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2007

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Michelle McCourt

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Social Anxiety Disorder can hinder a person's life and cause them great distress. Within Social Anxiety Disorder, public speaking anxiety is the most common. Many types of therapies are employed to assist people with overcoming the fear of social situations. Exposure is a key ingredient for most of these treatments. Exposure therapy for public speaking anxiety may occur naturally in speech courses. Two surveys measuring Public Speaking Anxiety and Social Anxiety Disorder were given on a website to students enrolled in an introductory college speech course and a control group of psychology students not enrolled in a speech course. The surveys were given at the beginning of a semester and then again at the end of that semester. It was expected that the experimental group, speech students (N=31), would display significantly lower scores on the Personal Report of Public Speaking Anxiety and the Social Interaction and Anxiety Subscale, while the control group, psychology students (N=42), would score the same at pretest and posttest. The hypotheses were not confirmed. There was no significant difference between the groups at posttest on the PRPSA. There was also no significant difference for either group from pretest to posttest on the SIAS. The results and implications are discussed.

Degree Type

Open Access Senior Honors Thesis

Department

Psychology

Keywords

Speech anxiety, Anxiety disorders

The Effect of an Introductory Speech Course

On Student's Speech Anxiety

by

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A Senior Thesis Submitted to the

Eastern Michigan University

Honors Program

In Partial Fulfillment of the Requirements for Graduation

With Honors in Psychology

July 17, 2007

Ypsilanti Michigan

Abstract

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Effects of an Introductory Speech Course on Students' Speech Anxiety

Social Anxiety Disorder, also known as social phobia, was first described by

Marks and Gelder in 1966. They described the disorder as a condition in which someone

becomes extremely nervous in social situations where they may be scrutinized by others

(Barlow, 2004). The typical age of onset is during the teen years or early 20s. It is

unusual to see symptoms surface for the first time after the age of 25 (Stein & Hollander, 2002). The disorder usually follows a life-long course.

People suffering from Social Anxiety Disorder often behave in an inconspicuous way when in social situations. They are very agreeable and interact by repeatedly nodding their head and smiling politely (Barlow, 2004). They often behave this way because they are worried that they will not be able to make a positive impression on those with whom they are interacting. The main characteristic of the disorder is the fear of negative evaluation (Stein & Hollander, 2002). When in a social environment, people with Social Anxiety Disorder believe that they are at constant risk for behaving in an unacceptable and inept way. They predict the poor social behaviors they presume they display will result in rejection and harsh consequences (Hofmann, 2004). Sufferers of the disorder often see their social behaviors and interactions in a negative way and make internal attributions for their supposed social failures (Newman, Hofmann, Trabert, Roth, & Taylor, 1994). Due to their anxiety, they may experience heart palpitations, sweating, trembling, gastrointestinal pain or discomfort, blushing, and confusion when confronted with social situations (American Psychiatric Association, *Diagnostic and Statistical Manual of Mental Disorders, 4th Edition, Text Revision, DSM-IV-TR,* 2000). Due to these reactions, socially anxious people often avoid social situations all together or endure them with great discomfort. Their avoidance of social situations interferes with their daily lives, i.e., parties, public speaking, and dating. This avoidance often only serves to intensify their anxiety or fear. When these individuals are in social situations they often focus their attention on themselves in order to monitor their actions and prevent unacceptable social behavior. By shifting the majority of their attention to their

own behavior, they cannot devote the proper amount of attention to the task on which they are working. This lack of attention to the environment, conversations, and tasks cause the person's performance to suffer (Hofmann, Moscovitch, Kim, & Taylor, 2004). People afflicted with the disorder have problems with starting and continuing conversations, dating, conversing with authority figures, public speaking, and attending parties (DSM-IV-TR, APA, 2000).

Social Anxiety Disorder can hinder a person's life and cause them great distress. Social Anxiety Disorder sufferers tend to have more financial, school, and work related problems. They also have lower self-esteem, less social support, and more suicidal ideation (Stein & Hollander, 2002; Robinson, 1997). They are disadvantaged when it comes to building a social support system which is imperative for mental health. As a group, those with Social Anxiety Disorder are less likely to be married (Eng, Coles, Heimberg, & Safren, 2005). Due to these consequences of Social Anxiety Disorder it is not surprising that sufferers report a lower quality of life than those without the disorder (Stein & Hollander, 2002). Their inability to communicate effectively because of their anxiety is a major hindrance on their life. People with social phobia are viewed as less attractive and competent by their peers. Communication and interpersonal skills are crucial to success in the workplace. People with Social Anxiety Disorder have a hard time demonstrating these skills, which results in fewer promotions (Robinson, 1997; Freeman, Sawyer, & Behnke, 1997). Since they are uncomfortable in social situations they are also more likely to drop out of school, even though their GPAs are not significantly different from the GPAs of people without the disorder (Rubin, Rubin, & Jordan, 1997).

Social Anxiety Disorder is not uncommon. In fact, it is the third most prevalent mental disorder, affecting between two and thirteen percent of the population (Stein & Hollander, 2002; Hofmann, 2004; Cottraux, 2005). This prevalence rate seems to be similar across the Caucasian, African-American, and Hispanic ethnic groups (Stein & Hollander, 2002). Asian-Americans, on the other hand, tend to exhibit greater social anxiety symptoms and depression. This may be due to their culture's emphasis on being a member of a group, which tends to be more stressful than an autonomous orientation (Stein & Hollander, 2002). Based on statistics, the subgroup of people who are most at-risk to developing Social Anxiety Disorder are single, less educated women with a lower socioeconomic status. It has been estimated that 70% of the people with the disorder are female (Cottraux, 2005). Despite this statistic, an equal amount of males and females seek treatment for the disorder (Stein & Hollander, 2002; Barlow, 2004).

