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## Test Anxiety and Other Factors as Predictors of Outcome For an Undergraduate University's Examination of Writing Competency

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**TEST ANXIETY AND OTHER FACTORS AS PREDICTORS OF  
OUTCOME FOR AN UNDERGRADUATE UNIVERSITY'S  
EXAMINATION OF WRITING COMPETENCY**

by

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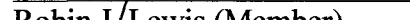
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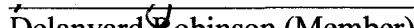
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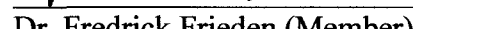
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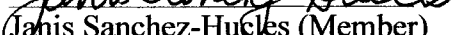
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## **ABSTRACT**

### **TEST ANXIETY AND OTHER FACTORS AS PREDICTORS OF OUTCOME FOR AN UNDERGRADUTE UNIVERSITY'S EXAMINATION OF WRITING COMPETENCY**

**Carrie D. Smith**  
**Virginia Consortium Program in Clinical Psychology, 2009**  
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Testing in American schools has increased dramatically in recent years (Cizek & Burg, 2006), increasing the need for research in test anxiety (TA). Writing apprehension, a subcategory of TA, may be of particular concern among students at all levels of education given the recent addition of writing assessments on the SAT and GRE tests.

Very few recent studies have examined demographic correlates of TA and the demographics of students in higher education have been changing for some time. These changes include an increase in all categories of nontraditional students. Nontraditional students, by definition, face a particular set of challenges in attending college. They tend to have significant family responsibilities, work and/or other obligations beyond those of traditional students (Ryan, 2003), leaving less time and energy to focus on academics. The research findings on age trends have been variable. However, some research shows a slight decline in the prevalence of TA in the college years (Hembree, 1988; Zeidner, 1998). Early studies have shown that African American students, in general, show higher levels of TA than Caucasian students (Payne, Smith, & Payne, 1983; Rhine & Spaner, 1983).

There is minimal research that examines TA specifically for writing exams, or

writing apprehension. Earlier studies found that writing apprehension is highly negatively correlated with performance on writing competency assessments and general essays (Daly, 1978; Faigley, Daly, & White, 1981). Given this, it is important to consider the factors that impact writing competency. Graham and Harris (2000) noted much support in the literature for the impact of transcription, or handwriting abilities, on writing competency but also point to self-regulation as another key factor in writing competency. They observed that skilled writers tend to have better self-regulation skills than less skilled writers. In a related area, White and Bruning (2005) found that students' belief systems concerning writing are related to the quality of their writing.

The purpose of this study was to assess the relationship between TA, writing apprehension, trait anxiety, and other factors on the outcome of a writing competency examination. The study also assessed the relationship between variables related to non-traditional college students, and TA and writing apprehension. One hundred thirty-seven students at an undergraduate Historically Black College or University (HBCU) participated in the study. Each participant was registered to take the Examination of Writing Competency (EWC) in the semester in which they participated. Participants completed a demographic survey and several measures assessing trait and test anxieties, writing self-regulation, and writing apprehension. The results indicated that only self-regulation during writing was significantly related to writing competency. The relationship was significant only for participants' total score on the EWC and did not predict whether they passed or failed the exam. A discussion of the results, including limitations of the study and directions for future research are presented.

This dissertation is dedicated to my husband, Kris, for all the patience, love, and encouragement he has shown me throughout our life together, especially during graduate school; and to my mother who worked so hard to give me the best start in life she could and who always believed I could do anything.

## **ACKNOWLEDGMENTS**

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## SECTION I

### INTRODUCTION AND LITERATURE REVIEW

Testing in American schools has increased dramatically in recent years (Cizek & Burg, 2006). In addition to typical classroom exams, there are mandated state exams and exams with a great deal of importance placed on their outcome, such as the SATs and GREs. With this increase in testing and greater importance placed on certain tests' outcomes, it is likely that we will see a corresponding increase in the prevalence and severity of test anxiety, or TA. Writing apprehension, a subcategory of test anxiety, may be of particular concern among students at all levels of education given the recent addition of writing assessments on the SAT and GRE tests. According to Cizek and Burg (2006), this trend has already begun. While they stress that the current prevalence of TA is far from being a majority or even a large portion of the population, they point out that it is difficult to determine the actual prevalence from the research literature. The authors note two main factors that lead to the current wide range of prevalence findings, which is from one to 40 percent of students. First, researchers tend to study highly specific populations (e.g., students at a particular school or of specific races/ethnicities) or age ranges (e.g., elementary, middle, junior high, high school, or college) raising the possibility that the different prevalence rates reported in the literature are reflective of actual different rates of test anxiety across these populations. This will be discussed further in *Demographic Variables and Test Anxiety*. However, the general trend appears to be an increase in TA from elementary to junior high and then a decrease with age after that time. The results on race and ethnicity tend to be highly varied. The second possible

reason for the wide range of prevalence rates is that researchers use varying definitions of TA, which will be further discussed in the section on defining TA.

Concerns about the difficulty in determining prevalence of test anxiety have been raised for some time. Zeidner (1998) wrote about this issue nearly 10 years ago, calling for large-scale, epidemiological surveys of TA, in a variety of age groups, to determine TA's overall prevalence. Hopefully, with the growing number of articles on the subject (e.g., Cassady, 2004; Ergene, 2003; Stöber, 2004) in the last few years, we will soon have valid and reliable prevalence rates. Looking at the mid-range of the rates published, it appears that the current estimate of test anxiety in the overall population is around 20 percent (Cizek and Burg, 2006; Zeidner, 1998). Similarly, Zeidner (1998) places the prevalence rate of TA specifically in the college student population between 15 and 20 percent and Smith and Nelson (1994) found the rate to be 13 percent. A more recent meta-analysis found that a large number of studies placed prevalence near 15 percent (Ergene, 2003). Most studies included in the meta-analysis looked at TA in college students. However, some data was from students as young as 10 years old.

Very few recent studies have examined demographic correlates of TA and the demographics of students in higher education have been changing for some time. These changes include an increase in all categories of nontraditional students. Andres and Carpenter (1997) include the following as nontraditional students: students older than 25, first-generation college students, students from minority populations, female students, transfer students, commuters, and students whose families are of lower socioeconomic status (SES). It is important to consider the unique factors associated with these populations when considering issues related to the college experience (Ryan, 2003). One

possibility that will be considered later is that demographic factors may be correlated with test anxiety. The purpose of this study was to assess the relationship between TA, writing apprehension, and other factors on the outcome of a writing competency examination. The study also assessed the relationship between variables related to non-traditional college students, and TA and writing apprehension.

### Definition, Symptoms, and Correlates of Test Anxiety

#### *Defining Test Anxiety*

As previously stated, one possible reason for the variations in reported prevalence rates for TA is the differences in the operational definitions of TA used by researchers (Cizek & Burg, 2006). Definitions tend to be either vague or highly complex, making it difficult to operationalize them for research. For example, Sieber (1980) stated TA is “those phenomenological, physiological, and behavioral responses that accompany concern about possible failure” (p. 17). He goes on to acknowledge that this definition does little to restrict the concept of TA and that the symptoms and responses of TA are widely varied. In contrast, Zeidner (1998) defines TA as a reaction to testing or evaluative situations stemming from an interaction between an individual’s tendency toward high levels of trait anxiety and the presence of a stressful, evaluative situation. She goes on to note that this interaction leads the individual to perceive the evaluative situation as threatening, eliciting high levels of state anxiety. While Sieber’s definition is quite vague, Zeidner’s is complex but still leaves some question as to what TA would look like in the classroom.

Cizek and Burg (2006) state that one reason TA is difficult to define is that it is often accompanied by other anxiety disorders, such as social phobia or generalized

anxiety/overanxious disorder. Determining which characteristics or symptoms are due to TA, rather than another disorder or trait, is a complex and lengthy task (Zeidner, 1998). Another difficulty in identifying and defining TA is that there is more than one type of anxious student and more than one way of categorizing them. Becoming anxious in a testing situation is quite common and the vast majority of students become at least somewhat anxious during testing. It is also important to note that the anxiety may or may not impact test performance. As the Yerkes-Dodson law tells us, a certain amount of arousal can actually improve performance. It is when the arousal level becomes too high that performance suffers. Mealey and Host (1992) identified three types of anxious testers:

(1) The true perceiver is anxious because he/she realizes he/she is not adequately prepared for the test. (2) The misapprehender mistakenly believes that he/she does possess adequate knowledge skills, becomes confused when he/she obtains poor results, and is consequently anxious during later testing situations. (3) The unfocused student possesses adequate knowledge and skills but is easily distracted, internally or externally, during testing and, therefore, is unable to access the knowledge or apply the skills needed to successfully complete the test. While the researchers reviewed studies from four decades, they did not indicate what percentage of the studies or participants fell into each category.

Other researchers have categorized anxious students differently. Veenman, Kerseboom, and Imthorn's (2000) research separated test anxious students into only two groups, those without the metacognitive abilities to perform well, similar to Mealy and Host's "true perceivers", and those with metacognitive interference, similar to Mealy and

Host's "unfocused". Zeidner (1998), on the other hand, uses six categories that are more specific than those just described. She separates anxious testers into six distinct categories (although she acknowledges some overlap). There are (1) those with deficient study and test-taking skills, (2) those who experience anxiety blockage and retrieval problems, (3) those who are failure-accepting, (4) those who are failure-avoiding, (5) those who self-handicap, and (6) those who are perfectionistic overstrivers.

The first group, those with deficient study and test-taking skills, is similar to those in the "true perceiver" group previously described by Mealy and Host (1992). They know they do not have adequate skills in order to perform well on the test and so, are reasonably anxious. Those who experience anxiety blockage and retrieval problems are similar to the "unfocused" student. These students have sufficient study skills, have adequately prepared for the exam, and are capable of displaying good test-taking skills but are so overwhelmed by anxiety during the exam that they are unable to retrieve, organize, and/or express what they know. Paulman and Kennelly (1984) found that good test-taking skills can compensate for the effects of anxiety to a certain extent. However, as the task demands increase, the processing deficits outweigh the positive effects of good test-taking skills.

Failure-accepting examinees have reactions similar to those who demonstrate learned helplessness. Covington's (1992) and Covington and Omelich's (1988) research supports this category of test anxious students. They reported that these students have repeatedly performed poorly on exams, usually due to insufficient study skills and low academic ability. Because of their repeated failures, they believe they are incapable of performing well and become apathetic and resigned. On the other hand, failure-avoiding

examinees are those who place high importance on achieving, but solely as a means of establishing and maintaining a sense of personal value. Because of the importance placed on performing, these students become increasingly anxious as the test approaches, causing interference in their studying (e.g., intrusive thoughts, difficulty focusing, distractibility). While these students spend adequate time studying, the cognitive disruptions decrease the quality of that studying, leading to an inadequate level of preparation.

