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The relationship between competitive trait anxiety and optimism in college aged individuals

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The relationship between trait anxiety and optimism levels in college-aged individuals

An Honors Thesis submitted in partial fulfillment of the requirements for Honors in Health and Kinesiology

By: Allison Heiskell

Abstract

The purpose of this study was to examine the relationship between competitive trait-anxiety and optimism in college students. A sample of 112 undergraduate students from a university in the Southeast completed three questionnaires: a demographics survey, a Life Orientation Test and a Sport Competition Anxiety Test. The data were then analyzed using descriptive and inferential statistics to determine if a relationship exists. The hypothesis was that there would be a negative correlation between competitive trait anxiety and optimism levels in college students. This meant that as trait-anxiety in an individual increased, the optimism level decreased. It was found that a statistically significant negative correlation existed between competitive trait anxiety and optimism, which confirmed the hypothesis. Further research should be done to see what other variables may have been a factor in why a person with high trait anxiety could have a low level optimism. The results of this study could help counselors at universities across the country work better with college students by understanding these psychological constructs more thoroughly.

Thesis Mentor: ____________________
Dr. Daniel Czech, PhD

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Dr. Steven Engel

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Health and Kinesiology
University Honors Program
Georgia Southern University
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The Relationship between Trait Anxiety and Optimism Levels in College-Aged Individuals

Chapter 1 Introduction

Undergraduate college students have faced numerous stressors unknown to them before the start of their freshman year. Anxiety has become a major problem in the college setting and is one cause of the over 1,000 suicides on college campuses per year (Emory University, 2014). Nine percent of those in college diagnosed with anxiety have seriously considered suicide. Worse than this, more than 62% of those who withdraw from college due to mental health reasons do so because of anxiety (Anxiety and Depression Association of America, 2014). This mental health problem has become an issue in the college and university setting. It affects all aspects of life including emotionally, financially, athletically, and optimistically.

The purpose of this study was to determine if there was a correlation between competitive trait-anxiety and optimism in undergraduate college students. According to Spielberger, trait-anxiety is defined as “relatively stable individual differences in the tendency towards anxiety…which would be consistent according to different situations and stable over time” as cited in Kepka et al., 2013, p. 2. While this type of anxiety is present before college begins, it can escalate with state anxiety which occurs based on surroundings. According to Scheier, optimism is defined as “a relatively stable generalized tendency to expect positive versus negative life outcomes” (as cited in Zenger, Brix, Borowski, Stolzenburg, & Hinz, 2009, p. 879). One part of trait-anxiety is evident right before competitions. Competitive trait-anxiety as defined by Martens, Vealey, & Burton (1990) is “a tendency to perceive competitive situations as threatening and to respond to these situations with feelings of apprehension and tension (p. 11). In this sense, competitive trait anxiety is a person’s natural level of anxiety before a competition begins. This study determined if there was a correlation between competitive trait-
anxiety and optimism levels. The hypothesis was that there was an inverse correlation between trait anxiety and optimism levels, meaning that as competitive trait anxiety decreased, optimism levels increased.

This quantitative, correlational study used questionnaires given to students at Georgia Southern University who volunteered to participate. The packet consisted of an Informed Consent form, demographic profile, the Sport Competition Anxiety Test, and the Life Orientation Test-Revised (LOT-R). The packets were distributed during the Spring 2015 semester by the primary investigator. The data collected were analyzed using descriptive and inferential statistics to find any correlations between the variables.

This study was based on information found in the Catastrophe Model. The Catastrophe Model states that performance is best at a medium level of physical arousal, as long as anxiety levels are low (PsychologyCampus, 2008). Therefore, performance is based on anxiety levels before the performance begins. Because trait anxiety and optimism were previously found to be inversely related (Warnecke, 2014), it was hypothesized that competitive trait anxiety and optimism were also inversely related.
Chapter 2 Review of the Literature

While numerous studies looked at competitive trait anxiety and some looked at optimism levels in college students, there were no studies that discussed a correlation between competitive trait anxiety and optimism levels. Following is a summary of the current research involving competitive trait anxiety or optimism levels.

One study on competitive trait anxiety utilized 161 female gymnasts between the ages of 10 and 12 years old who participated in both competitive and non-competitive gymnastics. The gymnasts were first divided into two groups determined by the parents’ education and socioeconomic levels. Their self-esteem and trait anxiety were measured using the Harter’s Self Perception Profile, and the State Trait Anxiety Inventory. The results concluded that recreational gymnasts had higher mean values than the competitive gymnasts in social acceptance and scholastic competence (p<.05). It was also found that within the younger gymnasts, competitive ones scored significantly higher in trait anxiety than the noncompetitive gymnasts. The primary finding was that competitive people had higher levels of trait anxiety than non-competitive people (p<.001) (Donti, 2012).

