

Continuation/Research Progression Projects Form (7)

Required for projects that are a continuation/progression in the same field of study as a previous project.
This form must be accompanied by the previous year's abstract and Research Plan/Project Summary.

Student's Name(s) Victoria Lendino

To be completed by Student Researcher: List all components of the current project that make it new and different from previous research. The information must be on the form; use an additional form for previous year and earlier projects.

Components	Current Research Project	Previous Research Project: Year: <u>2018</u>
1. Title	The Effect of Gender on Anxiety and Competitive Drive	The Effect of Gender on Anxiety and Competitive Drive
2. Change in goal/ purpose/objective	Determine relationship between gender, anxiety, and performance level in academic competition	Determine relationship between gender, anxiety, and performance level in athletic competition
3. Changes in methodology	Use math sets to simulate competition, as experiment investigating relationship between gender, anxiety, and performance level in academic competition	Use running races to simulate competition, as experiment investigating relationship between gender, anxiety, and performance level in athletic competition
4. Variable studied	Level of anxiety and performance level in three different types of academic competition: individual, same sex, coed	Level of anxiety and performance level in three different types of athletic competition: individual, same sex, coed
5. Additional changes	All participants in same level math course	Varying athletic ability among participants

Attached are:

☒ Abstract and Research Plan/Project Summary, Year _____

I hereby certify that the above information is correct and that the current year Abstract & Certification and project display board properly reflect work done only in the current year.

Victoria Lendino
Student's Printed Name(s)

Victoria Lendino
Signature

11/20/19
Date of Signature (mm/dd/yy)

Impact of Gender on Anxiety and Competitive Drive in High School Students

In athletic competitions, there are clear differences in the anxiety levels as well as the competitive drive of males and females. Understanding the connection between competitive drive and anxiety and why it differs among males and females can aid the development of a deeper understanding of the competitive dynamic of males and females. This experiment tested differences in anxiety and competitive drive between the sexes by asking high school students to take the SCAT (Sport Competition Anxiety Test) to evaluate their level of anxiety before and after racing in three scenarios: by themselves with no competition, in homogeneous competition, and in coed competition. Additionally, the experiment aimed to determine if there was a link between anxiety levels and performance level, which indicated competitive drive, and whether this varied among the sexes. It was determined that females experienced a significantly higher level of anxiety than males in noncompetitive situations, homogeneous competition, and coed competition. However, there was no clear difference between type of competition and performance between males and females. Understanding the differences in anxiety levels between the sexes and the type of competitive environment could help explain performance levels not only in athletics but also in social or workplace competition.

Victoria Lendino

Research Plan/Project Summary 2019

IRB Proposal for anxiety and competitive drive in high school students experiment

- a) **RATIONALE:** Include a brief synopsis of the background that supports your research problem and explain why this research is important and if applicable, explain any societal impact of your research.

The problem I am looking at is does anxiety among high school students in competition differ in coed or homogeneous competition. I think boys will feel less anxious than girls in each situation. This thought is influenced by Hussain et al. study that shows among females and males competing in the same sport, females have higher levels of precompetition anxiety than their male counterparts. Additionally, this is based on the literature I have read that suggests as boys and girls approach the age of puberty, boys become more competitive while girls become less competitive. One experiment that focuses on this specifically was *Gender and competition at a young age* by Gneezy et al. This experiment suggested an explanation for the decreases in competitive drive of females around the age of puberty and an increase in competitive drive in males around the same age was that evolutionarily, as males and females approach the age of reproduction, males need to compete to breed, causing an increase in competitive drive, while females are being sought after, causing them to experience a lower competition level and possibly a higher anxiety level when asked to compete. Girls drop out of high school sports at a rate of 6 times boys, so if it is evident anxiety increases for girls while they compete in coed competition when compared to individual action and homogeneous competition can help provide an answer as to why this occurs. Determining if there is a difference between males and females in anxiety in competitive situations in sports can help see if there's differences between how males and females compete in nonathletic situations (such as work).

- b) **RESEARCH QUESTION(S), HYPOTHESIS(ES), ENGINEERING GOAL(S), EXPECTED OUTCOMES:** How is this based on the rationale described above? Question: Does anxiety among female and male high school students differ in coed or homogeneous competition and does this anxiety lead to decreased performance levels?