Self-handicappers tend to create impediments to their studying to create a readily available excuse for poor performance. These individuals are afraid of being labeled as incapable or poor students and so do not put forth maximum effort so that their performance cannot be used as evidence of their ability level. When poor results occur, Harris, Snyder, Higgins, and Schrag (1986) found that these students blame insufficient study time or inefficient use of study time. Smith, Snyder, and Handelsman (1982) found that these students also blamed their test anxiety for their performance.

Perfectionistic overstrivers are quite similar to failure-avoiding students with one main difference. The goal of failure-avoiding students is to avoid failure and perform well as a means of achieving status. Perfectionistic overstrivers not only aim to perform well, but seek perfection in every task. While capable of performing well in testing situations, perfectionistic overstrivers experience increasingly higher levels of negative emotions before, during, and after exams. These students see anything less than a perfect score as a total failure. Whether internally or externally imposed, their need to always achieve perfection and commit no errors becomes overwhelming, as they are aware they will not always be able to achieve their goal (Blatt, 1995; Covington, 1992). As

Covington and Omelich (1985) point out, the stressful nature of their perfectionistic need eventually catches up with these students, resulting in interference with deep-level processing during original learning and recall.

While intuitively, it might seem likely that test anxiety will lead to poor academic performance, Chapell et al. (2005) found only a modest correlation between graduate and undergraduate students' GPA and level of test anxiety. In those who have been classified as perfectionistic overstrivers, TA occurs most often in those who feel pressure to meet others' demands, particularly demands that are perceived as unfair, difficult, or even impossible (Flett, Hewitt, & Dyck, 1989). While this form is believed by some researchers to be more common, TA also occurs in those who set their own unrealistic goals (Blatt, 1995). Those with internal pressure may feel as though nothing lower than a perfect grade is acceptable and begin to feel anxious because they know they cannot possibly achieve perfect scores forever. Those who feel external pressure often believe that the only way to obtain acceptance from others is to perform up to their standards. Either way, these individuals become extremely anxious over evaluative situations because of an intense fear of failure. It seems logical that these difficulties associated with TA would lead to poor performance in academics. The authors speculate that the failure to find strong correlations to academic performance could be attributed to other factors that are used to calculate GPA, such as papers, class attendance, and other assignments. They also point out that other factors are correlated with GPA, such as class preparation and motivation. It may be that students with TA who are able to get into, and remain in, college and graduate school, have found means of coping with their TA that allow them to do well enough in their courses but may still keep them from

performing to the best of their abilities.

It would be rather difficult to differentiate between those students who have adequate skills but are performing poorly due to high levels of anxiety and those students who have inadequate skills who have developed high levels of anxiety subsequent to experiencing poor test performance. Any method used to assess skill level would be some form of evaluation, confounding the results with students' reactions to the evaluative situation. Cizek and Burg (2006) note that it is because of this that most researchers use all types of anxious students in their samples, using a broad and inclusive definition of TA and often using students who have low and high levels of TA and comparing the data between groups. Given these difficulties in differentiating test anxious students, this study used Zeidner's definition of TA which is described as a reaction "evoked as a result of the dynamic interaction between a propensity to high evaluative trait anxiety and exposure to a stressful evaluative situation, which elicits perceived threat and resultant high levels of state anxiety (Zeidner, 1998, p. 90)." These high levels of anxiety are associated with a variety of cognitive and attentional processes that interfere with test performance (Cizek & Burg, 2006; Dusek, 1980).

In addition to the differences in how to define TA, there has also been debate over whether TA is a relatively stable personality trait or an ephemeral emotional state. Zeidner's definition, the most widely accepted conceptualization, falls in the middle of these two options (Zeidner, 1998). Spielberger and Vagg (1995) call TA a situation-specific personality trait, or a situation-specific form of trait anxiety. This label pulls together both the individual (trait) and situational natures of TA. TA is a reaction specific to a particular type of situation (testing or evaluations), with all students having



some level of anxiety during testing (Hodapp, Glanzmann, & Laux, 1995). It is also a particular trait, within certain individuals, that leads to a vulnerability to anxiety and to different reactions to their perceptions of the test as threatening. It is a dynamic and continuous process with the test situation affecting the person and vice versa (Sapp, 1999). Spielberger (1980) found that test anxious students generally have higher levels of trait anxiety than other students do. As Hodapp, Glanzmann, and Laux found (1995), trait anxiety appears to have a direct impact on the two main components of TA, worry and emotionality (to be discussed later). Worry and emotionality, in turn, have a direct impact on achievement.

#### *Symptoms and Correlates of Test Anxiety*

*Symptoms of test anxiety.* The symptoms of TA can be divided into three facets: cognitive, affective/physiological, and behavioral. The cognitive facets of TA have historically been researched in two separate groups, cognitive excesses, such as self-preoccupation and self-focused rumination, and cognitive reductions or deficits, such as reductions in attention, memory, and retrieval (Meichenbaum & Butler, 1980; Mueller, 1980; Smith, Ingram, & Brehm, 1983). At one time, researchers believed that these were completely separate issues. It is now believed that cognitive excesses lead to cognitive deficits (Zeidner, 1998). These cognitive deficits invariably lead to the poor test performance so commonly associated with high levels of TA (Ball, 1995).

Worry, believed to be the most powerful cognitive component of TA (Sarason, 1988), involves the cognitive excess of distressing concerns over an impending or anticipated evaluative situation (Flett & Blankstein, 1994). Worry can serve a constructive function in that it can help to motivate a student to study in order to avoid

the feared outcome of failing the exam. However, when the level of worry becomes too great, it serves as a means of strategic avoidance and leads to cognitive reductions by using up precious cognitive resources that could otherwise be used for studying and, during testing, information processing and retrieval (Zeidner, 1998). Cassady (2004) found that those with high levels of this component of TA tend to perceive tests as more threatening and perform more poorly on exams than those with lower levels. In contrast, Stöber (2004) found that worry is negatively correlated with cognitive avoidance and positively correlated with task orientation and preparation. Perhaps this relationship occurs up to a certain level of worry but when the level of worry becomes too severe, the relationship may become an inverse one. That is to say, the more one is worried about an upcoming exam, the more one will study and take other steps to prepare. However, when one becomes so worried that one is unable to focus or concentrate, the worry begins to interfere with one's ability to prepare for the exam.

Another cognitive component of TA is self-preoccupation, particularly negative self-referential thoughts. Research has shown that during an exam, students with high levels of TA have more negative thoughts and less positive ones than students with low and moderate levels (Galassi, Frierson, & Sharer, 1981; Sarason, 1980). These thoughts, those associated with the worry component, and other task-irrelevant thoughts (cognitive excesses) lead to cognitive interference (reductions in needed cognitive skills) during testing, another cognitive component of TA (Zeidner, 1998).

Physiological symptoms can also occur in students with TA. Beidel (1988) was able to show that test-anxious children experienced larger increases in their heart rates during evaluative tasks than did students in the control group. This study also found that

children who suffer from TA not only exhibit symptoms during testing situations, but also during any situation in which they feel they are being evaluated. One limitation of this study, and others that use physiological measures of anxiety, is that it is difficult to know just how valid the physiological measures are. As King, Ollendick, and Prins (2000) point out, the research that looks at the physiological or psychophysiological aspects of TA often occurs in a laboratory setting, making it difficult to generalize the findings to the classroom. Further complication lies in the frequent co-morbidity of TA with other types of anxiety and other disorders which may have similar physiological symptoms (Cizek & Burg, 2006).

Another aspect of the physiological facet of TA is the emotionality component. Emotionality is one's awareness and interpretations of one's physiological reactions (Liebert & Morris, 1967; Morris & Liebert, 1973; Zeidner, 1998). If an individual notices his/her increasing heart rate and interprets it negatively (e.g., "I'm getting anxious because I don't know any of the answers."), it could easily begin a cycle with increasing physiological reactions and negative interpretations of those reactions.

The behavioral facet of TA can include a wide array of behaviors which play into the cyclical nature of the problem. Deficient study and test-taking skills, as discussed earlier in the types of anxious testers, can lead to anxiety during testing. Procrastination, avoidance, and escape behaviors, all common among students high in TA, have been linked to poor test results (Carver, 1996; Zeidner, 1998).

If students avoid studying or taking steps to improve study or test-taking skills, they are likely to continue performing poorly on tests, feeding into their TA. Even if a student has adequate study and test-taking skills, anxiety may prevent him/her from using

those skills when they are necessary. It seems likely that not only would deficient skills be related to TA, but also one's perception of one's abilities. Believing that one is incapable of performing well on an exam can easily turn into a self-fulfilling prophecy, as evidenced by the failure-accepting students described by Zeidner (1998) and Covington (1992).

Avoidance of fear or anxiety-provoking stimuli is a key symptom of all recognized anxiety disorders (APA, 2000). As such, it would be expected that individuals with TA would go to extremes to avoid stimuli associated with test situations. Classical conditioning has consistently shown that nearly any stimulus can be associated with another, in a logical or illogical way, making TA a potentially debilitating problem. Individuals with TA have reported experiencing anxiety in response to or in anticipation of studying, entering a classroom, or meeting with a teacher or professor (Cizek & Burg, 2006).

#### *Demographic Variables and Test Anxiety*

*Age.* The research findings on age trends have been variable. However, it does appear as though TA rises steadily throughout elementary school, peaking in junior high and leveling off in high school. Some research shows a slight decline in the college years (Hembree, 1988; Zeidner, 1998). It is possible that the decline in college years is due to high test anxious students choosing to not attend college or not gaining admission to college because of poor grades and/or low SAT scores. Among college students, it appears that traditionally-aged students report higher levels of school-related anxiety than non-traditionally aged students (Yarbrough & Schaffer, 1990).

*Race.* Several studies have investigated the relationships between different

demographic variables and TA and the results are mixed. Early studies have shown that African American students, in general, show higher levels of TA than Caucasian students (Payne, Smith, & Payne, 1983; Rhine & Spaner, 1983). A meta-analysis of 16 studies on racial differences in TA showed that while there do appear to be significant differences in younger children (African Americans showing higher levels than Caucasians), by high school these differences no longer exist (Hembree, 1988). Beidel, Turner, and Trager (1994) and Turner, Beidel, Hughes, and Turner (1993) found higher levels of TA in Caucasian than in African American school children, while Seipp and Schwarzer's meta-analysis (as cited in Zeidner, 1998) showed relatively small differences in levels of TA between several countries.

*Socioeconomic Status.* In Hembree's (1988) meta-analysis, he found a modest negative correlation between TA and family's SES. The results indicated that, regardless of cultural background, students in lower SES groups, as opposed to those in the mid-range, tend to have higher levels of TA. Rhine and Spaner (1983) found similar results in their study. Some researchers have suggested a possible reason for this trend may lie in the more rigid socialization practices and more punitive parental attitudes that have been associated with lower SES groups (Zeidner & Safir, 1989), however there has been no research to support or dispute this theory.

