Test Anxiety in Female Students with Disabilities within Limited Resource Environments

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Abstract

Test anxiety affects 20% of students in schools (Wilson & Rotter, 1986) and of that number, girls have shown to be more susceptible to test anxiety (Cassady & Johnson, 2001). Prior research supports the claim that girls are more affected by test anxiety than boys. Although there is much research in the area of test anxiety, there is significantly less research addressing its affect in girls with disabilities, and even less addressing their performance on timed versus untimed tests. This study aims to examine test anxiety in girls with disabilities through a self-report style questionnaire. The results from the survey will determine what factors contribute to test anxiety as well as the type of test anxiety most girls with disabilities experience.
While there is a plethora of material regarding test anxiety, there is a limited amount of research examining the effects of test anxiety in girls with disabilities within limited resource environments. The purpose of the study is to bring breath to this area of research. The underpinnings of this study focus specifically on gender, disabilities, and anxiety. The combination of these foci is vital in research and more importantly in schools as the United States continues to be vested in the No Child Left Behind Act (NCLB) climate that began in 2001. The US has and will continue to implement high stakes testing in the schools as a tool to facilitate measures of student and overall state performance in public school systems. High stakes testing is known to increase test anxiety by raising an evaluative threat for the student (Johnson, 2008). While there are benefits to NCLB, (e.g., holding states accountable for educating all students to a proficient level), there are many draw backs (Roller, n. d., p. 1). One drawback among many is an increase in test anxiety in students (Fritz, 2007).

The hypothesis of the present study builds on prior knowledge and research that girls are more affected by test anxiety than their male counterparts (Chapell, Blanding, Silverstein, Takahashi, Newman, Gubi, & McCann, 2005; Halldorsson & Olafsson, 2009; Lowe & Lee, 2008), and bridges into the concept that girls with disabilities will report higher levels of anxiety than their age- and gender-matched peers (Riddick et al., 1999). The results will be useful because they can broaden the discussion related to girls with disabilities and further investigate test anxiety in the female population. Further, it should foster the formation of preventative strategies for test anxiety in the classroom and stimulate quality services within limited resource environments specific to girls with disabilities.
Review of the Literature

Test anxiety is a complex discussion because of the many factors that contribute to its manifestation. These factors will be further discussed in the latter sections as they range from environmental to biological. Although much research has investigated test anxiety in typically developing persons, it has lacked research in the realm of disabilities, especially in girls with disabilities. In order to support the current research and bridge its application to persons with disabilities, the definition of test anxiety should be clarified as the academic language varies from multiple disciplines examining test anxiety.

Definitions

According to some researchers, test anxiety (TA) is a form of trait anxiety, meaning it is a dispositional or a personality characteristic (Lufi & Darliuk, 2005). Yet for others, test anxiety is a form of state anxiety characterized by worry and tension that is temporary and may change in intensity (Carroll & Iles, 2006; Lufi & Darliuk, 2005). Holzer, Madaus, Bray, and Kehle (2009) illustrate the difference between trait and state anxiety as “state anxiety refers to the feelings of anxiety at the moment of the test and trait anxiety refers to TA as a general characteristic of an individual” (p. 44). Further, test anxiety in terms of state anxiety is also known as “evaluative stress and performance anxiety” (Johnson, 2008, p. 1).

In accordance with this information, prior research has shown an overwhelming understanding that state test anxiety is comprised of two components. The first being emotionality (the physiological component), characterized by perspiration, respiration, heart rate, blood pressure, and muscle tension (Johnson, 2008). The second being worry (the cognitive component), impeding learning and hindering retrieval with disconnected thoughts (Johnson, 2008). Prior research showed trait anxiety to be non-significant in school age children (Lufi &
Darliuk, 2005); however, it should be addressed that state anxiety can become trait anxiety over time (Riddick, 1999), typically emerging and visible in post-secondary institutions. Several theories and models have been created for how test anxiety arises, but the theories best suited for this study include the cognitive interference model and the information processing model.

**Models**

**Cognitive interference.** The first, cognitive interference model, states that test anxiety interferes with testing (Cassady & Johnson, 2001).

**Information processing.** The second, information processing model, states that test anxiety interferes with encoding, organizing, and retrieval in learning (Cassady & Johnson, 2001; Stober & Esser, 2001).

