced at pHs of 7.3-8.0, with a decrease in production at pHs outside this narrow range (1989). The goal of this study was to examine the effect of the environmental pH on *A. pleuropneumoniae* ApxI toxin production.

## Materials and Methods

**Bacteria strains and culture conditions.** The strain used in this study is a derivative of the serotype 1 reference strain ATCC27088 (ApxI<sup>+</sup> ApxII<sup>+</sup>) and is designated RAS143 (Jansen et al. 1995); RAS143 produces only the ApxI toxin. RAS143 was grown in heart infusion broth supplemented with 10 $\mu$ g/mL  $\beta$ -NAD at pHs of 6.5, 7.0, 7.5, and 8.0. The pH of the initial medium was adjusted using 1M HCl or 1M NaOH. At the end of each experiment, *A. pleuropneumoniae* cultures were inoculated onto Luria-Bertani (LB) agar to confirm that they had not been contaminated; *A. pleuropneumoniae* does not grow on LB agar due to the lack of  $\beta$ -NAD. All growth media and supplements were purchased from Difco Laboratories (Detroit, MI, U.S.A.) with the exception of  $\beta$ -NAD, NaOH, and HCl (Sigma Chemical Company, St. Louis, MO, U.S.A.).

**Hemolytic assay.** The hemolytic assay was used to examine the ability of extracellular ApxI toxin to lyse red blood cells. The assay was completed using a previously described protocol (Jarma and Regassa 2004). Briefly, cell-free culture supernatant samples were collected four and five hours post-inoculation. Sheep red blood cells (Hemostat, Dixon, CA, U.S.A.) were washed three times in CaCl<sub>2</sub>-saline buffer (0.15 M NaCl/0.01 M Tris-HCl, pH 7.5/0.01 M CaCl<sub>2</sub>). A maximum of six hundred microliters of cell-free culture supernatant was mixed with 600  $\mu$ L of 3% washed sheep blood. The final volume of culture supernatant used in the assay was adjusted based on the OD<sub>600</sub> of the culture. Sterile heart infusion broth was added to culture supernatants as needed to yield a total volume of 600  $\mu$ l for the hemolytic assay. The culture supernatant and blood mixtures were allowed to incubate at 37°C for one hour and then the amount of released hemoglobin in the cell-free supernatant was determined at 540 nm. The negative control contained 600  $\mu$ l of CaCl<sub>2</sub>-saline buffer mixed with 600  $\mu$ l of 3% washed sheep blood.

## Results

An ApxI-producing *A. pleuropneumoniae* strain was grown in batch cultures at pHs of 6.5, 7.0, 7.5, and 8.0. Prior to inoculation, the pH of the growth medium was adjusted using HCl or NaOH, as described by Strathdee and Lo (1989). Throughout the

experiment, bacterial growth (Fig. 1A) and pH were monitored (Fig. 1B). The pH of the four cultures remained constant for five hours but showed a slight decrease at later sample times (Fig. 1C). To evaluate the level of ApxI toxin activity, culture supernatant samples were collected four and five hours after inoculation. Maximal hemolytic activity was consistently seen for the pH 7.5 culture samples. This experiment was repeated three times, with data from a representative experiment shown in Figure 1

### Discussion

Throughout the course of an infection, *A. pleuropneumoniae* may encounter variable pHs within the animal host that could act as environmental cues to alter ApxI toxin production. For example, phagocytic cells and necrotic tissue will not maintain the same pH as healthy lung tissue. The results from this study suggest that ApxI is a pH-regulated toxin (Figure 1). *M. haemolytic* is a closely related bacterial pathogen that also produces a pH-regulated RTX toxin (Strathdee and Lo, 1989). The *M. haemolytica* RTX toxin is optimally produced at pHs of 7.3 to 8.0. Although a similar pattern was seen with *A. pleuropneumoniae* ApxI toxin, the overall optimum range may be smaller. In three independent trials, the high level of ApxI hemolytic activity at pH 7.5 was decreased by 67%-70% in the pH 7.0 culture and by 91%-93% in the pH 8.0 culture. Although *in vivo* pH fluctuations may not be large, this dramatic decrease in ApxI toxin activity in response to a 0.5 pH change suggests that minor pH changes could play an important role in modulating ApxI toxin production and/or activity. At all pHs, temporal regulation was maintained; more toxin was produced at four hours as compared to five hours. This is in agreement with the recent report on temporal regulation of the Apx toxins by Jarma and Regassa (2004). To elucidate the molecular mechanism of pH-mediated regulation, future studies will examine ApxI protein and *apxI* mRNA concentrations for cultures grown at different pHs.

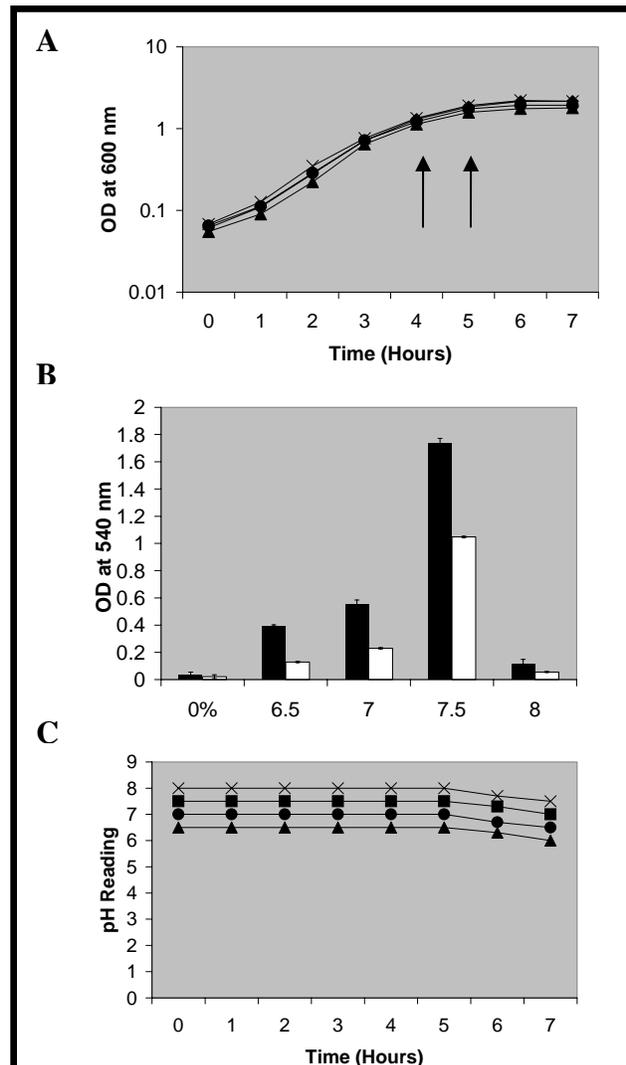


Figure 1. *A. pleuropneumoniae* strain RAS143 was grown at 37°C in heart infusion broth supplemented with 10 µg/ml β-NAD; the initial pH of the media was 6.5, 7.0, 7.5, or 8.0. (A) Growth was monitored at 600nm for the cultures at pH 6.5 (▲), 7.0 (●), 7.5 (■), and 8.0 (x); the arrows indicate hemolytic assay sample times. (B) Hemolytic activity was determined for samples after four (■) and five (□) hours of growth. (C) pH was monitored throughout experiment.



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## **THE SEEKER SENSITIVE MESSAGE OF CONTEMPORARY PROTESTANT CHRISTIANITY**

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### **Abstract**

*In the early seventies Bill Hybels started Willow Creek Community Church using culturally relevant techniques intended to reach “seekers”: twenty-five to forty-five-year-old, white-collar professional men who do not attend church. Since then many “daughter” churches have erupted on the landscape of American Christianity. This paper reports the investigation of one such church, Grace Community Church in Statesboro, GA. The focus of the research is to establish the effectiveness of the “seeker” model in incorporating the “seeker.”*

### **Introduction**

The seeker church is an attempt at making a religious connection with a particular group of contemporary people, considered seekers of spiritual fulfillment, who are believed not to identify with traditional Christian forms and concepts. These churches concentrate their efforts on reaching their own particular segment of the religious market in their region. Pioneer churches of this movement have become models for thousands of churches across the United States. One such church, Grace Community Church of Statesboro, Georgia, was founded in 1995 with the intention of following the seeker model. This paper explores the extent to which Grace Community Church adheres to the seeker model and determines if Grace has been successful at reaching its target audience.

Two studies in particular have favorably noted this new movement in modern Christianity, Donald Miller’s *Reinventing American Protestantism*, and Kimon Howland Sargeant’s *Seeker Churches: Promoting Traditional Religion in a Nontraditional Way*. Though both studies address seeker churches, Sargeant’s is explicitly a study of the seeker model as demonstrated by Willow Creek Community Church and employs that terminology. Instead of “seeker model,” Miller uses the term “new paradigm” and assigns twelve characteristics that qualify a church as such:

- (1) [the churches] were started after the mid-sixties
- (2) most members of the congregation were born after 1945
- (3) seminary training for clergy is optional
- (4) worship is contemporary
- (5) lay leadership is highly regarded
- (6) the churches employ small group ministries
- (7) dress is informal
- (8) tolerance of different personal style is encouraged
- (9) pastors tend to be understated, humble, and self-revealing

- (10) congregants are physically expressive
- (11) the churches believe in the “gifts of the Holy Spirit”
- (12) Bible-centered teaching takes precedence over topical sermonizing.  
(Miller, 20)

Although Miller affirms that “seeker-sensitive” churches such as Willow Creek are included in this description, Willow Creek Community Church, the archetype of the seeker model, does not meet points (11) and (12). The differences result from the scope of each researcher’s study. Miller derives his criteria from the three “new paradigm” church movements he studied and what he describes as their emphasis on “experience” rather than “reason,” whereas Sargeant centered his study on Willow Creek as the exemplar of the seeker church movement in its form and function (Miller, 8; Sargeant, 17). In spite of these differences, both studies reveal a dramatic change in the way a growing number of churches operate, changes to which both movements have contributed. Because of this and the extensive similarities between “new paradigm” churches and “seeker” churches, “new paradigm” churches will here be referred to as seeker churches.

### **Doctrine**

Most seeker churches are evangelical in doctrine. Evangelicals emphasize the authority of Scripture, the importance of preaching as contrasted with ritual and salvation by faith in the atoning death of Jesus Christ through personal conversion. In response to Sargeant’s survey of seeker church pastors, 98% of pastors reported that “evangelical” describes them well (20). A strong indicator of their evangelical theology is the ninety-nine percent who agreed that “the Bible is the inspired word of God, true in all its teachings, and the 99.6% who agreed that “Jesus Christ is both fully God and fully man” (Sargeant, 20-21). When asked to rate their view of human nature on a scale of one to seven, one indicating that man is essentially good and seven indicating that man is essentially corrupt, 88% rated the nature of man a six or seven (Sargeant, 21). This is consistent with the evangelical belief in the depravity of human nature, which requires the atoning death of Jesus Christ.

### **The Seeker Ethos**

Miller identifies three themes as representative of the seeker movement: therapeutic, individualistic, and anti-establishment (Miller, 21). He bases the therapeutic theme on interviews with congregants who largely expressed their ability at seeker services “to relax, to be vulnerable, to admit one’s own hurts and problems, knowing that one would be accepted rather than judged” (Miller, 21). Sargeant finds a focus on therapeutic values as well. In his analysis of sermon topics at Willow Creek, he notes that teachings on “personal growth and/or relationships” comprised 32% of sermons (Sargeant, 82). A typical example is “Measuring How You Matter to God,” which focused on developing self-esteem. To Miller, individualism is the freedom the congregants have to interpret the Bible for themselves, interrelate directly with God, and acknowledge their own salvation, which leads to “greater freedom of expression, creativity, and self-determination” (21,175). Sargeant sees individualism in a person’s selecting religion by preference rather than being born into the religion of his or her parents, and notes that this is a value of the American public (40, 45). Seeker churches acknowledge this by focusing their efforts on reaching a particular segment of the religious market (Sargeant, 110). The anti-establishment theme is expressed by the

rejection of both traditional religious symbolism and denominationalism (Miller, 22). Sargeant finds 52% of seeker churches reported that they do not display any religious symbols at their weekend services (87% of those established in 1990 or later do not exhibit religious symbols) (61). In another example of the anti-establishment theme, most seeker churches affiliate in only a very loose way, as peer institutions, as opposed to creating a hierarchical organization. Sargeant finds that 80% of pastors of seeker churches “frequently or occasionally looked to pastors of other seeker-friendly churches for information” (Sargeant, 145). Even among those who do affiliate with a denomination, 74% report that they “rarely or never use their denomination’s publications for information” (145). The increasing number of nondenominational churches employing the seeker model is a further demonstration of anti-establishment theme. The Willow Creek Association, a cooperating group of seeker churches and the predominant source for information on the seeker model, reports a 9% increase in the number of member churches that are nondenominational, up from 26% in 1995 to 35% in 1996.

### **Shopping Mall Model**

The seeker church applies methods similar to those of the shopping mall. Like the mall, a seeker church is designed to allow for anonymity, choice, and informality to address the perceived needs of its consumer.

Shopping malls are particularly customer-service oriented. From the information desk to the food courts, the needs of the customer are first priority. Similarly, seeker churches strive to be customer-service oriented. Like malls, these churches use marketing plans to assess the needs of the religious consumer. The production of programs and curricula tailored to a particular type of seeker is evidence of the marketing strategies used by seeker churches (Miller, 140). Forty percent of seeker churches survey the surrounding community in order to create a profile of a seeker whose needs are not being met (Sargeant, 110). Before starting Willow Creek Community Church, Bill Hybels and several others took a door-to-door survey in Palatine, Illinois. They used the results as a guide to develop programs that would meet the needs of those surveyed (Rediscovering Church, 59).

The mall offers a diverse collection of consumer and social options, and permits various levels of commitment to these options. One can, for instance, adhere to a particular brand or label that suits one’s interests or one can simply enjoy the atmosphere the mall provides. This consumer-oriented approach that ranges between commitment and anonymity is what seeker churches propose as the foundation of an effective strategy to reach a seeker audience. Willow Creek Community Church, offers “more than 100 ministries that meet a wide range of needs,” and encourages the visitor to come and investigate the claims of Christianity anonymously ([willowcreek.org/welcome](http://willowcreek.org/welcome)). As the mall allows the shopper to stroll about “just looking,” seeker services allow a person simply to observe. There is no recited creed or unfamiliar ritual; the focus is on a comfortable experience for a visitor (Sargeant, 50). Then, if the seeker likes, he can choose among the many small groups ministries the church offers for religious and social support. A sample of these small group ministries at Willow Creek are a sports ministry (offering golf, basketball, volleyball, football, and softball), a Christian 12-Step group, a divorce recovery group, men’s and women’s groups, a singles group, a marriage

enrichment group, and a support group for children of broken homes (<http://www.willowcreek.org/>).

These small groups are an integral part of the seeker model and provide for the development of leadership (Sargeant, 118). Whereas typical small groups, such as the men's and women's groups, are formed by demographic, Miller reported many instances of ministries formed by a layperson in the congregation who in turn became the leader of that ministry's development (Miller, 138). He cites, for example, a woman, who as a teenager had given up her child for adoption, starting a ministry for those facing a similar situation. Indeed, the church relies on lay people to lead most of the small group ministries, including those formed by demographic (Miller, 127-28). This decentralization of leadership allows the congregation to decide which needs are most salient among its members and how best to accommodate those needs. Although the senior pastor has the final decision on the creation of a group, Miller points out that the foremost concern of the pastor is developing inspiration, confidence, and spirituality within the leader (139). Leaders of these small groups often meet regularly with the church staff for formal leadership training (Sargeant, 119). Leaders of the groups exercise a considerable amount of autonomy, deciding the time, place, and activities of group meetings, and in many cases developing the curricula and marketing plans of the group (Miller, 140).

The backdrop to this cultivation of leadership is the sense of community created by drawing individuals with like interests into small groups. Just as most malls provide shoppers a place to sit and enjoy the company of their fellows, the small groups provide members a place to connect with one other. Sargeant indicates that 40% of the seeker pastors he surveyed responded that at least one half of their attendees participate in small groups (119). Miller describes these small groups as "home fellowships" (137). This description fits, as most meetings take place in the home of a member, though the personal setting is not the only factor providing a communal atmosphere. As noted, groups are often times based on people's demographic characteristics, such as age or marital status, in order to affiliate members with commonalities. The informality of meeting in a member's home and the sharing of similar demographic characteristics provide a sense of community among the members (Sargeant, 120).