*Gender.* Overall, females have consistently shown higher rates of TA than males (Rhine & Spaner, 1983; Smith & Nelson, 1994). Maccoby and Jacklin (1974) note that one reason for this trend may be socialization practices. Americans typically encourage females to express emotion while discouraging the same in males, making it more likely that women will admit their anxiety and less likely for men to do so. This encouragement

also makes it more likely that women will recognize their anxiety.

Much of the research on the relationship between TA and demographic variables is dated and some of the research reports conflicting findings. Given the changing demographics of the population and the prevalence of nontraditional students in higher education, it will be important to conduct more research to determine if there are specific subgroups that may be more at risk for test anxiety and writing apprehension today.

### *Nontraditional Students*

Nontraditional students, by definition, face a particular set of challenges in attending college. They tend to have significant family responsibilities, work and/or other obligations beyond those of traditional students (Ryan, 2003), leaving less time and energy to focus on academics. For example, Becker, Horn, and Carroll (2003) found that adult undergraduates who work full-time and go to school part-time were inclined to place more priority on working than classes so that they were able to pay bills. Taniguchi and Kaufman's (2005) results supported those of Becker et al. They found negative outcomes were related to part-time enrollment among nontraditionally aged students (here, those entering college for the first time at age 21 or older). They found that those who attend college part-time are less likely to complete their program of study than those who attend full-time. While there are other variables that are linked to not finishing a program, students who attend school part time may work more hours than those who attend full-time.

Chartrand (1992) explored the relationship between number of hours worked and psychological distress. Chartrand found that, for older students who live off-campus, the number of hours worked had a direct negative impact on the absence of psychological

distress. In other words, working fewer hours increased the likelihood that these students reported less psychological distress and working more hours increased the likelihood that these students reported experiencing more psychological distress. Dundes and Marx (2006) found that an optimal number of work hours was associated with better academic performance. Specifically, students who worked 10 to 19 hours per week reported studying more hours and had higher GPAs than students who worked more or less hours, including those who did not work at all. The authors posit that this is due to the adequate structure and discipline provided by working the optimal number of hours. It should be noted that the majority of the students in this study were of traditional age and over half were female. The authors did not report on other demographics of the participants except to say that the sample was consistent with the school's population which is composed mainly of Caucasian students of traditional age. They did note that working more than 10 hours per week off-campus was associated with reports of increased stress. However, it appears that the increase in stress did not negatively affect students' academic performance as long as they worked less than 20 hours per week.

It appears that the types of situations students find stressful differ by age. Dill and Henley (1998) found that traditionally aged students experienced more stress related to school performance and peer events, whereas nontraditionally aged students were more likely to enjoy attending class and doing homework but experienced more stress related to responsibilities at home. The older students also reported a greater amount of negative impact from a "bad" course or teacher than younger students. Therefore, while school itself may be a more enjoyable experience for older students, when negative feedback from a teacher occurs it may create more stress. This coupled with the pressures of

multiple roles could set the stage for test anxiety as older students may feel that they have more at stake if they do not perform well enough to succeed in their classes.

Although the majority of literature on nontraditional students focuses on age, other studies tend to recruit students who fit into two or more nontraditional student categories, making it more difficult to determine which particular factor is related to the outcomes measured (Bowl, 2001; Rosenthal & Schreiner, 2000). One commonality among nontraditional students is the added stressor of dealing with the factors associated with their status as a nontraditional student, be it age, race, gender, or SES. While Svanum and Bigatti's (2006) showed that the main factor in predicting academic outcome for nontraditional students, like that of traditional students (Astin, 1993), was course effort, factors such as work hours and family responsibilities had a direct, negative impact on the amount of effort non-traditional students put into their courses. These findings would appear to indicate that the number of and amount of time spent in responsibilities outside of school is a major stressor affecting academic outcome for all nontraditional students, regardless of their particular category. While the research does not theorize about the reason for this correlation, there are a few possibilities. It is possible that more time spent in other activities leaves insufficient time for studying. It is also possible that a smaller amount of available time for studying increases anxiety levels about performance leading to poorer academic outcomes.

### Test Anxiety and Writing Competency

#### *Writing Apprehension as a Form of Test Anxiety*

There is minimal research that examines TA specifically for writing exams, or writing apprehension. Smith and Nelson (1994) found that approximately 20 percent of



those with TA or writing apprehension had both forms of anxiety, suggesting that they are related issues. Earlier studies found that writing apprehension is highly negatively correlated with performance on writing competency assessments and general essays (Daly, 1978; Faigley, Daly, & White, 1981). Given this, it is important to consider the factors that impact writing competency.

Capacity models are one type of writing process model used to describe factors involved in the process of writing. Capacity models predict that the more students can make the transcription process automated (the faster, and more automatically, they can physically write) then the more cognitive resources they will have available for higher order writing processes (Connelly, Dockrell, & Barnett, 2005). These models have found support in research, indicating that, for those with less automated handwriting, the lower level cognitive processes (handwriting) significantly inhibit the higher order cognitive processes (writing competency). The researchers gave undergraduates a measure of handwriting fluency, then collected an exam writing sample and a class essay writing sample for each student. The class essay was completed under non-pressurized conditions. That is to say, students were aware the essay would be used solely as a prescreening tool for their course and would not affect their grade. Not only did their results show that students with less fluent handwriting skills performed more poorly on writing tasks, but the impact was more profound for the exam than the class essay, indicating that the pressure of the exam situation may be a mediator in the relationship between handwriting fluency and writing competency.

Dunsmuir and Blatchford (2004) found evidence for this impact of handwriting fluency on writing skills at a very early age. They found that handwriting ability in

writing one's name at the age of four years was predictive of writing competency at seven years. Findings from Schweiker-Marra and Marra (2000) study lend support to this idea as well. They found in their study of the effects of prewriting activities that the repetitive practice of these activities significantly improved fifth-graders' writing performance.

Graham and Harris (2000) noted much support in the literature for the impact of transcription, or handwriting abilities, on writing competency but also point to self-regulation as another key factor in writing competency. They observed that skilled writers tend to have better self-regulation skills than less skilled writers. They define self-regulation skills as the ability to monitor and direct one's own task-related activities, such as attention and organization of ideas. For example, skilled writers would more quickly return to writing after a distraction, or may even be less likely to be distracted in the first place. Zimmerman and Bandura (1994) found support for an indirect impact of self-regulatory efficacy for writing on the outcome in an undergraduate writing course. Their research showed that self-regulatory skills (the ability to regulate one's attentional, creative, and other cognitive skills necessary to write well, including knowledge of the writing process and resources for writing) impacted students' outcome through both self-efficacy for academic achievement (one's belief in one's ability to achieve academically) and intrinsic achievement standards. That is to say, self-regulatory efficacy impacted the students' academic self-efficacy and their standards for themselves, which in turn, impacted their final grade in the writing course. Lavelle, Smith, and O'Ryan's (2002) study supported Zimmerman and Bandura's findings on the impact of self-regulatory efficacy.

In a related area, White and Bruning (2005) found that students' belief systems concerning writing are related to the quality of their writing. They created the Writing Beliefs Inventory (WBI) to determine whether the transmissional and transactional belief systems found in reading also occur in writing. A transmissional belief system is indicated by little cognitive or affective engagement during an activity while a transactional belief system is indicative of higher levels of engagement. Not only did their study show that these belief systems exist for writing activities, but also that students with higher levels of transmissional beliefs scored lower on organization and overall writing quality while those with higher levels of transactional beliefs scored higher on idea-content development, organization, voice, sentence fluency, conventions, and overall writing quality.

O'Shea (1987) examined several studies on TA and tests of writing competency in a meta-analysis and found that overall, those who are more apprehensive during these exams spend more time on the task, but less time actually writing. It appears that apprehensive writers write more slowly and pause more often, completing fewer drafts before writing their final paper or response. O'Shea also reported that those who are more apprehensive tend to edit rather than revise. That is, they correct spelling and make simple sentence changes rather than consider their organization and often report feeling as though there is not enough time to complete the task.

In summary, research has found several factors related to writing competency. Among them are handwriting fluency, self-regulatory skills, beliefs about writing, and anxiety. Any intervention for writing apprehension or TA for tests involving writing would need to address these areas. Unfortunately, there is limited research on

demographic variable related to writing apprehension and TA, or on interventions for TA and writing apprehension and much of the research that does exist is mixed (Ergene, 2003; Hembree, 1988). Even within the studies that claim the intervention was successful, many show positive results for the reduction of anxiety symptoms but no improvement in performance (Ergene, 2003; Lehrer, Carr, Sargunraj, & Woolfolk, 1993). Clearly, more research is needed in this area to understand the nature of test anxiety and writing apprehension to develop better interventions.

### The Current Study

In 1999 the State Council of Higher Education in Virginia mandated that all colleges and universities assess writing competency prior to graduation. To address this mandate, many schools have implemented a writing competency or writing proficiency examination that students must pass to graduate. The school where this study took place is among them, utilizing their Examination of Writing Competency (EWC) to assess students' writing skills prior to graduation. The EWC was implemented in 2001 and assesses four main areas of writing: organization, development and analysis, sentence structure, and grammar, diction, and mechanics. The process of the exam and its scoring rubric have been revised since its inception. There was no reliability or validity data available for the current version of the exam. There is a 70 percent pass rate per semester overall. Those who fail the exam are offered opportunities to improve their performance. Specifically they may meet with the coordinator of the program to review their exam and receive feedback about their strengths and weaknesses. All students are offered workshops and seminars on writing skills related to the EWC.

The location for this study was a Historically Black College and University

(HBCU) with a large nontraditional student population, making it ideal for exploring demographic factors as they relate to TA and writing apprehension, as well as performance in writing competency assessments. It is important to understand the factors, including demographic variables, which affect TA, writing apprehension, and writing competency so that effective interventions can be created and implemented where necessary.

### *Hypotheses*

1. Students with lower levels of TA would perform better on the EWC than students with higher levels of TA.
2. Students with lower levels of writing apprehension would perform better on the EWC than student with higher levels of writing apprehension.
3. Older students would report lower levels of TA than younger students.
4. Older students would report lower levels of writing apprehension than younger students.
5. Because it is associated with effort, which is associated with academic performance (Svanum and Bigatti, 2006), those students who reported spending less time in responsibilities outside of school would perform better on the EWC than those who reported spending more time in outside responsibilities.
6. Students who have more positive beliefs related to their self-regulatory efficacy in writing would perform better on the EWC than students with less positive beliefs would.
7. Students with more transactional beliefs about writing would perform better on the EWC than students with less transactional beliefs or those with beliefs that are

more transmissional.