When fear applies to most social situations it is called Generalized Social Anxiety Disorder. People suffering from it experience anxiety in everyday social situations such as conversing with strangers or attending parties. Their anxiety also occurs in public performance situations. Another type of Social Anxiety Disorder is circumscribed. This means that the person experiences the anxiety in a specific social situation. Examples of this would be someone who suffers from considerable anxiety when playing an instrument for an audience or an actor that has stage fright. The most common is Public Speaking Anxiety in which a person fears speaking in front of other people. The circumscribed fears may also be experienced by those with Generalized Social Anxiety (DSM-IV-TR, APA, 2000).

A positive aspect of Social Anxiety Disorder is that it is very treatable. Many types of therapies are employed to assist people with overcoming the fear of social situations. Exposure is a key ingredient for most of these treatments.

According to the cognitive-behavioral view, cognitive restructuring and exposure complement each other. Many therapists use cognitive-restructuring as a way to enhance the effects of exposure therapy (Rodebaugh, Heimberg, & Hollaway, 2004). It is generally agreed upon that exposure is a reliable and effective treatment for social phobia; however, some researchers question whether exposure without the cognitive intervention has long term effectiveness (Stein & Hollander, 2002).

The cognitive-behavioral approach of combining behavioral techniques with cognitive restructuring is often the treatment of choice for Social Anxiety Disorder (Newman et al., 1994). Cognitive-behavioral therapies target the three problematic symptom areas, physiological, cognitive, and behavioral, of social anxiety disorder (Nutt & Ballenger, 2003). The physiological aspect refers to the body's physical response to anxiety, such as increased heart rate, sweating, and tensing muscles. These responses are remedied by relaxation techniques such as progressive muscle relaxation and diaphragmatic breathing. These exercises calm the person and counteract the physical manifestations of anxiety. The cognitive aspect, including negative evaluations and irrational beliefs, are countered by cognitive restructuring, as previously mentioned. The behavioral component refers to avoidance behaviors. People with Social Anxiety Disorder will avoid socially oriented situations in order to prevent anxious feelings. The way to address and fix these behaviors is through exposure therapy in which the client confronts the feared situation (Nutt & Ballenger, 2003).

To date, there has been no definitive proof that the combination of cognitive therapy with exposure has been more effective than exposure alone. Hofmann et al. (2004) found that there was no significant difference in anxiety reduction between a group of study participants that were given cognitive therapy in addition to exposure therapy and a group that received only exposure therapy. As part of this study, the participants were shown videos of their behavior throughout the exposure exercises. Hofmann proposes that this video feedback led to cognitive changes in the exposure group by disconfirming their erroneous negative assumptions regarding their appearance. The general consensus of researchers seems to be that there is no significant difference in the reduction of anxiety between different types of cognitive-behavioral therapies (Rodebaugh et al., 2004).

Some researchers believe that since thoughts cannot be observed, patients naturally conduct cognitive restructuring while undergoing exposure therapy. This internal cognitive restructuring may be why the reduction in anxiety is comparable between exposure only treatments and mixed exposure and cognitive therapies (Newmann et al., 1994; Rodebaugh et al., 2004).

Exposure therapy may be enacted on its own or in tandem with a cognitively-based treatment. Exposure therapy involves confronting anxiety provoking situations, thoughts, or memories (Nutt & Ballenger, 2003). In the behavioral view, exposure therapy works since the patient is able to habituate to the stimulus (Stein & Hollander, 2002). Every time the patient is placed in the feared situation and the predicted and dreaded outcome does not result, it reinforces the fact that their anxiety is unwarranted (Rodebaugh & Chambless, 2004).

People may employ escape responses to lessen their anxiety. In reality these escape behaviors increase the fear and anxiety associated with a certain stimulus. Leaving the situation acts as a negative reinforcer because when the person leaves the situation they are reinforced by experiencing less anxiety. This leads them to avoid the situation all together. To facilitate the avoidance of anxiety, people may engage in safety behaviors. Some safety behaviors employed by people with Social Anxiety Disorder are holding their hands behind their back so no one can see their hands shaking, or repeatedly mentally rehearsing what they are about to say to insure that they do not sound "stupid". These safety behaviors can hinder the possible progress of exposure. A way to counteract harmful effects of safety behaviors is to identify these behaviors and actively work to reduce their use (Rodebaugh et al., 2004). Another safety technique people may use to create a feeling of safety during tense exposure situations is mentally downplaying the exposure by thinking of the situation as just role-playing (Rodebaugh et al., 2004). They may remind themselves that the situation is not real to lower their anxiety. This mental representation reduces the efficacy of the exposure experience because it will not generalize to real world situations.

One way in which exposure is carried out is through systematic desensitization. Success of this method, along with other methods of exposure, rests on the intensity and duration of the exposure (Freeman et al., 1997). Treatment usually begins with the construction of a hierarchy of feared situations. This hierarchy progresses from less feared situations to more feared situations. The goal is to habituate the patient to the lesser feared situations and continue to move up the hierarchy in increments (Rodebaugh et al., 2004).