Another study looked at 329 male and female athletes at a Midwestern university. The purpose of the study was to determine if how an athlete defined success was related to their competitive trait anxiety. It was found that women reported more worry than men (p<.001), and task orientation was predictive of somatic anxiety (p<.05) (Eisenbarth, 2012).

There were also studies on non-competitive trait anxiety and optimism. One such study looked at optimism as one of five personality factors and compared each of them to trait anxiety in graduate students. The results showed a statistically significant positive correlation with
anxiety and stress, and a statistically significant negative correlation with life satisfaction and subjective happiness (p<.03) (Warnecke, 2014).

As the review of literature showed, trait anxiety was found in competitive individuals and decreased with age. Optimism decreased with increased stress and increased with decreased anxiety. Since competitive individuals were found to have higher trait anxiety and optimism increased with decreased anxiety, this study attempted to show that those with higher trait anxiety had lower optimism levels.
Chapter 3 Methodology

The purpose of this study was to determine if there was a correlation between competitive trait-anxiety and optimism in undergraduate college students. The Life Orientation Test-Revised (LOT-R) along with the Sport Competition Anxiety Test (SCAT) and a demographic questionnaire were used to address the research purpose and hypothesis.

Arrangements for Conducting the Study

The study was conducted using a sample of 112 students from Georgia Southern University. All students were undergraduates ranging from sophomores to seniors, and all had been a part of some competitive event.

Selection of Subjects

Participants were selected from the student population at Georgia Southern University and participation was voluntary. No extra credit or special privileges were given as incentive to participate in the study and no coercion was used.

Instrumentation

The demographic profile obtained descriptive data such as gender, age, and school classification (freshman, sophomore, junior, or senior). The LOT-R examined the level of optimism a person experienced in daily life. It was comprised of ten questions which used a 5-point Likert scale that ranged from strongly disagree to strongly agree. The total score ranged from 0-24, representing no optimism to strong optimism. The LOT-R has been shown in previous studies to be reliable and valid (Terrill, 2002). Previous studies reported a Cronbach’s alpha value between 0.76 and 0.82 (Morton et al., 2014).
The Sport Competition Anxiety Test measured the trait anxiety of a person due to their competitive nature. It was comprised of 15 statements with answers ranging from rarely, sometimes, and often. This test was shown to be reliable and valid (Martens et al., 1990).

**Procedures for Collecting Data**

After IRB approval was obtained from Georgia Southern University, the primary investigator (PI) informed a sample group of 112 students from Georgia Southern University of the purpose and hypothesis of the study. The Informed Consent was also explained. The Informed Consent Form and questionnaire packet was distributed to each student who participated. When given in classes, the class was informed that participation was voluntary. After the students completed the packet, they place their surveys in a separate stack from the informed consent form in the front of the room in two manila envelopes which were given to the PI. Anyone who did not wish to participate did not have to complete the packet but returned it to the manila envelopes in the front in order to remain anonymous. There was no way for the PI to know which students completed the packets and which ones did not.

**Organization/Analysis of the Data**

**Demographics**

The mean, median, and mode age were calculated, along with the percentage of males vs. females. This was used to determine the demographics of the participants in order to determine the generalizability of the results of the study.

**Optimism level**

The LOT-R was scored based on the instructions that accompanied the test. The scores from questions 1, 3, 4, 7, 9, and 10 were summed. Then, questions 3, 7, and 9 were scored in reverse (0=4, 1=3, etc.) This determined the overall score which was between 0 and 24 with 0
being no optimism and 24 being strongly optimistic. The mean, mode and range of scores were calculated in order to examine the optimism level of the undergraduate students at Georgia Southern University.

**Competitive trait anxiety**

To find the participant’s score, rarely was scored as 1, sometimes was scored as 2, and often was scored as 3. However, Questions 6 and 11 were scored in reverse where the response rarely was scored as 3, sometimes was scored as 2, and often was scored as 1. Questions 1, 4, 7, 10, and 13 were scored as 0 regardless of the response. The score could have ranged from less than 17, meaning the participant had a low level of anxiety, 17 to 24 meaning an average level of anxiety, and more than 24 which meant a high level of anxiety. The highest possible score a participant can make on this test is a 30.

