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# The Effects of Video Feedback on Public Speaking Anxiety

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**THE EFFECTS OF VIDEO FEEDBACK ON PUBLIC SPEAKING ANXIETY**

By

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Submitted in Partial Fulfillment

of the requirements for the degree of

Bachelor of Arts

In

Honours Psychology

Faculty of Arts and Social Science

Huron University College

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## Abstract

Previous research has demonstrated that video feedback through video self-modelling effectively improves public speaking performance; however, results have been inconclusive with respect to its effectiveness in decreasing public speaking anxiety. The present study investigated the effects of video feedback on public speaking anxiety by implementing a video self-modelling technique in a sample of university students with public speaking anxiety. Students with upcoming presentations in their university-level courses were recruited to participate. They completed an online questionnaire measuring state and trait public speaking anxiety and were filmed performing a practice version of their upcoming presentation. Participants were randomly assigned to an experimental condition, in which they were provided with and were instructed to watch their video prior to their class presentation or a control condition in which they were not provided with a copy of their presentation to watch. After their live presentations in class, participants filled out a final online questionnaire measuring state and trait public speaking anxiety. It was hypothesized that all participants would experience a decrease in state and trait public speaking anxiety from pre-intervention to post-intervention with the experimental participants experiencing a significant decrease in state and trait anxiety compared to the control participants. Results showed that all participants experienced a decrease in state public speaking anxiety from pre-intervention to post-intervention; however no other findings were statistically significant. Possible mechanisms, limitations, and future directions for these findings are discussed.

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I am so thankful for this opportunity, and congratulations to the Huron Psychology Thesis Class of 2016. I wish you all the best of luck in your future endeavours, I know you will all go far!

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## Introduction

Public speaking anxiety is a type of communication apprehension defined as a general fear of speaking in public that causes debilitating impairments in many areas of functioning (Pull, 2012). Public speaking anxiety is often associated with Social Anxiety Disorder, and has been suggested to be a subtype of this disorder (Pull, 2012). However, public speaking anxiety is prevalent in non-clinical populations as well, with an estimated 73% of college students experiencing public speaking anxiety and approximately 35% reporting debilitating effects (Dupagne, Stacks & Giroux, 2007). These debilitating effects can range from physical tics to avoidance of public speaking situations, which can cause impairment and stress in social, occupational, and educational settings (Pull, 2012). For this reason, public speaking anxiety is an important area of research, and because of its prevalence, research and treatment methods are vast.

Research on public speaking anxiety has largely focused on physiological reactivity and the cognitive aspects of public speaking anxiety, whereas treatment places a heavy focus on cognitive-behavioral and exposure therapy techniques (Rickards-Schlichting, 2001). These techniques have been shown to be effective; however one drawback of these approaches is that they usually require the client to see a therapist, an anxiety-provoking situation in itself, who then may expose the client to distressing public speaking situations. To overcome this problem, techniques for managing public speaking anxiety without therapeutic meetings and actual public exposure have been developed. Some of these techniques include virtual reality environments and internet-based treatments, which mimic the experience of speaking in public, without actually being in public. They often involve recordings of speeches with a simulated public audience. These techniques have been shown to be effective in reducing public speaking anxiety

in comparison to a non-treatment control group (Pull, 2012). Another technique is video self-modelling through video feedback. Unlike virtual reality and internet-based techniques however, the research on video self-modelling as an intervention for public speaking anxiety is scarce and inconclusive. Thus, the goal of the present study was to examine the feasibility and efficaciousness of this intervention technique in reducing public speaking anxiety.

Video self-modelling is based on *Self-Modelling Theory* (Rickards-Schlichting, 2001). This theory posits that just as learning is facilitated through the modeling of others' behaviour, learning can also be facilitated through the modelling of one's own behaviour. This technique is fairly new, making its first appearance in the literature in the 1970's due to the technological introduction of video recorders, but the concept is likely quite older, as self-modelling can also be performed in mirrored reflections (Dupagne et al., 2007). Video self-modelling is utilized by filming a person performing a positive, desired behaviour. The video is then played back for the person to watch, with the expectation that the desired behaviour will be modelled and repeated in the future. This technique has been used successfully with children suffering from autism spectrum disorder for encouraging social and language behaviors, Oppositional Defiant Disorder and Attention-Deficit/Hyperactivity Disorder for encouraging positive behaviors, physical disabilities for encouraging motor skills, and has been successful and widely used in teaching students academic and functional skills such as public speaking, problem solving, and confidence in school (Buggey & Ogle, 2012).