**Combined.** The combination of these models manifests in students as the inability to perform during test situations because they are hindered by intruding thoughts throughout their attempt to retrieve information (Cassady & Johnson, 2001). Further research supports the combined models extension to embrace intruding thoughts interfering with encoding and storage as well (Cassady & Johnson, 2001; Stöber & Esser, 2001). Examples of intruding thoughts include but are not limited to worry over failure, unconnected thoughts, or even inability to confine thoughts to significant prompts and subjects (Cassady & Johnson, 2001; Johnson, 2008).

The combined models pair closely with the current study’s question regarding timed tests to provoke anxiety. One study conducted by Carroll and Iles (2006) found that timed test conditions brought about state anxiety in students whose reading ability was hindered because it fostered a stressful environment where state anxiety symptoms such as worry would appear. However, findings also indicated that students with disabilities had depressed scores in both timed and untimed tests as a result of test anxiety in its many forms, e.g., trait anxiety as
discussed earlier (Carroll & Iles, 2006). Yet other researchers found that students with and without learning disabilities show significant improvement on test performance in untimed testing environments (Lesaux, Pearson, & Siegel, 2006) because it alleviates the stress associated with timed testing.

Regardless of the variance between researchers on other aspects of anxiety, females were shown to be more prone to anxiety-related symptoms than males (Carroll & Iles, 2006). Further, students with disabilities have been shown to lack study strategies as well as being driven by motivational thoughts of the fear of failing (Bryan, 1983). The concern arises with the added stress of high stakes testing in schools where girls are known to be more prone to test anxiety in addition to the knowledge that students with disabilities may lack study strategies, which potentially places girls with disabilities at significantly higher risk for failure. Although there is one accommodation widely used in schools to combat anxiety associated with timed tests, (i.e., extended test time), it is not a bullet-proof solution (Holzer, Madaus, Bray, & Kehle, 2009; Lovett, 2007).

**Test Anxiety in Typically Developing Students**

**Age/grade and SES factors.** An exploratory study conducted by Putwain (2008) examined two questions not addressed in the current literature: (1) Does a relationship exist between test anxiety and performance among UK students? (2) If a relationship exists, do gender and socioeconomic status contribute? Five hundred fifty eight, year 11 students between the ages of 15 and 16 from three secondary schools in the U.K. were examined for the study. Each student completed the Test Anxiety Inventory (TAI), and the General Certificate of Secondary Education (GSCE). The questionnaire explored gender and socioeconomic background (SEB).
In order to better define SEB, the author categorized SEB according to a four point categorical scale provided by the Office for National Statistics: Routine/Manual (R & M), Intermediate (INT), Managerial/Professional (M&P), and Not Classified (NC). NC consisted of persons who were retired, unemployed, or full time students. The results from these assessments revealed worry accounts for 7% of the variance in the total GSCE, gender and SEB account for 6% of the variance in the total GSCE, and lower GSCE scores were correlated with students from INT and R & M backgrounds. The implications of the study expose the need for cognitive strategies to overcome test anxiety and highlight the importance of these strategies for individuals from specific SEBs. Although the study is based in the UK, it can be applied to the US and paralleled to similar assessments and demographics.

**Ethnicity and related factors.** Putwain (2007) conducted research among 1,348 UK students between the ages of 14 and 16 in grades 10 and 11 with the intention to generalize international data concerning test anxiety to this population. Putwain used the Test Anxiety Inventory (TAI) and a Student Profile Questionnaire (SPQ) to examine the cognitive (worry) and physiological (emotionality) aspects of test anxiety as well as other factors (e.g., socioeconomic status, ethnic background, etc.). The results were consistent with international findings that females conveyed higher levels of test anxiety than males, especially in the area of emotionality and that students from low socioeconomic backgrounds expressed higher levels of test anxiety. Another related finding was that white ethnic backgrounds reported lower test anxiety than Asian, Black, or other ethnic backgrounds. The final interesting finding was those students who do not speak English as their first language showed higher levels of test anxiety.