8. Students with less transmissional beliefs about writing would perform better on the EWC than students with more transmissional beliefs will.
9. Students with higher levels of trait anxiety would experience higher levels of TA.
10. Students with higher levels of trait anxiety would experience higher levels of writing apprehension.

## SECTION II

### METHOD

#### Participants

Participants were 137 undergraduate college students at an urban, HBCU, state university in southeastern Virginia. The students were registered to take the EWC in the semester when they completed the measures for the study. Students were recruited through the Office of Institutional Effectiveness and Assessment. An e-mail was sent from the director of the EWC program to all students registered to take the EWC in each of the three semesters during the study. The e-mail announced the study and its purpose and provided a link to the online data collection site. A chance to win one of several gift cards was offered to increase the number of those willing to participate and to avoid volunteer bias.

In all, 325 students went to the data collection website and began the study. However, many students' data could not be used for several reasons. Of those, 32 students participated in the study but did not take the EWC on the scheduled date and their results could not be obtained. Analyses were run to compare this group to those who were included in the study. Thirteen students provided invalid or no student ID numbers making it impossible to obtain their EWC results. Finally, 129 students did not complete enough of the surveys for their data to be included. At least one full measure was skipped by 30 of these students and the 99 others did not provide any data past the informed consent/permission to obtain EWC results. Of the 30 participants who began but did not finish the survey, five stopped during the demographics survey and the other

25 stopped during the STAI, the measure following the demographics survey.

Of the 137 participants included in the study, 120 were female and 17 were male. Ages ranged from 17 to 54 years with a mean of 27.1 years and a median of 23 years. Fifty-four participants were juniors, 48 were seniors, 25 were sophomores, and four were freshmen. Six participants identified their class status as, “other.” The majority of the participants (113) identified themselves as African American or Black, while 15 identified themselves as Caucasian, one as Native American, and eight identified themselves as “other” or gave no response. Seven participants identified themselves as Hispanic, two did not indicate whether they were of Hispanic origin, and 128 indicated they were not of Hispanic origin (see Table 1.)

Data were collected over three semesters with 59 participants from Spring 2008, 21 from Summer 2008, and 57 from Fall 2008. One hundred fifteen participants passed the EWC and 22 did not. There were similar pass/fail rates between semesters,  $\chi^2(2) = 2.71, n.s.$  The majority of participants (117) were taking the EWC for the first time; 15 reported they had previously failed the exam once, four individuals indicated they had failed the exam twice, and one participant had failed the exam three previous times.



Table 1. *Description of Participants.*

	<i>n</i>	Percent
<b>Gender</b>		
Male	17	12.4%
Female	120	87.6%
<b>Class Year</b>		
Freshman	4	2.9%
Sophomore	23	16.8%
Junior	54	39.4%
Senior	50	36.5%
Other	6	43.4%
<b>Race/Ethnicity</b>		
African American/Black	113	82.5%
Caucasian	15	10.9%
Native American	1	0.01%
Other	8	5.8%
<b>Hispanic Origin</b>		
Hispanic	7	5.1%
Not Hispanic	128	93.4%
Unknown	2	1.5%

*(Table 1 continues)*

*(Table 1 continued)*

		<i>n</i>	Percent
Semester of EWC			
	Spring 2008	59	43.1%
	Summer 2008	21	15.3%
	Fall 2008	57	41.6%
Previous EWC Attempts			
	None	118	86.1%
	One	14	10.2%
	Two	4	2.9%
	Three	1	0.01%

## Measures

### *Anxiety Measures*

*Test Anxiety Inventory.* This inventory created and copyrighted by Spielberger (1980) is commonly used in TA research. It is “a self-reporting psychometric scale [that] was developed to measure individual differences in test anxiety as a situation-specific personality trait” (p. 3). It consists of 20 statements about potential emotions, thoughts, and behaviors related to test situations. Participants rate the extent to which they experience each emotion or thought or to which they participate in the behavior on a Likert scale ranging from 1 (“Almost Never”) to 4 (“Almost Always”), with a possible score range from 20 to 80. The Test Anxiety Inventory (TAI) is titled, and during administration, is referred to as the Test Attitude Inventory. The TAI produces a total score and two subscale scores, Worry and Emotionality. The norms for college students are based on 1,449 undergraduate and 1,129 incoming freshmen from the University of South Florida. The gender distribution is approximately equal. Test-retest reliability at three weeks was found to be .80. For the TAI total score, Cronbach’s  $\alpha = .92$ , the reliability levels were .88 and .90 for the worry and emotionality components, respectively. Validity studies for the TAI used Sarason’s Test Anxiety Scale (TAS) and found a correlation between the TAI Total score and TAS score to be .82 for males and .83 for females. There is a moderate correlation between the TAI total score and the Trait scale of the State-Trait Anxiety Inventory (STAI). These correlations were .54 for males and .48 for females. It has been used with a variety of populations, including African Americans and individuals of a wide age range, and translated into several different

languages (Sharma & Sud, 1990; Spielberger, 1980). In the current study, Cronbach's  $\alpha = .96$  for the total score and .89 and .93 for the worry and emotionality scales, respectively. The TAI was chosen as the TA measure due to its wide use in the literature. The measure also fits best with the current study's definition of TA.

*The Daly-Miller Writing Apprehension Test (WAT).* The WAT (Daly & Miller, 1975) (see Appendix A) was used to detect anxiety in students who are anxious about writing, in general, or writing only in relation to tests, rather than anxious about tests in general. It is a 26-item self-report measure that asks students to rate the degree to which each item applies to them on a five-point Likert scale, ranging from 1 ("Strongly Agree") to 5 ("Strongly Disagree"), so that higher scores are related with higher levels of anxiety (Daly & Miller, 1975). Possible scores range from 26 to 130. To test its validity, Daly and Miller (1975) compared the WAT scores of individuals to their self-rankings of the amount of writing required for their jobs. They chose to do this because a previous study had found a significant positive correlation between an individual's level of communication anxiety and the amount of perceived communication requirements at his or her job. They found a similar correlation between level of writing apprehension and perceived amount of writing requirements at one's job. Split-half reliability was found to be .94 and test-retest reliability was .92 after one week. In the current study, Cronbach's  $\alpha = .96$  for the WAT. While there has been little agreement in the research community on the number of factors in the WAT, its reliability has not been questioned (Blane, Lowe, Meixner, Nouri, & Pearce, 2001). These authors note that studies have found varying numbers (though generally three) and structures of factors for the WAT. Daly and Miller (1975) found a one factor solution in their original study. .

*State-Trait Anxiety Inventory.* The trait anxiety scale of the State-Trait Anxiety Inventory (STAI) created and copyrighted by Spielberger (1970) was used to assess participant's overall anxiety level. It consists of 20 statements which to which participants are to indicate how they usually feel. Participants use a four-point Likert scale, ranging from "Not at All" to "Very Much So," to rate how well each statement applies to them. Scores range from 20 to 80 points, with higher scores indicating higher levels of anxiety. Test-retest reliability of the STAI, trait scale has been found to be between .65 and .86 (Spielberger, 1970). For this study, Cronbach's  $\alpha$  of .89 was found. The validity of the STAI was established by comparing it to other measures of anxiety. The correlations between the STAI and the Taylor Manifest Anxiety Scale and Institute for Personality and Ability Testing Anxiety Scale are .80 and .75, respectively (Spielberger, 1970). Spielberger does not report any data for demographic variables other than age and gender in the STAI manual. There is a slight trend for those over 50 years to report less anxiety than younger individuals do. There were no significant gender differences. In their study of African American and European American college students, Carter, Sbrocco, Lewis, and Friedman (2001) found no significant race differences in STAI scores.

#### *Writing-Related Measures*

*The Writing Beliefs Inventory (WBI).* The measure (see Appendix B), created by White and Bruning (2005), was used to assess students' beliefs about writing, determining whether they hold a transmissional and/or transactional belief system. The WBI consists of 20 statements to which participants rate the extent to which they agree or disagree on a five-point Likert scale. Responses range from 1 ("Disagree") to 4

(“Agree”). Participants are also given the option to indicate they are “Uncertain” (5). The creators’ initial analyses found the inventory’s reliability to be adequate, Cronbach’s  $\alpha = .75$  overall. Reliability for each factor was also adequate, Cronbach’s  $\alpha = .77$  and  $.60$  for the transmissional and transactional factors, respectively. Research concerning demographic differences for the WBI could not be located. In this study, similar reliability results were found for the overall scale (Cronbach’s  $\alpha = .78$ ). However, the levels for the individual scales were much lower, Cronbach’s  $\alpha = .33$  and  $.63$  for the transmissional and transactional scales, respectively. The low standard deviations for these scales indicate that participants tended to respond similarly to one another. This would result in a low alpha level.

*The Writing Self-Regulatory Efficacy Scale.* This measure (Zimmerman and Bandura, 1994; see Appendix C) was used to assess students’ beliefs about the self-regulatory abilities in writing. The scale consists of 25 items related to positive attributes in self-regulation of writing. Participants are asked to rate how well they can perform each activity on a seven-point Likert scale, ranging from 1 (“Not at All Well”) to 7 (“Very Well”). Scores range from 25 to 175 with higher scores indicating better self-regulatory abilities. Initial assessments placed the scales reliability at Cronbach’s  $\alpha = .91$ . This study found similar reliability results (Cronbach’s  $\alpha = .97$ ). Research on demographic differences was not available. Formal validity studies were not conducted. The authors utilized formal analyses of the writing process, consultation with faculty in a writing program, and their own knowledge of self-regulation of motivation to create the scale.

### *Demographics Measure*

Finally, a survey (See Appendix D) created by the author was used to collect demographic information from participants. It was also used to collect other information, such as means of preparation for the EWC and their feelings about the exam.

### *Procedures*

An e-mail was sent to all students registered to take the EWC during each of the three semesters when data were collected. The e-mail provided a description of the study as well as a link to the website with the questionnaires. Prior to beginning the measures, participants were presented with an Informed Consent form (Appendix E) and asked whether they wished to continue. It was noted that consenting to continue implied that they agreed to participate in the study. Students were then shown a screen explaining that the researcher would need to obtain their EWC results for the study. Students were asked to provide their student ID number if they agreed to allow the researcher access to this information and were assured that their ID number would not be used for any other purpose. Those who indicated that they did not agree to this or did not wish to participate after reading the informed consent were directed to a page where they were thanked for their willingness to participate. Those who agreed to participate and to allow access to their EWC results were presented with each of the materials previously described. Due to the limitations of the internet program used to collect the data, counterbalancing of the questionnaires was not possible.

Following the exams, the researcher provided the EWC coordinator with the student ID numbers for all participants who agreed to allow access to this information. The coordinator provided the researcher with the numerical scores for each participant as

well as their outcome (pass or fail). A total EWC score was computed using the mean score. That is, the sum of each participants' scores (one through five in each of four categories) was divided by the total points possible. All data was kept in a secure location and only the researcher and her dissertation advisor had access to the data.

