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THE RELATIONSHIP BETWEEN MUSIC PERFORMANCE ANXIETY, AGE,  
SELF-ESTEEM, AND PERFORMANCE OUTCOMES IN  
HONG KONG MUSIC STUDENTS

*Meiyuk Joanna Chan*

**Abstract**

Existing studies suggest that music performance anxiety can undermine the quality of performances regardless of performers' ages. However, most of the studies have focused on professional musicians. It is crucial to know when music performance anxiety occurs in order to minimize its effects on young musicians including the ongoing psychological damage done to them.

The present study is intended to investigate: 1) whether there was support for the claim that music performance anxiety has an early onset in young children; 2) to what extent music performance anxiety is associated with self-esteem; 3) whether there is support for the claim that performance outcomes are affected by one's anxiety levels.

The State-Trait Anxiety Inventory for Children (STAIC) by Spielberger (1973) and the Self-Esteem Scale (SES) by Rosenberg (1965) were the major psychometric measures. A researcher-designed questionnaire was also used to collect participants' demographic data and their experiences as well as the ways they coped with music performance anxiety. They were asked to identify their feelings based on the items adapted from the Music Performance Anxiety Inventory for Adolescents or MPAI-A (Osborne and Kenny, 2005). One hundred and seventy-four participants aged from 7 to 18 participated in the present study.

Findings of the present study suggest that age is significantly related to participants' pre-SAS and the number of symptoms. In addition, MPA was found to be more prevalent in older age ranges but no significant differences were found between different age groups. In addition, evidence from the current study supported the claim that self-esteem is negatively correlated with MPA. It was also revealed that no relation was found between one's music performance anxiety and the quality of music one played. However, participants' anticipated outcomes of their quality of performance may be related to music performance anxiety. Findings from the study are discussed in terms of their relevance to the Hong Kong context and their implications for practice.

**THE RELATIONSHIP BETWEEN  
MUSIC PERFORMANCE ANXIETY,  
AGE, SELF-ESTEEM, AND  
PERFORMANCE OUTCOMES IN  
HONG KONG MUSIC STUDENTS**

Meiyuk Joanna Chan

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## **List of Abbreviations**

MPA	Music Performance Anxiety
PostSAS	Post-Test State Anxiety Scores
PreSAS	Pre-Test State Anxiety Scores
SES	Self-Esteem Scale
STAIC	State-Trait Anxiety Inventory for Children

## **Declaration**

This thesis has been composed by me, alone and it has not been accepted in any previous application for a degree in this or any other institution. The work has been done by me solely. All quotations have been distinguished by quotation marks and the sources of information specifically acknowledged.



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## Chapter One

### Introduction

#### 1.1 Background

Shortage of breath, nausea, nervousness, inability to concentrate, talking to self negatively in one's mind, and sweaty palms are some physiological symptoms of anxiety that everyone would have experienced before in specific situations. These specific stressful situations could be in test taking, presentations, interviews or when having to speak in public. The *Mosby Medical Encyclopedia* (1996) defines anxiety to be a mental response to a real situation that is "a feeling of worry, upset, uncertainty, and fear that comes from thinking about some threat or danger" (p. 52). According to Beck et al. (2005), anxiety is "an emotional process while fear is a cognitive one. Fear involves the intellectual appraisal of a threatening stimulus; anxiety involves the emotional response to that appraisal" (p. 9). In other words, fear is an objective state while anxiety is a subjective feeling. Although anxiety is a subjective sensation, it is not necessarily a problematic one. It is considered to be a universal emotion as well as "a mark of man's humanness" (Beck, 1979, p. 132) which acts as an alarm to warn us of potential dangers. Although anxiety can be a helpful sensation, it becomes a problematic one if an individual possesses an excessive level of anxiety in a specific situation such as in a social situation. Individuals may even be diagnosed with Social Phobia in accordance to the diagnostic criteria in the *Diagnostic and Statistical Manual of Mental Illness* (Fourth Edition) or *DSM-IV* (1994) if the fear provokes undue anxiety and the situation persists and severely impairs his or her functioning level. Social Phobia is a diagnosis under the section of Anxiety Disorders with other anxiety-related disorders such as Posttraumatic Panic Disorder, Stress Disorder