Goldfreid and Goldfreid (1977) argue for another view of hierarchy treatment. Instead of habituation as the driving force behind anxiety reduction, they suggest that the patient learns to cope with his/her anxiety. This is referred to as self-control training. To support this hypothesis, the authors took a group of 42 people (23 females and 19 males) from the local community with public speaking anxiety and divided them between three treatments. One group of study participants imaginally confronted a specific hierarchy tailored to public speaking anxiety while another group imaginally confronted a more general hierarchy with anxiety-provoking stimuli not related to public speaking. The third group imaginally confronted the public speaking hierarchy, but was not instructed to use the relaxation techniques the other groups were utilizing. To assess participants' anxiety, the authors measured physiological reactions, behavioral indicators, and a battery of questionnaires examining social anxiousness, avoidance, and confidence as a speaking. At the end of the study, anxiety reduction in public speaking situations was similar in both of the relaxation conditions. Nearly all the measures indicated that the anxiety reduction was significant at a $p<.05$ level for both treatments. The group that did not use relaxation saw anxiety reduction, but the reduction was not as significant as the two treatments using relaxation techniques. The authors suggest that this outcome indicates that the most important aspect of imaginally confronting is that the patient is more able to cope with his/her anxiety. If it was habituation, then anxiety reduction in the general hierarchy would not generalize to public speaking. The public speaking hierarchy treatment would have been superior (Goldfried & Goldfried, 1977). They claim that the focus of imaginally confronting the feared stimulus should be on teaching

relaxation to cope with anxiety. This technique of imaginally confronting is usually bypassed in favor of therapy that includes "actual exposure" to the feared stimulus.

"Virtual reality" exposure therapy is quickly gaining favor as an effective tool in combating social anxiety. The virtual environment is a simulation of what the participants will experience while giving a speech, i.e., they will be in front of a real audience and evaluated. According to Cottraux (2005), studies have shown that humans are sensitive enough to virtual environments that virtual reality exposure is an effective treatment. In a study by Anderson, Zimand, Hodges, and Rothbaum (2005), ten participants meeting the diagnostic criteria for Social Anxiety Disorder or Panic Disorder with Agoraphobia in which public speaking was the predominant fear, were treated with virtual reality therapy. The majority of participants were female (80%), Caucasian (70%), and middle-to-upper class (90%). The participants were exposed to a virtual environment in which they were at a podium looking into an audience of actual people, not computer-generated images. These people were taped and then pasted onto the virtual landscape. This made the experience of giving a speech to an audience more realistic. To measure participants' anxiety, a battery of self-report questionnaires was given and participants were also assessed using a standardized behavioral avoidance test (BAT). At the end of the exposure regiment, most participants had significantly reduced anxiety levels that were maintained at the three month follow-up. The participants experienced a nine point drop in the means from pre-test to post-test on the Personal Report of Communication Apprehension (PRCA-24). This difference is significant at a $p<.01$ level (Anderson et al., 2005).

Although there are many different types and methods of anxiety treatments, it is generally agreed upon that exposure must be a component of the treatment. Exposure is a significant part of all the aforementioned treatments. The implications for the current study are that the participants need to be exposed to the feared stimulus, public speaking, in order to reduce their anxiety. Exposure therapy for public speaking anxiety may occur naturally in speech courses.

Public speaking anxiety is the most common subset of Social Anxiety Disorder (Newmann et al., 1994). Unfortunately for people who experience social anxiety, public speaking is sometimes necessary for school and work. It is a task most people will have to perform at some point in their lifetime. For example, a speech course is often required for college. In order to graduate from Eastern Michigan University, the class must be passed and to pass the course, speeches must be given.

The introductory speech class that most colleges require may act as a natural exposure treatment. The exposure of the speech course has the potential to target the three problematic symptom areas of Social Anxiety Disorder. Hofmann et al. (2004) states that exposure can lead to cognitive changes by showing erroneous negative assumptions to be false. The exposure can lead to behavioral changes by preventing avoidance and forcing the person to confront the feared stimulus. It can also improve the physiological responses to anxiety as a secondary effect of habituation. Anxious students are forced to remain in their feared situation multiple times and may habituate to the stimulus, thereby decreasing their physical response to the stimulus. However, a single speech class may not provide the time needed to make significant changes in anxiety levels. Chaplin and Levine (1981) found that continuous exposure to the feared stimulus

is more effective at reducing anxiety than interrupted exposure. In a speech class, the exposure is conducted in an interrupted manner. Students give short speeches to ensure that all students will have the opportunity to speak in the limited class time. Chaplin and Levine (1981) also suggest that 100 minutes of exposure time seems to be a benchmark for effective exposure therapy.   Due to the limited time in the classroom throughout the semester, a student may not gain this much time speaking in front of an audience. Although it may not offer the kind of treatment needed, a speech course has the potential to benefit students with Social Anxiety Disorder.

One benefit is that speech instructors utilize various tools when preparing their students to become skilled orators. Skills training is one such tool, and is present in about 96% of American university speech classes (Robinson, 1997). This training includes teaching students proper note taking, topic selection, and outlining skills. Instructors may also attempt to create an accepting atmosphere in the classroom to allow anxious individuals to relax. Many instructors will emphasize that public speaking fears are common and normal. They will also take care to evaluate speeches as positively as possible, providing constructive criticism (Robinson, 1997). There may also be cognitive aspects to speech courses. Some teachers demonstrate how to replace negative self-talk with positive thoughts and visualizations, tools common in cognitive therapies.

Exposure and other means of reducing speech anxiety may have noticeable effects on a person's fear and avoidance levels of pubic speaking. Rubin, Rubin, and Jordan (1997) measured the speech anxiety of a group of students (n= 517) enrolled in a collegiate introductory speech course at a large Midwestern university. The participants were given the Personal Report of Communication Apprehension (PRCA-24) survey to

assess the public speaking anxiety at the beginning and end of the semester. They found

that anxiety levels in the course were significantly reduced from the beginning of the

semester. The mean of the PRCA-24 score decreased from 66.07 to 62.72. This was

significant at the $p< .001$ level.