In addition to small groups, contemporary music is a component of the seeker model. Just as particular shops in the mall choose their music according to their customer, seeker churches choose their music according to their seeker. The Community Church of Joy, a seeker church in Phoenix, Arizona, has a country music service on Saturdays, and a Sunday service featuring pop music (Sargeant, 6). Writing of music styles, Miller explains, "the morning worship team may be "mellower" in tone, whereas the evening worship team may be rock- or jazz-oriented," and he notes, "Youth bands are almost always 'harder,' with more of a rock edge to their music, while adult bands are more sixties-oriented" (84). Sargeant observes light rock and soft jazz to be the most common styles of music used at seeker churches (65). This style of music accommodates a younger group: sixty-five percent of the members of these congregations are between the ages of twenty-six and forty-five (Miller, 195).

Another feature of the seeker church modeled after the shopping mall is its building design. The design statement of Willow Creek is "Music, facilities, and the use of the arts should all reflect the culture within which we live" (Sargeant 62). Following

this guideline, Willow Creek leaders looked to the mall for inspiration (Sargeant, 62). They purposely excluded traditional Christian symbols such as pews, crosses, stained glass windows, and steeples. Of the nondenominational seeker churches surveyed, Sargeant reports that 74% do not display any Christian symbolism in their worship areas. Their displacement of Christian symbolism for secular forms extends to terminology. They call the churchyard a campus, the sermons messages, the sanctuary an auditorium, and the pulpit a stage. With measures like these, they make a concerted effort to offer seekers a low-barrier entrance to a church service by way of providing a sense of familiarity. Paul Goldberger, in a *New York Times* article describes seeker church architecture as “‘I’m O.K., your O.K.’ architecture: friendly and accessible, determined to banish the sense of the mystery and otherworldliness that has long been at the very heart of the architecture of Christianity” (Sargeant, 62). Willow Creek encourages seeker church pastors to “keep the auditorium clean and the atmosphere neutral, comfortable, and contemporary,” similar to that of the shopping mall (Sargeant, 62).

In addition to adopting the informal atmosphere of the mall, seeker churches encourage informal dress and acceptance of different kinds of dress. Sargeant states, “One of the most obvious manifestations of the informality at seeker churches is the casual dress of attenders” (71). In *Life Makeover*, a Willow Creek video skit, the main character is encouraged to wear what makes him comfortable rather than dress according to social expectations (<http://www.willowcreek.com/servicebuilder/servicepages/service.asp?servid=549>).

Pastors of seeker churches, as well as band members and other stage performers, dress as the attendees do—informally. For instance, the senior pastor of Saddleback Church, Rick Warren, wears Hawaiian shirts while delivering his Sunday messages (Sargeant, 71). Miller quotes an attendee of Calvary Chapel succinctly stating, “I come to church dressed anyway that I want to” (67). According to Miller, the congregation’s acceptance of the freedom of this person to choose his church attire makes Calvary Chapel “‘neutral territory,’ without any foreign religious culture” (67).

In summary, to make people feel as comfortable at church as they do at the mall, the seeker model uses marketing and design to foster anonymity, choice, and informality, and combines these into a contemporary religious package.

### **Other Aspects of Seeker Churches**

Not all aspects of the seeker model are based on the shopping mall. Among them are the optional seminary training of clergy, the use of multimedia and drama, and the process used to move congregants to higher levels of commitment.

The foremost example of a leader who never attended seminary is Bill Hybels, founding pastor and current senior pastor of Willow Creek Community Church (Sargeant, 128). Seeker churches focus on leadership abilities rather than theological training. However, this is not an exclusion of theology, but a shift of emphasis. Replacing seminary training is the hands-on experience of mentor-mentee relationships in addition to a one- or two-year certification program (Miller, 165). Willow Creek offers internships for staff training and development, including a two-year pastoral training internship (Sargeant, 128). Ninety-five percent of Willow Creek’s paid staff are trained from within the church (Sargeant, 128). According to Miller this allows for the developing pastor to maintain close ties with a congregation as opposed to affiliating



predominantly with other clergy during seminary and becoming alienated from the laity (166).

To reach what they judge as the needs of a highly visual audience, seeker churches often use drama and multimedia presentations. Sargeant found that 80% of the seeker churches he surveyed use drama at least once a month (69). For the execution of these dramas, as well as the services, these churches use elaborate lighting, sound systems, and headset microphones to create a professional atmosphere. Some seeker churches offer video presentations as well; forty percent use them at least once a month (Sargeant, 70). Underlying this use of multimedia is the desire to reflect contemporary culture and provide a sense of professionalism. One of Willow Creek's core values is the belief that excellence honors God and inspires people (Sargeant, 143).

Along with the desire to inspire people is the desire to encourage commitment. Three out of four seeker churches have an organized strategy based on Willow Creek's guidelines for moving people from being observers to being active participants in the church (Sargeant, 113). These guidelines all involve personal relationships, and begin with at least some members who are already committed. Individual churches may vary in the particulars, but all include the following steps: (1) forming a relationship with someone who does not attend services; (2) sharing with that person the experience of attending a seeker service; (3) inviting him or her to a seeker service; (4) advising him or her to join a small group; and (4) encouraging that person to serve in the church and contribute from his or her resources. At the membership classes of seeker churches such as Saddleback Valley Community Church, located in Lake Forest, California, participants are guided through the various levels of commitment, referred to as the "community," the "crowd," the "congregation," the "committed," and the "core" (Sargeant, 113).

### **Demographics**

The demographics of the seeker churches Miller studied broke down as follows: 48% female and 52% male; 65% between the ages of 25 and 45; 61% married, 24% never married, and 12% divorced; 56% with high school diplomas or some college, trade, vocational school; 46% with family incomes of less than \$40,000; and, finally, 95% reported that they read the Bible 2-3 times a month or more.

### **Grace Community Church**

#### **Doctrine**

The doctrine of Grace Community Church correlates strongly with the seeker model set forth in the previous section. Like most seeker churches, Grace Community Church is evangelical. The doctrine of the church consists of six statements of affirmation:

1. the belief in the verbal inspiration and authority of the Bible
2. the belief in the Trinity
3. the belief in the deity, virgin birth, atoning death, and the bodily resurrection of Jesus Christ
4. the belief in justification by faith
5. the belief that salvation is a free gift to all
6. the belief in the visible and personal return of Jesus Christ.

In an interview, Mike Holt, senior pastor of Grace Community Church, agreed that the term “evangelical” describes his theology well (Holt, 1). This is in accord with the findings of Sargeant’s study, which indicate that 98% of pastors of seeker churches are evangelical.

### **Seeker Ethos**

*Individualistic theme*—According to Holt, the doctrine allows areas of disagreement (on issues ranging from predestination to divorce) and permits congregants the freedom to interpret the Bible for themselves within the context of evangelical doctrine (Holt, 1).

*Therapeutic theme*—Similar to Miller’s findings, Holt reports that many people describe to him the “openness” and “authenticity” they experience at Grace. Without identifying any one factor, Holt believes this feeling of openness is the product of the collective measures at Grace to provide an atmosphere of acceptance, measures that allow for informality and anonymity, and practical messages (Holt, 1). The practical messages are often about personal relations, addressing topics such as childcare, marriage, and family relationships.

*Anti-establishment theme*—Grace is nondenominational. The senior pastor explained that the decision to be an independent church was based on his belief that Americans are anti-label (Holt, 1). Religious symbolism is absent.

### **The Seeker Model**

Following the seeker model described in the previous sections of this study, Grace Community Church intentionally uses marketing and design to reach its seeker, and encourages anonymity, choice, and informality.

Before founding the church, Holt surveyed the surrounding community to form guidelines for church services and programming. Following the results of his survey, together with founding members of the church, Holt developed a profile of the typical seeker that Grace purposed to reach. This profile is discussed below.

Like other seeker churches, Grace offers social and religious options ranging between anonymity and commitment. To allow the option of anonymity and to reduce any discomfort a seeker may feel from being unfamiliar with religious culture, the services at Grace lack any traditional liturgy or ritual, including the taking up of an offering and the use of a hymnal. In Miller’s words, “Worship proceeds without scripture reading, recitation of creeds, offerings, and all that other busyness that dominates the typical service,” and “at [seeker] churches, unlike mainline churches, no one tells you when to kneel, sit, recite, or read” (87). The pastor describes the methods of Grace as “nontraditional” and “flexible” (Holt, 1). Because of this, services have a low participation level, allowing a seeker to feel anonymous, and more part of the crowd. Various means such as softball teams, golfing, and other social events bridge the gap between formal membership and loose social affiliation. If a seeker begins to feel comfortable enough, he may commit to membership and join one of the small groups offered. Most are based on specific demographic characteristics, such as the “College

and Career Group,” “Men’s Care Group,” and “Radically Aware Disciples (for teens),” and connect a seeker with others in the church who share similar attributes.

Commitment to the church can progress to a leadership position. Leadership at Grace is de-centralized. Lay members may found and lead a ministry if they feel led to do so. They are then trained by the senior pastor to develop their leadership skills. If the leader of a ministry excels, he may eventually serve on the church staff. The current associate pastor and the youth leader progressed in this fashion, from seeker to staff member.

Underlying this leadership development are the community bonds forged through the small groups. The college and career group, for instance, meets regularly to share food and play ping-pong at the group leader’s home. Because of these communal activities, Holt refers to these groups as the “mainstay” of the church (Holt, 1). Again, the anonymity of services is balanced by the intimacy of small groups.

In keeping with the seeker model, Grace uses contemporary music, and is especially particular about its selection. The senior pastor considers this a key to reaching seekers. He chooses songs according to what he calls their “singability,” which, he believes, is essential for seeker participation in the congregational songs. These songs must have a simple meter and range, and the lyrics must be “down to earth.” Too many traditional songs, the pastor says, alienate the seeker with “transcendent” and “lofty” verses. Lastly, the music needs be straightforward and repetitive, with a catchy yet easy chorus (Holt, 1). This sentiment is an echo of an observation made by Charles Trueheart in the *Atlantic Monthly*: “I don’t think it’s an accident that the singing I heard in all these [Seeker] churches was booming and enthusiastic—*partly because of the simplicity and almost childish repetitiveness of the music*, but also because the people had their chins up and their hands free” (50, italics added). A song with high “singability” presents a seeker with the opportunity to listen to an understandable message, sing along to an easy, repetitive chorus, and not be led embarrassingly out of his vocal range. And to keep the seeker from becoming bored with the music, every three to four months the pastor

incorporates new songs into the service (Holt, 1).

The building design follows the seeker church strategy of reflecting the culture in its architecture, which more closely resembles an office building than a church. The pastor describes the building’s form as “modern, functional, and simple as opposed to

ornate... not religious looking” (Holt, 1). Like Willow Creek and many other seeker churches, Grace does not have pews, crosses, stained glass windows, or a steeple. This absence of religious symbolism is one of the distinctive



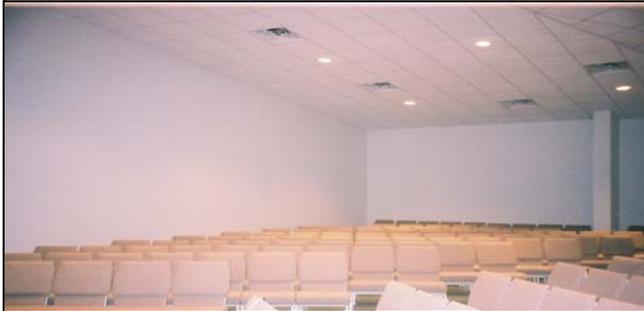
Front of church building.



View of auditorium from stage.



**Auditorium, right of stage. Note absence of religious symbols.**



**Auditorium, left of stage.**



**Stage, microphones, projection screen, and lighting.**



**Dimmer switches and computer.**

features of the seeker movement. The design of the worship area is like that of an auditorium, with the central focus on the stage at the back of the room. Grace also uses the seeker terminology: “auditorium” instead of “sanctuary,” “campus” instead of “churchyard,” and “messages” instead of “sermons.”

The dress is as purposeful as the architecture. The pastor encourages informality rather than suits and ties. His own attire is casual, ranging from a dress shirt and slacks to a tee shirt and jeans. Also, seminary training is optional. Although the senior pastor has a seminary degree, the current associate pastor has no seminary background. Instead, he mentored under Holt for a year prior to assuming the role of associate pastor. Miller notes this informal

process of moving from lay member to church staff is one of the unique aspects of the seeker model (165).

Grace uses drama less than represented in the model. More common are multimedia presentations, which are used monthly on average (Holt, 1). Every service uses high quality lighting, sound, and video equipment. Songs and scripture verses are projected on a screen at the back of the stage. Forward of this and behind the projector is just one of a cluster of speakers; the others are arranged along the foot of the stage. All of the lighting is on dimmer switches and during services the lights are kept low for the “informal” effect (Holt, 2). To Holt, these measures are considered a form of professionalism by the seeker.

Lastly, Grace follows the seeker model in its evangelizing process. Borrowing directly from the method of

Rick Warren, pastor of Saddleback Valley Community Church, Grace uses a "Membership 101" class to describe its evangelism techniques to new members. The first step is personal involvement with someone in the community who lacks interest in church. Next, that person is invited to attend services and become a regular attendee. After a period of attendance, he or she is encouraged to join the church as a committed member. Then, as a committed member, the person is prompted to develop spiritual growth. Finally, after commitment to the church for at least six months, the person ideally becomes active in the ministry at Grace.

## **Survey**

Grace uses the seeker model to attract a seeker with a particular profile. The "seeker" is unfamiliar with the Bible; is a resident of Bulloch County, Georgia, between the ages of 25 and 45; and is loyal to his or her family church. He or she does not mind commuting to church (considered a drive of fifteen minutes or more), on average has a high school diploma, some college, trade or vocational school, and has a family income of less than \$45,000 a year (Holt, 1). I selected questions from Miller's survey that pertained to the seeker profile developed by the founders of Grace Community Church. This also allowed for a general comparison to the demographics of Miller's study. I added two original questions that covered whether the individual was a resident of Bulloch County and whether the individual would choose the family church over another church. Holt considers that the church is successfully reaching its goal if at any given time 30% of the congregation are people fitting this profile.

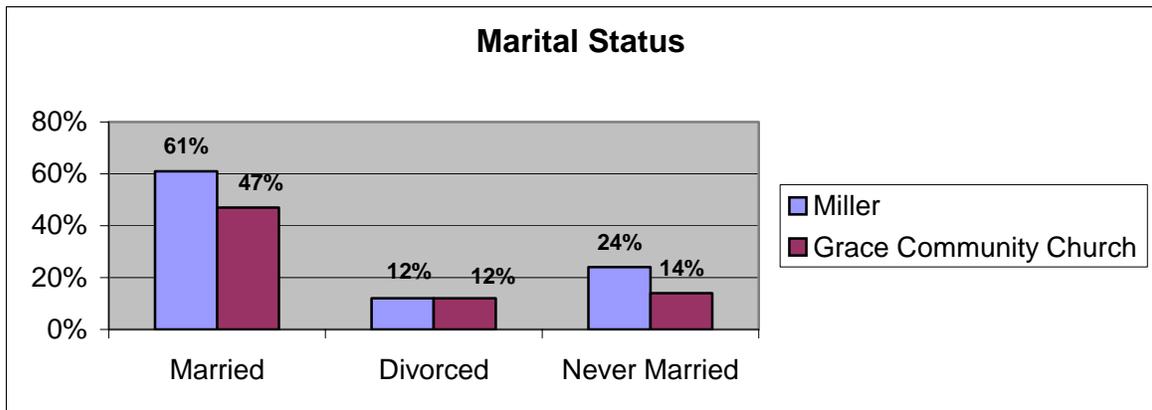
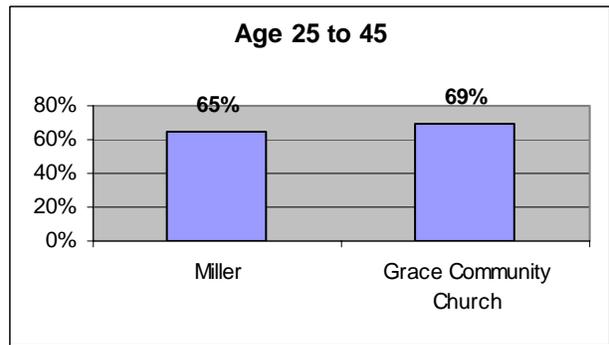
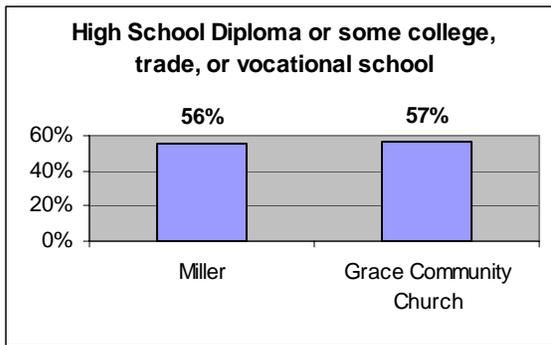
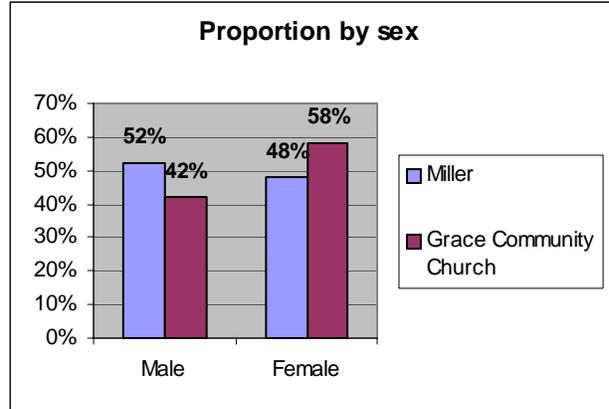
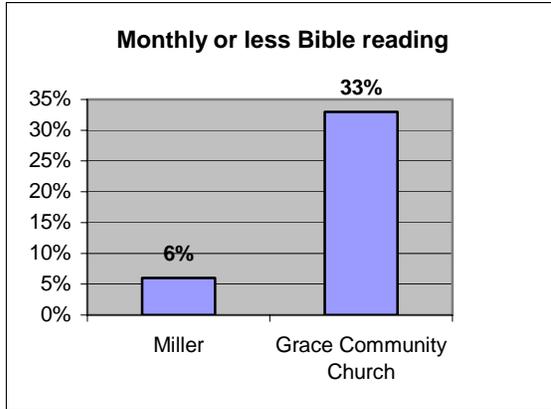
The data consist of the responses of the 161 attendees surveyed. I used the Statistical Package for the Social Sciences (SPSS) to perform a descriptive frequency analysis and a select cases analysis.