With video self-modelling having such an overwhelmingly positive effect across various domains, its utilization in reducing public speaking anxiety quickly followed. Video self-modelling was already a popular technique for increasing confidence and public speaking skills in academic situations, and its efficacy in reducing anxiety was also soon realized (Dupagne et



al., 2007). The rationale in using video self-modelling to combat public speaking anxiety is that speakers who video tape themselves performing a speech in an anxiety-free situation, i.e., alone and not in front of an audience, will be able to view the desirable behavior of themselves speaking free from observable and experienced anxiety. This should then lead to the modelling of this anxiety-free behavior in future speeches to an audience (Rickards-Schlichting, 2001).

Primary work in the area of video self-modelling as a technique in reducing public speaking anxiety was carried out by Rickards-Schlichting (2001). This researcher videotaped eight high school students with self-reported public speaking anxiety performing speeches on randomly-selected topics. The videos were edited to include a simulated audience and speech dysfluencies and irregular pauses were cut out. The students were then instructed to watch their videos multiple times in the following week, before performing the speech in front of a peer-based audience. One student was randomly selected as a control participant and did not watch his video after filming. Results showed that all students experienced a decrease in behavioral manifestations of speech anxiety, for example trembling, and a decrease in self-reported anxiety. The experimental participants experienced more pronounced decreases in anxiety compared to the control participant, and the control participant's decrease in anxiety was attributed to practice effects. Overall, video self-modelling as a treatment for reducing public speaking anxiety was successful in this sample. However, the results were varied, with some students experiencing extreme decreases in anxiety and others only experiencing moderate decreases in anxiety, and the sample size was very small (Rickards-Schlichting, 2001). For these reasons, more research is needed to test the efficacy of video self-modelling in decreasing public speaking anxiety.

Video feedback techniques have also been used in the treatment of Social Anxiety Disorder. Public speaking anxiety is a common experience for those diagnosed with Social

Anxiety Disorder, leading Rodebaugh, Heimberg, Schultz, and Blackmore (2010) to implement video feedback techniques in their treatment. Twenty four participants with a primary diagnosis of Social Anxiety Disorder were recruited from a treatment clinic. They were given a randomly-assigned speech topic and filmed alone while presenting their speeches. The experimental participants were asked to watch their speech while the control participants were not. Days later, participants came back to the laboratory and presented another speech, but this time in front of a small audience composed of the researchers. Results showed that experimental participants experienced an increase in positive self-perception of their speaking abilities and a decrease in anticipatory anxiety for a future speech compared to those in the control group. However, contrary to predictions, experimental participants' general public speaking anxiety experienced during a speech did not change. It is thought that these results may be clinical-population specific, as the sample in this study consisted of only those diagnosed with Social Anxiety Disorder, and it may be difficult to alter general public speaking anxiety in a clinical sample. However, video self-modelling may still have a positive effect on other types of anxiety in a similar sample.

In two Masters theses, both using a case study paradigm, researchers explored the relationship between video self-modelling and public speaking anxiety, and also found mixed results. The first thesis by Kruger (2013) had two participants with self-reported public speaking anxiety videotape themselves presenting a randomly-selected speech. Audience applause was edited into the video to make the speech appear successful. Participants watched their videos multiple times and then returned to the laboratory to present their speech in front of a small live audience. Participants did not experience a decrease in public speaking anxiety or in behavioral manifestations of anxiety between pre- and post-video feedback intervention, but did report that

they found the video feedback technique useful and would use it again in the future. The second thesis by Bartholomay (2015) recruited one participant with self-reported public speaking anxiety and videotaped her presenting a randomly-selected speech. The video was edited for speech dysfluencies like pausing, and the participant was instructed to watch the video more than once. She then came back into the laboratory and performed the speech in front of a small live audience. Overall, the treatment was effective with this one participant; however not all of the results were so encouraging. The treatment did not reduce her social anxiety, discomfort while performing the speech, or behavioural manifestations of anxiety. However, her public speaking anxiety was reduced and the participant rated the treatment as helpful for increasing confidence and skill building.

