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THE UNIVERSITY OF ALBERTA

Measuring Performance Anxiety

by

(C) Claire Vallee

A THESIS

SUBMITTED TO THE FACULTY OF GRADUATE STUDIES AND RESEARCH IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE OF Master of Education

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Claire Vallee
(Student's signature)

Box 6
(Student's permanent address)

Bonnyville
Alberta T0A 0L0

Date: 18 December 1986

THE UNIVERSITY OF ALBERTA

FACULTY OF GRADUATE STUDIES AND RESEARCH

The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies and Research for acceptance, a thesis entitled Measuring Performance Anxiety submitted by Claire Vallee in partial fulfillment for the degree of Master of Education in Counselling Psychology.

Gw. J. Dimmitt
(Supervisor)

E. E. Fox

Harold Adams

Date: 15 December 1986

ABSTRACT

The purpose of this research was to investigate the utility of the Self-Evaluation Questionnaire as an assessment device in measuring performance anxiety.

The Self-Evaluation Questionnaire was found to be a useful tool in discriminating between Music and Non-Music students.

Item #1-20 from the STAI-State, item #21-34, co-operative endeavor, item #35-37 from the I.P.A.T.

The Self-Evaluation Questionnaire was used to research the hypothesis that Music students at Grant MacEwan Community College experience more performance anxiety than do Non-Music students. As well, the study investigated whether Music students experience more anxiety than do other performing art students at Grant MacEwan Community College. Two-hundred fourteen students were administered the Self-Evaluation Questionnaire to assess anxiety as it relates to performance. The Questionnaire was a 37 item, 4 point Likert scale, having the composition described in the previous paragraph.

Significant differences were found between Music and Non-Music students on the psychophysiological subtest of the Self-Evaluation Questionnaire. This was consistent with the literature.

The investigator recommends replication of the study to verify these findings.

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I would like to express my appreciation for the faith and support shown by my husband, Jack Dobbs. A special thanks is also due to Dr. George Fitzsimmons for his guidance and his patience. The encouragement of both of them enabled the completion of this thesis.

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CHAPTER 1

STATEMENT OF THE PROBLEM

The purpose of this study is to gain knowledge in understanding the nature and experience of performance anxiety. Investigation of this topic is based upon three major reasons:

1. to acquire knowledge about anxiety and specifically about performance anxiety.
2. to design a questionnaire which would be able to measure performance anxiety.
3. to emipirically verify if this questionnaire can discriminate between Music and Non-Music students' experience of perfomance anxiety.

For the purposes of this study, performance anxiety will be defined as "anxiety associated with performance, whether it be the performance of a musical selection or a class presentation before one's peers." This study will focus on performance anxiety, when it is experienced as excessive, and when it may therefore impede a good performance.

Attempts to understand the dynamics surrounding performance anxiety rests upon clearly formulating specific areas of investigation. The following questions were posed.

1. What is anxiety?
2. Is it possible to design a questionnaire which would be able to measure performance anxiety?
3. Can a questionnaire discriminate between Music and Non-Music students experience of performance anxiety?

Attempts to provide answers to these questions is the major focus of this research. In order to achieve this goal, it was necessary to develop a specific instrument which would explore the phenemona known as performance anxiety.

A corollary purpose of this study was to develop a measurement device that can be used as a diagnostic tool in working with individuals who experience performance anxiety.

This research is focused upon acquiring knowledge regarding performance anxiety and the nature of it's experience by different types of students. Lack of information in the literature, comparing and contrasting different types of students' experience of performance anxiety encouraged the direction of this research.

Most of the literature in the field has been restricted to program specific areas i.e. Music, athletics, and academics. A comprehensive review of the scientific literature failed to uncover a single study

which compared different groups of students to assess their experience of performance anxiety.

There was also no evidence of the existence of a scale that would assist in comparing and contrasting different experiences of performance anxiety. Therefore this research is unique and most important.

CHAPTER 2

REVIEW OF THE LITERATURE

A. THEORETICAL INFLUENCES

The focus of this literature review is primarily on identifying the dynamics surrounding performance anxiety as it relates to Music students.

In order to accomplish this task, literature pertaining to stress, anxiety, and performance anxiety will be reviewed.

There are several theories of stress in the literature. Various approaches to stress will be examined. Afterwhich, a discussion of performance anxiety as it relates to musicians, athletes, pilots, scuba divers, and university students will be presented. This research assisted the author in formulating the research questions which will be presented at the end of the chapter.

1. BIOLOGICAL/PHYSIOLOGICAL

Selye (1974) defined stress as "the nonspecific result of any demand upon the body, be the effect mental or somatic". His research showed that a variety of dissimilar situations-"emotional arousal, effort, fatigue, pain, fear, concentration, humiliation, loss of blood, and even great and unexpected success-are capable of producing stress..." (Selye, 1982:7) Medical research

has been able to show that although many people experience stress, and many different types of stress, our bodies respond in a predictable pattern to stress. Selye's major contribution to stress research was the concept of the General Adaptation Syndrome (GAS). This syndrome consists of three phases:

1. stage of alarm: the initial response wherein the body attempts to deal with the stress agent. If the stressor is not too drastic or life threatening, but has not been fully dealt with in the alarm stage, the body moves into the second stage.

2. stage of resistance: this stage is elicited after continued exposure of the organism to any noxious agent. In this second phase, the bodily manifestations are quite different from the initial reaction. The body, if continuously exposed to a noxious agent, shifts into an acquired adaptation. However, if the body continues to be exposed to the stressful situation, it moves into the last phase.

3. stage of exhaustion. Under constant stress, exhaustion eventually results. Exhaustion may simply mean that an athlete has run the race and now needs to rest and strengthen his body. It can also mean the imminent death of an individual depending on how much of

the organism's strength was required to deal with the stressful situation.

Gunnar and Malone (1985) refer to the pioneering work of Hans Selye. Since Selye's work, measures of adrenocortical activity have figured prominantly in studies of stress and coping in a variety of species. Previous research by Gunnar, Malone & Fisch had revealed that the pituitary adrenocortical system appears to respond sensitively and discriminately to aversive stimulation during the newborn period. Gunnar and Malone examined the adrenocortical activity of pre-circumcised infants and post-circumcised infants. They report:

"the results showed that 30 min. after the beginning of circumcision, plasma cortisol levels were elevated strikingly." (Gunnar et al.,1985:831)

Following circumcision, plasma cortisol levels declined rapidly. Quiet sleep which may be part of the coping process that is triggered by a whole-body response to stress, increased following circumcision. In the hours following this apparently stressful procedure, the child falls into a state of sleep which seems to help his body recover from the surgical operation.

In short, the healthy newborns seem to follow the pattern outlined by Selye in attempting to cope with the

stress induced by the medical intervention.

Betty Lynn Shuster (1985) investigated the effect of music listening in reducing the amount of fluctuations in the blood pressures of patients undergoing hemodialysis. (Kidney patients are treated through hemodialysis.) Researchers have focused on stress and its effects on various body functions. During stress, the endocrine and nervous systems influence blood pressure, body temperature as well as many other factors. Music has been used in a number of studies to mitigate the effects of stress: to make dental procedures less painful and anxiety provoking (Morosko & Simmons, 1966, Padfield, 1976) to facilitate labor and delivery (McCorkle & Williams, 1981). Some researchers have investigated the effects of music on autonomic stress responses. The consensus of this research is that music does decrease autonomic stress responses. Shuster's study investigated the efficacy of music therapy in helping to reduce the amount of blood pressure fluctuation in patients undergoing hemodialysis treatment.