## **Results**

The results of the descriptive frequency analysis were as follows: 33% read the Bible once a month or less; 64% were Bulloch County residents; 42% were male and 58% were female; 69% of those surveyed were between the ages of 25 and 45; 5% would support their family church over selecting a church they liked; 40% commuted more than 15 minutes to church; 57% had a high school diploma, or some college, trade or vocational school; and 28% made less than \$45,000 a year.

Respectively, the survey results of Miller and of Grace Community Church compare as follows: 6% compared to 33% read the Bible once a month or less; 52% compared to 42% are male; 48% compared to 58% are female; 65% compared to 69% are between the ages of 25 and 45; 61% are married, 12% divorced, and 24% never married compared to 71% married, 12% divorced, and 14% never married; 56% compared to 57% have an high school diploma, or some college, trade, or vocational school.

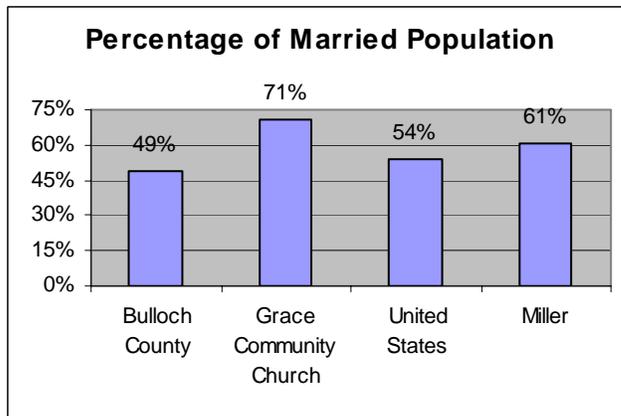
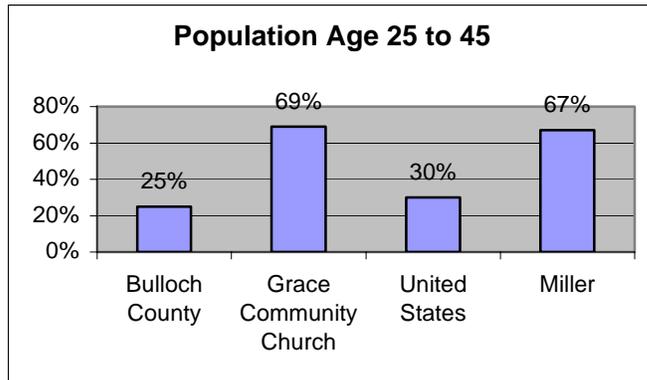
### Miller and Grace Community Church Comparative Charts



The results of the select cases analysis were as follows: only one person responding to the survey qualified on all criteria of the profile, approximately .6% of the congregation.

## Discussion

Grace Community Church fits the seeker model well in its form, but does not attract the seeker fitting the profile it developed. However, when the profile is adjusted to represent what seem the most relevant characteristics, the percentage of congregants fitting the modified profile rises significantly. Excluding the question regarding loyalty to a family church, the percentage rises to 8.6%. It rises again to 18% after discounting



the commuting criteria. Without taking annual income into account, the percentage of congregants with the profile rises to 31%. Approximately one third of the congregation reside in Bulloch County, Georgia; range between the ages of 25 and 45; have high school diplomas or some college, trade, or vocational school; and read the Bible once a month or less (regarded as being unfamiliar with the Bible).

Though this modified profile meets the 30% benchmark set by the church for success in reaching that market segment, the age and marital status statistics of both this study and Miller's study reveal that the seeker model has been particularly successful at reaching young, married couples. The United States Census Bureau reports that 25% of Bulloch county residents are between the ages of 25 and 45, and 49% of

residents age 18 and older are married (U.S. Census Bureau [1], [4]). The survey results of this study indicate that 69% of the congregation of Grace are between the ages of 25 and 45, and 71% of those age 18 and older are married. To compare those numbers on the national level, 30% of the population of the United States are between the ages of 25 and 45, and 54% of the population age 18 and older are married (U.S. Census Bureau [2], [3]). Miller's national study of seeker churches found that on average 67% of the congregations are comprised of those age 25 to 45, and 61% of respondents were married (the lower marriage statistic reflects the fact that Miller's survey population included participants under 18).

Although this church has been successful in its growth since its inception, reaching its target group has not contributed to this growth. Rather, as indicated by the demographic comparison to Miller's study, Grace is attracting people with the same general traits that other seeker churches are attracting. This raises questions about the marketing strategies used by Grace to attain its target group. For example, do seekers who fit the profile developed by Grace exist in significant numbers? If so, and Grace

proposes to reach those individuals, then Grace needs to make adjustments to its strategy. If, on the other hand, Grace is satisfied with the audience it does reach, questions still remain concerning the connection between the congregants and the methods of Grace. In short, why does it reach mainly young, married couples?

In large part, this may be attributed to the dynamism and charisma of the founding pastor, Michael Holt. This and the fact that he is fairly young, 38 years old, may be central to attracting a younger age group. In his survey of seeker churches, Miller found that 76% of the pastors are between the ages of 25 and 45, very close in age to many of their congregants (216-17). Further study may determine if this influences the membership choice of those ages 25 to 45.

In terms of the church's marketing efforts, further research on Grace's methods would determine what in particular attracts young, married couples. A study should be done to determine whether small groups, secular architecture, contemporary music, and multi-media presentations affect attendance at Grace. Further study should also include an examination of the congregation's perceptions of anonymity and informality during services to discover whether or not these have an impact on attendance as well. In addition, research into the perceptions of the individualistic, therapeutic, and anti-establishment themes found at Grace could determine which of these themes congregants consciously identify, and which, if any, draw congregants who hold the values implicit in these themes. For example, the nondenominational status of Grace may not at all indicate that anti-institutionalism is a value of the congregants. It may not even have had any bearing on their decision to join the church. It could be that a congregant's move towards non-denominationalism simply reflects a lack of understanding of denominations. Or possibly they still identify with a denominational title. With Grace's minimal doctrine, they would be free to do so. The same inquiry applies for the therapeutic and individualistic themes.

Finally, a study of the previous religious affiliation of members could determine how many were unaffiliated with a church. Since one of the purposes of seeker churches is to reach people who are unacquainted with the Christian religion, this information could aid in determining how successful Grace has been in this regard. It could also aid in answering whether or not the growth of Grace has been at the expense of other churches in the community.



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## QUANTITATIVE PRECIPITATION FORECAST USING NEURAL NETWORKS

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### Abstract

*Multiple Artificial Neural Networks (ANN's) using input from various meteorological data were constructed to determine the rainfall predictive ability of each network implementation when provided with the previous day's weather data. The ANN's were designed using a software package. The different ANN's were rank and compared to each other based on the accuracy of their prediction. These comparisons were based on the percentage of correct predictions. The predictive ability of the ANN's was dependent on the weather data of the previous day as an indicator of the following day's meteorological conditions.*

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Quantitative precipitation forecasts (QPFs) are formed using a variety of statistical methods to derive any correlations in meteorological data that may be indicative of rainfall quantity. Regression techniques used to find correlations such as Multiple Linear Regression, Polynomial Regression, and Logistic Regression, each make assumptions about the nature of the data whose violation may weaken the accuracy of the model (Marzban and Stumpf 1998). However, Artificial Neural Networks (ANN's) make no initial assumptions regarding relationships found in the data (Marzban and Stumpf 1998).

ANN's can be used to extract patterns in data that is considered "noisy" (Hall 1997). Data is defined as noisy if it contains random errors, which mask correlations. Previous experiments involving ANN's discussed in *Precipitation Forecasting Using a Neural Network* and *A Neural Network for Tornado Prediction Based on Doppler Radar-derived Attributes* show promise in the predictive ability of ANN's when analyzing indicators of meteorological phenomenon such as rainfall and tornados.

### Problem Statement

Can an ANN be created to produce accurate rainfall predictions for a given day of a specific month when the previous day's weather indicators are used as both training data and inputs?

### Methodology

Past research shows that ANN's can be constructed when using several meteorological variables (Hall 1997). The differences in our approach and Hall's approach are illustrated in Figure 1 below:

Approach Contrasts	
Existing Research	Our Research
Training data originated from 1994 to 1995.	We trained our network with data from the previous day. The training data originated from the years 2003 and 2002.
19 meteorological variables were used.	Temperature, Dew Point, Humidity, Barometric Pressure, Visibility, and Wind Speed. The average and standard deviation of each value was calculated and used as inputs.
Location: Fort Worth, TX	Location: Statesboro, GA

Figure 1

Data Collection

ANN's are designed and trained by supplying the network with a large set of representative data (Hall 1997) with known outputs. The training process is designed to optimize the weights so that mean squared error of the output is minimized (Hall 1997). The interconnectivity of the network is such that the previous layer's output is multiplied by the weight at each connection, and the resulting products are summed to calculate the value at the node (Hall 1997). In short, a dot product of the nodes inputs and the weights at each connection is formed. Once the network's outputs are approximately equal to the known outputs, the network is considered "trained." Weather data for Statesboro, GA was collected from [www.weatherunderground.com](http://www.weatherunderground.com) and used as training data for the network. Since the previous day's data would be used as input for the network, the range of data collected was from May 31<sup>st</sup> to June 29<sup>th</sup>. At [weatherunderground.com](http://weatherunderground.com) the data is cataloged in intervals of 20 minutes. Figure 2 below is an abbreviated data file compiled from the [weatherunderground.com](http://weatherunderground.com):

Temperature	Dew Point	Humidity	Barometric Pressure	Visibility	Wind Speed
80.6	71.6	74	29.86	10	8.1
80.6	69.8	70	29.83	10	9.2
80.6	69.8	70	29.83	10	6.9

Figure 2

The daily rainfall totals were collected from data supplied by the Geology Department of Georgia Southern University. Using a spreadsheet program, the data files were processed to produce the following training and test data used to train the ANN:

- Average Temperature
- Average Dew Point
- Average Humidity
- Average Barometric Pressure
- Average Visibility
- Average Wind Speed
- Standard Deviation of Wind Speed
- Standard Deviation of Temperature
- Standard Deviation of Dew Point
- Standard Deviation of Humidity
- Standard Deviation of Barometric Pressure
- Standard Deviation of Visibility

Abbreviated Data File		
Reading	Mean	Standard Deviation
Temperature	78.8537313432836	4.8873375335276
Dew Point	70.9820895522388	1.69061724779713
Humidity	78.3283582089552	14.4236415172436
Barometric Pressure	29.8944776119403	0.0275509612700689
Visibility	9.95522388059702	0.363762913640413
Wind Speed	4.68805970149254	3.42416881244737
Wind Speed	4.68805970149254	3.42416881244737

Figure 3

The outputs for each data set were determined by the amount of rain that resulted the next day. Because the software used to design our ANN's produces binary outputs, the following granularity was initially established:

Rainfall	Desired Output 1	Desired Output 2
No Rain $\leq$ .4 inches	0	0
.4 $\leq$ 2 inches	0	1
2 inches $<$	1	0
Don't Care Condition	1	1

Figure 4a

The resulting data set was composed for 60 entries representing the 60 days from the years 2003 and 2004. The data set was broken into two subsets, the training set and the validation set. Similar to the Marzban and Stumpf study (Marzban, Stumpf 1996), 90 percent of the data was used to train the networks and the remaining 10 percent was used as a validation set. The validation set provides an initial test of network accuracy. Since the values for the validation data are known, a certain level of confidence in the network's prediction ability may be established.

Each network architecture was trained in 5000 iterations using Quick Propagation (QP). QP is an algorithm that monitors the training of a network, looking for situations that may be utilized to increase training (Fahlman 1988). The sigmoid transfer function was used in each network design. The sigmoid function is bounded between the values of 0 and 1. The training data was presented to the network in a sequential cycle. During the validation phase of testing, the number of correct outputs based on the validation set was marginal at best. To address this issue, a new granularity was established for the training data. If the previous day's values resulted in no rain, the network should output the value of zero:

Rainfall	Desired Output 1	Desired Output 2
No Rain	0	0
$\leq .4$	0	1
$.4 \leq 2$ inches	1	0
2 inches <	1	1

Figure 4b

The new granularity provided the network with a more representative picture of conditions that would produce marginal rainfall. The improvement was evidenced by a much high percentage of correct results when processing the validation set. As a result three network architectures emerged as possible candidates: The Jordan Recurrent (Jordan 1986), the Cascade (Fahlman 1991) and the Multi-Layer Feed-Forward architectures (Rumelhart 1986). Each were trained and compared based on accuracy of predictions.

Network Design

Network Architecture	Inputs	Hidden Layers	Hidden Nodes Per Layer	Outputs
Jordan Recurrent	12	2	36	2
Cascade	12	1	72	2
Multi-Layer Feed-Forward	12	2	36	2

Figure 5

**The Multi-Layer Feed-Forward architecture was used because of successful applications as presented in the studies of Marzban, Stumpf and Hall respectively.**

Results

The input data used to test the networks was taken from June 1, 2004 to June 26, 2004. The 26 days were separated into two categories as reported by accuweather.com: rain days and dry days.

21 – Rain Days

5 – Dry Days

The following statistics were generated:

- Percentage of correct predictions overall, excluding quantitative aspect (Figure 6a),
- Percentage of correct predictions on rainy days (Figure 6b)
- Percentage of correct predictions on dry days (Figure 6c)
- Percentage of correct quantitative predictions (Figure 6d)
- Percentage of correct quantities on rainy days (Figure 6e)

Network Architecture	Correct Prediction	Total Days	Percentage Correct	Percentage Incorrect
Jordan Recurrent	18	26	69.2%	30.8%
Cascade	12	26	46.1%	53.9%
Multi-Layer Feed-Forward	11	26	42.3%	57.7%

Figure 6a

Network Architecture	Correct Prediction On Rain Days	Total Rain Days	Percentage Correct	Percentage Incorrect
Jordan Recurrent	14	21	66.7%	33.3%
Cascade	10	21	47.6%	52.4%
Multi-Layer Feed-Forward	8	21	38.1%	61.9%

Figure 6b

Network Architecture	Correct Prediction On Dry Days	Total Dry Days	Percentage Correct	Percentage Incorrect
Jordan Recurrent	4	5	80.0%	20.0%
Cascade	2	5	40.0%	60.0%
Multi-Layer Feed-Forward	3	5	60.0%	40.0%

Figure 6c



Network Architecture	Correct Predictions of Quantity	Total Days	Percentage Correct	Percentage Incorrect
Jordan Recurrent	10	26	38.5%	61.5%
Cascade	9	26	34.6%	63.4%
Multi-Layer Feed-Forward	7	26	26.9%	73.1%

Figure 6d

Network Architecture	Correct Predictions of Quantity on Rain Days	Total Rain Days	Percentage Correct	Percentage Incorrect
Jordan Recurrent	6	21	28.6%	71.4%
Cascade	7	21	33.3%	66.6%
Multi-Layer Feed-Forward	4	21	19.0%	81.0%

Figure 6e

### Conclusions

The best accuracy of 69.2% was achieved using the Jordan Recurrent Network. Predictions can be made using the previous day's weather information as inputs into a Neural Network. The Cascade Network outperformed the other designs in terms of quantitative predictions on rainy days. However, the Jordan Recurrent Network, with an accuracy of 38.5% outperformed the other networks in terms of overall quantitative predictions.