**Gender factors.** Halldorsson and Olafsson (2009) analyzed data collected in 2000, 2003, and 2006 from the Program for International Student Assessment (PISA) comparing Iceland and
41 other countries. The annual Icelandic national standards test indicated a female advantage at 4th and 7th grades. It was the only country that demonstrated a female advantage not only in reading literacy, but also in science and mathematics. The significant differences between males and females in Iceland brought about much media attention, and so the authors sought to explain the differences. They attribute the differences to low versus high stakes testing, regional effects in gender difference, and school variability in gender difference, and psychological factors.

The first attribute of low versus high stakes testing shows females place more personal value on effort and are concerned with achievement (note: they exhibit more test anxiety). According to PISA, girls will try their best in low stakes testing too. The next attribute, regional effects in gender difference, emphasizes religion, culture, and area as affecting the importance of the education of girls. The authors gave an example of Protestant versus Catholic mothers in Switzerland. The research shows that Protestant women are raised to be model citizens and teach their children to be also, whereas Catholic women are raised to be pious housekeepers and take care of the elderly. In this instance, the ratio of Protestant educated boys to girls was reported as 3.2:1, whereas the ratio of educated Catholic boys to girls was 4.75:1. The last two attributes can be summed as the educational system and climate along with extrinsic and intrinsic factors as influencing how females prosper in their education.

**Personality and miscellaneous factors.** Results from a study conducted by Chamorro-Premuzic, Gorkan, and Furnham (2008) reported test anxiety was a function of neuroticism. As defined by the study, neuroticism is “one’s tendency to experience negative affect, increased levels of worry, and pessimistic beliefs” (pp. 259). The core self-evaluations (CSE) and self-assessed intelligence (SAI) were found to not be significant predictors of test anxiety. The implications of the study include: (1) personality inventories are better predictors of test anxiety
than self-belief measures, and (2) psychological and educational inventions can be tailored to students indicating higher levels of neuroticism on personality inventories. While Chamorro-Premuzic, Gorkan, and Furnham (2008) correlated neuroticism to test anxiety, other researchers found additional personality factors that contribute to the intensity of test anxiety.

Eum and Rice (2011) found adaptive perfectionistic students endorsed approach goals over avoidance goals, emphasized mastery over performance, were more likely to endorse intrinsic than extrinsic motivation for learning, and expressed interest in making the most out of achievement situations, whereas maladaptive perfectionistic students endorsed goal orientations consistent with fear of failure and concerns regarding their inadequacy in mastering material, and were highly likely to experience cognitive test anxiety. Perfectionism can become problematic under stressful situations with either student. The researchers further found 50% of variance was attributed to gender. Perfectionism seems to be a common contributor to test anxiety across cultures as well.

Moore (2010) wanted to explore the relationship between perfectionism and test anxiety, which has been briefly researched in the literature. More specifically, she examined passive and active perfectionism with test anxiety in two domains-writing and mathematics. Passive perfectionism was characterized as persons who are concerned about mistakes and doubt; whereas, active perfectionism was characterized as persons who have high personal standards, organization, and favorable perceptions of both parental expectations and criticism. Using the Writing Apprehension Test, the Fennema-Sherman Mathematics Anxiety Scale, and the Multidimensional Perfectionism Scale with 307, year 10 Australian high school students, the author reported significant findings that students with higher passive perfectionism had higher levels of mathematics and writing anxiety than those with lower passive perfectionism. However,
there were no significant outcomes for students with active perfectionism having mathematics or writing anxiety.

**Test Anxiety in Students with Disabilities**

Keeping these factors in mind, test anxiety affects not only students with disabilities but also students without disabilities (Carroll & Iles, 2006). For some, test anxiety is a mere nuisance while for others it is debilitating to their education (Wachelka & Katz, 1999). Prior research has revealed age, gender, ethnicity, and even disability contribute to the severity of test anxiety in various individuals. One study conducted by Fulk, Brigham, and Lohman (1998) emphasized the importance of these factors in terms of test anxiety when examining three heterogeneously mixed groups. The groups were categorized as learning disabled (LD), emotional/behaviorally disturbed (EBD), and average achievement (AA). Each group was asked to fill out three self-report surveys regarding their motivation and anxiety in one session that lasted approximately 40 minutes. The results revealed participants with EBD felt more anxious during testing situations than either the LD or AA groups. Further questionnaires showed significant differences in participants with LD having a less positive outlook about school and being more motivated to work than either their peers with EBD or AA. Further analysis revealed significant gender differences showing girls were more agreeable than boys in terms of community spirit, self-sacrifice, and helping others (Selkirk et al., 2011; Fulk, Brigham, & Lohman, 1998).