### **SECTION III**

#### **RESULTS**

Before conducting any analyses, the data were screened for any potential problems, which were dealt with accordingly. A minimal amount of missing data was found for those who completed the survey, with no item having more than four participants with missing data. Each was replaced with the mean response value for that item.

Each of the following items was missed by one participant: age at the start of college, number of hours spent at an off-campus job on a weekday and on a weekend day, number of hours spent at an on-campus job on a weekday, number of hours spent in extra-curricular activities on a weekday and a weekend day, eight STAI items, seven WSRES items, five WBI items, five TAI items, and four WAT items. Two missing values were found in each of the following items: Hispanic origin, number of hours spent in family responsibilities on a weekday and a weekend day, two STAI items, one WSRES item, four WBI items, one TAI item, and three WAT items. There were three missing values in race/ethnicity and one WBI item. There were also missing values in some of the variables that were ultimately not used in the analyses.

A minimal number of outliers were also found with no item having more than three outliers. Though the impact on the results would likely have been minimal, each



outlier was changed to a value one unit above or below the next most extreme value. All other assumptions of the analyses used were assessed and no other violations were found, i.e., the data were not skewed or kurtotic, the minimal ratio of cases to independent variables was met, and collinearity levels of the independent variables was within an acceptable range. The WAT and WSRES were the only strongly correlated independent variables ( $r = .76$ ,  $p < .05$ ,  $r^2 = .58$ ). Standard multiple regressions, standard discriminant function analyses, and Pearson product-moment correlations were used to assess the hypotheses. Due to a low internal consistency score, the transmissional scale for the WAT was omitted from the analyses.

For the variables that were predicted to be related to EWC outcome, two analyses were used. Multiple regression analysis was used with participants' total score on the EWC as the dependent variable (scores ranged from 40 to 95 with a mean score of 69.12 and a median score of 68.33) and discriminant function analysis was used with participants' outcomes (pass or fail) on the EWC as the dependent variable to test hypotheses 1, 2, 5, 6, 7, and 8. For each analysis, predictor variables included: level of TA (determined by TAI scores), level of writing apprehension (determined by WAT scores), amount of time spent weekly in outside responsibilities (self-report), self-regulatory efficacy in writing (determined by scores on the Writing Self-Regulatory Efficacy Scale), and transactional beliefs about writing (determined by scores on the transactional scale of the WBI).

Pearson product-moment correlations were used to test hypotheses 3 and 4, that older students (age) would report lower levels of TA (TAI score) and writing apprehension (WAT score). These correlations were also used to test hypotheses 9 and

10, that students with higher levels of trait anxiety (STAI, trait scale score) would experience higher levels of TA (TAI score) and writing apprehension (WAT score).

Of the 137 participants in the study, 115 (83.9%) students passed the EWC while 22 (16.1%) did not pass the exam. Among males, 13 (9.5%) passed and 4 (2.9%) did not pass. The majority of those who failed were juniors (15, 0.7%) and had not previously taken the EWC (20, 14.6%). See Table 2 for a presentation of these results. For descriptive statistics, see Table 3.

A standard Multiple Regression (MR), in which all variables are entered simultaneously, was run with EWC total score as the outcome variable. TAI total score, WAT total score, amount of time spent weekly in outside responsibilities, WSRES total score, and the transactional scale score of the WBI were entered as predictor variables. The transmissional scale score of the WBI was not included due to its low reliability for this sample. A Discriminant Function Analysis with the same predictor variables and EWC outcome (pass or fail) as the dependent variable was also run. The MR and DFA were used to test hypotheses 1, 2, 5, 6, 7, and 8, while Pearson Product-Moment Correlations were used to test hypotheses 3, 4, and 9.

Hypothesis 1 stated that participants with lower levels of TA would perform better on the EWC than those with higher levels of TA. MR results indicate that TA (as measured by the TAI) is not a significant predictor of EWC total score ( $t(136) = .51, n.s., \beta = .05$ ). DFA results indicate that TA is also not a significant predictor of EWC outcome ( $F(1, 135) = 1.76, n.s., \lambda = .99, \text{partial } \eta^2 = .01$ ). Hypothesis 2 stated that participants with lower levels of writing anxiety would perform better on the EWC than those with higher levels of writing anxiety. MR Results suggest that writing anxiety (as

measures by the WAT) is not a significant predictor of EWC total score ( $t(136) = -1.06$ ,  $n.s.$ ,  $\beta = -.14$ ). DFA results indicate writing anxiety is not a significant predictor of EWC outcome ( $F(1, 135) = .10$ ,  $n.s.$ ,  $\lambda = 1.0$ , partial  $\eta^2 = 0$ ). See Table 4 for MR results and Table 5 for DFA results.

Table 2. *Descriptive Statistics of Participants by Pass/Fail Outcome on the EWC*  
(*N*=137)

		Pass		Fail		Total	
		<i>N</i>	Percent	<i>n</i>	Percent	<i>n</i>	Percent
Gender							
	Male	13	9.5%	4	0.7%	17	12.4%
	Female	102	74.5%	18	13.1%	120	87.6%
Class Year							
	Feshman	4	0.4%	0	0%	4	2.9%
	Sophomore	21	15.3%	2	1.5%	23	16.8%
	Junior	39	28.5%	15	10.9%	54	39.4%
	Senior	45	32.8%	5	3.6%	50	36.5%
	Other	6	4.4%	0	0%	6	4.4%
Race/Ethnicity							
	African American/Black	93	67.9%	20	14.6%	113	82.5%
	Caucasian	13	9.5%	2	1.5%	15	10.9%
	Native American	1	0.01%	0	0%	1	0.01%
	Other	8	5.8%	0	0%	8	5.8%
Hispanic Origin							
	Hispanic	7	5.1%	0	0%	7	5.1%
	Not Hispanic	107	78.1%	21	15.3%	128	93.4%
	Unknown	1	0.01%	1	0.01%	2	1.5%

(Table 2 continues)

(Table 2 continued)

		Pass		Fail		Total	
		<i>N</i>	Percent	<i>n</i>	Percent	<i>n</i>	Percent
Semester of EWC							
	Spring 2008	53	38.7%	6	4.4%	59	43.1%
	Summer 2008	17	12.4%	4	2.9%	21	15.3%
	Fall 2008	45	32.8%	12	8.8%	57	41.6%
Previous EWC Attempts							
	None	98	71.5%	20	14.6%	118	86.1%
	One	13	9.5%	1	0.01%	14	10.2%
	Two	3		1	0.01%	4	2.9%
	Three	1	0.01%	0	0%	1	0.01%

Table 3. *Descriptive Statistics and Internal Consistency (N=137)*

Measure	<i>M</i>	<i>SD</i>	Minimum	Maximum	$\alpha$
Exam of Writing Competency - Total Score	69.12	12.24	40.00	95.00	
State-Trait Anxiety Inventory - Total Trait Score	35.57	9.26	20.00	65.00	0.89
Writing Self-Regulatory Efficacy Scale - Total Score	110.63	30.18	25.00	175.00	0.97
Writing Beliefs Inventory - Transactional Factor Score	17.30	2.01	10.00	21.00	0.33
Writing Beliefs Inventory - Transactional Factor Score	28.59	4.32	15.00	40.00	0.63
Test Anxiety Inventory – Total Score	37.25	12.81	20.00	77.00	0.96
Daly-Miller Writing Apprehension Test - Total Score	89.60	20.40	28.00	130.00	0.96

Table 4. *Correlations Between Variables and Standard Multiple Regression of TAI Total Score, WAT Total Score, Time Spent in Outside Responsibilities, WSRES Total Score, and Transactional Scale Score of the WBI on EWC Total Score*

	EWC	TAI	WAT	Time	WSRES	WBI	B	$\beta$	$sr^2$
TAI	0.004						0.05	0.05	0.002
WAT	0.08	-0.33					-0.09	-0.14	0.01
Time	0.06	0.11	0.09				0.04	0.04	0.001
WSRES	0.19*	-0.31*	0.76*	0.09			0.12*	0.3	0.04
WBI	0.02	-0.11	0.09	0.07	0.14		0.01	0.003	0.001
M	69.1	37.2	89.5	21.7	110.6	28.6	$R^2 = 0.05^a$ Adjusted $R^2 = 0.01$ $R = 0.22$		
SD	12.2	12.8	20.4	11.8	30.2	4.2			

\* $p < 0.05$

<sup>a</sup>Unique Variability = 0.002; Shared Variability = 0.048

Table 5. *Discriminant Function Analysis of TAI Total Score, WAT Total Score, Time Spent in Outside Responsibilities, WSRES Total Score, and Transactional Scale Score of the WBI on EWC Outcome (pass/fail)*

	Correlations of Predictor Variables with Discriminant Function	Univariate F(1, 135)	Pooled Within-Group Correlations among Predictors			
			WAT	Time	WSRES	WBI
TAI	0.56	1.76	-0.33	0.11	-0.32	-0.12
WAT	-0.13	0.1		0.09	0.76	0.09
Time	-0.06	0.02			0.09	0.07
WSRES	0.38	0.79				0.14
WBI	0.1	0.05				
Canonical R	0.2					
Eigenvalue	0.04					



Hypotheses 3 and 4 stated that older students would report lower levels of TA (hypothesis 3) and writing anxiety (hypothesis 4) than younger students (utilizing the TAI and WAT total scores respectively). Results of the correlations indicate that age is significantly positively correlated with TA,  $r(135) = .24, p = .05, r^2 = .058$ , but not with writing anxiety,  $r(135) = -.12, n.s.$  This suggests that higher levels of TA are associated with increased age. This is the opposite of what was expected.

Hypothesis 5 stated that participants who reported spending less time in responsibilities ( $M = 21.6$  hours,  $SD = 11.8$ ) outside of school would perform better on the EWC than those who reported spending more time in those activities. Results indicate that time spent in outside responsibilities is not a significant predictor of EWC total score ( $t(136) = .49, n.s., \beta = .04$ ) or EWC outcome ( $F(1, 135) = .02, n.s., \lambda = 1.0$ , partial  $\eta^2 = 0$ ). Hypothesis 6 stated that participants who reported better self-regulatory abilities during writing assignments (as measured by the WSRES) would perform better on the EWC than those who reported less self-regulatory abilities. Results of the MR and DFA indicate that self-regulation during writing assignments is a significant predictor of EWC total score ( $t(136) = 2.31, p < .05, \beta = .30$ ) but not EWC outcome ( $F(1, 135) = .79, n.s., \lambda = .99$ , partial  $\eta^2 = .01$ ). A Pearson-Product Moment Correlation indicated a significant positive correlation between WSRES total score and EWC total scores ( $r(135) = .19, p = .05, r^2 = .036$ ), also suggesting a relationship between the two variables.