A similar Japanese study by Pribyl, Keaten, and Sakamoto (2001) used the

Personal Report of Public Speaking Anxiety (PRPSA) to determine students' anxiety

levels. The students were surveyed at the beginning and end of the year. In the year long

class, they gave four speeches and studied speech presentation skills. This format is

similar to the semester-long speech courses at Eastern Michigan University. Like the

study of Rubin, Rubin, and Jordan (1997), this study also found significantly decreased

anxiety levels at post-test. The mean of the scores on the PRPSA of the experimental

group, consisting of 25 sophomores that elected to take the speech class, decreased from

146.60 (SD=13.46) to 118.00 (SD=12.14), while the control group, consisting of 86

sophomores that did not take the course, only saw a decrease from 144.58 (SD=9.31) to

137.09 (SD=15.35). A t-test showed a significant difference between the control and

experimental groups at posttest. This difference was significant at the $p<.01$ level. This

study suggests that a speech course can have positive outcomes; however, the specific

impact on those with Generalized Social Anxiety only is unclear.

The current study seeks to expand upon these findings. Rubin, Rubin, and Jordan

(1997) used the PRCA-24 which measures different types of communication anxiety

including didactic conversations, interacting in a group, and participating in meetings.

The current study utilized a more speech-specific version of the PRCA-24. The author of

the PRCA-24 created a new version, the Personal Report of Public Speaking Anxiety

(PRPSA), which focuses solely on speech anxiety (McCroskey, 1970). This is the measure that was used by Pribyl et al. (2001) in the study mentioned above. This instrument targets speech specific anxieties more effectively. In addition to administering the PRPSA, the current study also distributed a general social anxiety survey. The Social Interaction Anxiety Scale (SIAS) measures types of social anxiety in a broader sense. Using this survey in addition to the PRPSA, presents the opportunity to examine whether a speech course can affect other aspects of Social Anxiety Disorder in addition to public speaking anxiety. Reduction of public speaking anxiety may generalize to other feared social situations. A new-found confidence or perhaps a better ability to deal with anxiety may reduce general Social Anxiety Disorder symptoms.

Hypothesis

It was expected that of the participants in the current study, the anxious students enrolled in a speech course would show lower scores on the PRPSA at the posttest compared to their pretest score. It was also expected that the experimental group would display lower scores from pretest to posttest on the more general social anxiety measure, the SIAS. They would have confronted their fear of public speaking and may have become habituated to the feared stimulus or learned how to cope with the anxiety. The control group was not expected to display a significant reduction on either survey.

It was important to conduct this study because the fear of public speaking can greatly hinder a person's life. This fear may prevent someone from reaching their potential in school, their career, and in their personal relationships. The more researchers know about remedying this disorder, the more people may be aided in overcoming this debilitating fear.

Method

Participants

Both the experimental and control groups consisted of Eastern Michigan University students. The experimental group was made up of 31 students, 12 males and 19 females, enrolled in a speech course. The control group was composed of 42 students, 13 males and 29 females, who were enrolled in an introductory psychology course and had indicated they were not currently in a speech course (see Table 1). The mean age for the students enrolled in the speech course was 19.84 (SD=2.899) years, while the mean age of the control group was 20.29 (SD=2.941) years. Most study participants were white/non-hispanic, freshman, and full-time students.

Both courses fulfill general education requirements and should produce representative samples of university students. However, a student may pick another science class instead of introduction to psychology to fulfill his/her science requirement. This is different than a speech class because all students are required to take a speech course. Therefore, the sample may be biased because a psychology course may attract a certain subset of students. The only variable that may not be representative of the university population as a whole may be the age of the participants. The speech class and psychology classes that were surveyed are introductory courses. This may mean that a larger portion of the class will be freshmen, lowering the average age beneath the university population average.

The number of students recruited to participate in this study had satisfactory power. According to the program Power and Precision 2 (Borenstein, Cohen, Rothstein, Schoenfeld, Berlin, & Lakatos, 2000), twenty participants in each group would have been

sufficient power to detect a significant finding if present. This number was computed

using the difference between pretest and posttest of the study by Pribyl et al. (2001).

[This study is similar to the current study and therefore likely to have similar results.]

The psychology students in the control group were offered extra credit to participate in

the study by their instructors. The control group took the same set of surveys as the

experimental group; however, the control group did not participate in a speech class and

thus was not exposed to the independent variable of orating between the pretest and

posttest. To ensure that members of the control group were not currently taking a

college-level introductory speech course, a question was added to the demographic

section of their surveys. Those control group students indicating that they were enrolled

in a speech course were placed into the experimental group. Therefore, we can be

confident that the control group was not exposed to the experimental variable. This

control group allows us to more accurately credit any possible changes in the

experimental group to the independent variable.

Another challenge to obtaining a representative sample is non-response bias.

Since a link to the survey website was sent via e-mail, not all students took the time to

visit the site and complete the surveys. The people who chose to take the surveys may

have different traits than those who abstained from participating in the study.

Procedure

The two surveys, the SIAS and the PRPSA, were offered on a website. The link

for this website was sent via e-mail to approximately 288 Eastern Michigan University

students enrolled in an introductory speech class and 337 psychology students at the beginning of Winter semester 2007. The e-mail informed the students of the goals and focus of the study. It also notified them that they would be entered into a drawing to win a twenty-five dollar gift certificate for completing the surveys. This process was repeated at the end of the semester. One hundred-thirty students completed the surveys in the first round and 101 completed them in the second round. Some of these entries were deleted due to the fact that not all of these people took the surveys at both times. There were 73 valid responses, with data from the pretest and posttest.

This research study used the pretest – posttest control group research design. As stated above, participants were asked to complete surveys at two separate times- once before they began giving speeches and again after they had completed nearly all required speeches. It was not feasible to wait until the last speech to administer the posttest because some of the students' speeches fell on the last day of class. The SIAS and PRPSA were given on both occasions. Two independent samples t-tests were conducted to determine if there was a significant difference between the control group and experimental group at posttest. Two paired samples t-tests were used to determine whether there was a significant difference within the two groups on the PRPSA and SIAS.

Since the samples have the potential to be representative, the results should be generalizable to the Eastern Michigan University student population. The results may not generalize to other universities because their speech courses may be conducted in a different manner.