(PTSD), and Generalized Anxiety Disorder (GAD). The diagnostic criteria for Social Phobia include “a marked and persistent fear of social or performance situations in which embarrassment may occur. Exposure to the social or performance situation almost invariably provokes an immediate anxiety response.” (DSM-IV, 1994, p. 411). It is revealed in the DSM-IV that there are about 20% of individuals have an excessive fear of public speaking and performance.

Performance anxiety is a common problem which causes great distress to people who are required to present or perform a specific task in a public setting. This form of anxiety is regarded as a group of disorders that affect individuals' participation in a wide range of activities including test taking, academic performances, public speaking, and the performing arts performances (Kenny, 2005). According to Beck et al. (2005), people respond to anxiety in three forms which are mobilization, inhibition, and demobilization. Mobilization is an action that prepares one for active defense. Shaking and accelerating heart rate are some common mobilization behaviors. Inhibition takes the form of a freezing reaction which allows extra time for one to choose an appropriate strategy. Being inattentive or feeling muscle rigidity could be the results of inhibition. Demobilization is a consequence of deactivating the motor apparatus when individuals face a devastating threat. Fainting is one of the often observed demobilization acts. To sum up this point, individuals could react to anxiety in different ways. However, it is certain that the sensation anxiety can create various levels of cognitive, affective, behavioral, and physiological reactions which could potentially impede individuals' quality and level of performance (Hopko et al., 2001). For instance, people with performance anxiety frequently experience physiological hyper-arousal in

performance-based contexts. In addition, one may have negative cognitions such as excessive fear of negative evaluation prior to, during, or following a performance, and have a desire to escape from and/or avoidance of performance-related situations, and performance deficits. Apparently, anxiety could have enormous negative impacts on individuals in a number of specific situations. In order to understand how this sensation affects individuals in a performing context, it would be helpful to begin with a review of general performance anxiety then move onto music performance anxiety itself.

### **General Performance Anxiety**

Spielberger (1972) introduces a conceptual difference in anxiety. Accordingly, there are two types of anxiety and they state anxiety (A-State) and trait anxiety (A-Trait). In Spielberger's words, state anxiety is a consciously perceived and subjective feeling of apprehension and tension that are associated with activation or arousal of the autonomic nervous system (Spielberger, 1972). Whereas, trait anxiety refers to the rather stable individual differences in anxiety proneness that is one's predisposition to perceive various stimulus situations as threatening and the ways one tends to respond to such threats with A-State reactions (Spielberger, 1972). In order to measure the different types of anxiety, Spielberger et al. (1973) developed a widely-used inventory, called the State-Trait Anxiety Inventory (STAI). A simple version has also been designed for children, namely the State-Trait Anxiety Inventory for Children or STAIC after the STAI. The STAIC manual states that the measure has a satisfactory level of internal consistency (boys = 0.78, girls = 0.81), test-retest reliability, and test validity (Spielberger et al., 1973). The psychological measurement has been widely used in anxiety research and it has

been translated into different languages such as Chinese. The Chinese version of the STAIC (Li & Lopez, 2004a, b) is found to have adequate internal-consistency reliability, appropriate concurrent validity, and construct validity. In the A-State form, children will be required to indicate how they feel in a specific situation, while children will state how they feel usually in the A-Trait form. Both tests contain 20 statements while there are three different levels of feelings in each statement.