**Academic performance.** Chapell, Blanding, Silverstein, Takahashi, Newman, Gubi, and McCann (2005) examined 4,000 undergraduates and 1,414 graduate students. They reported a significant relationship between test anxiety (TA) and academic performance (GPA) after evaluation of materials. The researchers examined their sample in several ways, including undergraduate versus graduate, male versus female and low test anxiety versus high test anxiety.
The researchers examined participants based on a one-page document containing questions about age, sex, student status, major, academic performance (GPA), and socioeconomic status (SES), and the one-page Test Anxiety Inventory (TAI). The analysis of this information revealed both graduate and undergraduate low-anxiety students have higher GPAs than high-anxiety students (e.g., B+ versus B). The results further revealed there was no significant difference between low- and high-anxiety students in male graduate students, but undergraduate and graduate females with high-anxiety have higher GPAs than males. It can be gleaned from the results that there is a relationship between TA and GPA. The research indicated a decrease in performance among high anxiety students in comparison to their low anxiety peers, which makes it an issue if these high anxiety students are not found early and taught strategies to alleviate test anxiety.

**Strategies Used to Alleviate Test Anxiety**

**Extended time.** The relationship between extended test time and test anxiety has not been thoroughly explored in the research, meaning that it cannot be determined whether it is beneficial for persons with test anxiety (Holzer, Madaus, Bray, & Kehle, 2009). As previously stated, students with disabilities are known to have “fewer test-taking skills” than students without disabilities, meaning the issue of extra time may not help the score (Holzer, Madaus, Bray, & Kehle, 2009). Additionally some current literature hypothesizes that extended test time may help students with slower reading processing rates, but not with test anxiety per say. Holzer et al. believe extended test time is inappropriately attributed to lessening test anxiety when in reality it just allows more processing time for reading.

**Relaxation techniques.** A similar study to the proposed study was conducted by Spillios and Janzen (1983) who examined boys with disabilities. Although the study’s focus was boys with disabilities, there is no significant research on girls with disabilities to compare. Therefore,
Spillios and Janzen’s study is an excellent catalyst for the current study. The study used relaxation techniques to eliminate anxiety, including several investigative aspects that coincided with the proposed study in girls with disabilities. The researchers separated the boys ranging in age from 9 to 12 into two groups. One group received relaxation therapy and the other group did not. The students were given a survey to measure anxiety levels before and after an administered test. The researchers found no significant improvement with therapy, indicating more research needs to be done on how to manage test anxiety. The results correspond with the hypothesis for the current study:

1. Girls with disabilities will have significantly depressed scores in timed test environments when compared to age-matched peers.

2. Girls with disabilities will perform as well as age-matched peers in untimed test environments.

3. Girls with disabilities will report significantly higher levels of test anxiety than their age-matched peers.

The review of the literature has clarified the definition of test anxiety in addition to gleaning the significant factors that contribute to test anxiety. In order to create breadth to the topic of test anxiety in girls with disabilities, the current study will contribute to the literature as well as investigate its manifestation in girls with disabilities by examining the factors ranging from environmental to biological. If these factors are reported during the survey by students with disabilities, then a correlation can be made between girls with disabilities and their typically developing peers.
Method

The following section describes the location, participants, instruments, procedures, and data analysis of the study. The study was conducted at two higher education institutions in the Midwest. Participants were made aware of the study via an email sent by the Office of Disability Services that contained a link to the survey. The survey consisted of multiple choice and short answer questions that contained information regarding risk factors of test anxiety from the current literature discussed in the previous section.

Location

The study was conducted at a 4-year university and a 2-year community college in a Midwestern state with the cooperation of both institutions’ Office of Disability Services. Each institution offered demographics that contributed to the generalizability of the information gleaned from the survey. The first, a 4-year university’s Office of Disability Services, supports 1,025 students. Of those students, 119 have a disclosed psychological condition as their disability. In addition, 79 reported a psychological condition co-occurring with another disability (e.g., ADHD). Gender is not tracked by the Office of Disability Services at this institution. However, it was advertised the survey was only to be taken by females in the email, which excluded males from participating in the survey.