Subjects were 63 adult dialysis-patients between the ages of 22 and 81. The sample included 24 males and 39 females. All subjects participated voluntarily in the study. A two sample design was used a) control group (n=32) receiving measurement of blood

pressure after each hour of dialysis and b) experimental group (n=31) receiving blood pressure measurement after each hour of dialysis and music for 1 hour beginning 30 minutes after the onset of treatment and another hour of music following 2.5 hours of treatment. Data on the blood pressure reading were analysed. It revealed that the experimental group had a significantly lower systolic pressure at the onset of dialysis (p=.008) and a significantly lower diastolic pressure during the second reading of the dialysis treatment (p=.043) than did the control group.

Both of these readings were taken before the first music listening period. No other significant differences were found between the two groups. Shuster in her discussion of the results offers the following explanation. The opportunity to listen to music may have decreased the experimental groups's anxiety, resulting in a significant decrease in blood pressure. Shuster's research concurs with Eagleston Thoresen's critique of Selye's work.

He writes "Both the stimulus and response models neglect to consider the prime roles of perception and appraisal-that is, what demands a person perceives and what resources he or she perceives are available to meet the demands." (Thoresen, 1985, 43)

Shuster's experimental group may have perceived

hemodialysis as less stressful in anticipation of the opportunity to listen to music. The hemodialysis treatment remained the same for both groups. However the experience of hemodialysis was altered for the experimental group due to their perception (anticipation of listening to music during their treatment).

2. PSYCHOLOGICAL

Richard Lazarus contributed to the field of stress research when he, as well as others stated that the "consequences of stress cannot be understood merely in terms of the stressful event... nor solely in terms of responses that are sometimes consequences of stress, such as physiological mobilization".

Lazarus states that stress must be defined "relationally by reference to both the person and the environment". (Holroyd & Lazarus, 1982:22)

The work of Lazarus and his colleagues Coyne, Holroyd, and Launier offers an alternate perspective on stress research. Their definition contrasted sharply with previous definitions which had been "phrased either solely in terms of the occurence of events consensually regarded as stressful (Holmes & Masuda, 1974) or solely in terms of responses that are sometimes consequences of stress, such as physiological mobilization (Selye, 1974)." (Lazarus, 1982:22)

In the case of the aforementioned kidney patients, the experimental group perceived the hemodialysis treatment in a way that significantly affected their body's physiological mobilization. As a result, their blood pressure levels were significantly lower than that of the control group.

The following study further demonstrates the key role of individual appraisal in stress research. John F. Kremer and Gail A. Spiridigliozzi (1982) had students complete the Schedule of Recent Experiences (SRE) (Holmes & Rahe,1967). The students indicated their willingness to participate in the second part of the study.

The results of this study indicated that women with high amounts of life stress reported less anxiety and anger in response to a short-term stressful situation than women with low amounts of life stress. The research also indicated that after failing, "women with high amounts of life stress were less anxious than women with low amounts of life stress." These results can be interpreted within Lazarus' model.

Lazarus wrote "psychological stress requires a judgement that environmental and/or internal demands tax or exceed the individual's resources for managing them". (Lazarus,1982:22) Women who had experienced a great deal of stress in their life did not perceive the test

situation in the same way as the women who had experienced limited life stress. The latter group felt more threatened by the test situation than did the former group.

George Whatmore and Daniel Kohli's work adds to the the field of stress research by introducing the concept of ponesis (effort) and dysponesis (faulty effort). They established that functional disorders are

> "disorders that have their origin in physiopathology instead of the more traditional structural pathology. Altered circuit-activity within the nervous and neuromuscular systems is the primary or basic pathology....The nervous system is basically a complex signalling system by means of which the organism responds to its environment, regulates tissue functions and manages to survive."

Whatmore and Kohli have shown that this complex signalling system can function in a way that is dysponetic.

> "Any bracing that produces physiologic changes detrimental to the organism, instead of assisting it, is considered to be a bracing error or dysponetic bracing. More specifically, dysponetic bracing is any bracing that occurs in situations where quick and vigorous overt action whould be inappropriate." (Whatmore & Kohli, 1974:69)

Their work established that it is possible to correct the dysponetic errors that an individual makes by orthoponetics (right work). Biofeedback is a method they advocate in correcting these errors, which are considered to be representing errors.

Whatmore and Kohli's work explains the sequence of

physiological events that occur when the individual experiences a dysponetic error. Their work adds a significant dimension to the field of stress research.

In summary, stress is a person-specific event that may or may not have consensual validity i.e. Janet's evaluation of having to perform a music recital is that it is an extremely stressful event. The self-talk she engages in reinforces this perception. She experiences a dysponetic error and enters into phase one of Selye's General Adaptation Syndrome.

She braces, and she notices that her hands are cold, and her palms are sweaty. However, when Brian is required to perform his musical selection, he experiences a state akin to euphoria.

This second student experiences "eustress" a term coined by Selye to refer to the pleasant stress of fulfillment" (Selye, 1982: 16).

For the purposes of this study, the author's understanding of stress is the following. Stress is a person-specific response to a situation. This response consists of cognitive factors as well as physiological responses.

B. ANXIETY

1. STATE ANXIETY VS TRAIT ANXIETY

Anxiety is a state most people have experienced at some

time in their life. Usually anxiety is defined as "a complex state that includes cognitive, emotional, behavioral, and bodily reactions." (Sarason, 1984:931) Charles D. Spielberger argued for more precision in the definition of anxiety. He states that:

"the state form of anxiety is the transitory feelings of fear or worry which most of us experience from time to time. The trait form of anxiety is the relatively stable tendency of an individual to respond anxiously to a stressful situation. Thus, the level of trait anxiety reflects the proneness to exhibit state anxiety."(Spielberger, Gorusch, Lushene,1985:626)

Spielbergers's delineation of two "types" of anxiety is a useful construct. Robert J. Rios (1982) investigated the effects of hypnosis and meditation on State and Trait Anxiety. He found that there was significant differences among the 2 treatment groups and the control group for the variables of state-anxiety and the variable of trait-anxiety. The results indicated that hypnosis and meditation are effective for lowering both state and trait anxiety.

R. Ferreira and J. Murray (1983) measured anxiety with and without an audience. They found that Spielberger's STAI scale was useful in measuring anxiety associated with motor activities.

"Half of the 56 subjects (n=28) performed 15 pre-treatment trials on a stabilometer, then 6 more with and audience of three faculty (Group 1), the other half performed the same task with no audience (Group 2). Subjects completed the State-Trait Anxiety Inventory

prior to and after the treatments. Results indicated that Group 1 (audience) post-State anxiety was significantly different from its own pre-State-anxiety and significantly different from Group 2 (no audience) on post-State-anxiety."

It is significant to note that Ferreira and Murray found that the presence of an audience increased the subjects' State-anxiety scores but did not affect the subjects' stable Trait scores. They found that the trait measure was very stable, i.e., it did not fluctuate when subjects were in a stressful environment.

Their study has an inherent limitation in its' design. The subjects were randomly assigned to groups 1 and 2 without pre-screening their subjects for high trait/ low trait anxiety. However, it is a useful study. It indicates that with the addition of an audience, state anxiety increases markedly on motor performance. It adds to our understanding of Janet's behavior. She knows that when she must perform in a musical recital, her anxiety rises considerably. She is a low-trait anxious individual, but in this situation, she is high state anxious.