Measures

Demographic Questionnaire. Participants were asked certain questions to investigate the characteristics of the sample (see Appendix A). They were asked their race, age, gender, year in school, and whether they were full or part-time students. Students were also asked to provide their student identification number. This number was used to match their results to their previous survey scores.

The Personal Report of Public Speaking Anxiety (PRPSA). The PRPSA, takes about five minutes to complete and consists of 34 items measuring speech- specific anxiety levels (see Appendix B). Each item is comprised of a statement describing personal characteristics. Respondents may select their answer from a five point scale ranging from 1 (*Strongly disagree)* to 5 *(Strongly agree)* indicating how well the statement applies to them. A score above 131 indicates high anxiety of public speaking while scores in the range of 98 to 131 indicate moderate anxiety. Any score below 98 suggests low speech anxiety. The national average for the PRPSA is approximately 114.6. This score falls into the moderate anxiety range, suggesting that most Americans feel anxiety about public speaking. The questionnaire has proven highly reliable with an estimated alpha of 0.94 in a study by James McCroskey, the survey's creator (McCroskey, 1970).

The Social Interaction and Anxiety Scale (SIAS). The SIAS consists of twenty questions that are rated on a five point scale (see Appendix C). Respondents' choices range from 0 *(Not at all characteristic of me)* to 4 *(Extremely characteristic of me)*. This instrument takes approximately five minutes to complete. Individuals diagnosed with Social Anxiety Disorder scored a mean of 24.6 on the SIAS (Mattick & Clarke, 1998). Cronbach's alpha ranges between 0.86 and 0.94. These numbers suggest a high internal

consistency. The test-retest reliability scores were 0.86 to 0.92 over a four to twelve

week period (Mattick & Clarke, 1998)). The accuracy of identifying people with Social

Anxiety Disorder was determined to be 82% by Heimberg, Mueller, and Holt (1992).

The SIAS has also been determined to be sensitive to treatment (Antony et al., 2001).

Results

The results from the PRPSA pretest indicated that the students in the speech and

psychology classes exhibited mostly low to moderate anxiety, with only seven (10 %)

people in both groups combined reporting high public speaking anxiety. The mean on

the PRPSA pretest for the experimental group was 101.52 (SD=25.82) while the mean for

the control group was 107.7 (SD=24.05). These averages, though still in the moderate

range for public speaking anxiety, are below the national average of 114.6 for the

measure. At pretest the control group had a slightly higher average on the PRPSA than

the experimental group; however, this difference was not significant.

At posttest both groups revealed a significant reduction in PRPSA scores. The

experimental group's mean score dropped to 95.71(SD=29.45) and the control group's

mean was lowered to 102.95 (SD=21.57) (see Figure 1). The control group remained in

the moderate category for speech anxiety. The speech students' average at pretest

indicated moderate anxiety, but the mean at posttest was in the low anxiety range. The

reductions in both groups pretest to posttest were statistically significant with the

experimental group's mean reduction significant at .01 level ($t=2.83$, $p<.01$) and the

control group's at .05 level ($t=2.18$, $p<.05$). Although there were significant reductions

within the groups there was not a significant difference between the two groups.

When the groups were separated by severity rating at pretest, the only significant finding was the speech participants with low public speaking anxiety showed the most improvement (t=2.33, p<.05). None of the other groups in the speech class or the psychology class experienced a significant change in anxiety levels from pretest to posttest (see Table 2). The groups were separated at pretest by severity using the predetermined cut-offs for low, medium, and high anxiety. These cut-offs were established by the PRPSA creators (Mattick & Clarke, 1998).

The study by Pribyl et al. (2001) found that there was a significant difference in the PRPSA scores of highly anxious individuals from pretest to posttest. The mean at pretest was 146.60 in the Pribyl et al. (2001) study, which is similar to the mean of 143.33 in the current study (see Table 2). However, the posttest was markedly different. Pribyl et al. (2001) found a posttest mean of 118.00 among highly anxious individuals, while this study found a mean of 145.00. In this study the posttest mean of high anxious participants was actually higher at posttest while the Pribyl study saw a significant reduction.

The mean on the SIAS for the experimental group at pretest was 25.29 (SD=13.31), while the posttest mean for this group was 26.42 (SD=15.84). The control group averaged 24.26 (SD=13.50) at pretest and 22.98 (SD=12.71) at posttest (see Figure 2). There were no statistically significant differences detected with this measure. Therefore the experimental group was slightly over the mean of socially anxious people and the control group was slightly under the mark.

Discussion

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The hypotheses posed at the beginning of this study were not confirmed by the data that was collected. The first hypothesis predicted that there would be a significant difference between the speech students' scores on the PRPSA and the non-speech students' scores at posttest, with the speech students experiencing a significant reduction in anxiety from pretest to posttest. It was predicted that the speech course would help alleviate some of the symptoms associated with public speaking due to exposure. Judging from the results of studies by Rubin et al. (1997) and Pribyl et al. (2001), this would be a reasonable hypothesis to make since those studies found significant differences in a speech class from pre- to posttest.

Since the posed hypothesis was not confirmed there may not be a relationship between an introductory speech course and reduction in public speaking anxiety. A speech course may not be an effective natural exposure treatment. There are shortcomings in a college speech course that could lead to its ineffectiveness at reducing speech anxiety. Chaplin and Levine (1981) suggested that 100 minutes of exposure time is required to make a significant reduction in anxiety. They also stated that exposure is most effective when it is carried out for longer stretches of time instead of short, interspersed sessions. A speech class does not meet either of these requirements. Due to class size and limited time, the students give approximately six short speeches throughout a semester. The time speaking may not be sufficient to lead to a reduction in anxiety. In fact, it could be that the exposure resulting from a speech course may hurt rather than help. Anxious students may give speeches, but are cut short before they habituate to the feared situation. The students are shown that once they leave that situation and the

speech is over that their anxiety lessens. This just reinforces their avoidance of public speaking, possibly making their anxiety worse.