### Further Study

Further study is needed to identify the characteristics of the networks that enable increase or hinder their predictive ability. A small Mean Squared Error (MSE) is an indicator of successful neural network training. However the Jordan Recurrent network did not have the smallest MSE and as a result raises the question as to the relationship between MSE and rainfall prediction accuracy. Also, identifying the most influential meteorological values as they relate to the predictive ability of the networks would be significant.

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## **SISTER-TO-SISTER CONNECTIONS: FOSTERING HEALTHY RELATIONSHIPS AMONG BLACK WOMEN**

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### **Abstract**

*The purpose of this study is to delineate problems that interfere with the development of 'sisterhood' among Black women, and to propose possible solutions to these problems. In today's society there appears to be a lack of sisterhood among Black women. 'Sisterhood' refers to an emotionally supportive network of Black women where open lines of communication are encouraged, constructive criticism is offered and considered, and personal fulfillment is the equilibrium between the needs of the self and those of others. This will assist in the creation of healthy relationships among Black women by allowing these women to be their true selves without fear of judgment or caustic rebukes. This study will provide insight into the conditions that are necessary to foster these healthy relationships among Black women. Three obstacles that are impeding healthy relationships among Black women are a constant sense of competition, lack of communication, and lack of appreciation for diversity. This study is significant because it could possibly aid in bringing Black women together and helping to promote unity within the Black community. The lack of unity among Black women negatively affects the Black community as a whole. Understanding the conditions necessary to foster healthy relationships among Black women is important. This understanding can build bridges to bring Black women together, and aid in uniting the Black community in America.*

### **Introduction**

In today's society there appears to be a lack of 'sisterhood' among Black women. 'Sisterhood' refers to an emotionally supportive network of Black women where open lines of communication are encouraged, constructive criticism is offered and considered, and personal fulfillment is the equilibrium between the needs of the self and those of others (Asanti 24). According to Patricia Hill Collins, "All African-American women share the common experience of being Black women in a society that denigrates women of African descent. This commonality of experience suggests that certain characteristic themes will be prominent in a Black women's standpoint. For example, one core theme is a legacy of struggle" (22). Despite shared common experiences there appears to be dissociation between Black women. Among other things, there is a lack of community and empathy. One of the most common and outward displays of disunity is the oftentimes hot-tempered attitude that Black women seem to express towards each other. Audre Lorde raises a particularly crucial point in her "Eye to Eye" essay when she

questions the motives of Black women who “reserve a particular voice of fury for each other” (qtd. in hooks 110). “Ain’t a Black woman alive who hasn’t experienced the jealousy, duplicity, backstabbing, and competitiveness [Black women] are capable of. This is especially true when [we] are convinced that there just ain’t enough happiness to go around” (Morgan 231). This leads me to ask— why is it so difficult for Black women to come together in a harmonious union of fellowship? Also how can healthy, supportive relationships be fostered among Black women?

## **Method**

A qualitative approach is the most appropriate method for the investigative style of this study. Data was collected from the August of 2003 to the June of 2004. The data was obtained by the author through observing interactions of Black women on the campus of Georgia Southern University and through the media’s (television, print, and entertainment) portrayal of Black women. The author also reviewed books, articles, and a qualitative study on the subject of ‘sisterhood’ among Black women.

Through the review of literature and personal observations, the author was able to delineate four major problems that often prohibit ‘sisterhood’ among Black women. Through this research the author was also able to develop some possible solutions that might assist Black women to foster healthy relationships with each other— ‘sisterhood’.

## **Results**

One of the major obstacles to ‘sisterhood’ among Black women is an aversion to diversity. “The need for unity is often misnamed as a need for homogeneity” (Lorde 60). Society has created the myth of the ‘Black Superwoman’ and many Black women have conformed to this ideal. Those women who do not fit this subjective image of Black femininity are looked down upon by other Blacks as not being ‘real Black women.’ The myth of the ‘Black Superwoman’ implies that Black women are capable of bearing all burdens, physical or emotional. The myth also incites Black women to handle all situations alone, quietly, and with dignity. The myth of the ‘Black Superwoman’ dates back to slavery and has caused many problems within the Black community ever since. Black women did not create this myth as a tool of encouragement, but instead slave owners fabricated it as a means to strip Black women of their sense of femininity and to justify the exploitation of these women. Slave owners did not put Black women on the same level of fragility as White women; instead they were seen as mules that could bear the same workload as Black men. Over the years the ‘Black Superwoman’ myth has been adapted and internalized by Black women, which in itself isn’t completely negative:

When you’re raised to believe that the ability to kick adversity’s ass is a birthright—a by-product of gender and melanin—you tend to tackle life’s afflictions tenaciously. This is a useful quality no doubt. However, this myth also tricks many of us into believing we can carry the weight of the world (Morgan 103-104).

This myth is not only problematic because it can place unnecessary stress on Black women, but also because it establishes an ‘otherness’ within the Black community. The

individuals who are incapable of being the 'Black Superwoman' is perceived as being undeserving of the respect of other Black women and are subsequently treated with contempt (Boyd 15).

In order to combat this problem Black women must begin to accept their peers as they are, without trying to create an exact replica of themselves. Expecting other people to become carbon copies of individual whims is unfair and unrealistic. Individuality should be celebrated, not repressed. The differences among Black women are not the barriers impeding 'sisterhood'; the oppositional force comes from "the refusal to recognize those differences, and to examine the distortions that result from misnaming them" (Lorde 60). It is implausible to say that all Black women have to get along, but before dismissing someone as unlikable individuals should consider why they dislike the other woman. If the reasoning behind disliking someone is based on superficial characteristics it is probably due to an "internal comparison game" (Boyd 84). "Generally, when we dislike a person based on the comparison game, there is a good chance that we're feeling personally threatened on some level. Getting to know, respect, and appreciate the diversity and individuality of other sisters can only bring us closer to honoring those traits within ourselves" (Boyd 85).

Another impediment to 'sisterhood' is the issue of self-esteem among Black women. "Self-esteem is a core of personal beliefs that we develop about ourselves over the years. We receive many of these core beliefs from messages that are directed at us, both individually and collectively, as Black women"(Boyd 4). Low self-esteem among Black women is a common problem due to the internalization of devaluing messages received from the media and sometimes from closer sources like family or the community. An example of these devaluing messages can be drawn from a scene of the movie *The Color Purple*—the dialogue is between Albert (Danny Glover) and his wife Celie (Whoopi Goldberg) "You Black, you poor, you ugly, you a woman, you nothin' " While many of the devaluing messages directed towards Black women are not always as overt as the exchange from *The Color Purple* they can still be just as detrimental to a woman's psyche. Black women often feel pressured to conform to society's ideals of European-based attractiveness and strive to adopt an image that belies their natural beauty, culture, or behavior. According to a 2002 report in *Business and Industry*, "Black women spend three to four times more on cosmetic and beauty products than White women" (*Business and Industry* 28). While trying to meet this inauthentic and generally unattainable beauty standard, many Black women begin to feel that being their natural selves is unacceptable. These women often develop the "lily complex", which is defined by the belief that "the only way to be beautiful is to look as close to White as possible" (Lord 177). The lily complex is troublesome because it causes Black women to believe that the only way to be loved, successful, or respected is by impersonating someone else. This Black is not beautiful message is maintained not only by the media, but also within the Black community. "We've been made to feel inferior by the media, our parents, and even Black men to the point where many of us begin to think that we are inferior. Our behinds are too big, lips too big, hair too nappy, skin too dark, ... on and on" (Jones 179). Another cause of low self-esteem for Black women is their constant role shifting. Within the workplace Black women often feel compelled to alter their physical appearance and behavior to "ensure that their White coworkers and peers feel comfortable with them and don't make presumptions about their attitude or politics based

on the way they dress, the way they style their hair, or other superficialities” (Jones 178-179). Once these women re-enter their neighborhoods they feel the need to once again alter their appearance and behavior so as to not have their ‘Blackness’ questioned. These women feel that role shifting is necessary in order to be accepted on both a personal and professional level. Such conflicting behavior can leave a woman confused, depressed, and bitter. These negative feelings are often displaced on other Black women.

The key to overcoming low self-esteem among Black women is individual introspection and self-love. Many Black women are battling depression due to the guilt they feel for either accomplishing too much at the expense of their family or for not accomplishing enough (Jones 128). This form of ‘survivor’s guilt’ is all too common among upwardly mobile Black women:

To get educated and to be successful, they shift their personalities and their pursuits to fit into mainstream America. They may leave their families behind. They transcend the legacy of slavery and discrimination with which so many of their ancestors had to contend. But in taking these courageous steps, many African Americans end up feeling a deep sense of guilt and shame (Jones 129).

Before Black women can gather in a positive collective they must first have a healthy self-image and a strong self-appreciation. Black women must learn to appreciate and value their natural beauty and ignore and dispel the negative messages received from the media, members of the Black community, and their immediate families. In the words of Audre Lorde, “It is axiomatic that if we do not define ourselves for ourselves, we will be defined by others—for their use and to our detriment” (Lorde 45).

Another impediment to ‘sisterhood’ is a lack of communication. This obstacle is most apparent in association with conflict resolution. A recent survey concludes that many Black women cannot admit when they are wrong or listen to other Black women “in a manner effective to facilitate resolution” (Asanti 24). This lack of communication creates an environment that is not conducive to unity, but instead breeds an atmosphere full of hostility and resentment. “Often our solution to conflict is silence and denial. On the other hand, if a [Black woman] is brave enough to bring us her hurt, we invalidate the hurt, or just don’t respond to her comments” (Asanti 24). Why is it so difficult for Black women to communicate with one another? Some of the main causes are jealousy, mistrust, and a lack of compassion. The previous elements are detrimental to the establishment of a ‘sisterhood’ and are particularly dangerous because they often exist on a subconscious level within many Black women.

Communication is one of the most important elements of any relationship. If the relationship between Black women is to ever improve they must first learn to “hear, validate, and embrace each other” (Asanti 24). In order for healthy relationships to be fostered among Black women, open lines of communication must be encouraged, established, and sustained. Within the refuge of sisterhood, Black women should be free to express their hurt, confusion, and distress, and have their feelings validated. They should feel liberated to share their triumphs or shortcomings without fear of reproach by

other Black women. If a healthy 'sisterhood' is to ever be formed, Black women must learn to be less judgmental of each other. Black women must learn to listen to one another more compassionately and less critically. Being less critical of one another is very important because oftentimes when individuals feel as if they are being judged they are less likely to be their true selves, or completely honest. And, a 'sisterhood' without honesty is one that is destined to self-destruct.

A fourth obstacle preventing sisterhood is a constant sense of competition among Black women. One of the most common areas of competition for (Black) women is for an eligible mate. According to an article, which appeared in The Journal of Sex Research, as women compete for male attention, the outcome of this competition is generally self-hatred and dissociation from other women (Campbell 16). Women tend to compete using techniques of indirect aggression. These techniques are designed to ostracize, stigmatize, and exclude other women from social interaction without risking direct physical confrontation. Indirect aggression inflicts stress and diminishes the opponent's reputation and social support. A very effective and common form of indirect aggression is the act of 'gossiping'. 'Gossiping' is the "social evaluation about a person who is not present" (Eder and Enke). 'Gossiping' achieves two goals—it simultaneously diminishes the opponent's social standing and acts as a source of self-promotion. Black women find themselves in fierce competition for husbands drawn from the limited pool of available men, especially if the selections are made from the collection of available Black men. "When incarceration, drug addiction, and unemployment are factored in, the number of eligible (marriageable) Black men is reduced to about five men for every 10 black eligible women" (Davis E-1) An illustration of the competition among Black women for marriageable Black men is apparent in the plot of the movie *The Best Man*. In this movie Jordan a successful Black woman, who is a self-described workaholic, plots to seduce her long-time best friend Harper, who is currently in a committed relationship with another Black woman. Jordan has been reduced to such a duplicitous level because of her desperation to find an equally successful Black man, who is not intimidated by her ambition, accomplishments, or take charge personality. For many Black women marriage to a non-Black mate is inconceivable due to lingering societal prohibitions against interracial unions (Davis 2004).

In order to eliminate the unhealthy competition among Black women it is important to convince these women that there is enough happiness, success, and love for everyone who desires it. Competition is an innate part of human nature. Minimal levels of competition are perfectly healthy, but the corruption occurs when competition becomes a constant fixture that prohibits the formation of lasting relationships. It is necessary for Black women to change their attitudes about the definition of success in order for competition to take a healthier direction. More Black women should adopt the maxim of Spelman University as their personal canon, "One's own rise does not have to come at the expense of another's fall" (Haynes 40). If more Black women understood that their individual success is not dependent on undermining the success of another woman, then the development of a 'sisterhood' is possible. As the Greek philosopher Anon stated, "Hope becomes reality when people work together" (www.houseofquotes.com).

## **Conclusion**

Individual African-American women have long displayed varying types of consciousness regarding our shared angle of vision. By aggregating and articulating these individual expressions of consciousness, a collective, focused group consciousness becomes possible. Black women's ability to forge these individual, unarticulated, yet potentially powerful expressions of everyday consciousness into an articulated, self-defined, collective standpoint is key to Black women's survival" (Collins 26).

Many Black women have already taken the first steps towards creating a 'sisterhood'. These women have acknowledged that a 'sisterhood' is both needed and desired. The next step that must be taken is putting words into action. If Black women wish to be a part of a 'sisterhood' then they must put in the work necessary to create such a network. This work begins by rooting out "internalized patterns of oppression within ourselves if we are to move beyond the most superficial aspects of social change. Now we must recognize differences among women who are our equals, neither inferior nor superior, and devise ways to use each other's differences to enrich our visions and our joint struggles" (Lorde 60). While many critics and scholars argue that all Black women share a common bond of struggle it is important for Black women to understand that they are more than the pain, hurt, and abuse that they have had to endure because of their gender and ethnic background. Black women are more than the stereotyped welfare mothers, emasculating, overbearing, loud-mouthed mules that society often portrays them as. Black women are not Superwomen, nor should they be expected to be. Before society changes their views about Black women, Black women must first change their opinions and treatment of each other. Black women must cease with the divisive practice of discriminating against each other based on skin color, hair texture and length. Non-Blacks created this 'colorist' practice as a means of dividing the Black community and as a source of control. "As long as we allow such things as physical features, education, and economic class to become issues that divide us, there can never be unity among us. Having absorbed so many painful, negative messages about Black women, we can be immune to the pain we inflict when we verbally scorn our sisters" (Boyd 84). . Black women must stop viewing each other as the enemy, but as a source of support, inspiration, and encouragement. In order to build a true sisterhood Black women must open themselves to new and endearing friendships (Asanti 24). It has been said that a race can rise no higher than its women, so if Black women can not unite and be supportive of one another what can be said for the future of Black people as a whole? Henry Ford said it best when he stated, "Coming together is a beginning, staying together is progress, and working together is success" ([www.houseofquotes.com](http://www.houseofquotes.com)).