Spielberger would observe that Janet is having marked state anxiety related to musical performance but for the most part, she has low trait anxiety. Whereas Brian is quite relaxed when it comes to musical performance i.e. he has low state anxiety in this

situation but may conceivably have high state anxiety in another.

2. PERFORMANCE ANXIETY

The concept of performance anxiety is relatively new. However, it is yielding a number of results that are influencing our understanding of stress.

James Barrell, Don Medeiros, Jim Barrell, and Don Price (1985) address this experience in their article on performance anxiety. Through the use of an experiential approach and method, the causes of performance anxiety were explored.

They itemized five factors which they felt were common to the experience of performance anxiety:

1. presence of significant others
2. possibility of visible failure
3. felt need to avoid failure
4. uncertainty of outcome
5. focus on self

According to Barrell et al., performance anxiety occurs as a result of the way in which these five elements are experienced by the "performer". Their elucidation of the phenomena of performance anxiety helps shed more light on Janet. Her way of defining what a music recital is and what it means is likely to differ from Brian's. As a consequence, Janet's experience of a music recital is likely to be different from that of Brian's. (If you remember, Janet

experienced performing a musical selection in front of an audience as an extremely stressful event, whereas Brian found it an enjoyable experience.)

3. TREATMENT ALTERNATIVES

There are several studies which give us information on ways in which the student experiencing performance anxiety can be assisted.

The investigator would like to draw the readers' attention to an important variable regarding performance anxiety, whether it be associated with musicians, athletes, pilots etc. S. Raviv and P. Rotstein state that "... an optimal anxiety level before a competition is a necessary and positive factor affecting the quality of performance." (Raviv & Rotstein, 1983:61). The inference therefore is that too much anxiety, as well as too little anxiety may hinder performance. The field of research regarding anxiety is replete with examples of excessive anxiety hindering performance.

a. DECREASE IN ANXIETY

Three Italian researchers documented a reduction in anxiety by the application of biofeedback techniques. They were concerned with "pre-start anxiety".

"Pre-start anxiety consists of a particularly

intense anxious reaction immediately preceding any event rich in emotional content so as to arouse in the subject more or less legitimate concerns about insufficiency or incapacity." (Costa, Bonaccorsi, Scrimali, 1984:98)

They explain that some normal level of anxiety is always present in athletes preparing for a competition. They elaborate on the specific causes which may affect the athlete i.e. competing before a critical audience, and an excessively strong desire to win. They specify that

"these situations may affect the athlete's concentration and general activity, and often result in lowered mental elasticity, incapacity for greater concentration, an involuntary reduction in analytic capacity, variations in heart rate, respiratory frequency, blood pressure, and increase in muscular tension and changes in cutaneous resistance." (Costa, Bonaccorsi, Scrimali, 1984,p.99)

They state that these psychic and physical changes may foster difficulties in the athlete who will require good motor and temporal coordination. (These same changes may occur in the musician who is preparing for the performance at hand.)

Costa et al. utilized biofeedback to investigate the possibility of decreasing the reported level of anxiety in their handball athletes. To measure the level of anxiety, the researchers used two psychodiagnostic instruments, the MMPI and the STAI. Their findings were clear. With the aid of biofeedback, the athletes were able to decrease their reported level of anxiety before a game-the measure used to check on the anxiety level

was the score on the STAI.

Mace and Carroll (1985) in their article report on a program developed by Meichenbaum which incorporated the use of "coping self-statements". They conclude that stress inoculation training is effective in controlling anxiety.

Several studies indicate that relaxation training either used alone, or in conjunction with another method such as biofeedback or systematic desensitization have successfully reported a decrease in anxiety before performance. (Reynolds, 1984, Ricketts & Galloway, 1984, Aitken & Benson, 1984)

Their research indicates that it is possible to decrease the level of reported anxiety that an athlete experiences before competition. In the case of Ricketts and Galloway, their decrease in stress was reported for test anxiety. In Aitken and Benson's study the participants were flight students.

Pharmacological research has addressed performance anxiety with musicians specifically. James and Savage (1984) compared the efficacy of nadolol, diazapam and a control group. They found that the drug nadolol was effective in decreasing the effects of performance anxiety. "The variables of bowing and playing in tune, which are musically the most important, improved after

nadolol." (James & Savage, 1984:1154) The results of their study and others cited in their review of the literature confirm the beneficial effects of beta-blocking drug use on anxiety-induced disturbances of musical performance. The investigator randomly assigned participants to either of the three groups, diazapam, nadodol or placebo. Obviously, the limitation of this study, is that James & Savage did not pre-screen their musicians to see what bracing patterns their participants utilized. Beta-blockers such as nadolol affect smooth muscle activity. Diazapam affects striated activity.

There have been few reports in the literature that indicate successfully decreasing performance anxiety as well as increasing performance levels.

2. INCREASE IN PERFORMANCE

Longo and Saal(1984) conducted an experiment examining the effectiveness of Respiratory Relief Therapy in reducing public speaking anxiety in college students. They worked with 60 speech anxious college students. In this study, the 60 speech anxious college students were divided into three groups: a Respiratory Relief Therapy group, a Gradual Repeaed Exposure group and a Waiting-List Control group in which students were

evaluated, waited four weeks, were evaluated again and then offered treatment. The pre- and post measures, including self-ratings of anxiety, physiological measures (GSR and pulse rate), and blind observer ratings of videotaped episodes, showed significantly greater reductions in public speaking anxiety in the Respiratory Relief Therapy group than in the other two groups on most measures, supporting the effectiveness of this procedure in reducing specific anxieties in a controlled experimental setting. (Longo & Saal, 1984,p.361) Needless to say, this study is significant to our research. It addresses a problem which is very similar to that of the Music student who is presenting a musical recital. The audience is present, the student is alone, and must perform. Let us examine the work by Longo et al. a little more closely. Their study consisted of three groups, a Respiratory Relief Therapy group, a control group, and a Gradual Repeated Exposure group in which

> "students imagined hierarchy items without initiating a competing response in order to control for placebo and expectancy effects; and a Respiratory Relief Therapy group.... The therapy employed two procedures: a) a systematic desensitization paradigm in which the competing response paired with scene presentations was the relief experienced when the student breathed again after exhaling and holding his or her breath out for as long as possible; and b) homework assignments to practice breathing deeply and regularly." (Longo & Saal,1984:361)

Some of their findings which would apply to our research

were,

"students in both treatment groups experienced significant speech anxiety reductions from their first to second research speeches....The correlation suggests that the anxiey reductions were generalized from treatment to real life situations. Additionally, Respiratory Relief students reported high levels of relaxation, 'heaviness of limbs', and 'feelings of calm' toward the end of the treatment sessions....There was a significant reduction of pulse rates due to treatment, suggesting that students who received Respiratory Relief Therapy were less physiologically aroused during their second as compared to first research speeches than students receiving no therapy." (Longo, et al. p.374)

This study is an important one, but it is by no means an isolated case. The work of Lars-Eric Unestahl as documented by himself, and by John H. Salmela report that the use of Inner Mental Training has been very effective in reducing performance anxiety in the athlete, and increasing the actual level of performance attained.

W. Lanning and B. Hisanaga (1983) investigated the relation between systematic training (relaxation training) in the reduction of competition anxiety and an increase in athletic performance.