**Analysis**

Descriptive statistics were used to describe the characteristics of the sample population, to check the dependent variables for any violation of the assumptions for correlations, and to report item-level responses from the surveys. Preliminary analyses for correlations included generating a scatterplot to check for violations of the assumptions of linearity and homoscedasticity. In addition, an inspection of the scatterplot helped identify outliers, the shape of the data points, and the direction of the relationship between the variables. If the data were normally distributed, Pearson’s r was used to measure the correlation between trait anxiety and optimism levels. If the data were not normally distributed, a Spearman’s Rank Order was used to analyze the strength of the relationship between these two variables. A confidence interval of 95% was used to determine if the correlation was statistically significant.
Chapter 4 Results

After data were collected, they were analyzed using SPSS. Descriptive statistics for central tendencies were used for the demographic data and inferential statistics were used to determine if there was a statistically significant negative correlation between competitive trait anxiety and life optimism.

Demographics

One hundred and nineteen students participated in this study; however, four of these were excluded due to incomplete surveys and three were excluded due to not being students at Georgia Southern, leaving the total number analyzed at 112. Of these participants, 54 were male (50%), 56 were female (48%), and two marked other (2%). The ages ranged from 19 to 25 with the mean age being 22. The participants’ school classification ranged from sophomore to senior, with 4 (3%) sophomore, 21 (19%) junior, and 87 (78%) seniors (see Table 1).

Table 1: Demographic Data

<table>
<thead>
<tr>
<th>Variable</th>
<th>N (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>19-21- 58 (52%)</td>
</tr>
<tr>
<td></td>
<td>22-25- 54 (48%)</td>
</tr>
<tr>
<td></td>
<td>Range: 19-25</td>
</tr>
<tr>
<td>Gender</td>
<td>Male- 54 (50%)</td>
</tr>
<tr>
<td></td>
<td>Female- 56 (48%)</td>
</tr>
<tr>
<td></td>
<td>Other- 2 (2%)</td>
</tr>
<tr>
<td>Classification</td>
<td>Sophomore- 4 (3%)</td>
</tr>
<tr>
<td></td>
<td>Junior- 21 (19%)</td>
</tr>
<tr>
<td></td>
<td>Senior- 87 (78%)</td>
</tr>
</tbody>
</table>

Optimism Level

The possible scores on the Life Orientation Test- Revised ranged from 0-24. The scores from participants in the current study ranged from 4-24, with the mean score of 16 and a mode of 17.
Competitive Trait Anxiety

Possible scores on the Sport Competition Anxiety Inventory ranged from 10-30. The scores given during this study ranged from 11-30 with a mean score of 20 and a mode of 19. Since a score between 17 and 24 indicated an average level of anxiety, it could be shown that the majority of students who participated in this study had an average level of anxiety.

Analysis

The scatterplot generated (see Graph 1) indicated slight linearity and homoscedasticity. There were a few outliers, both below and above the best fit line. There appeared to be a negative relationship between levels of anxiety and optimism, consistent with the hypothesis previously stated. Because the data were normally distributed, Pearson’s r was used and found to have a value of -.322 (p=.001).
Graph 1. Anxiety vs. Optimism Levels.

Table 2. Correlations between Competitive trait anxiety and Optimism

<table>
<thead>
<tr>
<th></th>
<th>Competitive trait anxiety level of each participant</th>
<th>Optimism level of each participant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Competitive trait anxiety level of each participant</td>
<td>Pearson Correlation</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>-.322**</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>112</td>
</tr>
<tr>
<td>Optimism level of each participant</td>
<td>Pearson Correlation</td>
<td>-.322**</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.001</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>112</td>
</tr>
</tbody>
</table>

**. Correlation is significant at the 0.01 level (2-tailed).
### Table 3. Correlations between Age and Optimism Levels

<table>
<thead>
<tr>
<th></th>
<th>Age of each participant</th>
<th>Optimism level of each participant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age of each participant</td>
<td>Pearson Correlation 1</td>
<td>.190*</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed) .044</td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>112</td>
<td>112</td>
</tr>
<tr>
<td>Optimism level of each</td>
<td>Pearson Correlation .190*</td>
<td></td>
</tr>
<tr>
<td>participant</td>
<td>Sig. (2-tailed) .044</td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>112</td>
<td>112</td>
</tr>
</tbody>
</table>

* Correlation is significant at the 0.05 level (2-tailed).