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## PORTRAYING JOHN BROWN IN THE NEW YORK TIMES: A CONTENT ANALYSIS

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### Abstract

*Uncovering bias is important because we often interpret our perception of reality through the media. Media is almost always biased and subjective. Although, subjectivity will always be prevalent in media coverage, we must work hard at exposing those biases and try to understand why bias in the news media occurs and to what extent it exists. One way bias is reflected is via framing, the way that a particular organ describes or characterizes an event.*

*In 1859 John Brown and host of his followers raided the arsenal at Harpers Ferry to protest the institution of slavery. This study will analyze articles from the New York Times, the official paper of record, concerning the John Brown Raid to understand how the incident was framed.*

### The cause

John Brown, a native of Connecticut, was the son of an agent for the Underground Railroad. From his birth in 1800, Brown was taught the evils of slavery and grew up in a family actively advocating its abolition. Thus, Brown and his five sons dedicated their lives to a cause that was ever present and familiar to Brown since his earliest years of recollection. <sup>1</sup>

Brown became an activist for the cause of antislavery very early in his life. In 1855, Brown became known as “Osawatomie” or “Pottawatomie” Brown, named after the Kansas territories for which he fought for the abolition of slavery. Later, Brown moved to Virginia where he established a refuge for runaway slaves. However, his greatest contribution to the movement towards the freedom of slaves occurred at Harpers Ferry. The insurrection that Brown led at Harpers Ferry cost him his life and also marked his place in history as being a martyr for the cause of anti-slavery. <sup>1</sup>

On October 16, 1859, John Brown led 18 men into Harpers Ferry. Brown’s recruits were comprised of freed blacks and whites that were opposed to the institution of slavery. Brown and his followers were equipped with weapons in case problems occurred. However, bloodshed was never his aim. Brown’s intentions *were* to provoke an uprising of African Americans at Harpers Ferry to fight against slavery there, and then move on to other slave states gathering more soldiers along the way and igniting a passion among the slaves and those opposed to slavery. On the morning of October 18, the commonwealth of Virginia took up arms against Brown under the command of Colonel Robert E. Lee, he also lead the Confederacy against the North in the Civil War. Lee and his men marched to Harpers Ferry, killed many of Brown’s followers, and

arrested those that survived. After his capture, Brown and his surviving followers were held to await trial.<sup>1</sup>

On November 2, 1859, Brown was found guilty of treason, murder, and slave insurrection, and sentenced to death by hanging. On December 2, Brown, finely dressed, rode atop a wagon to Charles Town where he shook the hands of his most revered followers and bravely met his death upon a wooden hanging block. Thus, the death of John Brown further polarized the North and the South and made a resolution of the slavery issue the center of national debate. The national debates that took place as a result of Brown's actions took the form of legislative conferences, public forums and newspaper articles.<sup>1</sup>

In this paper I intend to examine articles in one northern paper, the New York Times. During World War I the Times' printed full text articles of documents concerning the war. Thereafter the Times' became known as the official paper of record. In this research I will use articles in the Times to determine if the Times' Editor, Henry Raymond, attempted to deter war via his editorial stance.

### ***The Cause***

The beginning of the 14<sup>th</sup> century marked the start of the institution of slavery in the United States. Slavery was created to provide colonial powers with an inexpensive work force. Slave catchers and labor merchants would sail large cargo ships to the coasts of Africa, dock their boats, and search the nearby villages for slaves. Some catchers would bargain with other merchants who made their homes on the coasts of Africa to catch slaves. Some would buy slaves from tribal chiefs and other Africans of power. Other catchers would simply lurk in the forests to catch travelers that were unfortunate enough to fall into their hands.<sup>2</sup>

After the catcher gathered enough human cargo to fill his ship, the slaves were packed into the lower decks of the ship in handcuffs and other physical restraints. Slave ships would sail the Middle Passage, a long agonizing journey across the Atlantic to the New World. The Middle Passage was a voyage that lasted for months, and often ended with the casualties of over half the initial cargo.<sup>2</sup>

After the ship reached the shore the slaves were inspected and branded as a sort of advertising scheme then sent to holding to await the highest bidder. Slaves were put upon an auctioning block where prospective buyers further inspected them. The buyers would place bids until the highest bidder received the slave. Then slaves were scurried off to be stripped of their culture, and incorporated into the new societal infrastructure known as slavery.<sup>2</sup>

Upon arrival at their new plantation homes, they were often branded, and forced to work long tedious days in the fields of their masters. As the population began to breed in America, a new class of slave-born children became the adults that never knew the feeling of freedom. But what was far worse was the fact that they could not even choose their mates. Often times, slave masters would breed them with whomever they saw fit or even used the female slaves for after-dinner-entertainment.<sup>2</sup>

In general, slaves were subject to long hot days in the field cultivating and nurturing crops. Overseers would stand over them, ready to lash them with leather whips if they were disobedient or failed to do their share of work. Other slaves, (usually those of fairer skin) would work in the homes of the masters as maids, cooks, and foot servants.

The institution of slavery lasted some 365 years and was only ended by the Emancipation Proclamation that President Lincoln announced during the Civil War.

### **Media Framing**

The issue of framing has been a topic of media debate since the beginning of American journalism. Understanding how and why issues are framed the way that they are lend great insight into the agendas of our opinion makers and political leaders. By framing social and political issues in specific ways, news organizations declare the underlying causes and likely consequences of a problem and establish criteria for evaluating potential remedies for the problem. Frames help us to organize the presentation of facts and opinions and answer the question: What is the basic source of controversy or concern on the issue. Ultimately, frames help to explain, define, and refine issues for the public. We frame reality in order to negotiate it, manage it, comprehend it, and choose appropriate reparations of cognition and action.<sup>3</sup>

According to Entman, a writer and contributor to our knowledge about framing, “to frame is to select some aspects of a perceived reality and make them more salient in a communicating text, in such a way as to promote a particular problem, definition, casual interpreter, moral evaluation, and or treatment recommendation for the item described”.<sup>4</sup> Gitlin, another expert on the usage of media framing, defines framing as persistent patterns of cognition, interpretation, and presentation of selection, emphasis, and exclusion, by which symbol-holders routinely organize discourse.<sup>5</sup>

Taking either definition into consideration, it is easy to understand the controversy surrounding the issue of framing. Framing is useful in that it helps us to organize and prioritize issues that are most salient. However, it can also be harmful because decision makers have a tool that can mislead the public or redirect our thinking towards issues that are important to their personal agendas rather than those issues that are most important to society as a whole.

To better understand the way frames are utilized, the terms episodic and thematic were coined. Thematic frames are focused on broad social trends that reoccur and present a sort of ongoing theme. Episodic frames focus on individual cases or concrete events that illustrate issues. When referring to the John Brown Raid at Harper’s Ferry it is most useful to think in terms of episodic framing. The John Brown Raid was a concrete event that illustrated or highlighted the pinned-up frustrations of slaves and those opposed to its institution.

Both episodic and thematic frames are analytical techniques developed by social psychologists to help organize information. Social psychologists work to understand how we function in society and how different aspects of society help to create the world that we live in; thus, the news media being a very powerful tool of persuasion, it is studied closely. Social psychologists are also concerned with who has the ultimate power to frame public issues.

During the time that the John Brown Raids occurred (1859) the main source for public information was print media. Henry Raymond, editor of the New York Times at the time that the raid took place, was a journalist with the power to shape the agenda of the public. Raymond, a prolific thinker of his time, possessed a huge amount of agenda-

setting authority because he was the final opinion on all printed materials that were published in the New York Times, the official paper of record.

When thinking in terms of who sets the issues that are in the forefronts of our minds, it's critical to understand that immense decision-making power did not always rest entirely on the shoulders of the news editors. Like today, there were other very rich and powerful business people that used their wealth to push their agendas to the forefront of public interest.

Framing is a useful tool with extremely influential effects; however, the use of framing has psychological impacts as well as sociological ones. Frames can have significant consequences for how society perceives and understands issues. Framing can be detrimental to the public if its members are not aware that the issues they are confronted with are subjective to individuals in decision-making positions with their own agendas.

Framing is essential when attempting to categorize the events that characterize our lives. However, news has no intrinsic value unless imbedded in a meaningful context that organizes and lends its coherence. The meaningful context is the frame that shapes the news story. Thus, it is important if not crucial that opinion makers are ethical in their judgment and consistent in their values.<sup>6</sup> For instance, if an editor publishes an article voicing his approval of a new school but omits to mention to that the site is one that he has been trying to sell for years there is a problem. Taxpayers may never realize there is no real need for a new school other than the need for the editor to sell his property.<sup>6</sup>

### ***Henry Jarvis Raymond***

The New York Times was founded in 1851 by editor Henry Raymond. As an editor, Raymond was noted for his style of editorializing. "We do not mean to write as if we were in passion,- unless that be the case; and we shall make it a point to get into passion as rarely as possible." Raymond was also known among his political party associates as one who was strictly opposed to the institution of slavery.<sup>7</sup>

Raymond was a member of the radical anti-slavery wing of the Whig party. Party affiliation and editorial opinion governed the content of early newspapers during this period of American journalism. So, one would assume that the Times, under an editor such as Raymond, would take a strong stance against the issue of slavery. But that was not the case, for the birth of a new type of passionless journalism with conservative editors began to appear during the 1800's. Thus, Raymond, as one of those editors, did not take an editorial stance on the issue of slavery he chose to maintain his objectivity about the ordeal. Knowing this is key to understanding why the New York Times framed the John Brown Raid the way that it did.

This research will examine articles in the New York Times concerning the John Brown Raid to understand the light in which the incident was cast. The purpose of this article is to present insight as to the reasons why and how the Times framed the John Brown Raid the way that it did.

## ***Profiling John Brown***

The New York Times began publication about the raid on Harpers Ferry on October 17, 1859. On that day, the townspeople of Virginia realized that they were in the hands of invaders and instantly the word of the insurrection reached government officials that began to devise a plan to capture Brown and his followers. By October 19, John Brown had been identified as being the leader of the uprising and thus became a key figure in the Harpers Ferry Raid. When the New York Times began to cover the issue, a sort of character analysis became apparent.

On October 22, the New York Times headlined an article that read, "Brown's Family and its Background". This article described Brown as "fanatical".<sup>8</sup> A fanatic is one possessed with or motivated by excessive, irrational zeal. In subsequent articles, the New York Times seemingly set and maintained a portrayal of Brown that cast him in a negative light.

On October 28, the Times featured more articles that discussed the alleged insanity in Brown's family. One article read as follows:

"John Brown, leader of the insurrection at Harper's Ferry, and several of his family members have lived in this county for many years. Insanity is hereditary in that family. His mother's sister died with it, and a daughter of that sister has been two years in the lunatic asylum. A son and a daughter of his mother's brother have also been confined to a lunatic asylum, and another brother is now insane and under close restraint. These facts can be conclusively proven by witnesses residing here, who will doubtless attend the trial if desired."<sup>9</sup>

Another article published the same day read, "Brown Declines to Plead Insane Although Insanity in Family has been Traced". This article directly followed the previously mentioned article and contained accounts of several conversations in which different individuals attempted to persuade Brown to plead insanity to lighten his sentence. However, Brown quoted, "I am perfectly unconscious of insanity, and I reject, so far as I am capable, any attempts to interfere in my behalf on that score."<sup>10</sup>

On November 24, the New York Times featured an article that read: "There can be no doubt of old man Brown's coolness and courage, but such qualities cannot compensate for the absence of the ordinary sensibilities of human nature."<sup>11</sup>

On November 28, 1859, the Times featured an article that read: "Evidence of Insanity in Brown's Family." This article went on to provide medical evidence that had been retrieved proving Brown was prone to insanity on his mother's side of the family. The article restated that three of his grandmother's children were insane and their kids as well, an accusation mentioned previously.<sup>12</sup>

Also, the Times described Brown's plan of action in several of its articles. One article stated that Brown concocted a "clumsy plot." Accordingly, the Times also made light of the insurrection that Brown caused, thinking it to be ill-planned and underdeveloped directly corresponding to his character.

### **Minimizing the Significance of Harper's Ferry Raid**

On October 19, it appeared that the Times believed the raids to be less threatening than the leaders and citizens of Virginia. An article that described the raid read as follows: "It was not the result of any movement among the slaves but *only* the clumsy plot of a single fearless, fanatical, energetic, old man." The Times seemed to minimize the seriousness of the issue by noting that it was not the slaves but only the champion of a few passionate men lead by a "fanatical old man." <sup>8</sup> Another article featured in the New York Times read as follows:

"In itself Brown's crusade seems contemptible,- a thing to be defeated and its perpetrators punished, - but not fit to throw a great state into profound alarm, nor to provoke an uprising of the whole South, or vast and ostentatious preparations for self -defense. It is difficult for the great body of men in the North to take any other view of it- to see it in any other light. <sup>13</sup>

On November 23, the New York Times featured an article that explained the sense of panic that spread in Virginia as a result of the raid at Harper's Ferry. The headline read "Effects of the Prevailing in Virginia on Large Property Holders. The article explained that many landowners were conversing about selling their property and moving to Europe where they deemed the atmosphere safer for owning property". A feeling of insecurity in respect of life and property has narrowed down the sphere of patriotic labor to a concern about one's own particular interest." <sup>14</sup> Although this feeling of panic and dismay was rampant among all citizens, the article still concluded as follows. "In the view of all these facts, I [Raymond] regard the consequences of this unfortunate Harper's Ferry Insurrection as little less disastrous than would be a civil war of many month's duration." In this statement the Times seems to minimize the importance of the raid by explaining that it is far less tragic than a civil war. Although accurate in its analysis, the Times does not even extend credit to the raid for being a significant component in the struggle towards the abolition of slavery.

On November 24, 1859 a Times article read as follows: "The panic has seized all classes of the people and most "exaggerated" reports are in circulation." Some think that hordes of Northerners are on their way to invade the state which has given birth to presidents and statesmen." <sup>11</sup> Statements such as these appearing in the Times seemed to mock the general public for its feelings of panic and minimize the significance of the raid at Harpers Ferry.

### **Taking a Stand**

Raymond, editor of the Times, clearly defined the editorial stance taken by New York Times about the Raid at Harper's Ferry. "The people of the North have neither agency in this movement [the Raid at Harper's Ferry], nor excuse, apology, or an instant's toleration for it." <sup>15</sup>

On October 25, the Times featured an article entitled Editorial: New York Times' Position on Raid. The article read:

"We have honored the vigor of Gov. Wise [of Virginia] and the temperate firmness with which at the onset he treated the whole affair. We have no special fault to find with any feature of the trial, as eminently becoming a man in his position. We



have no special fault to find with any feature of the trial except, perhaps, its needless haste- and we do not entertain a shadow of doubt of the justice of the verdict, or the righteousness of the sentence pronounced.”<sup>15</sup>

The Times was deliberate and straightforward in its stance on the raid. After all the characterizing events unfolded editorials in the Times were blunt and frank in that they did not uphold the actions of Brown nor were they for the most part opposed to the way that officials handled the situation. However, the Times did mention a probable motive for the extremity of the events that took place.

On October 25, an editorial in the Times stated: “Most of the extraordinary movements which occur in Virginia in connection with it [the Raid at Harper’s Ferry] we attribute to political and party purposes.”<sup>15</sup>

The article also stated:

“It seems to use this occurrence for purposes of sectional and of personal ambition. They have been willing and eager to make it a means of inflaming Southern hospitality against the North- of feeding the fires of sectional hatred and distrust, and of thus advancing the demands of Southern ultraists, or paving the way for disunion as the alternative of their being refused.”<sup>15</sup>

Another article published October 27, entitled "Comment on Raid as a Political Issue" described the events that took place during and after the Raid at Harper’s Ferry and pleaded with the people of Virginia to carefully read the information to be more informed for the upcoming elections. The article urged it readers to look at the underlying reasons for which such drastic action were taken as a result of the raid at Harpers Ferry. 16

### Conclusion

The raid that took place at Harpers Ferry Virginia in December of 1859 was a monumental step towards the abolition of slavery. However, at the time the contribution that John Brown and his men made towards the freedom of slaves went unrecognized and misunderstood. Media framing played a significant role in the way that the people of Virginia as well as others that experienced the tragedy via print media, perceived the Raid at Harpers Ferry.

Media Framing is a form of agenda setting that allows those in positions of authority to dictate what issues become most salient in our minds. Media framing is a valuable tool, but is only efficient when the audience is aware of who is setting the agenda and for what reason.

Raymond was an individual that had the power to set the agenda via his powerful position as editor of the Times. The research suggests that via media framing Raymond was able to influence the way his audience viewed the raid at Harpers by implementing a precise stratagem.

Consistencies in the text of the Times suggest that Raymond profiled a seemingly sane individual as insane and incapable of devising a plan with a logical goal in mind. Next, the tone taken by the Times seemed to minimize the importance of the raid by negating the feelings of those involved and specifically stating that “it was not fit to throw a great state into profound alarm”. Finally, Raymond published his editorial standpoint concerning the raid in which he favored the judicial outcome of the trial.

Raymond also admitted his disapproval of alleged political agendas he felt were in effect as the events unfolded. By alleging that politics influenced the outcome of the raid at Harpers Ferry the Times transferred the intentional energy of the raid which was to abolish slavery, into a political arena.

This research suggests that the editor of the New York Times, Raymond, was knowledgeable of the extent to which newspapers helped to establish public opinion and influence minds. Evidence further suggests that editor Raymond used that instrument (the New York Times to manipulate the opinions of local citizens that read his paper as well as his readers in the North.

This research also suggests that Raymond, although opposed to the institution of slavery, was more concerned with preventing war, bloodshed, and the overall sense of panic that befell both the southern and northern states. Thus, by meticulously creating a character profile for John Brown, minimizing the significance of the John Brown Raid, and reassuring the South of the North's non-involvement in the raids, the New York Times, under the editorial voice of Jarvis Raymond, to no avail, attempted to deter the states from civil war.