Psychologists and scholars have invested an enormous amount of effort to dissect the components and the nature of performance anxiety hoping to gain better understanding of it. For example, Hopko et al. (2005) attempted to look into the impact of anxiety on one hundred undergraduate students who participated in four cognitive tasks which required a high level of attention and concentration. In addition, these authors also intended to examine some possible emotional and cognitive experiences that related to the tasks. The four tasks employed in the study included the WAIS-III which was used to assess the auditory working memory; the Stroop task which was designed to assess the ability to reduce an over-learned response to produce a more novel response; the PASAT-C tool was used to test one's neuropsychological functioning level and sustained attention; and the psycho-physiological measurement which includes heart rate and skin conductance levels. Findings of Hopko et al.'s study suggest that performance anxiety could significantly be predicted by the number of negative cognitions that individuals have concerning excessive fear of negative evaluation. It is also revealed that test anxiety is highly related with WAIS-III intelligence test. Furthermore, trait anxiety and fear of negative evaluation is the most significant predictor of the Stroop task and math anxiety that explains the largest variance in PASAT-C. Hopko et al. (2005)

conclude that the various types of anxiety-related cognitions and symptoms could be essential in conceptualizing performance on specific attention to tasks which suggesting that there is a contextual model of the anxiety-performance relationship. Findings obtained from the study are considered to be highly reliable as the four cognitive tasks are chosen carefully that require high level of attentive skills. In addition, the authors also employ some psychological measurements that help to provide a clearer picture of the participants' emotional response to the tasks. By triangulating all the data from participants' emotional and cognitive experiences during the tasks, more comprehensive information is provided which help the readers to appreciate performance anxiety from different angles.

It is shown in Hopko et al.'s (2005) study that there is a link between emotional and cognitive experiences and tasks. Finger and Galassi (1977) conducted a very interesting study in order to examine the nature of test anxiety. Four different kinds of treatment were provided for the participants and they were: 1) an attention treatment which reinforced task relevant behaviors, 2) a relaxation treatment which reinforced relaxation response, 3) a combined treatment of attention and relaxation, and 4) a control group. Forty-eight college students took part in the experiment and significant differences were obtained in the three experimental groups. However, no significance differences between-groups wae found. Results of the study fail to support the hypothesis that the emotionality-oriented treatment could help to reduce participants' anxiety level. Although this carefully designed study does not find the proof to support the hypothesis, it provides very valuable information that there is a very complicated relationship between cognition and emotion in anxiety which could be interwoven.

Besides test taking, delivering a public speech also requires a high level of concentration. Daly et al. (1989) hypothesized that the major reason individuals who did poorly in public speech was because they paid an excessive amount of attention to themselves rather than the environment as well as to their audiences. Findings of the study confirm the hypothesis. Twenty-six undergraduate students participated in the study and the dependent measures of the study included audience ratings, memory protocols, and self-evaluations by speakers of their performances. Participants who had higher levels of anxiety tended to pay less attention to the environments than their counterparts. In addition, they experienced more negative, self-focused cognitions about their performances than those who had a low level of anxiety. Furthermore, the more attention one paid to self, the poorer speaking performances and lower self-evaluations one obtained. One critical shortcoming of the study is the lack of standardized measurements of participants' anxiety levels. All the measurements used in the study are either self-constructed ones or subjective self reports. Regardless of that, the findings of the study are concurrent with the previous ones which suggest that cognition could have a negative impact on one's performance levels.

In addition to speech anxiety, mathematics anxiety is another form of anxiety that has been examined frequently. Similarly to some other forms of anxiety, mathematic anxiety has been defined as an uneasy and stressful feeling that accompanies mathematics performance (Ashcraft, 2002). In reviewing mathematics anxiety, Godbey (1997) concludes that individuals who have mathematics anxiety often experience such feelings as nausea, extreme nervousness, inability to concentrate, having negative self-talk, stomach ache, and sweaty palms. She also suggests that the mathematics anxiety is not



caused by a single cause but other factors such as inability to handle frustration, poor self-concept, and parenting and teaching styles. Besides all these physiological reactions to the anxiety, Ashcraft (2002) found that trying to avoid mathematics to be an unfortunate consequence, because it could ruin one's career path if his or interest relied heavily on mathematics. What is the relationship between mathematics performance and stress? Beilock (2008) attempted to answer the question in his work. Accordingly, working memory (WM) which is a short-term system for control and regulation is a kind of memory that involves a performance process and individuals. However, situations with high levels of stress create worries that compete with working memory. Consequently, those who depend heavily on working memory when doing mathematics perform less well under stressful situations such as test taking. Beilock's assumption is not only built upon logical reasoning but also is supported by findings. This work provides a value piece of information which suggests that mathematics anxiety could be caused directly by cognitive factors and that affected one's performance quality indirectly.