Dupagne et al. (2007) were some of the first researchers to operationally define certain types of public speaking anxiety in relation to video feedback techniques. They had 72 students with self-reported public speaking anxiety, half randomly assigned to the experimental condition and half randomly assigned to the control condition, perform five different speeches over the course of a semester. Both groups were videotaped for each speech and those in the experimental condition were instructed to watch their videos before their next upcoming speech. Researchers measured state and trait anxiety for each participant. As defined by the researchers, trait based anxiety is a general and long term experience of public speaking anxiety that varies in severity across individuals. This anxiety refers to overall communication apprehension, which includes anxiety in group, meeting, interpersonal, and public speaking scenarios (McCroskey, Beatty, Kearney & Plax, 1985). State-based anxiety is a more variable experience of public speaking anxiety that depends on specific situations of public speaking. This type of anxiety varies within individuals based on situational context. For example, an individual may experience more

anxiety speaking to a group of known-peers than when speaking to a group of strangers. These researchers found no significant decreases in state or trait public speaking anxiety across the five speeches or between the control and experimental groups. However, like in many previous studies, participants rated the video feedback experience as helpful in improving their confidence in public speaking and rated their state anxiety as decreasing over the span of the five speeches (Dupagne et al., 2007).

Video feedback as a technique for reducing public speaking anxiety has also been shown to be effective across multiple languages. Forty six university students who were bilingual Spanish and English speakers and who had self-reported public speaking anxiety were recruited. Participants were randomly assigned to the experimental or the control group. All participants were videotaped performing four randomly-selected speeches, two in Spanish and two in English, and experimental participants were instructed to watch their videos while the controls did not view their videotaped speech. Later, the participants came back to perform their speeches in front of a small live audience. Results showed that anxiety levels differed for English and Spanish speeches at pre-intervention, most likely due to dominant language effects. However, by post-intervention, participants experienced a significant decrease in state public speaking anxiety and the dominant language effect had disappeared. No significant changes were found for trait public speaking anxiety (Perez, 2006). This study demonstrates the success of video feedback as a technique in reducing public speaking anxiety in a more real-world generalizable setting, in that it can be successfully used across languages.

Another study that demonstrated the efficacy of video feedback in reducing public speaking anxiety in a naturalistic type setting recruited fourth-year medical students who completed daily oral presentations of clinical cases. One hundred and forty two students who

found these orally anxiety-provoking participants in this study. Half of the participants were randomly selected for the experimental condition, and their oral presentations were videotaped over a course of three months, with video feedback occurring after each presentation. The other half of the participants were selected for the control group, who performed their presentations without filming or feedback. Results showed that both groups experienced a decrease in anxiety levels over the three-month period. The experimental group experienced a larger decrease in anxiety compared to the control group, suggesting the control group experienced practice effects while the experimental group was positively affected by video feedback. It was also found that the more severe the anxiety originally was, the more the anxiety decreased over time (Schmidt et al., 2014). This is one of the first studies of video feedback used for the reduction of public speaking anxiety that was implemented in a naturalistic setting.

The current literature available on self-modelling through video feedback for the reduction of public speaking anxiety has produced inconsistent results and has utilized small sample sizes and underpowered statistical analyses and designs. The current study implemented a similar video feedback intervention design as that used in previous studies, but unlike extant research studies, it was set in the naturalistic setting of a university classroom. It is possible that results garnered by past research are inconclusive due to the non-relevant nature of the laboratory, as random speeches presented as participation in an experiment may not be as relevant and anxiety-provoking as a speech presented for marks in a class. Therefore, a naturalistic setting may be the ideal place to demonstrate the efficacy of video feedback (Schmidt et al., 2014). This context effect is demonstrated in research by Schmidt et al. (2014) who discovered that medical students doing daily oral presentations for their placement experienced decreases in anxiety after video feedback. This finding can be attributed to the fact that the participants were anxious due

to presentations that were salient to them, whereas this context effect is not present in laboratory studies where results are inconsistent while using random presentation topics (Rickards-Schlichting, 2001). The current study will also utilize the definitions of state and trait public speaking anxiety provided by Dupagne et al., (2007), to demonstrate that these measures are feasible in a naturalistic setting.

The present study recruited 18 university-aged participants with self-reported public speaking anxiety who had an upcoming presentation for a university-level course. Participants were randomly assigned to the experimental video feedback condition or the control condition and completed an online measure of state and trait public speaking anxiety. Afterwards, participants met with the researcher to film a practice version of their upcoming presentation. The experimental participants were instructed to watch their practice video and the control participants were not. Finally, after participants had performed their live speech in class, they completed a second online measure of state and trait public speaking anxiety. It was hypothesized that participants would experience a decrease in both trait (H1a) and state (H1b) public speaking anxiety from pre-intervention to post-intervention and that the experimental group would experience a significantly greater decrease in trait (H2a) and state (H2a) public speaking anxiety than the control group.