A trend found in the data suggests that those people with low public speaking anxiety that were enrolled in a speech course experienced the greatest reduction in anxiety. This may occur because the speech students who have lower anxiety may be able to confront the situation more fully, therefore reaping more benefits from the exposure than the other students. Students that are not as comfortable in the situation may employ safety behaviors to cope with their anxiety. This may include putting their hands behind their back so that the class cannot see them shaking, or by mentally downplaying the situation. They may try to tell themselves that no one is paying attention or may avoid looking at the class so they can pretend that no one is watching them. These safety behaviors may prevent the students from getting the full experience of the exposure.

Despite these shortcomings, a relationship may still exist between the class and public speaking anxiety reduction. The experiment may have failed to detect a correlation due to flaws in the design of the study. The small number of participants may be one flaw in the current study. This study had a much smaller sample size than Rubin et al. (1997), which had 517 students complete the pretest and posttest. The current study was only able to recruit 73 students to complete both sets of surveys. The Pribyl et al. (2001) study also had a larger number of participants with 105.

A downfall of the Rubin et al. (1997) study was the absence of a control group. Without a control group it is difficult to tell if the experimental variable was responsible for the significant decrease in the data. The current study used a control group. The

control group as well as the experimental group displayed a significant decrease from pretest to posttest. Without the control group it would have been concluded that the experimental variable, speech class, caused a significant reduction in anxiety. However, since the control group experienced a comparable decrease in anxiety this conclusion cannot be made. Pribyl et al. (2001) did employ the use of a control group which had significantly higher anxiety at posttest. In the Pribyl et al. (2001) study the experimental variable may be credited with the decrease in anxiety levels since there was a significant difference between the groups at posttest.

The second hypothesis stated that it was expected that the students would also demonstrate a significant reduction on the SIAS from pretest to posttest. The control group exhibited a non-significant reduction while the experimental group saw a non-significant increase in the mean SIAS score. Similar to the PRPSA results, the lack of a significant difference can mean one of two things. It may mean that there is not a relationship between general anxiety reduction and speech exposure or it could mean that the study failed to pick up on a relationship between the two. The sample size may not have been large enough to pick up on any relationship present or the inclusion of those presenting with low social anxiety may have lowered the difference between pretest and posttest. The participants that have low anxiety at the beginning of the study do not have as much room for improvement as those with high social anxiety at the pretest, creating a floor effect.

It is not surprising that the data did not display a significant difference on the SIAS. For the purposes of this study, the participants were only exposed to public speaking. This situation is only a subset of Generalized Social Anxiety. The students

were likely not exposed to other feared situations such as conversing with authority figures, working on group projects, or talking to peers. These other situations make up some other aspects of Generalized Social Anxiety. Exposure to one specific situation may not generalize to the numerous other situations.

An interesting trend is that the speech students already had lower anxiety on the PRPSA at pretest than the control group participants. This difference was not statistically significant. This may be because those with significant anxiety may avoid taking a speech course even though it is a university requirement. Those with moderate to low anxiety may not hesitate to take the class. Since the majority of the sample was freshmen it would make sense that the majority have low or moderate anxiety. This would mean the students in the class that were freshman did not hesitate to take the speech course, indicating less anxiety.

It is also possible for students to complete other requirements if they petition the department, citing intense public speaking anxiety. These classes are communication classes as well, but do not have a speech component. This way the students can fulfill their general education requirement without subjecting themselves to their feared situation. This option could possibly be a cause of the smaller mean on the PRPSA of the speech class at pretest. The speech anxious individuals may have been able to avoid the speech course. However, this most likely did not have any kind of significant bearing on the mean. The Communication and Theatre Arts department at Eastern Michigan University, the site of the current study, stated that this scenario only occurs about once every two years.

There are limitations in this study that should be remedied in future research. In a future study it may be beneficial to ask more questions about the students' experience in the speech course. A negative experience may lead to an increase in anxiety while a positive experience could reduce the anxiety. It would also be helpful to include a question on the posttest that asks students what grade they expect to receive in the class. If students receive a good grade in the class they may view public speaking more positively because they believe they are good at it. Similarly they may view public speaking negatively if they receive a bad grade. The poor grade may take away confidence in orating. It may also be helpful to ask if all speech requirements were completed. A poor grade may also indicate that the student did not complete all assignments. This could be because the fear prevented the student from completing the assigned speeches. In future research it may be wise to add a question to the control groups' questionnaire to determine if the control group had been exposed to speeches during the study (work, other classes, etc.). This exposure could interfere with yielding results indicative of the experimental variable's effects. A question that may also be beneficial to add is if relaxation exercises were stressed in the class. Goldfried and Goldfried (1977) claimed that relaxation is the key to anxiety reduction. Some of the classes may have taught relaxation exercises to help students manage their anxiety levels. If relaxation could lessen anxiety a student may be more able to confront the exposure situation and therefore reap more benefits.

Another limitation is the timing of the surveys. They should be given at the very beginning of the semester and the very end if possible to allow for the respondents to have more exposure opportunities. However, this may not be possible because time is

needed at the end of the semester to analyze the results and therefore a researcher may not be able to wait until the last day.

Future research is needed on this topic to further investigate whether a relationship between a public speaking course and public speaking anxiety reduction exists. The limitations of this study should be remedied to allow for a better opportunity to explore a possible relationship. It is beneficial to study this topic so that researchers and clinicians can learn more about this disorder in order to help the people suffering from it.

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Table 1.