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## **RACIAL IDENTITY AND SATISFACTION AT GEORGIA SOUTHERN UNIVERSITY**

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### **Abstract**

*African Americans have faced many adversities in their attempt to become educated. Many of their forefathers fought for their right to receive a higher education. Now that African Americans have the right to integrate predominantly white institutions/universities, how successful are they while there? In this research, I present the findings from a study of racial identity and satisfaction at Georgia Southern University (GSU). This study was inspired by a study done by Walter R. Allen (1992) comparing African-American college student outcomes at Predominantly White and Historically Black Colleges and Universities.*

There have been numerous studies conducted to acquire more knowledge about underrepresented populations and their success in higher education at Predominantly White Institutions (PWIs) and Historically Black Colleges and Universities (HBCUs). There have also been studies to determine how institutions can better help these students succeed in different types of institutional settings. Is it more beneficial for an individual to attend an institution where they can interact with people of diverse ethnic backgrounds? Such research could provide more data on the success rates of African American students and, thereby, aid them in their approach to higher education at PWIs and HBCUs. Individuals can be successful wherever they feel comfortable, where they are given equal opportunity, and when they take the initiative to do something positive with themselves.

### Literature Review

In his article, Clark (1967) addressed the special challenges and prospects in higher education for Blacks. He discussed issues and perspectives such as the irony in the outcomes of Blacks in higher education in America and the future of HBCUs. He proposed that the future of these institutions would not be determined by their strengths and weaknesses, but by the status of PWIs in America. Clark explained that the early history of Black colleges could be characterized as successful. He believed that the Black colleges fulfilled their role and their goals of producing educated Blacks for society.

Many of the Blacks from the HBCUs became educators. Haney (1978) examined the effects of the Brown decision on Black educators. He found that in the effort to

desegregate the schools in the South, there were many persons in high places that were not enthused about the integration process. Therefore, institutions such as state legislatures and school boards tried different tactics on the Black educators to make them oppose integration in the schools. Tactics such as intimidation and economic reprisal were used. As a result, many Black educators were demoted, paid less, and fired during the first few years after the Brown decision. Black educators were very important figures in Black communities. Their absence from the classroom proved to have a detrimental effect on the economic and sociological well-being of Black communities. The desegregation of schools was a hard process for Black students and Black educators, however, those that fought for Blacks' rights to receive a higher education and to integrate PWIs are greatly appreciated.

With the right for African Americans to receive a higher education, the issue of achievement for those students arose. The research conducted by Epps and Slaughter (1987) investigated the home environment and academic achievement of Black American children. They were interested in the contributions of families to Black children's elementary and secondary schooling achievements. Variables such as I.Q. scores and grades were measured to determine the academic achievement of the students. The researchers concluded that when the parent is involved in their child's educational experiences, the involvement enhances the child's achievement.

In a review entitled *Higher Education for Black Americans Problems and Issues* (1981), Miller and others addressed questions that were posed and problems and issues that Black Americans faced in education. According to Miller, the HBCUs have not discriminated; they were established to meet specific needs and they play a significant role in post-secondary education of Blacks. Miller's study proposed that, once a Black person achieves a positive self-concept, that person is better able to cope with the frustrations, hurdles, and disappointments he/she inevitably will face in a racist society. To a great extent, the HBCUs provide the setting for development of positive self-concept among Black students. In this review, the author sought to make Black Americans aware that Black Colleges rely heavily upon Black Americans' efforts to preserve them.

Not only is preserving HBCUs a major concern for Blacks, but so is the number of graduate degrees obtained by underrepresented populations. In her article, Thomas (1992) used 1988-1989 degree completion data from the U.S. Department of Education's Office of Civil Rights Survey to track the number of Black and Latino students awarded graduate degrees in engineering, mathematics, and science by colleges and universities in the United States. Her study revealed under-representation of Black and Latino students in graduate programs in these fields. By year 2010, the racial composition of the United States is expected to change, and there will likely be a shortage of professionals and faculty in the fields of science and engineering. Thomas' findings "challenge higher education administrators and policymakers to examine and correct the conditions that hinder the participation of U.S.- born minorities in science, mathematics, and engineering graduate programs and professions" (p. 65).

When reflecting on issues like racism, we have seen some of the devastating effects it has had on African Americans' pursuit of a higher education. It is only fair that students be treated equally when they are admitted into different institutions. Brower and Ketterhagen (2004) recognized that different students need different services to help them

succeed. They proposed that the way colleges and universities deliver resources, education and services to their students may need to be revised in order to effectively help students reach and attain success. Some of the differences between students of different ethnic backgrounds are noticed in their expectations for success and college life. The authors suggest that PWIs should make a conscious effort to look at institutions as different from theirs as possible to derive a system that will help them understand how to sustain an integrated, multicultural educational environment in which students can be successful.

Boser (2003) addressed the issue of universities making sure their minority students graduate. "One recent survey found that 39% of African-Americans and 43% of Hispanics received a degree within six years, in contrast to 57% of white students and 60% of Asian Americans" (Allen as cited in Boser, 2003, p. 50). Minority students have obstacles that hinder their success such as money and family issues. For instance, the article spoke of a student who had to work 20 hours a week and commute to school from home nearly 4 hours a day, on top of being a mechanical-engineering major. Some institutions report using "bridge" programs in math and science to boost African American graduation rates, which provides a six-week summer review for incoming students and a follow-up with academic advising during the freshman year. By pairing incoming minority freshman with a faculty member at the beginning of the school year, the University of Kansas was able to achieve a rise of 18 percent in the retention rate for minority students, which exceeded the retention rate of all other first year students.

There are other institutions that are also fighting for the common good of minority students. In an article on resilience among African-American students, Garibaldi (1991) stated, "as their graduation indicates, historically black colleges and universities are extremely viable institutions. But a variety of factors contribute to the success of their students. They not only facilitate resilience, but they also provide a supportive environment in which African-American students who come from varied socioeconomic backgrounds and with average abilities can succeed" (p. 103). Today, HBCUs are responsible for producing 37% of all bachelor's and 30% of all master's degrees awarded to African-American students (Carter & Wilson, 1989, as cited in Garibaldi, 1991). Garibaldi concludes that Historically Black colleges, and African-American state universities in particular, are still viable institutions in this society. Other institutions can be as successful in facilitating resilience among African American students by implementing similar programs.

Allen (1992) conducted a study to investigate relationships between the student outcomes of academic achievement, social involvement, and occupational aspirations, and students' educational backgrounds, educational goals, demographic characteristics, and personal adjustment to college and the college environment. Allen distributed questionnaires to African American students at eight HBCUs and eight PWIs. He conducted his study over the course of two years. The findings of his study suggest that academic achievement is highest for students who have high educational aspirations, who are certain that their college choice was correct, and who report positive relationships with faculty. Compared to Black students who attend HBCUs, those Black students attending PWIs reported lower academic achievement.

The current study was designed to expand knowledge to African Americans about their success at different types of institutions. Specifically, I wish to learn more about

family background, school environmental factors, financial aid and access to other campus resources, and academic and career aspirations among African American and White students at a Predominantly White Institution.

## Method

### ***Participants***

The students who completed my questionnaire were Georgia Southern undergraduates and graduate students age 18 and older. Georgia Southern is a regional university located in southeast Georgia. Participating students attended summer session term B in 2004. Of the 57 students who responded to my survey, 17 were freshman, 2 were sophomores, 3 were juniors, 32 were seniors, and 3 were graduate students. Twenty-nine males and 28 females completed the survey. Twenty-five percent of the respondents were African American, 65% were White, and 10% were listed as “other.” Ninety-seven percent of the respondents were U.S. citizens and 77% percent were Georgia residents.

### ***Instrument***

Most of the questions were drawn from Allen’s (1992) study. I added three open-ended questions to allow for free responses. There were five sections to the questionnaire. The first two sections, personal background information and student status at this university, were completed by all participants. Questions completed only by African American students addressed student experience at the university, student interaction at the university, and student attitudes and opinions. These questions helped me to deduce some of the attitudes and opinions of African American students at GSU.

## Procedures and Analysis Plan

The Human Participants Protection Education for Research Teams online course, sponsored by the National Institute of Health (NIH), was completed by the first author. The proposed project received approval from the Institutional Review Board on campus. The questionnaire was distributed to 75 students from four different summer session classes. Fifty-seven of the questionnaires were returned. Informed consent protocols were followed in collecting and storing the data. Eligibility was limited to those who were current students at the university and were at least 18 years or older. A blank survey was used as a key for giving the 39 survey variables names and numerical values so that the 57 questionnaire responses could be logged into the Statistical Package for the Social Sciences (SPSS version 10, 1999). The initial concern was how African Americans were faring at GSU, a Predominantly White Institution. Therefore, each of the participants was asked about their race and citizenship. Looking at the overall student body statistics of GSU and Allen’s (1992) findings provided a standard to compare my results to so that I would have a better understanding of my findings.



## Results

The following profile of students at the university was obtained from the Georgia Southern website: <http://www.services.georgiasouthern.edu/osra/student> . The data represents fall 2003 statistics from the Student Information Reporting System (SIRS) file. In the fall of 2003 the total number of undergraduates enrolled full-time was 13,696, and the total number of graduate students enrolled full-time was 2,008. There were 8,308 females (52.9%) enrolled at GSU. I chose to include statistics on the GSU student body in order to compare the characteristics of my sample to university statistics. Table 1 shows the racial/ethnic background of all undergraduate students at the university. (see Appendix A).

Table 2 indicates the total number of students who graduated from Georgia Southern in the fall of 2003. Out of the 882 students who graduated, the number of African Americans to graduate is proportionately lower than Caucasians and proportionately higher than the graduates from other ethnic backgrounds. (see Appendix B).

In Table 3 (see Appendix C) the very noticeable trend is that as the student classification rises so does GPA. White females have the highest GPA overall at GSU from freshman year up to graduate school. The females have a higher GPA than the males of the same race from freshman year through graduate school. At all classification levels, African Americans have a lower cumulative GPA than other ethnic groups. This supports previous research showing lower academic performance among African Americans at PWIs (Allen, Epps, & Haniff, 1991; Braddock & Dawkins, 1981 cited in Allen, 1992).

In Table 4, (see Appendix D) the White students at GSU have GPAs that are higher than the African Americans. This information from the current study is consistent with the information given in Table 3, which represents the overall GSU student body.

Participants were asked if they attended integrated schools during the first twelve years of their schooling, and 66.7% responded affirmatively. When asked about their feeling toward the overall quality of their educational experience, 47.4% reported it as good, 37% reported it as very good, and 14% said it was excellent. The majority of students grew up in homes with both of their natural parents (70%), and a large percentage of them receive financial aid (75.4%). Students were asked "how far do you expect to go in school?" 40% planned to get a bachelor's degree, 49% a master's degree, and 9% a doctorate's degree. Fifty-three percent of respondents indicated that GSU was their first choice and 49% said they chose the university due to its location.

In Table 5, (see Appendix E) you can see that the majority of the students want to get a college degree, and the majority of the students feel that it is extremely important for them to graduate from this university. However, the majority of the minority students reported that they had probably made the right choice in attending this university while the majority of the white students reported that they had definitely made the right choice in attending this institution. The fact is students are more successful when they feel that their choice of institution was definitely the right one.

## Discussion and Conclusions

My findings proved to be quite consistent with those from Allen's (1992) study. Most of the students in my sample reported being from urban communities similar to students in Allen's research. A high percentage of the students from my sample came from homes with both natural parents. In Allen's study, however, the African American students were more often products of single-parent and divorced/separated homes compared to White students. The students tended to be much more successful at the institution when they reported feeling they had made the right choice when choosing this university. Allen (1992) reported that at PWIs, Black students emphasized feelings of alienation, and sensed hostility, racial discrimination, and a lack of integration. At GSU, the students reported that they somewhat feel a part of campus life and there are not enough Black faculty members or Black staff on campus. I think that the college experience for African American students at GSU would be improved if they could have some of these things to make them feel a part of the campus.

As Allen (1992) stated, how bright a student is, his or her academic background or preparation, the intensity of his/her personal ambition and striving--all of these factors will ultimately influence academic achievement. However, student academic performance will also be affected by the quality of life at the institution, the level of academic competition, University rules/procedures/resources, racial relations on campus, relationships with faculty and friends, and the extent of social support networks on campus. From my data, the majority of GSU students wish to graduate from the institution. They also want to go on to graduate school. Students deserve to feel a part of their institution. If the students are willing to work hard to succeed by graduating, then it is the school's job to meet them halfway by helping them attain their goals. The school should try to make their multi-racial environment well-integrated so that the student's educational journey is not interrupted by non-academic issues. I would like to tell students to choose an institution based on all factors that affect you as a student, not just by the racial composition of the school.

## Limitations

One of the limitations of this research is the sample size. With only 57 students answering my questionnaire and only 19 of them being African American, I could not make any conclusions that would represent the entire student body at GSU or that would represent student attitudes at other universities. I also had a very short time period to design the study, collect and analyze the data. I would probably have found more interesting and possibly representative results if I had had a longer period of time to conduct my research and a larger sample. Therefore, I will continue my study in the future.

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**Appendix A**

Table 1

***Total Number of Undergraduate Students Enrolled by Race, Fall 2003***

Race	Total	Percentage
Non-resident aliens	159	1.2%
Black, non-Hispanic	3385	24.7%
American Indian or Alaskan Native	31	0.2%
Asian or Pacific Islander	164	1.2%
Hispanic	151	1.1%
White, non-Hispanic	9803	71.6%
Race/ Ethnicity unknown	0	0

Source: Student Information Reporting System (SIRS) file

Note: N=13,696.

**Appendix B**

Table 2

***Percentage of Graduates by Race and Gender, Fall 2003***

Gender	Black	White	Other
Female	16.3%	45.5%	4.3%
Male	6.1%	27.8%	0

Source: Student Information Reporting System (SIRS) file

Note: N=882 students

### Appendix C

Table 3

#### *Fall 2003 Average Cumulative GPA by Class, Race, and Gender*

Class	Black			Other			White			Total			Class Total	Class Average										
	Female	Male	Total	Female	Male	Total	Female	Male	Total	Female	Male	Total												
Learning Support	20	1.76	4	2.03	24	1.81	2	3.63	1	0.00	3	2.42	18	2.66	8	2.08	26	2.48	40	2.26	13	1.90	53	2.17
Freshman	228	2.14	223	1.93	451	2.04	42	2.30	52	2.10	94	2.19	586	2.48	738	2.26	1324	2.36	856	2.38	1013	2.18	1869	2.27
Sophomore	374	2.43	311	2.19	685	2.32	47	2.55	79	2.43	126	2.48	851	2.75	967	2.52	1818	2.63	1272	2.65	1357	2.44	2629	2.54
Junior	400	2.49	253	2.36	653	2.44	55	2.68	49	2.47	104	2.58	798	2.90	834	2.61	1632	2.75	1253	2.76	1136	2.55	2389	2.66
Senior	457	2.64	268	2.36	725	2.54	70	2.94	51	2.72	121	2.85	967	3.04	920	2.70	1887	2.87	1494	2.91	1239	2.63	2733	2.78
All Undergraduates	1479	2.46	1059	2.22	2538	2.36	216	2.67	232	2.42	448	2.54	3220	2.82	3467	2.53	6687	2.67	4915	2.71	4758	2.46	9673	2.58
Graduate	208	3.57	42	3.34	250	3.53	44	3.66	31	3.49	75	3.59	857	3.74	299	3.69	1156	3.73	1109	3.71	372	3.64	1481	3.69

Source: Student Information Reporting System (SIRS) file

Note: N=11,154

### Appendix D

Table 4

#### *Summer 2004 Average Cumulative GPA by Race/Ethnicity*

Racial/Ethnic Group	Current GPA		
	4.0- 3.9	3.8- 3.0	2.9- 2.0
	Frequency (%)	Frequency (%)	Frequency (%)
African Americans (19)	3 (15.8%)	5 (26.3%)	11 (57.9%)
White (34)	11 (32.3%)	9 (26.5%)	14 (41.2%)
Other (4)	1 (25%)	3 (75%)	0

Note: Data from author's survey is shown. N=57

**Appendix E**

Table 5

***Student Status by Race/Ethnicity***

	African Americans (19) Frequency (%)	White (34) Frequency (%)	Other (4) Frequency (%)
How important is it for you to get a college degree?			
Extremely important	15 (79%)	29 (85.3%)	3 (75%)
Very important	3 (15.8%)	4 (12%)	1 (25%)
Somewhat important	1 (5%)	1 (3%)	0
How important is it that you graduate from this university?			
Extremely important	10 (52.6%)	25 (74%)	1 (25%)
Very important	4 (21.1%)	5 (15%)	1 (25%)
Somewhat important	3 (16%)	4 (12%)	1 (25%)
Not at all important	2 (11%)	0	1 (25%)
How sure are you that you made the right choice in attending this university?			
Definitely right choice	7 (39%)	16 (47%)	1 (25%)
Probably right choice	9 (47.3%)	15 (44%)	2 (50%)
Not sure	2 (11%)	2 (6%)	1 (25%)
Probably wrong choice	0	1 (3%)	0
Definitely wrong choice	1 (5%)	0	0

Note: Data from author's survey is shown. N=57.