### **The Need to Perform When Studying Music**

Logically, every student is expected to take tests and compute mathematics in his or her learning years while everyone living in the society is required to speak publicly in one's daily life. Therefore, it is sensible for one, no matter if he or she is a music student, amateur, or professional musician to play in front of groups of audiences, regardless of the group sizes. Wolfgang Mozart first displayed his musical talent at the age of four and having to perform in front of the European emperors, courts, and other important people became the major task for the rest of his life (Stolba, 1994). Although not every musician is

required to play in front of important figures like Mozart did, having to undergo countless performances is a key component of a musician's life no matter if he or she is a student, amateur, or professional player. The need to perform when one is studying music is an inevitable activity for music students everywhere in the world. Before moving onto the discussion of music performance anxiety, it would be helpful to learn about the definition of music performance.

According to Palmer (1997), the Western tonal tradition music performance could be presented in three forms. The first form of performance is to have the performer to play unfamiliar music from notation, or the so-called sight-reading. The second form of performance is to have one to play a well-learned piece from memory or notation. This is called the prepared performance. The third form of performance is to have the performer play music from aural presentation which is also known as improvisation or playing by ear. The music performance mentioned in this present paper refers to prepared performance unless stated specifically.

In Ireland, performing is one of the three strands of the music curriculum for primary schools students (1999). Voice is the first instrument students learn and they are expected to play on melodic instruments in their later years of school. In addition, students are required to perform both voice and instruments from memory and from simple notation. Performance in musical instrument learning appears to be an essential component of music education worldwide. For instance, the musical instrument outcomes are as important for students in Australia (2005). The assessment of students' musical proficiency is being adapted at schools is the Australian Music Examinations Board or AMEB, which is a well-established examination system. This system is designed to provide "a standardized system of progress and assessment for

instrumental and voice learning” to some schools. The phenomenon of placing great emphasis on performance in the process of musical instrument learning could also be observed in Hong Kong. Having to perform is one of the suggested music learning experiences for students in Hong Kong (the Government of the Hong Kong Special Administrative Region, 2002) and the learning objective for students in Key Stage 1 is to “sing and play from memory or reading notation to demonstrate the development of basic skills”. When Hong Kong students move up to the learning level Key Stage 3, they are expected to be able to play on instruments alone or in parts with “increasing control of techniques”. Having enough exposure and experience in music, a number of students might consider joining an ensemble or an orchestra. The process of displaying one’s musical proficiency by playing in front of judges is called audition. Existing information suggests that having to play in front of judges, later to groups of audiences, is an unavoidable activity of students who study music no matter which part of the world the students are learning in.

### **Assessment of Music Performance**

In order to know how well one has mastered certain skills, such as addition and subtraction, it would be sensible to ask the person to do a number of related questions. The procedure is usually called an assessment. According to Asmus (1999), assessment involves the procedures of objective measurement of skills, assignment of a fair grade, and identification of proper learning goals. Goolsby (1999) suggests four types of assessment that are suitable for instrumental evaluation which includes placement, summative, diagnostic, and formative assessment. Accordingly, placement assessment is the most common one used in band and orchestra. This form of assessment is to judge

an individual student based on their abilities which is reflected in auditions and challenges. Upon the completion of the assessment, they will be positioned and assigned to proper places in according to the conductors' judgments. In contrast to the placement assessment, a summative assessment refers to results that summarize music students' learning outcomes by performing in concerts and recitals. Contrary to the placement and summative assessment methods, the diagnostic and formative assessments are found in day-to-day instructions. Antmann (2007) suggests that the most commonly used assessment in a band would be an individual playing test which provides crucial information to determine students' final grades. Asmus (1999) proposes that a rating scale with categories (excellent, fair, etc.) to be a useful and simple one.