Study Demographics

Speech course	Yes (N=31)	No (N=42)
Gender		
Male	12 (38.7%)	13 (31.0%)
Female	19 (61.3%)	29 (69.0%)
Race		
White/Non-Hispanic	25 (80.6 %)	30 (71.4%)
Black/Non-Hispanic	3 (9.7%)	9 (21.4%)
Hispanic	3 (9.7%)	2 (4.8%)
Multi-racial	0 (0.0%)	1 (2.4%)
Class Standing		
Freshman	19 (61.3%)	26 (61.9%)
Sophomore	6 (19.4%)	6 (14.3%)
Junior	5 (16.1%)	8 (19.0%)
Senior	0 (0%)	1 (2.4%)
Second Bachelor's	1 (3.2%)	1 (2.4%)
Student Load		
Full-time	29 (93.5%)	40 (95.2%)
Part-time	2 (6.5%)	2 (4.8%)

Table 2.

Pretest and Posttest means (standard deviations) by severity.

	Pretest	Posttest
Speech classes (Experimental Group)		
High Public Speaking Anxiety N=3 (4.1%)	143.33 (10.26)	145.00 (16.70)
Moderate Public Speaking Anxiety N=14 (19.2%)	116.14 (9.37)	109.93 (11.62)
Low Public Speaking Anxiety N=14 (19.2%)	77.93 (14.20)	70.93 (19.58)*
Psychology classes (Control Group)		
High Public Speaking Anxiety N=6 (8.2%)	141.67 (3.88)	124.17 (22.87)
Moderate Public Speaking Anxiety N=24 (32.9%)	113.21 (8.70)	109.83 (11.74)
Low Public Speaking Anxiety N=12 (16.4%)	77.50 (17.37)	78.58 (14.53)

Note. * Denotes a significant reduction at a $p<.05$.
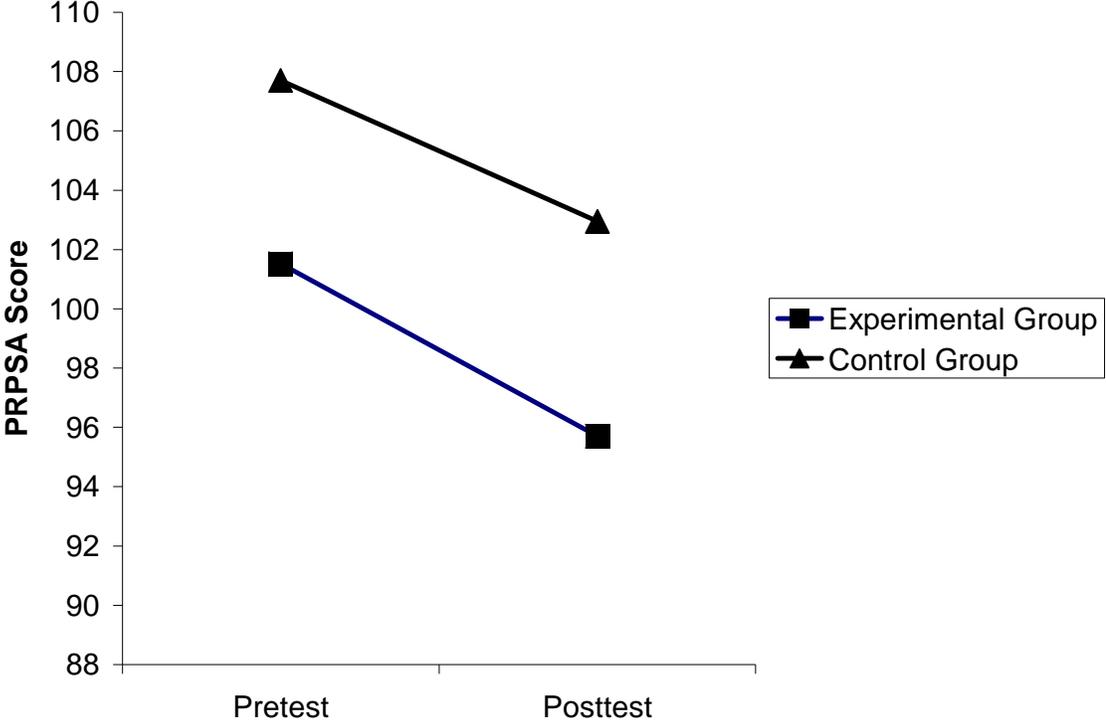
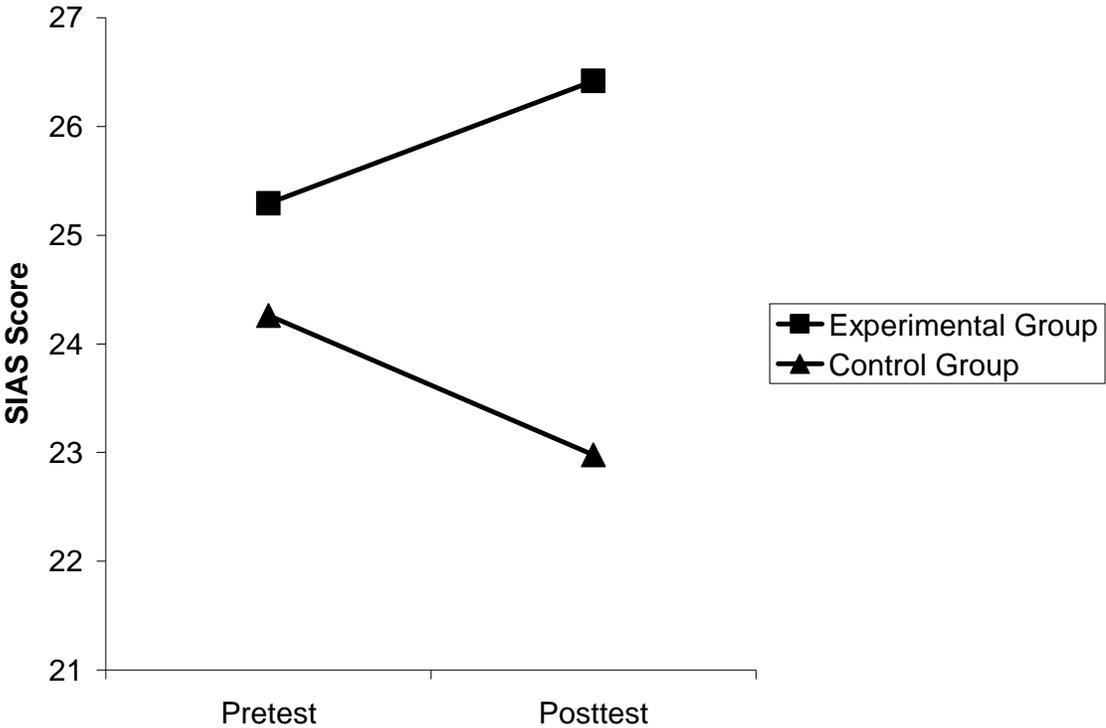Figure 1: Personal Report of Public Speaking Anxiety (PRPSA) Results.