Hypothesis 7 stated that participants who reported higher levels of transactional beliefs about writing (as measured by the transactional scale of the WBI) would perform better on the EWC than those who reported lower levels of transactional beliefs. Because of the low internal reliability of this sample on the transmissional scale of the WBI, the

second part of this hypothesis (that participants reporting higher levels of transactional beliefs would perform better on the EWC than those reporting higher levels of transmissional beliefs) could not be assessed. Results indicate that level of transactional writing beliefs is not a significant predictor of EWC total score ( $t(136) = .03, n.s., \beta = .003$ ) or EWC outcome ( $F(1, 135) = .05, n.s., \lambda = 1.0, \text{partial } \eta^2 = 0$ ). Hypothesis 8, related to transmissional writing beliefs, could not be assessed.

Hypothesis 9 stated that participants who reported higher levels of trait anxiety (as measured by the STAI) would also report higher levels of TA (as measured by the TAI) and writing anxiety (as measured by the WAT). Results indicated a significant positive correlation between TA and trait anxiety,  $r(135) = .47, p < .001, r^2 = .221$ . That is, higher levels of TA are associated with higher levels of trait anxiety, as expected. A significant negative correlation was found between trait anxiety and writing anxiety,  $r = -.21, p < .05, r^2 = .044$ . This suggests that higher levels of trait anxiety are associated with lower levels of writing anxiety, contradicting the expected results.

The results indicate that the predictor variables, as a group, did not significantly predict an individual's total score on the EWC,  $F(5, 131) = 1.32, n.s., R = .22$  and Adj.  $R^2 = .01$ , or outcome on the EWC,  $\chi^2(5) = 5.40, n.s., \lambda = .96$ . Classification results of the DFA indicate that 64.2 percent of participants were correctly categorized into pass or fail outcomes. Because of the small percentage of students who failed the EWC, an independent t-test, not assuming equal variances, was run using the same variables as the DFA with no significant results found. See Table 6. Pearson Product-Moment Correlations were used to explore other variables that could be associated with writing competency. Most analyses provided nonsignificant results.

Table 6. *Independent Samples T-Test Results of EWC Outcome (pass/fail).*

	EWC Outcome				<i>t</i>	<i>df</i>
	Pass		Fail			
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Time In Outside Activities	21.59	11.99	21.96	11.06	0.143	31.21
WSRES	111.64	30.97	105.38	25.66	1.01	33.85
WBI - Transactional Scale	28.67	4.47	28.44	2.67	0.33	47.15
TAI	37.87	13.26	33.94	9.34	1.68	39.27
WAT	89.29	20.84	90.77	17.04	0.36	34.23

EWC outcome (pass/fail) was not significantly related to number of previous EWC attempts ( $r = .01$ , *ns.*), amount of anxiety participants reported related to the EWC ( $r = .11$ , *ns.*), number of papers per semester students report they are asked to write for a typical class in their major ( $r = .002$ , *ns.*), participant age ( $r = .005$ , *ns.*), or participants' rating of their own writing skills ( $r = .13$ , *ns.*). However, a significant positive correlation was found for participants' self-rating of their writing abilities and the EWC total score,  $r = .23$ ,  $p < .01$ ,  $r^2 = .053$ . No other significant correlations were found, number of previous EWC attempts ( $r = -.08$ , *ns.*), amount of anxiety participants reported related to the EWC ( $r = -.03$ , *ns.*), number of papers per semester students report they are asked to write for a typical class in their major ( $r = .09$ , *ns.*), or participant age ( $r = -.03$ , *n.s.*).

Independent samples t-tests, using several demographic and self-report variables and the results of the completed measures, were used to compare those who were included in the study to those who were not included because they did not complete enough of the surveys (Noncompleters) and those who were excluded because they did not take the EWC when scheduled (No EWC data). See Table 7 for descriptive statistics. No significant differences were found between those included and those who did not complete all measures. However, those who were excluded because they did not take the EWC as scheduled reported a significantly higher number of hours spent in outside responsibilities than those who were included in the study ( $t(166) = -2.81$ ,  $p < .01$ ). No other variables yielded significant results.

Table 7. Means, Standard Deviations, and Range for Variables Used in T-Tests

		<i>M</i>	<i>SD</i>	Minimum	Maximum
Age	Included	27.1	9.31	17	54
	No EWC Data	25.41	8.78	18	54
	Noncompleters	25.6	8.18	19	49
EWC Total Score	Included	69.12	12.24	40	95
	No EWC Data	N/A	N/A	N/A	N/A
	Noncompleters	65.61	12.51	30	90
Number of Previous EWC Attempts	Included	0.19	0.51	0	3
	No EWC Data	0.19	0.4	0	1
	Noncompleters	0.5	0.97	0	4
Amount of Anxiety Related to EWC	Included	1.58	1.27	0	4
	No EWC Data	1.48	1.18	0	4
	Noncompleters	1.54	1.28	0	4
Self-Rating of Writing Skills	Included	3.24	0.81	0	4
	No EWC Data	3.35	0.91	0	4
	Noncompleters	3.04	0.89	0	4
Frequency of Anxiety Related to Writing	Included	1.95	1.07	0	4
	EWC Data	1.97	1.14	0	4
	Noncompleters	1.54	1.18	0	4

*(Table 6 continues)*

(Table 6 continued)

		<i>M</i>	<i>SD</i>	Minimum	Maximum
Time Spent in Outside Responsibilities					
	Included	21.65*	11.81	0	57
	No EWC Data	33.87*	23.57	0	110
	Noncompleters	23.34	13.89	0	62
Number of Children					
	Included	0.8	1.27	0	6
	No EWC Data	0.84	1.34	0	5
	Noncompleters	0.4	0.82	0	3
STAI					
	Included	35.58	9.26	20	65
	No EWC Data	37.94	10.67	22	59
	Noncompleters	37.13	6.89	23	47
WSRES					
	Included	110.64	30.18	25	175
	No EWC Data	112.21	30.4	29	170
	Noncompleters	N/A	N/A	N/A	N/A
WBI					
	Included	26.18	3.87	14	38
	No EWC Data	25.71	4.18	11	32
	Noncompleters	N/A	N/A	N/A	N/A
TAI					
	Included	37.25	12.81	20	77
	No EWC Data	39.64	15.95	20	73
	Noncompleters	N/A	N/A	N/A	N/A
WAT					
	Included	89.47	20.38	28	130
	No EWC Data	85.75	19.26	33	113
	Noncompleters	N/A	N/A	N/A	N/A

\* $p < .05$

## SECTION IV

### DISCUSSION AND CONCLUSIONS

The present study examined the role of multiple factors, including anxiety, on the outcome of the Examination of Writing Competency (EWC) at an urban, Historically Black College and University (HBCU). Specifically, it tested whether test anxiety (TA), writing apprehension, amount of time spent in responsibilities outside of school, ability for self-regulation during writing, and levels of cognitive or affective engagement during writing (as indicated by transactional beliefs), would predict scores or overall outcome on the EWC. The variables were tested as a group and individually. Because of the large number of students who were excluded from the study due to lack of data, the results and their possible explanations should be considered with caution.

Neither of the types of anxiety assessed by this study (test or writing) was found to be related to EWC score or outcome. This is inconsistent with the limited amount of prior research available, which shows that writing apprehension is related to poorer performance in writing competency (Daly, 1978; Faigley, Daly, & White, 1981). It is possible that anxiety may be indirectly related to writing skills by affecting students' abilities to learn good writing skills. It may also lead to an avoidance of courses or activities which would assist them in improving their writing skills. However, no research has addressed these possibilities and it was beyond the scope of the current research.

Only the ability to monitor and direct one's own task-related activities during writing, as assessed by the Writing Self-Regulatory Efficacy Scale (WSRES), was found

to be a good predictor of a student's total score on the EWC. It appears that self-regulation during writing may be related to students' performance on the EWC, but not to the point of affecting or predicting the overall outcome. Prior research has supported an indirect role for self-regulation on writing (Lavelle, Smith, and O'Ryan, 2002; Zimmerman and Bandura, 1994). Graham and Harris' (2000) study indicated that self-regulatory ability plays a key role in writing competency. Zimmerman and Bandura (1994) noted that self-regulation affected students' confidence in their academic ability and achievement expectations, which then affected outcome in a writing course. This study lends support to those findings. The fact that self-regulation predicted the EWC total score but not the overall outcome may indicate that it plays an indirect role on the outcome of a writing exam. The grading system for the EWC may also impact the role of self-regulation. Students' outcomes are determined by four categories. Students must receive a passing score in each of these categories to pass the exam. It is possible that, while overall writing skills are related to self-regulation during writing, one or more of these categories may be independent of self-regulatory abilities, limiting its contribution to the outcome of the exam. Considering these results, it is possible that the main predictor in the outcome of the EWC is writing skills. Workshops and courses designed to assist students in developing both self-regulation and specific writing skills would likely be the best way to improve students' performance on the outcome of the EWC.

The present study also attempted to replicate an earlier report by Yarbrough & Schaffer (1990) who found that traditionally aged students reported higher levels of test anxiety (TA) than non-traditionally aged students. However, the current study did not replicate their findings, in fact, the opposite was found. Specifically, it appears that older



students reported higher levels of TA. It may be that the changing demographics of college students may be related to these findings (National Center for Education Statistics, 2002). Research has shown that nontraditional students do experience more strain from their multiple roles. For the current sample, it was found that increase in age is related to increased time spent in outside responsibilities and a larger number of children living in the home. Increased age was also found to be related to increased levels of reported anxiety about the EWC and writing. It is possible that the added stress of outside responsibilities, including caring for children, increases these students' anxiety about academic performance. Another possible explanation for this result is that the nontraditional students of this particular campus may have aspects unique to them which affected the results of the study. There may also be differences on those nontraditional students who choose to attend HBCUs versus those who choose to attend predominantly White schools. One possible difference is that these students are of a lower SES (Podesta, 2009), resulting in more time spent working and an overall higher level of stress. Another difference may be the stage of acculturation. It seems possible that those who choose to attend predominantly White schools would be more assimilated into the majority culture (Hayes, 2009).

As writing anxiety was found to be related to test anxiety (Smith & Nelson, 1994), it was also predicted that older students would report lower levels of writing anxiety. No significant relationship was found between these two variables. However, as noted above, older student did tend to report higher levels of anxiety about writing when directly asked about this. Specifically, they reported higher frequencies of experiencing anxiety related to writing assignments or essay exams. They also indicated higher scores

on an item asking the extent to which they believe their anxiety about writing is excessive or greater than their peers. Faculty should be aware that older students in their classes may be at greater risk for experiencing elevated levels of anxiety and may require assistance to keep the anxiety from inhibiting their performance. It is worth noting that neither age, nor any other demographic variable, was found to be related to EWC score or outcome. However, as age was found to be related to an increase in the amount of time spent in outside responsibilities, it may be indirectly related to achievement, including writing competency.