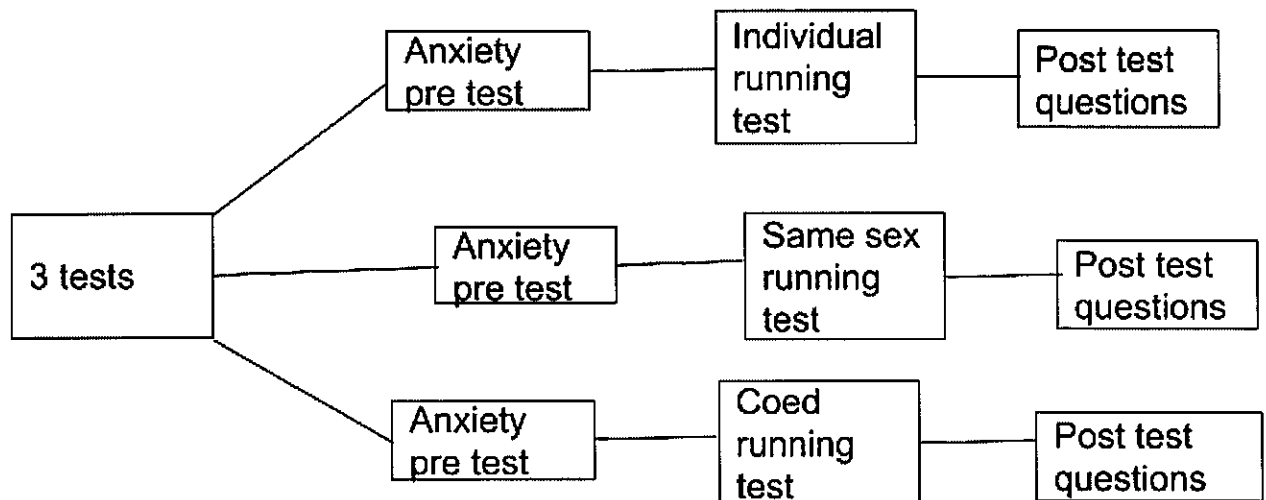
Goal: Investigate if there is a difference between the anxiety and performance both boy and girl high school aged students experience in individual competition, homogeneous competition, and coed competition.

Hypothesis: Girls will experience more anxiety and decreased performance compared to boys while competing, compared to individual race.

- c) Describe the following in detail: • **Procedures:** Detail all procedures and experimental design including methods for data collection. Describe only your project. Do not include work done by mentor or others. • **Risk and Safety:** Identify any potential risks and safety precautions needed. • **Data Analysis:** Describe the procedures you will use to analyze the data/results.

Procedure: Louis Kail agreed to help me run these tests during PE periods

1. Prior to races, each subject will take the questionnaire that will assess their baseline anxiety about competing in that race
2. Each subject will run 50 m individually and their time will be recorded
-Each gender will do their preliminary independent run surrounded only by their own gender to avoid possible anxieties caused by racing in front of peers of the opposite gender
3. After their individual run, each subject will answer a few questions (see attached) about how they felt during the race).
4. Subjects of the same grade and same gender with similar times will be paired up and race against each other
-The race will only be done in front of peers of that gender to avoid possible anxieties caused by racing in front of peers of the opposite gender
6. After their same gender competitive run, each subject answer a few questions (see attached) about how they felt during the race.
7. Girls and boys from the same grade with similar times will be paired up and race against each other
-The race will be in front of their peers from both genders
8. After their competitive race, each subject will take answer a few questions (see attached) about how they felt during the race).



Risk and safety: Louis Kail agreed to help supervise to ensure the subjects are completing the skills correctly and are staying safe.

Data analysis: The questionnaire results will be analyzed and compared pre and post activity to see if anxiety levels correlated to performance. Additionally, the answers to the comments to specific questions will be analyzed

BIBLIOGRAPHY: List major references (e.g. science journal articles, books, internet sites) from your literature review. If you plan to use vertebrate animals, one of these references must be an animal care reference.

Gneezy, U., & Rustichini, A. (2004, May). *Gender and competition at a young age*. Retrieved from <http://rady.ucsd.edu/faculty/directory/gneezy/pub/docs/gender.pdf>

Hussain, F., Zaman, A., & Idris, M. (2014, September). *Pre-competitive anxiety linked with gender difference in collegiate athletes of khyber pak* (Research Report No. ISSN: 2090-4274). Retrieved from [https://www.textroad.com/pdf/JAEBS/J.%20Appl.%20Environ.%20Biol.%20Sci.,%204\(9S\)82-93,%202014.pdf](https://www.textroad.com/pdf/JAEBS/J.%20Appl.%20Environ.%20Biol.%20Sci.,%204(9S)82-93,%202014.pdf)

Kar, S. (2013). Measurement of competition level anxiety of college level athletes by using STAI. *International Journal of Engineering Science and Innovative Technology*, 2(3), 367-375. Retrieved from <https://pdfs.semanticscholar.org/3960/8ee3982d1781683affdbb2d57728623525ed.pdf>