## **Method**

### **Participants**

Participants were recruited via advertisements at Huron University College, a small liberal arts campus affiliated with the University of Western Ontario and located in London, Ontario, Canada. Twenty-three participants contacted the researcher regarding the study; four

opted not to take part and one dropped out of the study prior to completing the intervention component. The final sample consisted of 18 university-aged students (male ( $N = 6$ ) and female ( $N = 12$ )). As per eligibility requirements, participants were enrolled in an undergraduate-level university course that included an oral presentation as part of the course work and experienced self-reported public speaking anxiety. Participants were each compensated with a \$20 e-gift card to a store of their choice after full completion of the study.

## Measures

**Presentation Characteristics.** Participants were asked to provide details on their upcoming presentation, including length and topic of presentation. This was done not only to ensure that participants fit study eligibility criteria, but also to collect descriptive information.

**State and Trait Anxiety.** The *Personal Report of Communication Apprehension* (PRCA) developed by McCroskey et al. (1985) was the main measure used in this study. It consisted of 24 items measuring trait anxiety, a general measure of communication anxiety, and six items adapted to measure state anxiety, a situational based measure of public speaking anxiety. These measures were used on both the first and second online surveys. The PRCA measure uses a 5-point Likert-type scale ranging from “strongly disagree” to “strongly agree.” Examples of the 24 items measuring trait anxiety include: “I like to get involved in group discussions,” “I have no fear of speaking up in conversations,” and “I have no fear of giving a speech.” The six items measuring state anxiety were taken from the public speaking anxiety subscore of the PRCA and adapted for use by rewording questions to be in future tense for the first online survey and past tense for the second online survey. This adaptation framed the questions so participants could base their answers on their specific school presentation to capture pre-presentation anxiety in the first survey and a post-presentation reflection on anxiety in the second

survey. Examples of the six items measuring state anxiety in the first survey include: “I expect to feel relaxed while giving my upcoming speech,” “I face the prospect of giving my upcoming speech with confidence,” and “My thoughts will most likely become confused and jumbled when giving my upcoming speech.” Examples of the six items measuring state anxiety in the second survey include: “I felt relaxed while giving my speech,” “I felt confident during my speech and face the prospect of giving another speech with the same confidence,” and “My thoughts were confused and jumbled while giving my speech” (McCroskey et al., 1985).

The PRCA has been used in the majority of research studies on communication apprehension and has been normed based on over 40,000 college students with a strong internal reliability ( $\alpha = 0.91$ ), (Porter, 1981). Both the trait and state anxiety scales have been demonstrated as valid for measuring communication apprehension. Data taken from 311 undergraduate students demonstrated correlations between scores on the PRCA-24 and scores on the Rathus Assertiveness Schedule (RAS), ( $r = 0.7$ ). The RAS is a scale for measuring contextual anxiety that has been shown to have strong test-retest and split-half reliability and demonstrated as valid through correlations of RAS scores and independent observer ratings of others. The subscales of the PRCA-24 are also highly correlated, ranging from ( $r = 0.97$ ) and ( $r = 0.98$ ). This demonstrates the validity of the PRCA-24 in measuring state and trait anxiety, and demonstrates that it is not limited in its measurements of the contextual sub-scales alone (McCroskey et al., 1985).

The participants’ scores were calculated based on procedures set forth by McCroskey et al. (1985), with higher scores representing the presence of higher anxiety.

**Presentation Grade.** Once grades on the presentation had been distributed by participants’ respective course instructors, participants provided the researcher with the grade



received on their class speech via e-mail. All grades were converted to a score out of 100, with higher values representing higher presentation grades.

## **Procedure**

Interested participants contacted the researcher via email, which was provided on study recruitment posters posted in high student traffic areas throughout Huron University College. Participants were emailed back a link to the first online survey and assigned a unique participant number a week before their class presentation. Participants were then randomly assigned to either the control or the experimental condition via a random number generator.

The first online survey began with the Letter of Information and Consent Form. It also asked participants, “Do you experience public speaking anxiety?” and allowed them to answer “yes” or “no.” This was a manipulation check to ensure the participants all experienced self-reported public speaking anxiety. The survey also asked, “Do you have an upcoming speech for a university course? If so, when is it?” This was also a manipulation check to ensure participants all had an upcoming presentation for one of their courses. Next, participants answered the PRCA-24 and the six items relating to state anxiety, specifically for their upcoming presentation. The survey took approximately 10 minutes to complete.