It should be noted that the mean score for the sample on the Writing Apprehension Test (WAT,  $M = 89.53$ ) is slightly higher than what was originally found ( $M = 79.28$ ) by Daly and Miller (1975). Though the mean score for the current study is within the standard deviation for the original, it appears that the participants may have been experiencing higher levels of writing apprehension than would typically be expected, which could be attributed to the fact that all participants were preparing for a writing examination with considerable consequences (i.e., whether the student can graduate). If the general level of writing apprehension was somewhat elevated, it is possible that this impacted the results of the comparison between writing apprehension and age. It is also possible that there may have been mediating factors, such as outside responsibilities interfering with the amount of time older participants are able to devote to academics, thereby increasing their anxiety levels.

Finally, the study also tested the hypotheses that higher levels of trait anxiety, as measured by the trait scale of the State-Trait Anxiety Inventory (STAI), would be associated with higher levels of TA and writing apprehension. No relationship was found

between trait and test anxieties. The mean level of trait anxiety reported ( $M = 35.56$ ) is consistent with those reported by Spielberger (1983) in his norming population ( $M = 38.3$  for males and  $M = 40.40$  for females). Higher levels of trait anxiety were found to be associated with lower levels of writing apprehension, the opposite of what was expected. As noted above, the mean level of writing apprehension was slightly higher for the study sample than for the norming population used for the WAT. It is possible that the overall elevation of writing apprehension masked the relationship between trait anxiety and writing apprehension. In prior research Reed and Keeley (1986) found that the WAT failed to predict writing quality in their sample. They also noted that the WAT may in fact assess attitudes about writing rather than writing apprehension. This is supported by the WAT's significant positive correlation to the WSRES in this study.

#### Limitations of Current Study and Directions for Future Research

A major limitation of the current study is the number of individuals who began but did not complete the survey. Other limitations include the small number of participants who did not pass the EWC as well as a small percentage of male participants. It is hard to imagine that these factors did not impact the results. In fact, there may have been a bias that those who completed the survey were better prepared for the test in some way than those who did not pass and did not participate in the survey, whether it was that they were less anxious, better writers, or were better prepared in some other way. Another possible explanation for the large number of students who did not give consent to obtain the EWC results is concerns about privacy. Having to provide their student ID number may have kept some of these students from participating. A combination of these factors is the most likely. In any case, these factors would greatly limit the study's

ability to generalize to the campus population as it is likely that the sample is not representative of that population. Finally, the validity of the WAT as a measure of writing apprehension is in question. If this measure does not assess writing apprehension, this would certainly impact the results of the study. Also, counterbalancing of materials was not possible in the online program used to gather data. This may have impacted the responses on the later materials.

As the focus of this study was TA, writing apprehension, and non-traditional student factors, whether an individual's writing skills predicted outcome on the EWC was not assessed. This would likely be a major focus of any future research on writing competency and examinations assessing it. Other suggested topics for future research would be to compare the results of examinations similar to the EWC across populations. Determining whether anxiety levels and other factors, such as effort in preparation and time spent in outside responsibilities, may mediate or moderate other variables' relationship with writing competency would also be highly beneficial. As previous research has shown a link to writing competency, assessing the impact of handwriting fluency on this EWC and similar exams would also be recommended.

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## APPENDIX A

## Daly-Miller Writing Apprehension Test

Below are a series of statements about writing. There are no right or wrong answers to these statements. Please indicate the degree to which each statement applies to you by circling whether you **(1) strongly agree, (2) agree, (3) are uncertain, (4) disagree, or (5) strongly disagree** with the statement. While some of these statements may seem repetitive, take your time and try to be as honest as possible. Thank you for your cooperation in this matter.

- |   |   |   |   |   |   |
|---|---|---|---|---|---|
| 1. I avoid writing.   | 1 | 2 | 3 | 4 | 5 |
| 2. I have no fear of my writing being evaluated.                                    | 1 | 2 | 3 | 4 | 5 |
| 3. I look forward to writing down my ideas.   | 1 | 2 | 3 | 4 | 5 |
| 4. I am afraid of writing essays when I know they will be evaluated.                | 1 | 2 | 3 | 4 | 5 |
| 5. Taking a composition course is a very frightening experience.                    | 1 | 2 | 3 | 4 | 5 |
| 6. Handing in a composition makes me feel good.                                     | 1 | 2 | 3 | 4 | 5 |
| 7. My mind seems to go blank when I start to work on a composition.                 | 1 | 2 | 3 | 4 | 5 |
| 8. Expressing ideas through writing seems to be a waste of time.                    | 1 | 2 | 3 | 4 | 5 |
| 9. I would enjoy submitting my writing to magazines for evaluation and publication. | 1 | 2 | 3 | 4 | 5 |
| 10. I like to write my ideas down.  | 1 | 2 | 3 | 4 | 5 |
| 11. I feel confident in my ability to clearly express my ideas in writing.          | 1 | 2 | 3 | 4 | 5 |
| 12. I like to have my friends read what I have written.                             | 1 | 2 | 3 | 4 | 5 |
| 13. I'm nervous about writing.  | 1 | 2 | 3 | 4 | 5 |
| 14. People seem to enjoy what I write.  | 1 | 2 | 3 | 4 | 5 |
| 15. I enjoy writing.  | 1 | 2 | 3 | 4 | 5 |

16. I never seem to be able to clearly write down my ideas.	1	2	3	4	5
17. Writing is a lot of fun.	1	2	3	4	5
18. I expect to do poorly in composition classes even before I enter them.	1	2	3	4	5
19. I like seeing my thoughts on paper.	1	2	3	4	5
20. Discussing my writing with others is an enjoyable experience.	1	2	3	4	5
21. I have a terrible time organizing my ideas in a composition course.	1	2	3	4	5
22. When I hand in a composition I know I'm going to do poorly.	1	2	3	4	5
23. It's easy for me to write good compositions.	1	2	3	4	5
24. I don't think I write as well as most other people.	1	2	3	4	5
25. I don't like my compositions to be evaluated.	1	2	3	4	5
26. I'm not good at writing.	1	2	3	4	5

## APPENDIX B

## Writing Beliefs Inventory

Using the scale below, please circle the number that corresponds to your level of agreement or disagreement with each of the following statements.

- |     | <b>Disagree</b> |   | <b>Somewhat</b> |   | <b>Somewhat</b> |  | <b>Agree</b>  |  | <b>Agree</b> |  | <b>Uncertain</b> |
|-----|-----------------|---|-----------------|---|-----------------|--|---|--|--------------|--|------------------|
|     | <b>1</b>        |   | <b>2</b>        |   | <b>3</b>        |  | <b>4</b>  |  | <b>5</b>     |  |                  |
| 1.  | 1               | 2 | 3               | 4 | 5               |  | Good writers include a lot of quotes from authorities in their writing.                 |  |              |  |                  |
| 2.  | 1               | 2 | 3               | 4 | 5               |  | Writing requires going back over it to improve what has been written.                   |  |              |  |                  |
| 3.  | 1               | 2 | 3               | 4 | 5               |  | Writing's main purpose is to give other people information.                             |  |              |  |                  |
| 4.  | 1               | 2 | 3               | 4 | 5               |  | Writing is a process involving a lot of emotion.  |  |              |  |                  |
| 5.  | 1               | 2 | 3               | 4 | 5               |  | A primary goal of writing should be to have to make as few changes as possible.         |  |              |  |                  |
| 6.  | 1               | 2 | 3               | 4 | 5               |  | I strive to make my writing distinctive.  |  |              |  |                  |
| 7.  | 1               | 2 | 3               | 4 | 5               |  | Writing should focus around the information in books and articles.                      |  |              |  |                  |
| 8.  | 1               | 2 | 3               | 4 | 5               |  | Good writing involves editing it many times.  |  |              |  |                  |
| 9.  | 1               | 2 | 3               | 4 | 5               |  | The key to successful writing is accurately reporting what authorities think.           |  |              |  |                  |
| 10. | 1               | 2 | 3               | 4 | 5               |  | Writing often involves peak experiences.  |  |              |  |                  |
| 11. | 1               | 2 | 3               | 4 | 5               |  | Writing's main purpose is getting information across to readers.                        |  |              |  |                  |
| 12. | 1               | 2 | 3               | 4 | 5               |  | Writing helps me understand better what I'm thinking about.                             |  |              |  |                  |
| 13. | 1               | 2 | 3               | 4 | 5               |  | Good writers stick closely to the information they have about a topic.                  |  |              |  |                  |
| 14. | 1               | 2 | 3               | 4 | 5               |  | I always feel that just one more revision will improve my writing.                      |  |              |  |                  |
| 15. | 1               | 2 | 3               | 4 | 5               |  | The most important reason to write is to report what authorities think about a subject. |  |              |  |                  |
| 16. | 1               | 2 | 3               | 4 | 5               |  | Writing helps me see the complexity of ideas.   |  |              |  |                  |
| 17. | 1               | 2 | 3               | 4 | 5               |  | My thoughts and ideas become more clear to me as I write and rewrite.                   |  |              |  |                  |
| 18. | 1               | 2 | 3               | 4 | 5               |  | Writer's views should show through in their writing.                                    |  |              |  |                  |
| 19. | 1               | 2 | 3               | 4 | 5               |  | Writing is often an emotional experience.   |  |              |  |                  |
| 20. | 1               | 2 | 3               | 4 | 5               |  | Writers need to immerse themselves in their writing.                                    |  |              |  |                  |



## APPENDIX C

## Writing Self-Regulatory Efficacy Scale

This questionnaire is designed to help us get a better understanding of the kinds of writing that are difficult for students. Please tell us how well you can do the things listed below at the present time by entering a number to the left of each item. Please be as frank as possible with your answers. Use the following scale to determine your responses:

Not well at all		Not too well		Pretty well		Very well
1	2	3	4	5	6	7
_____	1.	When given a specific writing assignment, I can come up with a suitable topic in a short time.				
_____	2.	I can start writing with no difficulty.				
_____	3.	I can construct a good opening sentence quickly.				
_____	4.	I can come up with an unusual opening paragraph to capture the reader's attention.				
_____	5.	I can write a brief but informative overview that will prepare readers well for the main thesis of my paper.				
_____	6.	I can use my first attempts at writing to refine my ideas on a topic.				
_____	7.	I can adjust my style of writing to suit the needs of any audience.				
_____	8.	I can find a way to concentrate on my writing even when there are many distractions around me.				
_____	9.	When I have a pressing deadline on a paper, I can manage my time efficiently.				
_____	10.	I can meet the writing standards of an evaluator who is very demanding.				
_____	11.	I can come up with memorable examples quickly to illustrate an important point.				
_____	12.	I can rewrite my wordy or confusing sentences clearly.				
_____	13.	When I need to make a subtle or an abstract idea more imaginable, I can use words to create a vivid picture.				