"The sample consisted of 24 female volleyball players from six different high schools on the island of Oahu, Hawaii. The subjects were equally and randomly assigned to either a treatment or control group. The dependent measures used were the Sport Competition Anxiety Test and actual performance as measured by the number of successful serves obtained in competition....Results indicated that the treatment group, which had received training in anxiety management, was significantly different from the no treatment control group. Their reported anxiety was significantly less but also their actual performance was significantly greater than the control group." (Lanning, Hisanaga, 1983, p.219)

The measure which was used to assess anxiety was the Sport Competition Anxiety test. This test was developed by Martens (1977) to measure an athletes' level of competition anxiety.

The item development of the SCAT was done by modifying items from the Taylor Manifest Anxiety Scale, Spielberger's STAI-Trait inventory, and Sarasson's General Anxiety Scale. Extensive validation information of the instrument can be found in Martens (1977).

This is one of the very few articles in the literature which documents an observable, quantifiable increase in performance as a result of treatment, as compared to a no-treatment control group.

Griffiths, Steel, Vaccaro, Allen, Karpman (1985) employed relaxation and cognitive rehearsal to decrease anxiety and increase performance of SCUBA students.

"One hundred and eleven students enrolled in two beginning SCUBA courses served as subjects. Sixty-three served as experimental subjects while 48 served as controls....The experimental group on three occasions, listened to an audiocassette tape program designed to reduce diver state anxiety and improve underwater performance. Particular emphasis was given to the diving skills necessary to perform the Bail-out procedure which requires students to don and remove SCUBA equipment. The other performance measure in this study was the students' performance in the Deepwater Quarry Dive. Results revealed significantly lower levels of state anxiety in the experimental group than in the control group prior to both the Bail-out and Deepwater Quarry Dive performances .... A significant performance difference between these same two groups was found only in the Bail-out manoeuver .... This latter finding suggests that relaxation/cognitive rehearsal must be task specific in order to positively modify performance." (Griffiths, Steel, Vaccaro, Allen,

Karpman, 1985, p.113)

Interestingly enough, there were no interaction effects between sex and the treatment on the dependent variable. In addition, no differences were found due to sex. As well, there were no significant differences between the two groups on any of the baseline measures of trait anxiety indicating that the groups were drawn from a similar population.

It appears that relaxation/cognitive rehearsal training can effectively reduce pre-dive anxiety. This is particularly significant when one considers that students participating in high risk activities experience increased levels of anxiety (Griffiths, Steel & Vaccaro, 1978). Not only have these three researchers been able to document a decrease in anxiety but they have been able to increase the skill level/performance of their students.

This kind of research has not been solely in the domain of athletics. Dentanto and Diener (1986) have done some equally fascinating work in the academic area. Their recently published article speaks to the effectiveness of cognitive/relaxation therapy and study skills training in reducing self-reported anxiety and improving the academic performance of Test-Anxious Students. They acknowledge that researchers had previously been able to decrease sef-reported levels of

anxiety (eg. D'Alelio & Murray, Finger & Galassi, McCordick et al. Russell et al.) but had not been able to increase performance. Dentanto and Diener used a multimodal approach consisting of relaxation/cognitive therapy and study skills training. They reported significant results.

C. MUSICIANS-PERFORMANCE

The most significant research relating directly to our target population is the work of Lund (1972) Appel (1976), and Kendrick , Craig, Lawson & Davidson (1982). As early as 1972, Darrell Lund did a comparative study of three therapeutic techniques in the modification of anxiety behavior in instrumental music performance. The study assessed the relative efficacy of three therapeutic techniques in the modification of selected anxiety behaviors manifest in instrumental performance. The three treatment procedures used included the psycho-therapeutic technique of "insight", systematic desensitization, and "relaxation with application".

Results of the study "indicate that all three treatment groups demonstrated a greater percentage of anxiety reduction than the no-contact group, and anxiety reduction was accompanied by significantly

improved performance," (Lund, 1972, p.1189A)

Appel reviews the literature, she states that behavior therapists have treated performance anxiety as a phobia with considerable success. Marks, Gelder, Jacobsen, Wolpe and Gellhorn have all advocated breaking the link between the anxiety physiological response by using the vehicle of self-induced muscle-relaxation. Appel refers to the work of Wardle and Lund who were able to demonstrate that anxiety in musical performance is measurable (heart rate reduction) and can be reduced by muscle relaxation. She cites Lund's work- "he significantly diminished performance errors in all three training groups and concluded that reduction in anxiety improved performance quality." (Appel, 1976, p.4)

Performance anxiety in Lund's study was defined as "a transitory, apprehensive response to a specific stress situation, that of piano solo perfomance before an audience." (Appel,1976:5) She refers to Lang's (1971) work in which he described the anxiety response as "a complex of three measurable systems: a) verbal-cognitive, b) overt-motor, and c) physiological."

In Appel's study, the measuring instruments were in keeping with Lang's definition. She used the following measures: a questionnaire, Personal Report of Confidence

as a Performer-PRCP (introspective); performance error count (overt-motor) and pulse rate per minute (physiological). The questionnaire was derived by the experimenter from Paul's instrument, Personal Report of Confidence as a Speaker.

Subjects in the study were 30 music student volunteers from Teachers College, Columbia University. They had previously experienced anxiety in solo piano performances. Their median age was 31 years. They registered a preliminary mean score of 15.93 on the PRCP. Ten subjects were randomly assigned to one of three treatment groups. The first group was trained in systematic desensitization techniques based on those advanced by Wolpe and modified by Paul. The second group was trained in musical analysis and performance rehearsal techniques devised by Appel. The third group was given no training and acted as a control.

Results of the study: significant reductions were achieved by the use of systematic desensitization in physiological, cognitive and overt-motor indicants of the anxiety complex. The results of the musical analysis were not as significant.

Although this method did reduce performance errors, it had little effect on the reduction of cognitive or physiological indicants. Appel raises an inportant point when she comments on the result of this group, she

states: "If cognitive and physiological anxiety responses are not controlled, it may not be possible to retain mental concentration throughout a threatening solo performance." (Appel, 1976:13) The most pronounced pattern of group differences appeared to be on the performance error count (the systematic desensitization group had a significantly lower score compared to the other two groups), which seems to be the most sensitive indicator of performance anxiety in pianists. Appel's observation is in accord with the findings of Brozek and Taylor (1954) that motor performance was more susceptible under stress than sensory or intellectual functioning.

A recent study by four researchers from the University of British Columbia adds to Appel's findings. Kendrick, Craig, Lawson and Davidson (1982) compared the efficiency of cognitive-behavioral therapy, emphasizing self-instruction and attention-focusing techniques with behavior rehearsal and with a waiting-list control in the treatment of debilitating musical performance anxiety. The 53 pianists that were part of the study experienced extreme anxiety in performing situations. Therapy sessions were held over a three week period with clients who met three times in small groups for 1.5 to 2 hours on each occasion and they also completed homework assignments. Self-report,

behavioral and physiological indexes of anxiety were collected at baseline, treatment termination, and follow-up intervals.

The main question these four researchers were addressing was whether the addition of the attention-focusing, self-instructional treatment would lead to additional therapeutic benefits. Kendrick et al. believed that cognitive-behavior therapy was particularly appropriate to performance anxiety because high levels of performance anxiety have been associated with excessive task-irrelevant ideation in evaluative situations. (If you will recall, Appel had stated that "if cognitive and physiological anxiety responses are not controlled, it may not be possible to retain mental concentration throughout a threatening solo performance." Appel, 1976, p.13) Therefore, it seems particularly appropriate to utilize a cognitive approach to assist in performance anxiety.