After completion of the first survey, the researcher emailed the participants to set up a meeting time to come into the laboratory to videotape their presentation. Participants were asked to bring their own technology for filming, however, a video camera was available for participants who were unable to do so. This procedure was in place so participants felt more comfortable filming their presentation in privacy, knowing that the recording was contained on their own device and would not be viewed by the researcher. All participants opted to bring a laptop with a

built in webcam recorder for filming. On arrival at the lab, the researcher helped the participant set up and get comfortable. Participants were instructed to act naturally while filming their presentation and were assured of their privacy. They were instructed to perform their presentation as they would in front of an audience, so most participants opted to stand and use props such as presentation slides, posters, and notes. The researcher then left the room. On completion of filming, the participant was told to signal the researcher by opening the door to the lab. Members of the control group were instructed to delete the video recording from their device and the researcher watched as they did so. Members of the experimental group were instructed to save their videos and to watch it at least once, but not more than three times in the days leading up to their class presentation, with one viewing occurring the day before the presentation.

On the day of their in-class presentation, participants were sent the link to the second survey to be completed as soon as their presentation had been finished. The second online survey again asked participants to answer the PRCA-24 and the six items relating to state anxiety, specifically for their recent class presentation. Participants were asked to provide feedback on their experiences participating in the study and were asked if they felt comfortable sharing their final presentation grade with the researcher. If so, they were asked to report this to the researcher via email when the grade became available. The second survey ended with the Debriefing Form and took approximately 10 minutes to complete. Once the survey had been submitted, participants were compensated with a \$20 online gift card for a store of their choice.

## Results

### Descriptive Statistics

The manipulation checks in the first survey were all completed with all 18 participants confirming they had a presentation for an upcoming course in the next three months and 15 confirming they experienced public speaking anxiety. However, the data for the three participants who answered “no” to the question of public speaking anxiety were still included because their PRCA scores were in the low to moderate range of public speaking anxiety. Participants reported a wide range of speech topics for their courses, including Health Sciences ( $N = 4$ ), Business ( $N = 3$ ), Psychology ( $N = 3$ ), Dramatic Arts ( $N = 3$ ), Nursing ( $N = 1$ ), English ( $N = 1$ ), Geography ( $N = 1$ ), History ( $N = 1$ ), and Software Design ( $N = 1$ ). Length of speech was reported as ranging from 2 minutes to 20 minutes ( $M = 10.75$  minutes). Eight participants reported their final presentation grades to the researcher, and they ranged from 84-100 ( $M = 87.5$ ).

Scores on the PRCA were calculated and categorized based on scales put forth by McCroskey (1985), which state that participants scoring higher than 80 have high public speaking anxiety, those scoring in between 51 and 80 have moderate anxiety, and those scoring 50 and under have low public speaking anxiety. After the first survey, participants were categorized as experiencing high public speaking anxiety ( $N = 9$ ; 50%), moderate anxiety ( $N = 6$ ; 33.3%), or low anxiety ( $N = 3$ ; 16.6%). After the second survey, participants were again categorized as having high anxiety ( $N = 7$ ; 38.8%), moderate anxiety ( $N = 7$ ; 38.8%), and low anxiety ( $N = 4$ ; 22.2%).

## **Baseline Assessment Check**

Nine participants were randomly assigned to the experimental condition (three males and six females) and nine were randomly assigned to the control group (three males and six females). The results of a MANOVA revealed no significant differences between the experimental condition at pre-intervention ( $M = 21.88, SD = 4.93$ ) and the control condition at pre-intervention ( $M = 19.55, SD = 6.34$ ) and the experimental condition at post-intervention ( $M = 16.55, SD = 3.08$ ) and the control condition at post-intervention ( $M = 17.44, SD = 6.78$ ) for state anxiety ( $F(2, 15) = 1.06, p > .05$ ). The results revealed no significant differences between the experimental condition at pre-intervention ( $M = 85.11, SD = 14.02$ ) and the control condition at pre-intervention ( $M = 72.22, SD = 17.2$ ) and the experimental condition at post-intervention ( $M = 80.88, SD = 14.99$ ) and the control condition at post-intervention ( $M = 69.11, SD = 16.63$ ) for trait anxiety ( $F(2, 15) = 1.43, p > .05$ ).

## **Hypothesis Testing**

In order to test the study hypotheses that participants would experience a decrease in both trait (H1a) and state (H1b) public speaking anxiety from pre-intervention to post-intervention and that the experimental group in the video feedback condition would experience a significantly greater decrease in trait (H2a) and state (H2b) public speaking anxiety than the control group, two 2 X 2 repeated measures ANOVAs were conducted to examine the effects of the independent variables, condition (experimental versus control) and time (pre-intervention versus post-intervention PRCA scores) on the dependent variables, trait anxiety and state anxiety.