## REPRESENTATIONS OF AFRICAN AMERICANS IN CONTEMPORARY POPULAR CHILDREN'S PICTURE BOOKS

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### Abstract

*Historically, children's literature has reflected and reinforced social myths and stereotypes about African Americans and their culture. For example, the buffoonish representations of African Americans in Little Black Sambo (1899) have long been understood as blatantly discriminatory. Thankfully, much has changed in the last century in American society, in the lives of African Americans, and in the children's book industry. In light of these changes, this paper explores contemporary representations of African Americans in a sample of twenty-eight of today's most popular children's picture books featuring African American characters and themes.*

*Reading and analysis of scholarly articles, books, and studies about representations of African Americans, particularly representations in children's picture books, will ground this study in the existing research literature. Based upon these readings, the sample of contemporary picture storybooks will be examined for both strengths and weaknesses regarding:*

- *Authenticity of authors' and illustrators' backgrounds;*
- *Historical and contemporary themes and settings;*
- *Literary style, genres and quality of visuals;*
- *Positive, accurate, and balanced vs. discriminatory representations of African Americans;*
- *Character development and portrayals.*

*This paper will conclude with a reflection upon the status of African Americans in today's children's picture books and an agenda for future research.*

### ***Literature Review: History of African Americans in Children's Picture Books***

Stereotypes, often negative, of African Americans are evident in all aspects of the American culture. The media (radio, television, books, etc.) have historically reinforced these stereotypes about African Americans. For example according to the critical history Color Adjustment (1991), the television show "Amos and Andy" (1951) presented the notion that African Americans were lazy clowns and thieves. Further, "The Beulah Show" (1951) reinforced the stereotype of African American women as content servants of whites in the domestic environment. Most African Americans understand such representations as stereotypical and racist. According to Harris (Harris, 1993), historically those who desired to offer alternative images had to battle against the institutions and processes involved in the production of popular culture. For example, television shows such as "Frank's Place" (1987) that authentically addressed racial issues

have often been taken off the networks nearly immediately. In general, these historical patterns of negative stereotypes and exclusion of authenticity have been repeated in the pages of children's literature.

Many scholars have documented how stereotyped and inauthentic depictions of African American have long existed in children's literature. "African American children's literature has had a tumultuous past. That past included limited awareness among readers; circumscribed publication: omission from libraries, school, and bookstores; and uninformed criticism" (Harris, 1993, p. 167). Many children's books have been criticized for their inaccurate portrayals of the African American culture. Case in point, Helen's Bannerman's notorious Little Black Sambo (1899) reinforced stereotyped images of African Americans. Most African Americans associate the story with discrimination, name-calling, and inaccurate depictions of their race's physical features. With the success of the Civil Rights Movement in the mid 1900's, such exaggerations became less common. However, other problematic representations emerged. For example, the popular book, Corduroy (1968) presents a sympathetic African American character whose features look like a white girl in black face. In this way, the book reinforces the notion that "positive Black images had to be cast in a white middle-class mold" (Taxel, 1986, p. 247).

#### Study Methods: Critical Questions to Ask

Given this historical context, there are several key factors to consider when analyzing and examining the representation of African Americans in today's children's literature. According to scholarly articles, books, and studies about representations of African Americans in children's picture books, the selection and presentation of books regarding African Americans requires additional critique so as to avoid the pitfalls of the past. In particular, picture books should be read closely, carefully, and multiple times for:

- Authenticity of authors and illustrators background
- Historical and contemporary themes and settings
- Genres
- Literary Style
- Quality of visuals
- Character development and portrayals
- Positive, accurate, and balanced representations of African Americans

During such close readings, all books should be compared and contrasted to judge their relative strengths and weaknesses and establish whether their portrayals are discriminatory, or problematic in other ways.

Some general critical questions to address during the reading of a literary text have been outlined by Laura Apol (1998). Other scholars (Taxel (1986), Harris (1993), Banfield & Wilson (1983), Beck (2001)) have suggested other issues to be examined when considering children's books. I have compiled these questions into the following list that I have applied to the books in my sample:



- How can I as a young black female from rural Georgia relate to the story?
- What did I get from reading this book?
- What do I like or dislike about the book?
- What are the author and illustrator trying to say?
- Can an author or illustrator from one race accurately portray another race?
- Are the illustrations appealing?
- How do the characters look?
- How does the character's environment look?
- How are the characters portrayed?
- Is the culture being portrayed accurately?
- Is the language realistic?
- Is the language understandable?
- How is rural life portrayed?

#### Selection of Study Sample

My sample of today's most popular children's picture books featuring African American characters and themes was selected using data from the Amazon and Barnes & Nobles websites. I believe that the sales data from these websites provide an accurate and convenient measure of book sales. The selected sample includes twenty-eight of the most popular children's books as of May 2004 that appeared on both websites. In order to compile my sample, I visited each website's four to eight year old children's picture storybook section. I used the websites' search engines to find books with "African American" characters and themes. I narrowed the lists by asking to see only the best sellers. This provided two lists of 200 books. I then compared the lists and highlighted twenty-eight books that were on both lists.

#### Overview of Sample

The books sample can be understood as falling into three general genres of books: Afro-centric Fables and Tall Tales, Historical Books, and Contemporary Stories. Authors' and illustrators' racial/ethnic backgrounds are designated by: AA= African American, C = Caucasian, O = Other.

#### Afro-centric Fables and Tall Tales

Flossie and the Fox

By Patricia C. McKissack (AA) Illustrated by: Rachel Isadora (AA)

Tops & Bottoms

Adapted and Illustrated by: Janet Stevens (C)

Thunder Rose (also could be Historical)

By: Jerdine Nelon (AA) Illustrated by: Kadir Nelson (AA)

Beautiful Blackbird (also Afro-centric Pride)

Story and Illustrations by: Ashley Bryan (AA)

*Historical Books – Escape from Slavery and Post Emancipation*

Sweet Clara and the Freedom Quilt

By: Deborah Hopkinson (C) Illustrated by: James Ransome (AA)

Follow the Drinking Gourd

Story and Illustrations by: Jeanette Winter (AA)

I Dream of Trains (also could be considered a Tall Tale)

By: Angela Johnson (AA) Illustrated by: Loren Long (C)

More Than Anything Else (also could be Historical)

By: Marie Bradley (AA) Illustrated by Chris K. Soentpiet (O)

*Historical Books – Between Reconstruction and the Civil Rights Movement*

Rap A Tap Tap: here's Bojangles- Think of That

Story and Illustrations by: Leo and Diane Dillion (AA)

*Historical Books – Recent Memoir*

Tar Beach

Story and Illustrations by: Faith Ringgold (AA)

Working Cotton

By: Sherley Anne Williams (AA) Illustrated by: Carole Byrad (AA)

Homemade Love

By: bell hooks (AA) Illustrated by: Shane W. Evans (AA)

Just Us Women

By: Jeanette Caines (AA) Illustrated by: Pat Cummings (AA)

BigMama's

Story and Illustrations by: Donald Crews (AA)

Shortcut

Story and Illustrations by: Donald Crews (AA)

*Contemporary Stories – Afro-centric Pride & Appearance*

Happy to be Nappy

By: bell hooks (AA) Illustrated by: Chris Raschka (AA)

No Mirrors in My Nana's House

By: Ysaye M. Barnwell (AA) Illustrated by: Synthia Saint James (AA)

I Love My Hair

By: Natasha Tarpley (AA) Illustrated by: E.B. Lewis (AA)

*Contemporary Stories – Non-Urban*

Amazing Grace

By: Mary Hoffman (C) Illustrated by: Caroline Binch (C)

When I Am Old with You

By: Angela Johnson (AA) Illustrated by: David Soman (C)

In My Momma's Kitchen

By: Jerdine Nolen (AA) Illustrated by: Colin Bootman (AA)

*Contemporary Stories – Urban*

Come On, Rain

By: Karen Hesse (C) Illustrated by: Jon J. Muth (C)

Cherries and Cherry Pits

Story and Illustrations by: Vera B. Williams (C)

Something Beautiful

By: Sharon Dennis Wyeth (C) Illustrated by: Chris K. Soentpiet (O)

Yesterday I Had the Blues

By: Jeron Asford Frame (AA) Illustrated by: R. Gregory Christie (AA)

The Snowy Day

Story and Illustrations by: Ezra Jack Keats (C)

Peter's Chair

Story and Illustrations by: Ezra Jack Keats (C)

Whistle for Willie

Story and Illustrations by: Ezra Jack Keats (C)

*Statistically these books break out as follows:*

<u>71%</u> African American authors	<u>29%</u> Caucasian authors
<u>57%</u> African American illustrators	<u>43%</u> Caucasian illustrators
<u>39%</u> Male Protagonist/Voice	<u>53%</u> Female Protagonist/Voice
<u>79%</u> Published since 1990	<u>21%</u> Published before 1990
<u>14%</u> AAVE or mixture	<u>86%</u> Mainstream English

**Significant Gaps and Patterns In Sample**

In the sample, there are no children's picture books that represent the first 200 years of African American history during slavery. A few of the books in the sample depict the late slavery period during the Underground Railroad and Emancipation. However, half of the African-heritage experience in America is largely overlooked. This gap is not surprising since authors writing about slavery face the challenge of accurately portraying the terrible history of slavery while still making the topic appropriate for children. "There are particular difficulties for authors who write about slavery, including these: How accurately should historical fiction reflect the attitudes and circumstances of

the times? Should authors use terms of the period that are considered insensitive and offensive today?" (Norton, 2001, p. 34).

In the sample, the issue of gender is very relevant. According to Taxel (1986), concerns about the portrayals of African Americans in children's picture books are paralleled by the concerns about the portrayal of women in the books. Historically, girls and women characters in children's picture books have been "restricted to limited kinds of roles, are shown exhibiting a particular constellation of behaviors- e.g. dependency, helplessness, and passivity- and are numerically underrepresented in both the text and illustrations" (Taxel, 1986). Although women and girls provide approximately half of the protagonists in this sample, their roles are still problematically reduced in many of the other books. For example, in Angela Johnson's I Dream of Trains (2003) the young boy's mother does not have a role in the book. His mother is seen in only one illustration embracing his father as the boy is leaving on a train. Thus, although there are many books with female protagonists, in other books women are often shown as quiet and in the background.

Historically, African Americans have been represented in literature since the seventeenth century, but literature written by African Americans for children did not appear until the late nineteenth century (Harris, 1993). African American authors have long faced the obstacles of limited publication and distribution for their work. Before gathering my sample, I predicted that the number of African American and Caucasian authors would be about equal. In fact, the African American authors wrote 71% of the books in my sample and Caucasian authors wrote 29% of the books in my sample. These percentages show that the number of African American authors writing children's picture books has increased dramatically in the past decade.

The sample of books presents some other significant patterns. A large proportion of the books in the sample are memoirs. The authors depict their life experiences, especially their childhoods, in these books. For example, Donald Crews' Bigmama (1991) tells of his childhood memories of visiting his grandmother in Cottondale, Florida. Crews is sharing an experience that all most every child can relate to "a visit to grandmother's house." I can remember the wonderful moments I had during visits to my grandmother's house. The authors of these memoirs are sharing life experiences that help children make meaningful connections with during reading.

Another notable pattern is that many of the authors wrote more than one book in the sample. This indicates that their works are particularly popular and currently widely read. Donald Crews, Ezra Jack Keats, bell hooks, and Angela Johnson are authors that wrote more than one book in the sample. I speculate that the reason for their popularity is the topics that these authors are addressing in their books. These authors write positively about families and family interactions- a topic that has wide appeal.

I found the popularity of Ezra Jack Keats's books particularly unusual. Keats is a white author whose books were written and published approximately 35-40 years ago, but the books are still very popular today. I particularly adore the three books in my sample that Keats wrote. I related very well to Keats' main character Peter. In Peter's Chair (1967), Peter had to learn to share with his younger sister. I also had to learn to share with my younger brother as a child. Any child can identify with the obstacles Peter faced in each book. Keats' writing and illustrations are remarkably appealing and timeless.

**Focus Books**

In order to focus on the most representative and interesting books in this paper I will analyze in greater detail twelve of the books in the context of the questions raised earlier in this paper. During this discussion, I will note connections with the larger sample as appropriate.

The following chart describes these twelve books in greater detail:

<b>Title</b>	No Mirrors in my Nana's House	More Than Anything Else	Beautiful Blackbird	Bigmama's	Sweet Clara & Freedom Quilt	I Dream of Trains	Peter's Chair	Thunder Rose	Tar Beach	Working Cotton	Something Beautiful	Follow the Drinking Gourd
<b>Author</b>	Barnwell	Bradley	Bryan	Crews	Hopkinson	Johnson	Keats	Nelson	Ringgold	Williams	Wyeth	Winter
<b>Author ID</b>	African American	African American	African American	African American	Caucasian	African American	Caucasian (Jewish)	African American	African American	African American	Caucasian	African American
<b>Illustrator</b>	James	Soentpiet	Bryan	Crews	Ransome	Long	Keats	Nelson	Ringgold	Byard	Soentpiet	Winter
<b>Illustrator ID</b>	African American	Korean	African American	African American	African American	Caucasian	Caucasian (Jewish)	African American	African American	African American	Korean	African American
<b>Pub. Year</b>	1998	1995	2003	1991	1993	2003	1967: 1998	2003	1991	1992	1998	1988
<b>Language</b>	Mainstream	Mainstream	Mainstream	Mainstream	Mixed	Mainstream	Mainstream	Mixed	Mainstream	Mixed	Mainstream	Mainstream
<b>Type</b>	Memoir based	Memoir based	New Folktale	Memoir	Historical Fiction	Memoir based	Fiction	Tall Tale	Memoir based	Memoir based	Fiction	Historical Fiction
<b>Setting: Locale</b>	Urban	Rural: South	Africa: Fantasy Land	Rural: Cottondale, Fl	Rural: South	South: Mississippi	Urban	Rural: Old West	Urban: Harlem NY	Rural: central California	Urban	Rural: South
<b>Time</b>	Today	1850's	Anytime	1940's	Early 1800's	Early 1900's	Anytime	Late 1860's	1930's	1940's	Today	1840's
<b>Main Characters</b>	Young girl & Nana	Young boy (Booker T. Washington) & his family	Blackbird, Ringdove, & other birds	Young boy (Donald Crews) & his family	Clara, Aunt Rachel, & Jack	Young boy, his father, & Casey Jones	Peter & his family	Rose, her parents, Cole	Cassie, her family, & Mr. and Mrs. Honey	Young girl & her family	Young girl	Peg Leg Joe, Molly, James, Isaiah
<b>Main Characters ID</b>	African American	African American	Birds	African American	African American	African American & Caucasian	African American	African American & piece of scrap iron	African American	African American	African American	Caucasian, African American
<b>Plot Conflict</b>	There were no mirrors in the young girls Nana's house.	Young Booker T. wants to learn to read	The other birds want to be like Blackbird	Young boy (Donald Crews) remembers summers at his grandma's house in the summer	Sweet Clara is sent from North Farm to Home Plantation. She wants to see her & be free	Young boy dreams of leaving Mississippi on a train with engineer Cassie Jones	Peter's parents are giving his little sister all of his old baby items. So, Peter takes his old chair and run away.	From the day she was born, Thunder Rose had amazing abilities. Thunder Rose faces a tornado that she cannot tame easily.	Cassie dreams of flying over her home.	Young girl tells the events of her family migrant life in the cotton field.	Young girl search for something beautiful	Peg Leg Joe is trying to help slaves escape
<b>Plot Resolution</b>	She found the beauty of everything through her Nana's eyes	His mother gives him a book. Newspaper man helps him learn to read	Blackbird tells other birds that the inside is what counts. Gives all birds black markings on their necks	He dreams of being at his grandma's house in the summer time	Clara creates a quilt that is a map that leads her to freedom.	His father tells him that there will be more trains to come. The boy knows he will leave when he gets older	Peter's mother finds him. He and his dad paint the chair together for his sister	She calmed the tornado with her song.	Cassie learns that anyone can fly.	The family works together to get the work done.	She finds beauty in the power of hope and friendship	Peg Leg Joe teaches the slaves the song Follow the Drinking Gourd to help them escape

Ashley Bryan's Beautiful Blackbird (2003) and Ysaye Barnwell's No Mirrors in My Nana's House (1998), present the Afro-centric pride theme. The books promote pride in one's heritage and appearance. In Beautiful Blackbird, the statement "Black is beautiful" is used several times in the text. All the birds want to be like the blackbird. In my opinion, the book inaccurately depicts the attitude of society. According to society, being black is not always desired, but I can appreciate the author's promotion of pride. In No Mirrors in My Nana's House (1998), the theme of self-acceptance is reinforced. The book promotes the idea that when people are comfortable with themselves the beauty that surrounds them can intrigue them. Other books in the sample reinforce the theme of Afro-centric pride theme. In particular, Natasha Tarpley's I Love My Hair (1998) and bell hook's Happy to be Nappy (1999) promote pride in African American hair.