Measurement of performance anxiety and treatment outcome was based upon a multidimensional formulation of anxiety. Consistent with Appel's research methodology, they measured subjective, physiological and behavioral indices. Measures in each modality were obtained during a solo performance before an audience prior to treatment and at treatment termination. At a five week in vivo follow-up, self-report measures were again obtained, and

significant others who were members of the audience provided ratings of both visual signs of anxiety and quality of performance.

Measures:

Three measures were utilized to assess the treatment.

1. Three self-report instruments (subjective)

2. Error count, (based on Appel's conclusion that performance-error count was the most sensitive indicator of performance anxiety in musicians)

3. Time-sampling checklist of behavioral signs of performance anxiety was developed that resulted in a set of seven categories (behavioral) and heart rate (physiological).

Their findings were somewhat surprising, the expected superiority of a cognitive intervention to alter self-talk was not supported. However, they stated that "this finding may be consistent with Meichenbaum's (1977) theory of behavior change, which argues that diverse therapies can be equally effective to the extent that they alter client's self-talk." (Kendrick et al. 1982, p.358.) However, both the cognitive-behavioral therapy and behavioral-rehearsal programs were effective in reducing musical performance anxiety in comparison to the control condition at the follow-up assessment, although there were no differences among groups at treatment termination.

Conclusion:

These studies were presented to give to the reader a brief introduction to the field of stress, anxiety and more specifically performance anxiety. Not only do we have a better understanding of what stress is and how to measure it,. but we have means of decreasing reported levels of anxiety and increasing performance in fields as varied as academics, music, and SCUBA diving. As you will recall, the reason this study was instigated was to answer the following question:

Do students in the performing arts experience performing anxiety differently than other students?

Deri(1962), Appel(1972), and Kendrick et al. all maintain that there is an important qualitative distinction between the demands made on performing musicians and other forms of evaluative performance. "The musician must be in absolute control of motor coordination involving the finest muscle action, has to trust memory, and at the same time must feel and project the music to sophisticated audiences with authority and conviction." (Kendrick et al, 1982, p.356)

Research questions:

1. Is it possible to design a questionnaire that can measure performance anxiety as it relates specifically to the Music students at Grant MacEwan Community College

(G.M.C.C.), as well as to the other performing arts students and to the non-performing arts students?

2. Will the Music students' scores on the questionnaire be significantly different from those of the other performing arts students, and those of the Business group?

CHAPTER 3

METHOD

RESEARCH QUESTIONS

1. Is it possible to design a questionnaire that can measure performance anxiety as it relates specifically to the Music students at Grant MacEwan Community College (G.M.C.C.), as well as to the other performing arts students and to the non-performing arts students?
2. Will the Music students' scores on the questionnaire be significantly different from those of the other performing arts students, and those of the Business group?

DEVELOPMENT OF THE INSTRUMENT:

To enable us to assess the anxiety students associated with performance, a questionnaire was designed and named the Self-Evaluation Questionnaire. The criteria for construction of the instrument included cognitive, affective, psychophysiological factors as well as skill levels.

Content validity for the instrument was affirmed through consultation with Dan Precht (Research Consultant for Computing Services Division at the University of Alberta).

The instrument used to test performance anxiety with the students at Grant MacEwan consists of a 37 item, 4 point Likert scale made up of 3 subsections. (cf. Appendix) The 37 items consisted of statements which could be responded to in the following manner: 1 meant "not at all", 2 meant "somewhat", 3 meant "moderatly so", 4 meant "very much so". The first 20 items are taken from the State Trait Anxiety Inventory Scale (A-State) designed by Spielberger, Gorusch & Lushene (1970) to measure state anxiety. The next 14 items consists of psychophysiological items, designed by Dr. Fitzsimmons and the author. The last three were taken from the Institute for Personality and Ability Testing (I.P.A.T.) Anxiety Scale Questionnaire, (Cattell & Scheier 1963). The I.P.A.T. is a 3 point Likert scale. Given that all 34 items on the Self-Evaluation Questionnaire were on a 4 point Likert scale, the 3 items from the I.P.A.T. were modified from the 3 point response scale to the 4 point response scale.

The anxiety measure was the total of the score on the Self-Evaluation Questionnaire.

The following statement is given as an example of the type of items in the Self-Evaluation Questionnaire. "My hands get shaky". It would be responded to with a score ranging from 1-4 as previously indicated. Some items were intentionally reversed so that it would be

possible to identify if participants had skewed the data by selecting responses in one direction. An example of a reversed item would be the following statement, "I feel calm". The items which were reversed are the following: # 1, 2, 5, 8, 10, 11, 15, 16, 19, 20, 33.

For the purpose of this study, the author wished to have one instrument which could be used across eight different subject areas. Of the eight areas, four were in the performing arts (i.e.Music, Dance, Dance Teacher Training, and Theatre Arts) and four were from the non-performing arts (i.e. Micro-Computer Management, Accounting, Insurance Administration and Applied Research).

To allow for such a diversity in student population, yet still measure performance anxiety, the direction on the STAI-State Form X-1 were modified. The instructions to the Music students were the following:

"Read each statement and then blacken in the appropriate circle on the answer sheet to indicate how you feel when auditioning or performing."

When this questionnaire was administered to the non-performing students they were told to:

"Read each statement and then blacken in the appropriate circle on the answer sheet to indicate how you feel when giving a class presentation."

This was the closest approximation to performing that non-performers would experience as first-year students at G.M.C.C. All class presentations at G.M.C.C. are in front of their peers and an Instructor.

SUBJECTS

The first year students who participated in the study were grouped according to performing and non-performing categories. The following is a description of the sample.

TABLE I

DESCRIPTION OF THE SAMPLE

Performing Arts	Non-Performing Arts
# of students	# of students
50 Music	50 Accounting
14 Dance	12 Applied Research
17 Dance Teacher Training	33 Micro-Computer Management
14 Theatre Arts	24 Insurance Administrator
--	--
95	119

Total= 214

There were 214 volunteers who participated in the first administration.

The students from the Business program were chosen to be a part of this study so that the author could compare their scores to those of the performing art

students. Based on Holland's code, these students' interest profiles would be expected to differ the most from the performing arts students. The assumption being that Performing Art students as a group would be more interesed in investigative, artistic and social areas. Whereas the Business students, as a group would be more interested in conventional, realistic and enterprising areas.

Given these assumed differences, the author maintains that these two groups of students are equivalent samples, in that they are both first year College level students, and that comparison between the Music students and the Business group is reasonable. It should therefore be possible to investigate whether the Music students experience more stress when performing than do the other students in our sample, as well as comparing Music students to other first year performing arts students.

PROCEDURE

Volunteers from first year classes listed in Table I completed the Questionnaire during regular class time during the month of November, 1985. The investigator had previously obtained permission from each instructor to administer the Self-Evaluation Questionnaire at the beginning of the eight classes which participated in the

study. The students had 30 minutes to complete the questionnaire.

Test-retest data was obtained on 41 of the 50 Music students. 24 subjects were tested 2 weeks later, and 17 were re-tested eight weeks later. The researcher was unable to reach the remaining nine students for a second administration. Once the student had answered the questionnaire on the machine readable N.C.S. sheets, the sheets were read by an optical scanner.

The data was then read into a file and an ANOVA was used to analyse the data.

Three case studies will be reported in Chapter Four.

CASE STUDIES

The program consisted of an audiocassette which was to have the following sequence of training:

Part 1-to be listened to twice daily for one week

Part 2-to be listened to twice daily for one week

Part 3-to be listened to twice daily for one week

Part 4-to be listened to twice daily for one week

The whole of the treatment to be completed within one month.