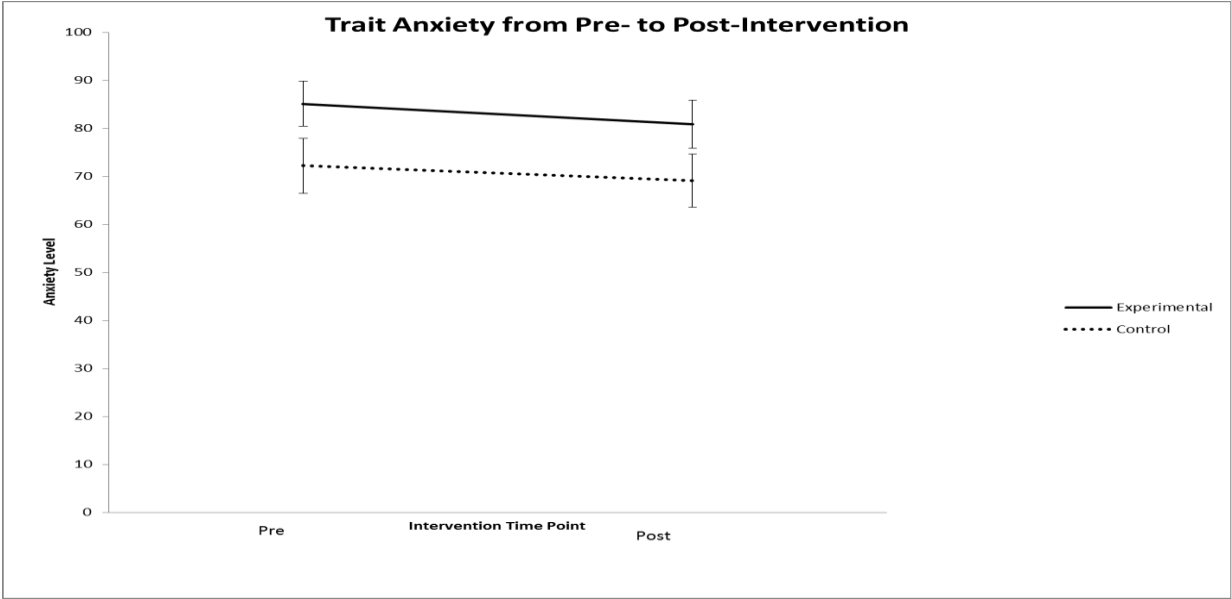
Inconsistent with Hypothesis 1a, the results of the first ANOVA demonstrated that the main effect for time was not significant. Participants' trait anxiety levels did not differ

significantly from pre-intervention ( $M = 78.7, SD = 16.6$ ) to post-intervention ( $M = 75, SD = 16.5$ ), ( $F(1, 16) = 3.75, p > .05$ ). Further, there was no significant main effect found for condition, such that participants in the experimental group did not differ on trait anxiety level from the control group, ( $F(1, 16) = 2.9, p > .05$ ). Finally, contrary to Hypothesis 2a, there was no significant interaction found for condition x anxiety, such that participants in the experimental versus control conditions did not differ significantly on trait anxiety level from pre to post-intervention, ( $F(1, 16) = .086, p > .05$ ). (See Figure One).