**Summary**

After IRB approval and distribution of the surveys, 112 students voluntarily participated in this study. The hypothesis was confirmed with a statistically significant negative correlation between competitive trait anxiety and life optimism (p=.001). As competitive trait anxiety increases, life optimism decreases.
Chapter 5 Discussion

The primary goal of this study was to determine if a negative relationship existed between competitive trait anxiety and optimism levels in college students. This goal was met by showing that a statistically significant negative correlation existed between the two variables (p=.001).

Demographics

The age and gender of participants seemed to be almost equal, causing the assumption that this reflects a normal sample of the population. However, the school classification was mainly upperclassmen, which could have skewed the sample. Also, majority of those who participated were in the Department of Health & Kinesiology, meaning they were athletic and/or had experience with handling competitions. Notably, some of the participants were above the age range of the average college student (18-22). Those ages 23-25 could have a different method to handling anxiety before competitions due to being older and having more experience.

At Georgia Southern University, approximately 50% of the undergraduate students are male and 50% are female. The percentage of undergraduate students below the age of 22 is 72%, with approximately 24% being aged 22-29. The age of the students in this study were slightly older than the age of the undergraduate students at the university. Therefore, the participants of this study were not homogenous with the gender make-up of the university, so the results may not be generalizable to the population of the university.

Correlation

The negative relationship between competitive trait anxiety and optimism level was found to be statistically significant (p=.001). This confirms the hypothesis that as anxiety levels increased, optimism levels decreased and vice versa. Notably, it was also found that age had a statistically significant positive correlation to optimism levels as well. While the scatterplot did
show a linear relationship, a larger sample population could have shown an even stronger relationship with fewer outliers.

**Limitations**

This study had several limitations with the sample population. The primary investigator used a convenience sample rather than a randomized sample due to constraints in finding participants. The majority of these students were a part of the Department of Health & Kinesiology, making them athletic and/or competitive. Because of this, they could have more experience dealing with nerves before competitions which caused their scores on the SCAT to be lower than someone who is not used to the pressures of competing. The sample for this study also fell outside of the age and gender make-up of the University, making it unable to be generalizable to the larger population. Since some of the participants were much older than the average college student, this could have skewed the data and caused outliers on the scatter plot.

There was also a limitation to this study due to time constraints. Because this was done to partially fulfill graduation requirements, there was a limited amount of time in which to conduct the study.

**Recommendations for Future Research**

Future research should be done with a much larger sample size in order to confirm these findings. It is also needed to determine if this same relationship exists for those who are not involved in many competitions and are more generalizable to the population of students at Georgia Southern University. For example, future research should be done on students with ages ranging from 18-29 with the majority being younger than 22, and the gender makeup split exactly in half.
Findings in Light of Theoretical Framework

The Catastrophe Model states that a person’s performance is based on how they feel right before the performance begins. Therefore, the person’s optimism about how they did during the performance is based on their level of anxiety before the performance begins. Since trait anxiety and optimism have been previously found to be inversely related, it was hypothesized that competitive trait anxiety and optimism were also inversely related. The results of this study showed a strong negative correlation between the two variables of competitive trait anxiety and optimism, which supports the findings of the theory.
References


Competitive trait anxiety. (n.d.) Retrieved from cms.cerritos.edu/uploads/dsmith/Competitive%20Anxiety.ppt


Appendix A

Human Subjects Consent Form

INFORMED CONSENT

The relationship between competitive trait-anxiety and optimism levels in undergraduate college students

My name is Allison Heiskell and I am a senior Exercise Science major working on my Honor’s Thesis. I am doing this research in order to identify the relationship between competitive trait-anxiety and optimism in undergraduate students at Georgia Southern.

The purpose of this research is to determine if there is a relationship between competitive trait-anxiety (a person’s natural level of anxiety right before a competition) and their level of optimism about life.

Participation in this research will include completion of three different questionnaires. The first is simple demographic information such as age, gender, and school classification. The second questionnaire is called a Life Orientation Test. This is a 10-statement self-report, and the scores determine each person’s level of optimism. The third and final questionnaire is called a Sport Competition Anxiety Test. It is a 15 question report which determines a person’s level of trait-anxiety. Trait-anxiety is defined as the anxiety a person naturally has. This can be compared to state-anxiety, which is the anxiety a person faces due to their environment and current situations.
Discomforts and Risks: There is a minor risk involved with this study of the discussion of sensitive topics. If needed, the Counseling Center is available for students who wish to discuss issues arising from the study. Their phone number is (912) 478-5541.

Benefits: By completing this study, each participant is helping to benefit society by furthering research on anxiety and optimism in undergraduate college students.