An overview of the treatment is given in what follows:

1. Progressive Relaxation-wherein the student was asked to go through each major muscle group and relax it.

2. Systematic desensitization-the student was asked to build a Theme hierarchy of his/her Subjective Units of Distress and practice pairing the images with relaxation. Muscle relaxation, as observed by Edmund Jacobson generates autonomic effects opposing those of anxiety (Wolpe, 1984:299).

3. Goal Setting-the student was asked to identify the factors which he/she thought were essential to a good musical performance i.e. feeling relaxed, hands warm, breathing easily, head clear, musical piece well rehearsed and played with few errors.

4. Visualization-in this final part of the audiotape, the student was told to see himself/herself competently performing the musical selection. All the criteria which was thought/felt to be necessary to a successful performance, was visualized as being present.

RESEARCH DESIGN AND DATA

A repeated measures design was used to assess whether there was a significant difference between the first and second administration of the Self-Evaluation Questionnaire with the Music group only. As well three case studies, who were treated, used the Self-Evaluation Questionnaire a total of 4 times to measure changes in their reported level of performance anxiety.

Analysis of variance was employed to compare

students across programs and across gender.

LIMITATIONS

1. Self-report scales have an inherent limitation-their subjectivity. The Self-Evaluation Questionnaire is susceptible to this criticism.

2. The investigator gave a different set of directions to the two groups of students. In doing so, it could be argued that the researcher gave two tests-a performing test, and a class presentation test. This might therefore yield quite different profiles.

3. The study was limited to first-year community college students. The investigator would not recommend generalizing the results found in this study beyond the community college level.

4. Delimitation: The researcher had access to eight groups of first-year students. The students who participated in the study did so voluntarily. Therefore, I can not generalize these results to all Music students at Grant MacEwan Community College, nor can I generalize these results to all first year Music students in other institutions.

CHAPTER 4

RESULTS

In this chapter, both research questions will be dealt with in turn. Statistical analyses of the data is presented.

Reliability analysis was done on the following: a) the 37 items of the Self-Evaluation Questionnaire b) on each of the subtests, c) on the total test.

t-tests were used to compare Music with non-Music students. A one-way analysis of variance was used to explore differences between gender and Music/ non-Music groups, as well as to investigate whether an interaction effect would be found.

Results of the case studies are presented.

Research question #1

Is it possible to design a questionnaire that can measure performance anxiety as it relates specifically to the Music students at Grant MacEwan Community College, as well as to the other performing arts students and to the non-performing arts students?

Findings:

After administering the instrument, a reliability analysis of the questionnaire was completed. Each of the 37 items was compared to each other and to the total to check on its reliability (ITEM TO TOTAL). Pearson

correlations were calculated.

The reliability co-efficients are presented in Table II.

TABLE II

RELIABILITY CO-EFFICIENTS

ITEMS	SUBTEST	ALPHA	STANDARD ALPHA
1-20	STAI	.9168	.9182
21-34	PSYCHOPHYSIOLOGICAL	.8135	.8029
35-37	I.P.A.T.	.4203	.4142
1-37	TOTAL BATTERY	.9372	.9363

N= 50

Alpha refers to total subtest alpha, whereas standard alpha refers to the alpha level for each item.

The reliability coefficients for the first 20 items is very high. The reliability coefficients for the 14 psycho-physiological items is also high. The last 3 items, taken from the I.P.A.T. had a much lower reliability co-efficient.

The overall reliability co-efficients for the 37 items was very good. The ALPHA=.9372, the standardized item alpha=.9363. Had item 35, 36, or 37 been deleted the ALPHA would not have increased significantly (i.e. deleting item 35, the ALPHA=.9369 deleting item 36 or 37, the ALPHA=.9355).

The Pearson Correlation Coefficients were calculated for the three subtests. The results are shown in the following Table.

TABLE III

PEARSON CORRELATION CO-EFFICIENTS

	PSYCHOPHYSIOLOGICAL	I.P.A.T.
STAI	.8082	.6739
PSYCHOPHYSIOLOGICAL		.6448

N= 50

There was a high correlation between the STAI (first subtest) and the psychphysological items (second subtest)= .8082. A moderate corelation between the I.P.A.T. (third subtest) and the STAI= .6739; a moderate correlation between the I.P.A.T. and the psychophysiological items= .6448.

Research Question #2

Will the Music student's scores on the questionnaire be higher than those of the performing arts students as well as those of the control group?

The results on the first administration of the Self-Evaluation Questionnaire are as follows:
214 students were tested on the 37 item Likert scale (with a response range 1-4).
The results are presented in the following table.

TABLE IV

ADMINISTRATION OF SELF-EVALUATION QUESTIONNAIRE

	Mean	S.D.	H.S.	L.S.
Non-Music (N=164)	79.91	19.75	139	25
Music (N=50)	85.90	18.59	119	44

	Hoyt	S.E.M.	Cronbach
Non-Music	0.94	4.94	0.71
Music	0.93	4.72	0.74

$p < .05$

S.D.: Standard Deviation H.S.: Highest Score L.S.: Lowest Score Hoyt:Hoyt estimate of reliability S.E.M.: Standard Error of Measurement Cronbach: Cronbach's Alpha for Composite

As can be seen from these results, there is a difference in the mean scores when comparing the Music students to the the other first-year non-Music students at G.M.C.C.

An F-Test for Homogeneity of Variance was performed to compare the results of Music students with non-Music students.

Significance was found on the second subtest, the 14 psychophysiological items (P= 0.026). As well, significance was found on the third subtest, the 3 I.P.A.T. items (P= 0.002).

A Welch t-test, adjusted for unequal variance identified that the significant results were in the second subtest, where probability (P= 0.031). The results are presented in the table V.

TABLE V

WELCH t-TEST, ADJUSTED FOR UNEQUAL VARIANCE

VARIABLE	T-RATIO	PROBABILITY
1	1.8124	0.074
2	2.1804	0.031
3	0.3029	0.763
4	1.9661	0.052

$p < .05$

Variable 1-STAI items, Variable 2-psychophysiological items, Variable 3-I.P.A.T. items, Variable 4-Total test items

The psychophysiological subtest was the only one which revealed any significant differences between Music and Non-Music students. No significant differences were found on any of the other subtests, nor was there any significant difference found on the total score between Music and Non-Music students.

A two-way analysis of variance was employed to test the scores of the Music students and the non-Music students.

A. LEVELS OF SIGNIFICANCE

1. ACROSS GROUPS

a. Program Comparison

The following information is presented by subtest as well as by total test score.

i. First group: STAI-State

The analysis of variance for the first subtest, the STAI-State indicated that there was a significant difference between groups. The LEVEL OF SIGNIFICANCE (P=0.001). The significant difference was found to be between the Dance students and the Music students.

TABLE VI

Sum of squares	F-ratio	Probability
2659.047	3.50	0.001

$p < .05$

The Scheffe Post Hoc pairwise contrast for these two groups equaled 0.024.

ii. Second Subtest: Psycho-psychophysiological

No significant differences were found between the Music students and any other students on this subtest.

TABLE VII

Sum of Squares	F-ratio	Probability
622.160	1.16	0.328

$p > .05$

The SCHEFFE POST-HOC pairwise contrasts revealed no significant differences between any individual groups.

However, there is the previously noted significant difference between Music students and non-Music students.

iii. Third Subtest: I.P.A.T.

There was no significant differences between the Music students and the other groups of students.