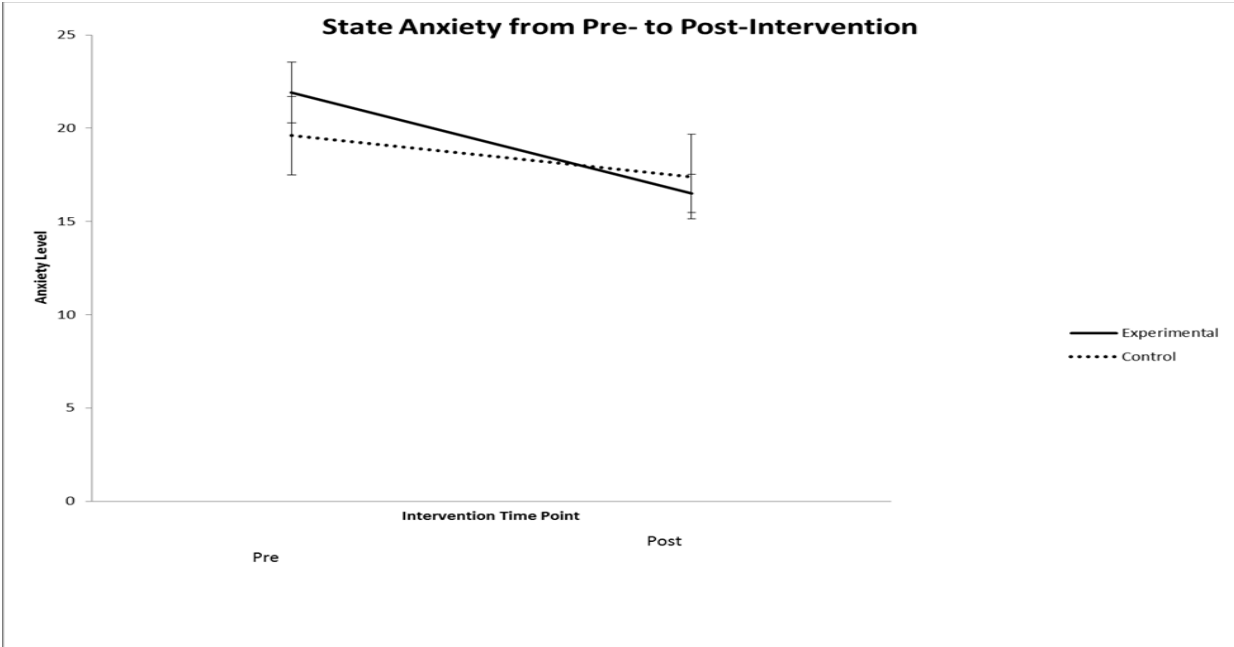
In line with Hypothesis 1b, the results of the second ANOVA showed a significant main effect for state anxiety, such that all participants' state anxiety levels were significantly decreased from pre-intervention ( $M = 20.7, SD = 5.6$ ) to post-intervention ( $M = 17, SD = 5.1$ ), ( $F(1, 16) = 11.99, p < .05$ ). There was no significant main effect found for condition, such that participants in the experimental group did not differ on state anxiety level from the control group, ( $F(1, 16) = .094, p > .05$ ). Finally, inconsistent with Hypothesis 2b, there was no significant interaction found for condition x anxiety, such that participants in the experimental versus control conditions did not significantly differ on state anxiety from pre to post-intervention, ( $F(1, 16) = 2.25, p > .05$ ). (See Figure Two).

An Independent Samples *t*-test was conducted to analyze differences between the control and experimental group on final grade report. No significant differences were found between the experimental group ( $M = 85, SD = 1$ ) and the control group ( $M = 89, SD = 6.6$ ) on final grade report,  $t(6) = 1.02, p = .346$ .

**Figure One:** Trait anxiety reductions from pre- to post-intervention for the experimental and control groups.



**Figure Two:** State anxiety reductions from pre- to post-intervention for the experimental and control groups.



## Discussion

It was hypothesized that there would be a decrease in both trait (H1a) and state (H1b) public speaking anxiety from pre-intervention to post-intervention, and that the experimental group in the video feedback condition would experience a significant decrease in trait (H2a) and state (H2b) public speaking anxiety compared to the control group. For the most part, the results of this study did not support these hypotheses. Participants did not experience a significant decrease in trait public speaking anxiety from pre-intervention to post-intervention; however, the experimental and the control participants taken together experienced a significant decrease in state anxiety from pre- to post-intervention. Further, although pre-test to post-test mean-level reductions appeared greater for the experimental group, no significant interactions were found between condition and time in predicting trait and state anxiety.

It is not surprising that results showed no reductions in trait anxiety from pre-intervention to post-intervention. Trait anxiety is described as a general predisposition of anxiety that is stable over time (Dupagne et al., 2007) suggesting its constancy over the course of an anxiety reduction technique like video self-modelling. State anxiety however, is described as a context specific experience of anxiety that is dependent on the situation (Dupagne et al., 2007) suggesting its malleability over the course of an anxiety reduction technique like video self-modelling. Future research should focus on attempting to reduce trait anxiety in longitudinal studies, however, it may be more practical to focus on reducing state anxiety in people suffering from public speaking anxiety due to its flexible nature.

This study was designed to further past research by settling inconclusive results on the use of video self-modelling for reducing public speaking anxiety. Past studies conducted in a laboratory setting with high-school students failed to demonstrate the efficacy of video self-

modelling (Rodebaugh et al., 2010; Dupagne et al., 2007). These studies used random pre-written presentations for the use of the experiment in comparison to a study conducted in the naturalistic setting of a hospital, which used oral presentations that were part of the residents' daily duties. This naturalistic paradigm demonstrated promising results (Schmidt et al., 2014) in comparison to the experiments conducted in the laboratory (Rodebaugh et al., 2010; Dupagne et al., 2007). The present study implemented video self-modelling in a university student sample in the naturalistic context of real presentations that were used for university course work. This was an important strength in the design of this research, as the salience of the presentation context has been shown to be an important variable in the effectiveness of video self-modelling (Schmidt et al., 2014), and allows the researcher to target public speaking anxiety at the source. Although this study was unable to demonstrate the efficacy of video self-modelling in reducing public speaking anxiety using university students, it provided important implications regarding anxiety reduction techniques and created avenues for methodological improvement and future research.