Deborah Hopkinson's Sweet Clara and the Freedom Quilt (1993), Jeanette Winter's Follow the Drinking Gourd (1988), and Marie Bradley's More Than Anything Else (1995) depict the late slavery period, the Underground Railroad, and post Emancipation. Sweet Clara and the Freedom Quilt and Follow the Drinking Gourd depict slaves escaping to freedom. In Sweet Clara and the Freedom Quilt, the characters faced few substantial obstacles on their path to freedom. This book may convey the inaccurate message to children that slaves could have escaped to freedom easily. The author does tell of one character being captured and punished for trying to escape, but this not emphasized. In Follow the Drinking Gourd, the author depicts some of the horrors of being a slave and escaping from slavery. The author and illustrator show slaves being sold away from their families. The fear of being capture was well illustrated through the text and illustrations. However, I discovered some problematic issues in this book. The main character Peg Leg Joe is represented as a "savior" of the slaves in Follow the Drinking Gourd. According to the book, Peg Leg Joe traveled around to different plantation teaching slaves the song "Follow the Drinking Gourd" to help them escape. In the text the song is even referred to as Joe's song. This depiction of a "white savior" for blacks is potentially disempowering for African Americans. Angela Johnson's I Dream of Trains follows this same pattern. Casey Jones, a legendary white engineer, is shown as a "savior". The young boy dreams of leaving Mississippi on Casey Jones's train. In the end though, the boy acknowledges that his father is one of his heroes.

In More Than Anything Else, Booker T. Washington wants to learn to read. This book expresses to children the importance of the desire to learn to read. However, young Booker T. seems to be the only freed slave with this desire, a historical inaccuracy given the widespread drive for literacy among former slaves during Reconstruction (Anderson, 1988). Set during the same period, Jerdine Nolen's Thunder Rose (2003), depicts Rose, the first free-born child in her formerly enslaved family, and her desire to conquer the west. Rose is a tall-tale character with super human strengths and abilities. I believe that Rose's amazing strength and abilities represent the determination of freed slaves to live out west and build free lives. However, I suspect the text might be difficult for children to follow due to overly mature language.

Sherley Anne Williams's Working Cotton (1992) and Faith Ringgold's Tar Beach (1991) are among the many memoirs in the sample. Both of the books depict the life experiences of African American families. In Working Cotton, a young girl describes a



long day of picking cotton in the field with her family during the 1900s. In Tar Beach, Ringgold captures her childhood memories of spending time with her family on top of the roof of their urban apartment building. The main character searched for the positive although she was surrounded by negative situations. Similarly, Wyeth's Something Beautiful (1998) addresses the topic of finding the positive when one is surrounded by the negative. The young girl protagonist searches for something beautiful in her city neighborhood and finds beauty in the power of hope and friendship.

#### Conclusion: Reflection and Future Research

The representations of African Americans in children's picture have improved greatly since the late nineteenth century. Several writers, including many African Americans, have emerged whose works accurately portray the culture and experiences of African Americans. More importantly, as this study documents, these more accurate portrayals are popular and apparently widely read. Still, there is progress to be made and unresolved questions for future research:

- What steps can be taken to prevent the pitfalls of the past in tomorrow's picture storybooks?
- Are books such as these addressing African American themes used in the classroom? If so, how?
- How do children reading books addressing African American themes connect and respond to the texts?
- Is reading comprehension among African American children improved if their literacy materials are more meaningful to them? Which of these books inspire African American children to read?

In my future research I hope to pursue these questions by continuing and expanding this project.

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**A MEASUREMENT OF PHYSICAL ACTIVITY AND FITNESS OF  
UNDERGRADUATE GEORGIA SOUTHERN UNIVERSITY STUDENTS**

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**Abstract**

*The objective of this investigation was to measure the physical activity and physical fitness of Georgia Southern University students and determine if students in majors that emphasize physical activity (e.g. Exercise Science) are role models of a healthy lifestyle. Thirty-four subjects (10 male and 23 female) reported to the Human Performance Laboratory for measurement of body height, mass, percent body fat, aerobic fitness, and muscular strength. Subjects were then issued a pedometer and returned 24 hours later. We hypothesized that results will show that students in majors that emphasize physical activity are not physically fit or engaging in sufficient activity to prevent lifestyle related illnesses. Key Words: PHYSICAL ACTIVITY, AEROBIC FITNESS, BODY COMPOSITION, STRENGTH, HEALTH MAJORS, LIFESTYLE RELATED ILLNESSES*

**INTRODUCTION**

The alarming rise in the rate of obesity has emerged as one of the hottest topics in the United States of America today. This phenomenon is caused by the disproportioned American lifestyle of inadequate levels of physical activity and excess caloric intake. Despite the latest alerts, the frequency of obesity remains a public health concern, affecting 31% of adults and 17% of children. According to the most recent numbers from the Government, the U.S. obesity rate is not waning (6). In conjunction with the increased incidence of obesity is an increased occurrence of lifestyle related illnesses. The American Heart Association has added obesity to its list of risk factors leading to heart disease, while the World Health Organization estimates that one-quarter to one-third of cancer cases worldwide are related to being overweight and physically inactive (20). On the other hand, it has been repeatedly demonstrated that these many risk factors are preventable or treatable through physical activity. Blair and Brodney (2) found lower mortality rates for fit men with higher BMI levels, body fat percent, fat mass, fat-free mass than unfit men with the same or near the same body composition measurements.

Role models are described as people who serve as models in particular behavioral or social roles for other people to emulate (19). In the movement to educate Americans about the detrimental consequences of obesity and a sedentary lifestyle, students in health-related majors are among the most qualified to utilize their knowledge of health issues and lead this campaign, particularly by acting as role models for a healthier society. This ideal model does not appear to come forward as often as it should, however. Soeken et al. (22) found that senior-year nursing students were, in general, less

compliant with preventive nutritional and lifestyle behaviour than a sample of average adults, suggesting that health education does not translate to healthy lifestyle practices.

Present satisfactory physical activity guidelines, proposed by the U.S. Surgeon General, Centers for Disease Control and Prevention, and the American College of Sports Medicine, are to acquire at least 30 minutes of moderate amounts of physical activity on most weekdays (17, 28). Other professionals now suggest that walking at least 10,000 steps per day is equivalent to the public health guidelines for physical activity (7, 13, 14, 23, 27). For this reason, in determining sufficient physical activity, many now follow the 10,000 steps per day guideline. Indeed, the use of pedometers to measure physical activity has become so popular that pedometers have become readily available even as marketing gimmicks (for example: McDonald's "Go Active" Adult Happy Meals).

The purpose of this investigation was to measure the physical activity, measured as the number of steps taken during a typical day, and assess the physical fitness of Georgia Southern University Students and then compare the students by major to determine if students in health-related majors truly are role models of a healthy lifestyle.

## **METHODS**

**Subjects.** After completing the Physical Activity Readiness Questionnaire (PAR-Q) and a document of informed consent, thirty-four students participated in this project, which was approved the Institutional Review Board at Georgia Southern University. Subjects were classified as health majors if their self reported academic major was one that emphasizes the importance of physical activity and physical health (e.g. exercise science, physical education or health education). The remaining students (e.g. engineering, anthropology, English) were classified as non-health majors.

**Physical fitness testing.** All subjects who were accepted reported to the Human Performance Laboratory for measurement of body height, body mass, and body composition via a Bioelectrical Impedance Analysis device(BIA; Body Stat 1500, Bodystat Ltd, Isle of Man, British Isles) Aerobic fitness was measured via the YMCA submaximal three-minute step test (10). Muscular strength was measured via a maximal voluntary contraction of the dominant hand with a handgrip dynamometer. Subjects performed three trials with the handgrip dynamometer, of which the highest strength was recorded.

**Physical activity measurement.** Subjects were issued a Digiwalker pedometer (Digiwalker SW-701, Yamax Inc, Tokyo, Japan) and instructed on how to wear the Digiwalker (on the waistband on his/her right hip for all activities when possible, except for while sleeping and showering), to engage in only their normal level of physical activity for the next 24 hours, and asked to return 24 hours later. Subjects then returned 24 hours later to return the Digiwalker, at which time they were informed of how many steps they had taken. The subjects were also informed that current guidelines suggest that a person take at least 10,000 steps every day for optimal health.

**Calculations and statistics.** Percentile ranking of aerobic fitness and muscular strength was conducted using standards from the Y's Way to Physical Fitness (10). Statistical analyses at a level of  $P < 0.05$  were conducted using SPSS. The difference between health majors and non-health majors in the number of steps taken per day, body composition, aerobic fitness, and muscular strength were compared using a t-test.

Correlations between number of steps taken and age, academic major, gender, body composition, aerobic fitness, and muscular fitness, were measured using simple linear regression. Data are presented as means  $\pm$  se (table 1).

## RESULTS

### Physical Fitness

**Table 1. Physical Fitness of Health Majors and Non-Health Majors**

	Health Majors		Non-Health Majors	
	Mean	SE	Mean	SE
Steps after 24 hours	9034	847	10281	1371
Aerobic Fitness Percentile Rankings	67.6	5.7	73.7	6.6
Female Handgrip Strength (kg)	36.7	1.7	32.5	2.0
Male Handgrip Strength (kg)	53.6	3.2	55.7	2.4
Handgrip Percentile Ranking	71.3	3.8	66.6	3.6
Percent Body Fat	21.6	2.3	23.1	3.5
BMI (kg/m <sup>2</sup> )	25.6	1.2	25.2	1.4

**Aerobic fitness.** The mean post exertion heart rate for health and non-health majors was  $112.0 \pm 5.0$  and  $103.9 \pm 5.1$ , respectively. These post exertion heart rates translate to mean aerobic fitness percentile rankings for health and non-health majors of  $67.6 \pm 5.7$  and  $73.7 \pm 6.6$ , respectively. There was no significant difference between the two groups.

**Muscular strength.** The mean handgrip strength (kg) for females in health and non-health majors was  $36.7 \pm 1.72$  and  $32.5 \pm 2.0$ , respectively. The mean handgrip strength (kg) for males in health and non-health majors was  $53.6 \pm 3.2$  and  $55.7 \pm 2.4$ , respectively. The mean handgrip percentile rankings for health and non-health majors were  $71.32 \pm 3.8$  and  $66.6 \pm 3.6$ , respectively. There was no significant difference between the two groups.

**Body composition.** The mean percent body fat for health and non-health majors was  $21.6 \pm 2.3$  and  $23.1 \pm 3.5$ , respectively. The mean BMI for health and non-health majors was  $25.6 \pm 1.2$  and  $25.2 \pm 1.4$ , respectively. There was no significant difference between the two groups.

### Physical Activity

10 out of the 24 health majors attained the recommended minimum guideline of 10,000 steps per day (figure 1). 6 out of the 9 non-health majors attained at least 10,000 steps (figure 2). The mean number of steps achieved by health and non-health majors was  $9034 \pm 847$  and  $10281 \pm 1371$ , respectively. There was no significant difference between the two groups. There was no significant relationship between number of steps taken and: age ( $r = .179$ ,  $p = .319$ ), gender ( $r = .220$ ,  $p = .219$ ), academic major ( $r = .137$ ,  $p = .447$ ), BMI ( $r = .285$ ,  $p = .108$ ), percent body fat ( $r = .293$ ,  $p = .098$ ), handgrip percentile ranking ( $r = .339$ ,  $p = .053$ ), and aerobic fitness percentile ranking ( $r = .280$ ,  $p = .114$ ).

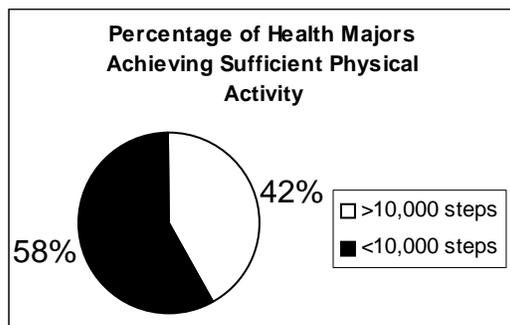


Figure 1.

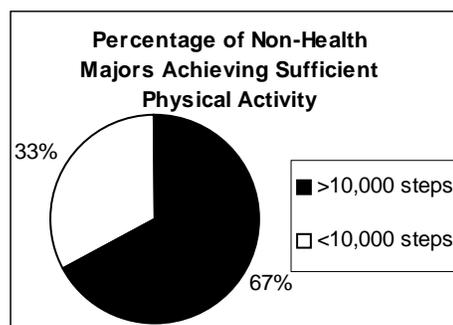


Figure 2.

### DISCUSSION

The main finding of this study is that university students in majors that emphasize the importance of physical activity are not more physically active or physically fit than their non-health major peers. This finding is important as it indicates an apparent contradiction in the educational emphasis and lifestyle of the subjects. In turn, this may suggest a failure in the development of effective role models for lifestyle related health.

Although students in health majors receive considerable instruction on the importance of regular physical activity, they do not engage in more physical activity than their non-health majoring peers. This may be due, in part, to the requirement that all students at Georgia Southern University enroll in a class on lifelong health (HLTH 1520) and 2 physical activity classes (9), which may be sufficient to encourage all students to be physically active. However, 58% of the health majors and 33% of the non-health majors did not achieve 10,000 steps per day suggesting that the students are not engaging in sufficient physical activity for health (15). It is equally likely that considerable classroom instruction on physical fitness, physical activity, and health does not translate into a healthy lifestyle. The reason for this discrepancy between what is taught in the classroom and what is practiced in lifestyle is unclear. However, Soeken et al (22) speculated that the perceived difficulty of practicing healthy behaviors were predictive lifestyle variables of nursing students. Overall, the current findings suggest that students in health majors should engage in more required physical activity as part of their educational curriculum in order to become successful role models for health.

It has been reported that having a good role model can be instrumental in initiating and maintaining a regular exercise program (1). Although our findings suggest

that health majors will not be effective role models due to poor physical activity, they are generally above average in terms of aerobic and muscular fitness. However, their fitness was not greater than that of their non-health majoring peers, which may impair their ability to be positive role models for physical health. Therefore, it is necessary for students in health majors to engage in more physical activity in order to achieve greater physical fitness than the average person in order to be effective role models for health.

There was a lack of difference in the physical activity, which we measured as the number of steps taken, between the health and non-health majors. This suggests that in spite of their education curriculum, health majors may be contributing to the rising trend of inactivity among Americans. In addition, 40% of the health majors would be classified as overweight based on their BMI while 28% are overweight based on body composition, indicating that a considerable number of the health majors also contribute to obesity epidemic. These data suggest provide further evidence that health majors are not paragons of health, and some sort of intervention is required to correct the discrepancy between classroom instruction and lifestyle practice.

Although some authors conclude that 10,000 steps per day is an effective guideline to promote health (7, 5, 8, 15, 20), other have concluded that other factors, such as exercise intensity or duration need to be considered (5, 8, 12). A lack of relationship between activity and fitness found in the current study suggests that the number of steps per day may not be as important as other factors in determining physical health. However, it has been demonstrated that diseases such as diabetes (12, 18) and hyperlipidemia (25) can be prevented by regular physical activity without concomitant changes in fitness or body composition. Therefore, the use of 10,000 steps per day may be an effective and achievable goal when for initiating an exercise program, and may promote improved health beyond the simple measure of physical fitness employed in the current study.

In conclusion, students in health related major are not more physically fit or physically active than their non-health majoring peers. Although this may, or may not, indicate an enhanced risk for lifestyle related disease amongst health related majors; it is likely that these students will be ineffective as role models for physical activity and health. Since health majoring students are not more fit or physically active than the average student, these students will be of limited value in combating the increasing prevalence of obesity due to inactivity and excessive caloric intake. We heartily recommend that health related majors incorporate more required physical activity into their curriculum in order to produce more effective practitioners in the prevention of obesity and physical inactivity.



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