Clearly, every music student needs to undergo a significant number of assessments in order to prove that he or she has reached a certain level of musical proficiency. One might possess virtuoso skills to perform an extremely difficult piece of music. However, how is the piece of music to be appreciated or the student evaluated as competent or whether there is extraordinary playing or not? Thompson & Williamon (2003) state that there are at least three basic assumption which lie in the music performance assessment. Accordingly, the appraisal of a piece of music is highly related to the listeners' psychological reality. In other words, the rating of a piece of music is a subjective one. It is crucial for the judges to provide consistent judgment of any performance quality. The discriminative skills of the judges who will be able to differentiate between different aspects in a performance such as techniques and interpretation are some important components in the process of performance assessment. Owing to the fact that an assessment usually includes a great amount of personal judgments, the need to develop an objective assessment is mandatory.

Different evaluating systems have been developed in order to meet these needs. For instance, there are five different bands of assessment criteria used in the most popular and the world's leading music examination board, the Associated Board of the Royal Schools of Music, for the music performance diploma (2005). Candidates who are awarded with distinction are those who play "(A)ssured, persuasive and effectively communicated performance, demonstrating both artistic awareness and a secure technique in a range of styles." Those who earn a high pass show "(C)onfident performance, demonstrating some sensitivity and good technique in a range of styles." Candidates who have "(G)ood performance, showing technical competence and a broad range of musical understanding" will be rewarded a clear pass. "Solid performance in a range of styles, showing technical competence and some musical understanding at a level beyond ABRSM Grade 8" will earn a pass and those who "(D)espite evidence of some competence, technical and musical grasp not equal to the demands of the programme at this level" are considered unsatisfied and will be failed.

The criteria for the audition of the junior music program offered by the Hong Kong Academy for Performing Arts, which is designed for students aged from 5 to 16 in order to develop their talents at their early age is to "look for technical control, musical potential and aptitude for further development" (the Hong Kong Academy for Performing Arts, 2008). The audition requirement for the full-time programs is even higher in the academy. "The audition panel will look for technical control, musical understanding and expressiveness, general musicianship, creativity and potential for further development" (The Hong Kong Academy for Performing Arts, 2008). The listed entrance requirement of a Hong Kong youth orchestra is "(M)embership in each orchestra shall be decided

through an audition. Playing ability and balance of instrumentation are the determining factors in the selection of members” (Hong Kong Professional Musician Association, 2008). The audition includes two solo pieces and the sight-reading test, which is to play an unseen piece presented by the interviewer.

Having read the assessment criteria of the admission of different music programs, one might begin to feel the stress that music performance brings to the performers. However, one’s anxiety level could be elevated even higher when one decides to enter the field as a professional musician. From the audition information in the recruitment section of a well-known orchestra, the Chicago Symphony Orchestra (2008), it is stated that “only highly qualified applicants should apply. The Audition Committee of the Chicago Symphony Orchestra reserves the right to dismiss immediately any candidate not meeting the highest professional standards at these auditions.” A similar statement is found in the webpage of the New York Philharmonic (2009) which is the oldest philharmonic orchestra in the United States and also an internationally known one. This kind of statement reflects the fact that all the professional music organizations only welcome and expect those musicians who are elite in the field to join. As a result, the feeling of being less brilliant and incompetent might pose a threat to musicians’ sense of self.