- \_\_\_\_\_ 14. I can locate and use appropriate reference sources when I need to document an important point.
- \_\_\_\_\_ 15. I can write very effective transitional sentences from one idea to another.
- \_\_\_\_\_ 16. I can refocus my concentration on writing when I am worried or find myself thinking about other things.
- \_\_\_\_\_ 17. When I write on a lengthy topic, I can create a variety of good outlines for the main sections of my paper.
- \_\_\_\_\_ 18. When I want to persuade a skeptical reader about a point, I can come up with a convincing quote from an authority.
- \_\_\_\_\_ 19. When I get stuck writing a paper, I can find ways to overcome the problem.
- \_\_\_\_\_ 20. I can find ways to motivate myself to write a paper even when the topic holds little interest for me.
- \_\_\_\_\_ 21. When I have written a long or complex paper, I can write a good concluding section that ties all parts together.
- \_\_\_\_\_ 22. I can revise a first draft of any paper so that it is shorter and better organized.
- \_\_\_\_\_ 23. When I edit a complex paper, I can find and edit all my grammatical errors.
- \_\_\_\_\_ 24. I can find other people who will give critical feedback on early drafts of my paper.
- \_\_\_\_\_ 25. When my paper is written on a complicated topic, I can come up with a short informative title.

## APPENDIX D

## Demographics Questionnaire

1. What is your gender?            MALE            FEMALE
  
2. What is your current age? \_\_\_\_\_  
 How old were you when you stated college? \_\_\_\_\_
  
3. What is your major? \_\_\_\_\_
  
4. What is your current class standing?  
       \_\_\_\_\_ Sophomore  
       \_\_\_\_\_ Junior  
       \_\_\_\_\_ Senior  
       \_\_\_\_\_ Other: \_\_\_\_\_
  
5. Are you of Hispanic or Latin descent?            YES            NO
  
6. What is your race/ethnicity?  
       \_\_\_\_\_ African American/Black  
       \_\_\_\_\_ Asian or Asian American  
       \_\_\_\_\_ Caucasian/White  
       \_\_\_\_\_ Native American  
       \_\_\_\_\_ Other: \_\_\_\_\_
  
7. How many times have you previously taken the examination of writing competency (EWC)? (Do not count the one you are about to take this semester.)  
       \_\_\_\_\_ I have not previously taken the EWC.  
       \_\_\_\_\_ 1  
       \_\_\_\_\_ 2

\_\_\_\_ 3

\_\_\_\_ More than 3

8. If this is not the first time you have taken the EWC, why do you believe you did not pass? (Check all that apply.)

\_\_\_\_ My writing skills were not strong enough.

\_\_\_\_ I did not understand what I was supposed to do.

\_\_\_\_ I did not prepare for the exam.

\_\_\_\_ The exam was not graded fairly.

\_\_\_\_ Other (please explain): \_\_\_\_\_

\_\_\_\_\_

9. How much stress, tension, or anxiety do you feel about the EWC?

None	A little	A moderate amount	Quite a bit	An Extreme amount
------	----------	----------------------	-------------	----------------------

1	2	3	4	5
---	---	---	---	---

10. Which of the following have you done to prepare for the EWC? (Check all that apply.)

\_\_\_\_ I have attended an informational session with Remica Bingham.

\_\_\_\_ I have visited ACCESS for writing assistance.

\_\_\_\_ I have attended all seminars on the EWC through the English and Foreign Languages Department.

\_\_\_\_ I have attended some of the seminars on the EWC through the English and Foreign Languages Department.

\_\_\_\_ I have sought help for my writing from a professor or staff member.

\_\_\_\_ Other: \_\_\_\_\_

11. Which of the following do you plan to do to prepare for the EWC? (Check all that apply but do not include activities you checked in item 8.)

\_\_\_\_ I will attend an informational session with Remica Bingham.

\_\_\_\_\_ I will visit ACCESS for writing assistance.

\_\_\_\_\_ I will attend all seminars on the EWC through the English and Foreign Languages Department.

\_\_\_\_\_ I will attend some of the seminars on the EWC through the English and Foreign Languages Department.

\_\_\_\_\_ I will seek help for my writing from a professor or staff member.

\_\_\_\_\_ Other: \_\_\_\_\_

12. If you have previously taken the EWC, have you received feedback on your performance on the EWC from Remica Bingham? YES NO

12a. If YES: How helpful was it?

Not at All	Somewhat	Average	Very	A Great Deal
1	2	3	4	5

Why was it or why was it not?

13. How often are you asked to write papers for a typical class in your major?

\_\_\_\_\_ Never

\_\_\_\_\_ Once per semester

\_\_\_\_\_ 2 to 3 times per semester

\_\_\_\_\_ 4 to 5 times per semester

\_\_\_\_\_ 5 or more times per semester

14. How often do you have essay exams in a typical class in your major (include any exam that has at least 1 essay question)?

\_\_\_\_\_ Never

\_\_\_\_\_ Once per semester

\_\_\_\_\_ 2 to 3 times per semester

\_\_\_\_\_ 4 to 5 times per semester

\_\_\_\_\_ 5 or more times per semester

15. How much feedback have you received about your writing from any professors?

None	A little	A moderate amount	Quite a bit	An Extreme amount
------	----------	----------------------	-------------	----------------------

1	2	3	4	5
---	---	---	---	---

If you have received feedback, what have you been told?

16. To what extent have you sought help for your writing skills?

None	A little	A moderate amount	Quite a bit	An Extreme amount
------	----------	----------------------	-------------	----------------------

1	2	3	4	5
---	---	---	---	---

17. How would you rate your writing skills?

\_\_\_\_\_ Poor

\_\_\_\_\_ Fair

\_\_\_\_\_ Average or Adequate

\_\_\_\_\_ Above average

\_\_\_\_\_ Excellent

18. How often do you feel stressed, tense, or anxious about writing assignments or essay exams?

Never	Rarely	Sometimes	Often	All the time
-------	--------	-----------	-------	--------------

1	2	3	4	5
---	---	---	---	---

If you ever feel stressed, tense or anxious about writing assignments or essay exams, to what extent do you feel the stress, tension, or anxiety you feel is excessive or more than others experience?

Never      Rarely      Sometimes      Often      All the time

1              2              3              4              5

19. How often do you feel stressed, tense, or anxious about multiple choice exams?

Never      Rarely      Sometimes      Often      All the time

1              2              3              4              5

If you ever feel stressed, tense or anxious during multiple choice exams, to what extent do you feel the stress, tension, or anxiety you experience is excessive or more than others experience?

Never      Rarely      Sometimes      Often      All the time

1              2              3              4              5

20. On average, how many hours do you spend working at a job **OFF**-campus?

per weekday \_\_\_\_\_?

per weekend day \_\_\_\_\_?

21. On average, how many hours do you spend working at a job **ON**-campus?

per weekday \_\_\_\_\_?

per weekend day \_\_\_\_\_?

22. On average, how many hours do you spend on family responsibilities (e.g., caring for or spending time with your children/other family members, household chores, paying bills, etc.?)

per weekday \_\_\_\_\_?

per weekend day \_\_\_\_\_?

23. On average, how many hours do you spend in non-academic extra-curricular activities (e.g., band, choir, sports, recreational activities)?

per weekday \_\_\_\_\_?

per weekend day \_\_\_\_\_?

24. Do you have children? YES NO

If YES, how many? \_\_\_\_\_; How many live with you? \_\_\_\_\_



## APPENDIX E

### Informed Consent

Welcome! You have been invited to participate in a research study examining factors that may predict the outcome of the Examination of Writing Competence (EWC). This study has been approved by the Human Subjects Institutional Review Board of Norfolk State University. Your participation is voluntary which means you can choose whether or not you want to participate. If you choose not to participate, or later decide that you no longer wish to participate, you will not lose any benefits to which you are otherwise entitled. Each participant will be asked to complete a form with demographic information and your academic experiences at NSU, as well as a few questionnaires about your experiences with writing and tests. You will also be asked to sign a form, granting the researcher permission to obtain your EWC results from the EWC Coordinator. Only the research team will have access to any research data. Neither your name nor any individually identifying information will be attached to any of the data reported. The entire process should take no more than 15-20 minutes.

There is potential for harm in all research. The possible harms in this study include becoming frustrated with the surveys or from discovering an academic difficulty or problem of which you were previously unaware. Should your participation raise any concerns about yourself for which you feel the need to seek help, please contact the Counseling Center in the Student Center where you may receive confidential assistance (757-823-8173).

For your participation, you will be entered into a drawing for one of several \$50 gift certificates to Barnes & Noble Booksellers/NSU bookstore.

By choosing to continue with the survey you are acknowledging that you have read and understand the information obtained on this page and are agreeing to participate in the study. Should you have any questions about the study at any time, please feel free to contact the primary researcher, Carrie Smith, at [c.d.smith@nsu.edu](mailto:c.d.smith@nsu.edu), or the faculty advisor for the project, Dr. Hacker, at [dshacker@nsu.edu](mailto:dshacker@nsu.edu) or 757-823-2228. We sincerely appreciate your willingness to participate.

## VITA

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### EDUCATION

2004-present

#### **Virginia Consortium Program in Clinical Psychology**

University-based, APA accredited program, jointly sponsored by: The College of William & Mary, Eastern Virginia Medical School, Norfolk State University, and Old Dominion University  
Psy.D., expected 12/09

2004-2006

#### **Norfolk State University**

M.A., Community/Clinical Psychology

1998-2002

#### **Albright College**

B.A., Psychology and English  
Magnum cum laude

### ADVANCED TRAINING

**POST DOCTORAL  
RESIDENCY**  
9/09-Present

**PENNSYLVANIA COUNSELING SERVICES,**  
Lancaster, Pennsylvania

*Population:* Adults, adolescents, and children

*Responsibilities:* Conduct intake interviews and individual, and group psychotherapy

*Supervision:* 2 hrs. individual supervision/45 hrs. on site/wk

**INTERNSHIP**  
8/08-8/09

**APPALACHIAN RURAL CONSORTIUM,**  
APA accredited internship  
Hazard, Kentucky

*Population:* Adults, adolescents, and children; Inpatient and outpatient rotations.

*Responsibilities:* Conducted intake interviews, individual and group psychotherapy, and psychological assessments

*Supervision:* 2 hrs. individual supervision/40 hrs. on site/wk

### DISSERTATION

“Test Anxiety and Other Factors as Predictors of Outcome for an Undergraduate University’s Examination of Writing Competency”

*Chair:* Desideria S. Hacker, Ph.D.

*Defended:* August 2009