Duration/Time required from the participant: This study should take no more than 30 minutes to complete, and will be finished during class time.

Statement of Confidentiality: The only people with access to this information will be the investigator, Allison Heiskell, and the faculty advisor, Dr. Czech. The information from this project will be kept in a secure location for the minimum time of 3 years. After this time, it will be discarded.

Right to Ask Questions: Participants have the right to ask questions and have those questions answered. If you have questions about this study, please contact the researcher named above or the researcher’s faculty advisor, whose contact information is located at the end of the informed consent. For questions concerning your rights as a research participant, contact Georgia Southern University Office of Research Services and Sponsored Programs at 912-478-0843.

Compensation: There will be no compensation, extra credit, or stipend involved with participation in this study.

Voluntary Participation: Participation in this research is voluntary. Participation may end at any time by telling the primary investigator or faculty advisor, or by not returning the packet upon completion. If an individual does not wish to answer any certain questions, it is not mandatory.

There is no penalty for deciding not to participate in the study. Participants may decide at any time not to participate further and may withdraw without penalty or retribution.
You must be 18 years of age or older to consent to participate in this research study. If you consent to participate in this research study and to the terms above, please sign your name and indicate the date below.

You will be given a copy of this consent form to keep for your records. This project has been reviewed and approved by the GSU Institutional Review Board under tracking number H_15153__.

Title of Project: The relationship between competitive trait-anxiety and optimism levels in undergraduate college students

Principal Investigator: Allison Heiskell, (229)343-7918, ah06931@gmail.com Apt. 677 EE 1400 Statesboro Place Circle, Statesboro, GA 30458

Faculty Advisor: Dr. Daniel Czech, Hollis-1104 D, (912)478-5267, drczech@georgiasouthern.edu

I, the undersigned, verify that the above informed consent procedure has been followed.

Participant Signature______________________________ Date____________________

Investigator Signature______________________________ Date____________________
Appendix B

Demographic Profile

Please complete the following information.

Age: ______

Gender: __ Male __ Female __ Other

Classification: __ Freshman __ Sophomore __ Junior __ Senior
Appendix C

Revised Life Orientation Test (LOT-R)

Instructions:

Please answer the following questions about yourself by indicating the extent of your agreement using the following scale:

[0]= strongly disagree
[1]= disagree
[2]= neutral
[3]= agree
[4]= strongly agree

Be as honest as you can throughout, and try not to let your responses to one question influence your response to other questions. There are no right or wrong answers.

_____ 1. In uncertain times, I usually expect the best.
_____ 2. It’s easy for me to relax.
_____ 3. If something can go wrong for me, it will.
_____ 4. I’m always optimistic about my future.
_____ 5. I enjoy my friends a lot.
_____ 6. It’s important for me to keep busy.
_____ 7. I hardly ever expect things to go my way.
_____ 8. I don’t get upset too easily.
_____ 9. I rarely count on good things happening to me.
_____ 10. Overall, I expect more good things to happen to me than bad.

Scoring:

1. Reverse code items 3, 7, and 9 prior to scoring (0=4) (1=3) (2=2) (3=1) (4=0).
2. Sum items 1,3,4,7,9, and 10 to obtain an overall score.
Note: Items 2, 5, 6 and 8 are filler items only. They are not scored as part of the revised scale.

The reviewed scale was constructed in order to eliminate two items from the original scale, which dealt more with coping style than with positive expectations for future outcomes. The correlations between the revised scale and the original scale is .95.
Appendix D

Sport Competition Anxiety Test

Assessing Your Anxiety

Read each statement below, decide if you "Rarely", "Sometimes" or "Often" feel this way when competing in your sport, tick the appropriate box to indicate your response.

Rarely    Sometimes    Often

1. Competing against others is socially enjoyable
2. Before I compete I feel uneasy
3. Before I compete I worry about not performing well
4. I am a good sportsman when I compete
5. When I compete, I worry about making mistakes
6. Before I compete I am calm
7. Setting a goal is important when competing
8. Before I compete I get a queasy feeling in my stomach
9. Just before competing, I notice my heart beats faster than usual
10. I like to compete in games that demands a lot of physical energy
11. Before I compete I feel relaxed
12. Before I compete I am nervous
13. Team sports are more exciting than individual sports
14. I get nervous wanting to start the game
15. Before I compete I usually get uptight
SCAT Score __________________________

Less than 17 You have a low level of anxiety
17 to 24 You have an average level of anxiety
More than 24 You have a high level of anxiety