Information was not provided regarding the demographics of the Office of Disability Services from the 2-year community college. However, the college’s demographics were provided. There are 3,577 female students attending the college, and of these, the average age is 18 to 24 years old. The majority of the student body is Caucasian and 4,223 attend classes’ part time.
Participants

The participants in the online survey were female students with disabilities who experience test anxiety and were registered with each institution of higher education’s Office of Disability Services. The university was not specified on the survey to ensure anonymous collection, thus 63 students participated from both universities.

Instruments

An online survey composed of 18 questions was used for data collection using the survey software, Qualtrics, which was made available for use by the researcher’s college through a site-license. The questionnaire consisted of 11 multiple choice and seven short answer. Of these questions, four were related to demographics and 14 were related to experiences with test anxiety. The survey did not specify age or whether the students attended the four year or two year college. Samples of the questions from the survey are listed below:

1. Have you experienced test anxiety throughout your schooling experience (primary through higher education)?
   - Yes
   - No

4. How often do you have negative thoughts that interfere with your ability to take an exam?
   - Always
   - Frequently
   - Sometimes
   - Hardly Ever
   - Never

16. What impact do you feel your test anxiety has on your academic achievement?


**Procedures**

Participants received a link to the survey via email sent by each institution’s Office of Disability Services to ensure anonymity upon approval from the Institutional Review Board (IRB). The email explained the rationale for the study and served as informed consent. After two weeks, participants were emailed reminders by their Office of Disability Services to complete the survey as well as a final reminder prior to the closing of the survey. The results were then collected and aggregated via Qualtrics for analysis.

**Data Analysis**

Qualitative data was analyzed using descriptive statistics (percentages, minimum, maximum values and standard deviations). Open-ended responses were analyzed for common themes.

**Results**

**Demographics**

The following tables summarize the demographics of the respondents. Sixty-two participants reported their annual income range and sixty four respondents reported their race. Tables 1 and 2 summarize these findings.

**Table 1.**

<table>
<thead>
<tr>
<th>Annual Income Level of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Below $20,000</td>
</tr>
<tr>
<td>$20,000</td>
</tr>
<tr>
<td>$29,999</td>
</tr>
<tr>
<td>$39,999</td>
</tr>
<tr>
<td>$49,999</td>
</tr>
<tr>
<td>$59,999</td>
</tr>
</tbody>
</table>
Table 2.

**Race of Respondents**

<table>
<thead>
<tr>
<th>Race</th>
<th>White/Caucasian</th>
<th>African American</th>
<th>Hispanic American</th>
<th>Asian</th>
<th>Native American</th>
<th>Pacific Islander</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>%</td>
<td>91</td>
<td>6</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>N</td>
<td>58</td>
<td>4</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>

**Experiences of Test Anxiety**

Due to the nature of the survey, quantitative data was analyzed using descriptive statistics. The first question asked “Have you experienced test anxiety throughout your schooling experience (primary through higher education)?” Participant responses revealed 87% (n = 55) experienced test anxiety and 13% (n = 8) did not.

**Physical Characteristics**

Participants who did experience test anxiety were asked to describe when they experienced test anxiety and how they felt. The 55 respondents who experienced test anxiety reported similar statements regarding physiological reactions. Descriptions included “I couldn’t breathe…”, “…my heart was pounding…”, and “…feel nervous in my stomach, and dizzy”. Yet other descriptions included “I get frustrated and give up”, “…negative thoughts…”, and “…stressed…”

The next question asked “How do you feel physically when you take an exam? (i.e., nauseous, sweaty, nervous, comfortable, confident, relaxed)” Of the 63 respondents, only one
individual responded “confident”. All other respondents indicated “sweaty, nervous, tense”, “sweaty, heart beats really fast”, and “nauseous, nervous, heart pounding.”

**Cognitive Characteristics**

The next question asked, “How often do you have negative thoughts that interfere with your ability to take a test?” yielded results that ranged from always to never. A total of 64 individuals responded to this question and 13 or 20% of individuals responded *always*, 19 or 30% responded *frequently*, 26 or 41% responded *sometimes*, 3 or 5% responded *hardly ever*, and 3 or 5% responded *never*. The mean was 2.44 with a variance of 1.04.