### **Prevalence of Music Performance Anxiety**

Hopko et al. (2005, p. 389) define performance anxiety as the “experiences in which anxious responding occurs in the immediate context of a performance-based setting or possibly in anticipation of having to perform and the potential negative evaluation associated with this performance”. This definition suggests that performance anxiety is a reaction to some particular

situations or stimuli. To a certain extent, it is believed that performance anxiety is a disorder that affects children and adolescents at a severe level. According to Hughes et al. (2007), the prevalence of performance anxiety is about the range of 5.7% to 17.7%. In addition, the disorder is found to have an early onset as in the childhood or adolescence. Hembree (1988) reveals that test anxiety has an early onset in grade 2 which stabilizes near grade 5 and continues to be constant through high school. McDonald (2001) points out that there were about 10% of school age children affected by test anxiety in the year of 1967 and the number soon climbed dramatically to 25 to 30% after a decade.

In referring to existing studies, test anxiety has gained a substantial amount of attention (Paulman & Kennelly, 1984) and different conceptualizations have been generated in the past few decades about it. In comparing to test anxiety another form of anxiety, namely the music performance anxiety, which also arises in a specific situation has received relatively little attention. Accordingly, music performance anxiety in children is first identified accidentally by Simon and Martens in 1979 when they conducted an experiment which aimed to compare sports performance anxiety to music performance anxiety in boys aged from 9 to 14. Results reveal that participants performing solo on a musical instrument experienced the highest level of anxiety compared to test and sports performances. Music performance anxiety is described by Salmon (1990, p. 3) as “the experience of distressful apprehension about and/or actual impairment of performance skills, in a public context, to a degree unwarranted given the individual’s musical aptitude, training, and level of preparation”.

Although music performance anxiety shares the same root with other specific anxieties such as mathematics or public speaking that also occur in specific performing situations, it possesses a very unique nature. It would be

reasonable to continue the discussion on music performance anxiety before learning more about the process and elements of music performance.

Music performance has long been regarded as a process that relies heavily on cognitive mechanisms. However, Palmer (1997) suggests that it involves a considerably fuller realm of both cognitive and motor skills. After reviewing extensive literature, Palmer concludes that the cognitive process for music performance is the formation of conceptual interpretations including emotions, memory retrieval of musical structures, and transformation into motor actions. Having mentioned the fine motor control mechanism, it is considered to be quite complicated and can be explained with different models such as internal timekeeper models, motor programs, and kinematic models. In addition to the motor actions, a successful performance is also accountable on the level of listeners' interpretation, communication, and expectation. Evidently, music performance is an extremely complicated activity compared to the nature of other forms of anxieties which involve a two-way relationship. Unlike musicians who need to practice daily and to sharpen one's skills, people usually do not need to practice on the skills in order to produce sounds or speech. One might need to practice on the skills of solving mathematics problems but that would only be a periodic one. However, a perfect music performance demands "years of training, solitary practice, and constant, intense self-evaluation" (Kenny et al., 2004, p. 760) and failure of the performance would bring not only temporary aversive on individuals but also massive and long-lasting harm to the musicians' achievement and career. As a result, musicians are found to have higher anxiety levels than the general population and the norm. Kemp (1981) examines 496 school musicians who are aged from 13 to 17. Results of the study show that musicians have a higher anxiety level than their non-musician



counterparts. Watson and Valentine (1987) and Kokotsaki & Davidson (2003) draw similar findings in their studies.

Since music performance anxiety is a relatively young and under-developed area, available literature mainly focuses on the prevalence of the anxiety. For instance, Wesner et al. (1990) conducted a survey study to investigate the prevalence of music performance anxiety in musicians. Over three hundred music students and faculty from the school of music of a university took part in the study. Results reveal that about 16.5% of the participants state that their quality of musical performance is impaired by the feeling of anxiety. In addition, over 21% of them report to experiencing marked distress during performance. Furthermore, 16.1% of the participants agree that performance anxiety have adversely affected their careers. In the past few decades, some larger scale studies have been conducted about the topic in professional musicians as it has been recognized as a widespread and problematic phenomenon among professional musicians. For instance, Fishbein et al. (1988) conduct a large scale survey study regarding musicians' medical problems. Participants were 2212 professional musicians who performed on a regular basis from different sizes of state orchestras in America. Stage fright was reported to be the most commonly found psychological problem among the participants at the rate of 16%. In addition, about 13% of them reported experiencing acute anxiety, 17% of them stated they have depression, and 14% of them claimed to possess sleep disturbances. It also found that female players tend to experience greater amounts of stage fright than the male players. In addition, the age range of 35 and 45 has been found to be the peak age of stage fright (17%) when compared to those under 35 (17%) and over 45 (11%). In another survey study, James (1998) finds that about 70% of 56 orchestra players report to have performance