TABLE VII

Sum of Squares	F-ratio	Probability
13.837	0.31	0.948

$p > .05$

The SCHEFFE POST-HOC pairwise contrasts revealed no significant differences.

iv. Total Test Score

The total test score showed no significant difference in anxiety scores between Music students and the other student groups for the whole of the test.

TABLE IX

Sum of Squares	F-ratio	Probability
5273.000	2.03	0.053

p > .05

The SCHEFFE POST-HOC pairwise contrast revealed no significant differences between groups.

B. PERFORMERS VS. NON-PERFORMERS & MALE VS FEMALE

An Analysis of Variance was done to compare Performers with non-Performers, Male with Female. The analysis was done for each of the three subtests as well as for the total score.

The results are given below.

i. First subtest: STAI-state

TABLE X

Source of Variation	S.S	F-ratio	Probability
A	35.13	0.294	0.588
B	345.9	2.896	0.090
AB	193.1	1.617	0.205

$p > .05$

A represents gender, B represents Performer/non-Performer AB represents the interaction betwen gender and performer, non-Performer S.S. represents Sum of Squares

The Analysis of Variance indicated that there was no significant difference between male and female scores, as well as no significant difference between performers and non-performers on this subtest. The interaction between gender and performer/non-performer showed no significant differences.

ii. Second Subtest- Psycho-physiological Items

TABLE XI

Source of Variation	S.S.	F-Ratio	Probability
A	85.00	1.155	0.284
B	6.250	0.085	0.771
AB	177.5	2.411	0.122

$p > .05$

The Analysis of Variance for this subtest indicated that there was no significant difference between male and female, performer and non-perfomer on this subtest. The interaction between gender and performer/non-performer showed no significant differences.

iii. Third Subtest: I.P.A.T.

TABLE XII

Source of Variation	S.S.	F-ratio	Probability
A	30.16	5.166	0.024
B	2.00	0.343	0.559
AB	1.20	0.206	0.650

$p < .05$

The Analysis of Variance indicated that there was a significant difference between gender for this subtest.

The Unweighted Main Effects on Gender were the following:

Male= 4.595 Female= 5.381

The fact that there was a significant difference on this subtest is of interest. This third subtest consists of three items taken from the I.P.A.T. The item where the significant difference lay was on item #35, which reads " I am brought to tears by having things go wrong." For this subtest, there was no significance between performer and non-performer.

The interaction between gender and performer/non-performer showed no significant differences.

4. Total Score for the Self-Evaluation Questionnaire

TABLE XIII

Source of Variation	S.S.	F-ratio	Probability
A	424.0	1.116	0.292
B	388.0	1.021	0.313
AB	801.0	2.109	0.148

$p > .05$

The Analysis of Variance for the total test score showed no significant differences between gender.

No significant differences were found between performer/nonperformer.

The interaction between gender and performer/non-performer showed no significant differences.

In summary, the only significant differences found on the 37 item Self-Evaluation were due to gender. The significant diffference was found on the I.P.A.T. subtest. For that part of the Self-Evaluation Questionnaire, women scored significantly higher than men. For the rest of the test, neither gender nor performer/nonperformer groups showed any significant difference on the subtest scores or on the total score.

This was not in keeping with either our expectations, nor in keeping with the literature.

Our expectations had been that the Music students would consistently score higher than the other performing arts students and the nonperforming students. As well, within the group of Music students, the investigator expected the Female students to score higher on the anxiety levels than the Male students. This did not occur.

As for the comparison between Male and Female students as distinct groups, the author expected that there would be a significant difference between the two.

Spielberger's work found that women scored higher on the STAI-State than men. This did not occur in this study.

B. Within group- Repeated Measure design

A t-test was done to see if there might be a difference between the first administration of the Self-Evaluation Questionnaire and a subsequent administration of the questionnaire to the Music students. The second administration took place 2 weeks after the first administration. In this administration, 24 of the 50 were re-administered the Self-Evaluation Questionnaire. (Only 24 of the 50 were available at the time of the

second administration. The other 26 would be re-tested when the investigator was able to reach them.

No significant differences were found.

Eight weeks after the initial administration, the remaining 17 of the initial 50 were tested. (The investigator was unable to locate the 9 students who had formed the 50 students in the initial sample.) No significant differences were found. Results are shown in Table XIV.

TABLE XIV

TEST RE-TEST

N=24	MEAN	STANDARD DEVIATION
	85.583	15.055
	t- Value for Variance	0.8606
	t- Value for Means	0.3872
N=17	MEAN	STANDARD DEVIATION
	71.294	19.598
	t- Value for Variance	0.9660
	t- Value for Means	0.0584

CASE STUDIES

Apart from having administered the Self-Evaluation Questionnaire to the 214 students, the investigator wished to examine the possibility of lowering performance anxiety within the Music student group. A program which had been able to lower performance anxiety with flight pilots (cf. discussion with Dr. George Fitzsimmons- professor at the University of Alberta, Dept. of Educational Psychology who has done work in the field of stress and stress management.) was piloted with Music student volunteers.

Each of the three students, completed all four sections in a two week period. They completed the Self-Evaluation Questionnaire four times. The first time they completed it was with the Music class, in November, 1985.

Volunteers were requested to do the case study and the students agreed to participate.

A second administration of the S.E.Q. occured just before the three students started using the audiocassette program, which was two weeks after the first administration.

A third administration followed their completion of the audiocassette program, which was two weeks later. The last administration occured in January 1986, a full two months after the first administration.

The student's results are as follows:

TABLE XV

	1.	2.	3.	4.
MARK	71	95	90	76
PETER	77	77	72	73
SAM	95	74	71	60
Music Class Average	85.90			
Standard Deviation	18.59			

Numbers 1,2,3,4 respectively represent First, Second, Third and Fourth Administration of the Self-Evaluation Questionnaire.

Of the three students who participated in the case study, two were below the class mean. One was above the class mean, but within the range of the standard deviation. On the second administration, Mark's anxiety increased by 24 points. Peter's score stayed the same. Sam's however decreased by 21 points. In the next two administrations, all 3 participants' scores decreased.

Mark's score dropped a full 29 points between the second administration and the fourth. Peter's score dropped by four points. Sam's score dropped by 14 points between the second and the fourth administration and a full 35 points between the first administration and the fourth. These results suggest that an approach such as the one previously described has a great deal of potential in decreasing cases of reported anxiety. When the investigator spoke to all three participants, they all claimed that their performance also increased as a result of their participation in the study.

Unfortunately, the author had not set up a way of actually measuring increase in performance for this research. It is significant to note that at the end of the study, all three students reported lower levels of anxiety, as compared to the class mean. Sam's reported anxiety anxiety score was a full 25 points lower than the class average, a drop of more than one standard deviation.

The writer would like to comment on the compliance of the three volunteers. Of the three, Mark would have been the one who had the most difficulty following through on the instructions to listen to the tape twice daily. (The tape was to be listened to twice daily as per instructions from Dr. George Fitzsimmons.)

Sam was more centered and goal oriented. He would have had the least problem with compliance. Peter followed through on the directions given by the investigator.

With individuals such as Mark it would be necessary to see that follow through did occur. In this way, individuals could derive maximum benefit from the treatment package. As well, the researcher would then be able to assess the value of the treatment more accurat

CHAPTER 5

DISCUSSION

The preceeding chapters have outlined the research questions, the method used to seek answers, as well as the results obtained. This chapter will discuss those results.

Research question #1

Through statistical analyses, the investigator was able to demonstrate the value of the Self-Evaluation Questionnaire.

The Self-Evaluation Questionnaire could be used with different groups of students to do more research on the validity of the instrument.