**Timed Versus Untimed**

Question 5 asked, “Do timed tests make you feel more anxious or nervous than untimed tests?” Of the 64 participants, 54 or 84% of respondents reported yes, while 10 or 16% reported no. The next question asked those who responded yes to “please explain why you think timed tests make you feel more anxious than untimed tests.” A common theme emerged from the responses that participants felt pressured for time, which triggered negative thoughts. Examples of negative thoughts included, “FAST FAST FAST” or “I won’t finish on time…”

**Test-Taking Skills**

Question 7 asked participants about personal test taking skills and how they acquired them. Two common strategies were (1) relaxation techniques that included deep breathing and finding a quiet room, and (2) process of elimination. Other strategies included memorization, note/flash cards, read out loud, and mnemonic strings. Of the 61 responses, only three individuals did not use test taking skills at all.

**Perfectionism**
The next question asked participants if they consider themselves perfectionists. The results were split in half with 32 or 50% responding positively and 32 or 50% negatively. This question was followed by a request to explain their responses. Three perfectionist styles were represented in the responses: perfectionist only about school, perfectionist about everything in life with a “…do it right the first time…” mentality, and finally “I am subpar, so I don’t even try”.

Strategies Used

Extended time. Participants were asked if they currently received extended test time (ETT). Of the 64 responses, 47 or 73% received ETT and 17 or 27% did not.

Relaxation techniques. Of the 64 participants, 38 or 59% of respondents indicated they used relaxation techniques to deal with their test anxiety while 26 or 41% reported they did not.

Specific strategies. Participants were asked what specific strategies they have used to deal with test anxiety. The majority of responses consisted of breathing techniques, medication, chewing gum, positive thinking, and meditation.

Importance of Academics

Rationale for perfectionism. Question 14 examined whether respondents viewed themselves as perfectionists because they wanted to make the most out of an academic situation. Of the 64 participants, 34 or 63% responded yes and 30 or 47% responded no.

Family’s perception of education. Another question inquired whether education was important overall for their families. Answers ranged from very important to very unimportant. Sixty three individuals responded and 54 or 86% indicated education was very important in their family, eight or 13% said neither important nor unimportant, and one individual or 2% responded very unimportant. The mean rating was 1.16 with a variance of 0.17.
Education and gender. One question asked “How important is education for girls in your family?” Of the 64 responses, 54 or 84% said very important, nine or 14% responded neither important nor unimportant, and one person or 2% selected very unimportant. The mean was 1.17 with a variance of 0.18.

Acquaintances with test anxiety. Participants were asked whether they knew female friends, family, or peers who experience test anxiety. Of the 64 respondents, 48 or 75% responded yes, while 16 or 25% answered no.

Impact. Next, participants were asked “What impact do you feel your test anxiety has on your academic achievement?” While the majority of respondents viewed it as detrimental, a few viewed it as a motivator to do well. Examples of the majority perspective included “…beaten down my spirit…”, “react or overthink”, “…second guess some of my answers”, “dropping my grades”, “fears of failing”, “harder to feel confident”, and creates an attitude of “I don’t care [anymore].”

The final question asked the participants to add anything else that would be helpful to know. To this question, 46 persons responded and revealed some interesting components. These included male dominated programs try to push females out, which causes more stress and other people in a testing room is a major distraction. The latter contribution was mentioned by participants who disclosed they have ADHD.

Discussion

The results of the present study revealed results similar to the existing literature, confirming that females with disabilities experience a significant amount of test anxiety with 87% of respondents having experienced test anxiety from primary grades through higher education. Further, the results confirm that state anxiety has become trait anxiety with the
participants as they described simultaneous physiological reactions and negative thoughts together as “…I couldn’t breathe, my mind was racing.”

In order to determine whether timed tests exacerbate test anxiety in the NCLB climate, participants were asked if they felt more nervous or anxious when they took a timed test versus untimed test. Eighty-four percent of the participants expressed feelings of nervousness and anxiety when taking a timed test. During timed tests, participants revealed feeling pressure which triggered negative thoughts such as “FAST FAST FAST.” In order to combat test anxiety triggered by timed tests, extended test time has become a common accommodation for persons with disabilities as 73% of persons surveyed received extended test time as an accommodation.