Similar to past research, the current study had a small sample size of just 18 participants who experienced a wide range of self-reported anxiety levels. Future research should focus on obtaining a larger sample size for increased statistical power and should test the video self-modelling technique in a sample with higher anxiety, like that found in a clinical population. Schmidt et al. (2014) reported in their research that participants who began the video feedback intervention with high anxiety were more likely to experience larger decreases in anxiety compared to those who began the intervention with low anxiety. Public speaking anxiety is very common within the clinical population of those diagnosed with Social Anxiety Disorder (Pull, 2012), and thus it is possible that a sample of participants with Social Anxiety Disorder would be



more likely to experience high scores on the PRCA measure and increased reductions in anxiety after a video self-modelling intervention than a non-clinical sample.

Methodological flaws of this research that should be improved upon in future studies include the control of the experimental manipulation and practice effects. Participants in the experimental condition were asked to watch their presentation videos on their personal devices and on their own time in the days leading up to their in-class presentation. This was to provide a realistic design in which the intervention could be implemented, however, without having the participants come into the laboratory to watch their videos, we were unable to ensure that the participants watched their videos. Without this manipulation control, it is possible that there was no difference between the experimental and control conditions, meaning results could be attributed to practice effects. Decreases in anxiety of the control group in past studies were often attributed to practice effects (Rickards-Schlichting, 2001), and so this was also expected in the current study. However, we are unable to tease apart the possible practice effects between the control and experimental conditions in this sample. Future research should attempt to separate these practice effects, possibly by implementing a second control group that does not film their video. If practice effects are truly present, the second control group will not experience a decrease in anxiety at all.

Although some past research contains promising results of the efficacy of video self-modelling in the reduction of public speaking anxiety (Perez, 2006, Schmidt et al., 2014), it is possible that it is not a useful tool for reducing anxiety. Video self-modelling has been demonstrated as an effective technique across a variety of domains, but consistently has been demonstrated as successful in the improvement of public speaking skills (Buggey & Ogle, 2012). Although final presentation grades were collected from participants to measure possible

improvement of public speaking skills, the data on this were limited as only eight participants submitted their grades to the researcher. This small sample size did not allow us to draw conclusions about whether or not the video feedback technique improved performance on the presentation in comparison to the control group. However, this was demonstrated based on anecdotal feedback received from the participants in the experimental condition. Nine participants chose to leave comments regarding their experience with video feedback. Six of these comments were received from the experimental participants whose feedback focused on the videos as an effective aid in improving delivery of the presentation. Only two participants, one from the experimental condition and the other from the control condition, focused on public speaking anxiety in their feedback, with one participant suggesting she felt more relaxed after the intervention, and another suggesting he felt the video helped with their “stage fright”.

Research by Harvey, Clark, Ehlers, and Rapee (2000) has provided evidence that the effects of video feedback may be enhanced by cognitive preparation. That is, participants instructed to talk about their expectations of their video, imagine what their video will look like, and then watch their video from the viewpoint of a third-party observer are more likely to experience the positive effects of video feedback, including reduction of anxiety, compared to those who follow the traditional techniques of video feedback. Based on this research, it is possible that participants in the current study were affected by cognitive preparation, such that their previous knowledge about video feedback technology influenced its utilization. Since most video feedback research has focused on public speaking improvement, experimental participants might have utilized the video feedback technique to help improve their public speaking skills based on this knowledge. Future research should focus on manipulating cognitive preparation to

see if preparing participants for the use of video feedback in reducing public speaking anxiety will in turn help participants use the technique effectively for reducing anxiety.

Overall, the current study failed to provide conclusive results in the use of video feedback for reducing public speaking anxiety and contains many methodological flaws and limitations that need to be addressed in future research. However, this does not mean self-modelling through video feedback is an ineffective technique for the reduction of public speaking anxiety. Video feedback has been demonstrated to be effective in improving public speaking performance in an academic setting (Buggey & Ogle, 2012) and decreasing public speaking anxiety in a hospital setting (Schmidt et al., 2014). Future research should continue exploring the technique with a larger clinical sample, should control for practice effects, and should provide training to participants on how to most effectively use this technique. Video feedback is a promising intervention that is user-friendly, inexpensive, and accessible, and which may be effective over a wide variety of contexts. It is important for future research to explore the potential of this intervention and implement it in settings where it will be effective.

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