Figure 2: Social Interaction and Anxiety Scale (SIAS) Results.

Appendix A

Demographic Questionnaire

Age: _____

Sex: Male   Female

Race: 1. White/Non-Hispanic

2. Black/Non-Hispanic

3. Hispanic

4. American Indian/Alaskan Native

5. Asian

6. Native Hawaiian or Other Pacific Islander

7. Multi-racial

8. Other

What year in school are you: Freshman   Sophomore   Junior   Senior

Second Bachelor's

Are you a full-time or part-time student?   Full-time   Part-time

Are you currently enrolled in a CTAS 124 speech course?   Yes   No

What is your EMU I.D. number? _____

Appendix B

Personal Report of Public Speaking Anxiety

Directions: Below are 34 statements that people sometimes make about themselves. Please indicate whether or not you believe each statement applies to you by marking whether you:

Strongly Disagree = 1; Disagree = 2; Neutral = 3; Agree = 4; Strongly Agree = 5.

_____1. While preparing for giving a speech, I feel tense and nervous.

_____2. I feel tense when I see the words "speech" and "public speech" on a course outline when studying.

_____3. My thoughts become confused and jumbled when I am giving a speech.

_____4. Right after giving a speech I feel that I have had a pleasant experience.

_____5. I get anxious when I think about a speech coming up.

_____6. I have no fear of giving a speech.

_____7. Although I am nervous just before starting a speech, I soon settle down after starting and feel calm and comfortable.

_____8. I look forward to giving a speech.

_____9. When the instructor announces a speaking assignment in class, I can feel myself getting tense.

_____10. My hands tremble when I am giving a speech.

_____11. I feel relaxed while giving a speech.

_____12. I enjoy preparing for a speech.

_____13. I am in constant fear of forgetting what I prepared to say.

_____14. I get anxious if someone asks me something about my topic that I don't know.

_____15. I face the prospect of giving a speech with confidence.

_____16. I feel that I am in complete possession of myself while giving a speech.

_____17. My mind is clear when giving a speech.

_____18. I do not dread giving a speech.

_____19. I perspire just before starting a speech.

_____20. My heart beats very fast just as I start a speech.

_____21. I experience considerable anxiety while sitting in the room just before my speech starts.

_____22. Certain parts of my body feel very tense and rigid while giving a speech.

_____23. Realizing that only a little time remains in a speech makes me very tense and anxious.

_____24. While giving a speech, I know I can control my feelings of tension and stress.

_____25. I breathe faster just before starting a speech.

_____26. I feel comfortable and relaxed in the hour or so just before giving a speech.

_____27. I do poorer on speeches because I am anxious.

_____28. I feel anxious when the teacher announces the date of a speaking assignment.

_____29. When I make a mistake while giving a speech, I find it hard to concentrate on the parts that follow.

_____30. During an important speech I experience a feeling of helplessness building up
      inside me.

_____31. I have trouble falling asleep the night before a speech.

_____32.My heart beats very fast while I present a speech.

_____33. I feel anxious while waiting to give my speech.

_____34. While giving a speech, I get so nervous I forget facts I really know.

Appendix C

Social Interaction Anxiety Scale (SIAS)

Directions: For each question, please circle a number to indicate the degree to which you feel the statement is characteristic or true of you. The rating scale is as follows:

0= Not at all characteristic or true of me   3= Very characteristic or true of me
1= Slightly characteristic or true of me   4= Extremely characteristic or true of me
2= Moderately characteristic or true of me

_____1. I get nervous if I have to speak with someone in authority (teacher, boss, etc.).
_____2. I have difficulty making eye-contact with others.
_____3. I become tense if I have to talk about myself or my feelings.
_____4. I find difficulty mixing comfortably with the people I work with.
_____5. I find it easy to make friends of my own age.
_____6. I tense-up if I meet an acquaintance on the street.
_____7. When mixing socially, I am uncomfortable.
_____8. I feel tense if I am alone with just one person.
_____9. I am at ease meeting people at parties, etc.
_____10. I have difficulty talking with other people.
_____11. I find it easy to think of things to talk about.
_____12. I worry about expressing myself in case I appear awkward.
_____13. I find it difficult to disagree with another's point of view.
_____14. I have difficulty talking to an attractive person of the opposite sex.
_____15. I find myself worrying that I won't know what to say in social situations.
_____16. I am nervous mixing with people I don't know well.
_____17. I feel I'll say something embarrassing when talking.
_____18. When mixing in a group, I find myself worrying I will be ignored.
_____19. I am tense mixing in a group.
_____20. I am unsure whether to greet someone I know only slightly.