Prior research discussed perfectionism as a factor contributing to test anxiety and 50% of the participants considered themselves perfectionists. When explaining why they considered themselves perfectionists, three themes were revealed: They were only perfectionists about school, perfectionists about everything, and they would not try because they perceived they would not perform well. The latter statement was characterized by “I am subpar, so I don’t even try”. The theme of perfectionism only as related to school paralleled with perfectionists who want to make the most out of an academic situation, where 53% of the participants responded they were this type of perfectionist.

Other research looked into environmental factors contributing to test anxiety. The results from the current survey were consistent with prior research, finding 77% of participants with an annual income below $20,000 experienced test anxiety. Although the majority of students participating in the survey were Caucasian (91%), it does not mean the information is irrelevant. More research needs to be done in the future to examine other races and the relationship with test anxiety. Some studies conducted internationally focused on the importance of education within
one’s family. In the current study, 86% of respondents reported education being very important to their family. Likewise, 84% indicated education for girls within the family as being very important. In order to further inquire about relationships and test anxiety and examine its prominence, participants were asked if they knew of other female friends, family members, and peers. Interestingly, 75% of the participants reported knowing female friends, family members, and peers who also experienced test anxiety.

The participants reported using relaxation techniques, process of elimination, memorization, note/flash cards, read out loud, and mnemonic strings to study for tests and 59% of the participants reported they currently use relaxation techniques. Some additional strategies mentioned were breathing techniques, medication, chewing gum, positive thinking, and meditation. Regardless, the majority of participants perceive test anxiety as being detrimental to their academic achievement, expressing “fears of failing” and acquiring an “I don’t care” attitude.

**Recommendations**

More research needs to be done regarding girls with disabilities and test anxiety in order to move the field of special education forward. Having more knowledge about its manifestations in different disabilities within different races and within different testing situations will offer insights for future educators enabling them to provide a tailored educational program for girls with disabilities as well as bring about a change in policy for students in special education.

**Implications for Practice**

The implications for practice from the study include an insight into girls with disabilities and risk factors for test anxiety as well as their perception of how it affects their performance academically. These results will contribute to the literature on females with disabilities and test
anxiety. It is an important aspect to consider in the future of education as every teacher will cross paths with female students with disabilities and should keep strategies in mind to relieve or reduce their test anxiety. Some suggestions from prior research that the current study corroborated include extended test time and untimed tests to name a few.

Conclusions

The current study supported prior research findings, while also contributing to the discussion about test anxiety in girls with disabilities. The results confirmed the majority of girls with disabilities who suffer from test anxiety have experienced it from primary through higher education, experience emotionality and worry associated with state anxiety (e.g., nauseous and negative, intruding thoughts), become more anxious with timed tests, describe themselves as maladaptive perfectionists (e.g., fear of failure), make below $20,000 annually, are Caucasian, know other females who experience test anxiety, and feel test anxiety has a negative impact on their education. Further, the survey results were consistent with results regarding how important education was overall for their families and how important it was to educate females in their family as a factor toward test anxiety. Halldorsson and Olafsson (2009) agreed that girls in high stakes testing have higher levels of test anxiety; however, they found that females within families who found education and the education of females important and valuable were more likely to achieve strong scores academically. The current survey revealed that increased levels of test anxiety had a negative impact in school, even though the families of these girls were supportive of their education. One participant said “…I could get 1-2 grades below my true ability…”

The results also revealed helpful strategies to combat test anxiety, which included extended test time, untimed testing, and relaxation techniques. Educators should incorporate these strategies in the classroom, and actively support student’s use of relaxation techniques.
during testing situations. Since high stakes testing is not going to cycle out of the U.S. educational system, it is important to use, build upon, and research strategies to combat test anxiety in the future. Although the conversation about girls with disabilities suffering significantly from test anxiety in comparison to their age-matched peers, another discussion should begin about the different types of disabilities within the female population to observe whether one technique is more effective over another for certain disability groupings. The future of girls with disabilities who experience test anxiety is a bright one as long as the discussion of test anxiety management comes to light in the school system as standardized testing becomes the single means to measure academic success.
References