Research question #2

The Self-Evaluation Questionnaire was able to differentiate between Music and Non-Music students on the second subtest, which consisted of the 14 psychophysiological items.

The significant difference between the Music and Non-Music students is consistent with the findings of Appel (1976), Deri (1962), and Kendrick et al. (1982).

Their research showed that under stress a musician's motor skill is affected and may hinder a successful performance in an audition or recital.

The researcher acknowledges that there is a percentage of people in both the Music and non-Music group who experience anxiety. However, the Music students are likely to be more aware of the psycho-physiological factors involved while performing (i.e. sweaty hands, difficulty breathing) because their performance is directly impacted by these factors.

The observation of a significant difference on the STAI-State subtest between Dance and Music was surprising.

Initially, the investigator suspected that the N=14 which is small might have contributed to the significant difference between the two groups.

However, the Theatre Arts group also had an N=14, and no significant differences were found between them and the Music students. The researcher would suggest that the difference may lie in the actual experience of performance anxiety. For the Music and the Theatre Art student, a performance is often with a group of musicians, or a cast of actors whereas for a dancer a great deal of attention is placed on solo work which is comparable to "Boards" for musicians.

Given the findings of this study, the researcher would recommend the use of a treatment package such as the one described in the Case Studies to lessen the debilitating effects of performance anxiety.

As well, the investigator would recommend the use of a pre-post test to measure performance itself. This would assist both the researcher and the student in assessing the efficacy of the treatment package.

Spielberger's work has shown that women scored higher on the STAI-State than men. In this study, no significant difference was found between the sexes on the Self-Evaluation Questionnaire, nor specifically on the first subtest, where Spielberger's items were placed. These findings are similar to Griffiths et al.'s work with S.C.U.B.A. divers. In their research, no significant differences were found due to gender. They had used the STAI-State Form X-1 as had been done in this study.

The significant difference between gender on the Self-Evaluation Questionnaire was limited to the I.P.A.T. subtest. In this subtest, women were found to score higher than men. Item #35 is where the significant difference was found. It reads "I am brought to tears by having things go wrong." The writer would suggest that women feel more comfortable stating that they cry when faced with a highly stressful situation. In

Alberta culture, crying may be a more socially acceptable way for women to express frustration than it is for men.

The investigator would like to comment on the high alpha correlation found on the Self-Evaluation Questionnaire. This indicates that the test is a tight scale that has good items measuring the construct of performance anxiety. The scale is coherent and consistent.

RECOMMENDATIONS FOR FURTHER RESEARCH

1. The investigator would recommend that a replication of the study be done using the same groups, following the same format. The researcher recommends replication to verify whether these results are consistent with the Self-Evaluation Questionnaire.

2. The researcher recommends a performance rating pre-post test. This would enable the investigator to assess the client's actual performance as well as the self-reported levels of anxiety. For instance, in the case of Musicians, an objective measure of performance error cf. Appel, Kendrick's work would be most useful.

3. Given the significant finding on the psycho-physiological subtest, the author would recommend testing athletes who require motor skills in their performance. A comparison between athletes and music students on this subtest would increase understanding of performance anxiety.

4. The writer has used the Self-Evaluation Questionnaire as a diagnostic tool in counselling students who have performance anxiety. It helped pinpoint how the student braced, the self-talk the student used and the physical symptoms experienced. With this information, it was possible to design a therapeutic intervention to assist the student.

5. The investigator would recommend testing students with the Self-Evaluation Questionnaire and then using a treatment package designed to decrease anxiety and increase the student's control of his/her performance anxiety. Then a re-test to see whether the anxiety scores on the Self-Evaluation Questionnaire would have decreased.

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APPENDIX A

SELF-EVALUATION QUESTIONNAIRE

DIRECTIONS: A number of statements which people have used to describe themselves are given below. Read each statement and then blacken in the appropriate circle on the answer sheet to indicate how you feel when auditioning or performing. There are no right or wrong answers. Do not spend too much time on any one statement but give the answer which seems to describe your feelings when performing.

1 means "not at all"
2 means "somewhat"
3 means "moderately so"
4 means "very much so"

1. I feel calm.
2. I feel secure.
3. I am tense.
4. I am regretful.
5. I feel at ease.
6. I feel upset.
7. I am presently worried over possible misfortunes.
8. I feel rested.
9. I feel anxious.
10. I feel comfortable.
11. I feel self-confident.
12. I feel nervous.
13. I am jittery.
14. I feel "high strung".
15. I am relaxed.
16. I feel content.
17. I am worried.
18. I feel over-excited and "rattled".
19. I feel joyful.
20. I feel pleasant.

21. I find it hard to catch my breath.

22. My hands are slippery with sweat.

23. I feel my heart pounding.

24. My stomach is in a knot.

25. My throat feels tight.

26. My hands get shaky.

27. My hands and feet get cold.

28. My mouth becomes dry.

29. I feel dizzy.

30. I feel clumsy when I move on stage.

31. I frequently miss seeing my cue.

32. I frequently miss hearing my cue.

33. My movements are as fluid as I would like them to be.

34. My fingers lose their sense of feeling.

35. I am brought to tears by having things go wrong.

36. I wake in the night and, through worry, have some difficulty in sleeping again.

37. I tend to tremble and perspire when I think of a difficult task ahead.

APPENDIX B

SCORING KEY for SELF-EVALUATION QUESTIONNAIRE

1. 4 3 2 1
2. 4 3 2 1
3. 1 2 3 4
4. 1 2 3 4
5. 4 3 2 1
6. 1 2 3 4
7. 1 2 3 4
8. 4 3 2 1
9. 1 2 3 4
10. 4 3 2 1
11. 4 3 2 1
12. 1 2 3 4
13. 1 2 3 4
14. 1 2 3 4
15. 4 3 2 1
16. 4 3 2 1
17. 1 2 3 4
18. 1 2 3 4
19. 4 3 2 1
20. 4 3 2 1

21. 1 2 3 4

22. 1 2 3 4

23. 1 2 3 4

24. 1 2 3 4

25. 1 2 3 4

26. 1 2 3 4

27. 1 2 3 4

28. 1 2 3 4

29. 1 2 3 4

30. 1 2 3 4

31. 1 2 3 4

32. 1 2 3 4

33. 4 3 2 1

34. 1 2 3 4

35. 1 2 3 4

36. 1 2 3 4

37. 1 2 3 4

VITA

NAME: VALLEE, CLAIRE

PLACE AND DATE OF BIRTH: Spirit River, Alberta
August 8, 1953

EDUCATION:

University of Alberta	1975	Bachelor of Arts (French/Psychology)
University of British Columbia	1980	Master of Arts (French Literature)
University of Alberta	1987	Master of Education (Counselling Psychology)

POSITIONS HELD:

Teaching Assistant- University of British Columbia
September 1976-April 1977
September 1977-April 1978

Sessional Lecturer- University of Alberta
September 1978-April 1979
September 1981-December 1981

Sessional Lecturer- Athabasca University
September 1980-December 1980

Educational Counselor- Alberta Vocational Center
September 1983-March 1984
September 1984-June 1985

Educational Counselor- Grant MacEwan Community College
August 1985-May 1986
September 1986- present

AWARDS:

Killam Fellowship- University of Alberta
September 1975-June 1976
English Language Assistant,
Toulouse, FRANCE

Research Scholarship- University of British Columbia
May 1978

Bourse Jean Patoine- Association Canadienne-Francaise
de l'Alberta, Fall 1979
Literary prize awarded-thesis
Master of Arts' degree