anxiety and they consider that their anxiety level is severe enough to interfere with their performances.

Besides musical instrumentalists, singers are also considered to be musicians who will perform extensively. In their study, Kenny et al. (2004) reveal that elite opera chorus singers possess high levels of music performance anxiety. The purpose of the study is to examine the inter-relationships of music performance anxiety and other variables such as occupational stress and perfectionism. There were a total of forty-eight full-time employed chorus singers who took part in the study. Participants were asked to fill out several questionnaires including the Spielberger's State-Trait Anxiety Inventory, two music performance anxiety inventories, an occupational stress inventory, and a perfectionism scale. The two inventories used in the study to measure music performance anxiety were the Cox and Kenardy MPA Scale (CK-MPA) and the Kenny Music Performance Anxiety Inventory (K-MPAI). The former inventory is a twenty-item self-report scale which asks the participants to rate their experiences on music performance. The latter scale is a twenty-six-item inventory which is intended to measure the evocation of anxious propositions, attention shift, physiological arousal, and memory bias which are the components in Barlow's emotion-based theory of anxiety. As for the anxiety measurement, Kenny et al. (2004) employ the Spielberger State-Trait Anxiety Inventory which is designed to measure one's state and trait anxiety level. The Cronbach's alpha test for the internal reliability demonstrates that each of the scales has an excellent level of internal reliability. It is found that participants in the study generally score about 15% higher in STAI than the norm. In addition, their occupational stress scores are higher than the norm. Furthermore, it has been revealed that the music performance anxiety scores are positively and

significantly correlated with the scores obtained in the STAI. These findings suggest that there is a strong association between the trait anxiety and the music performance anxiety in musicians. The authors conclude that the chorus singers might possess a higher level of trait anxiety than the norm but there was no significant difference found in the state anxiety level. It was also found that perfectionism is associated with STAI. Although this is a survey study, it is reliable not only because of its careful research design but also the usage of the carefully chosen psychological measurements which serves the purpose of the study. To sum up, the study compares musicians and non-musicians and significant differences are observed in the trait anxiety scores between the operatic singers and the normal participants. The study would look more interesting if the authors had included instrumentalists in addition to singers who are both categorized as musicians.

By viewing the existing literature on music performance anxiety, it is fair to conclude that great attention has been given to professional musicians but the number of related studies on music students, especially children is substantially lower. Nevertheless, the existing study on music performance anxiety in students tends to provide information on pre-performance and post-performance comparisons. For example, Kokotsaki & Davidson (2003) conducted a study which was intended to explore the relations of developmental differences, gender differences, and the quality of performance among a group of university music students. The participants' quality of performance was reflected in their final grades. A pre-test and post-test comparison design was employed in the experiment. The Spielberger's State-Trait Anxiety Inventory was administered to 43 vocal students from a music conservatory before and after they took the jury examination which was used to examine their levels of music performance

anxiety. Results of the study suggest that music students are generally more anxious than their non-music counterparts. In addition, it was also concluded that there is a strong positive relation between the state and trait anxiety level especially in female. In another words, those who are more anxious usually would be more anxious in performance situations. Furthermore, there is no significant relationship found between the level of anxiety and the quality of participants' performance. The design of this piece of work is relatively simple but it serves the purpose to offer a clear picture of the relation of music performance and anxiety with the emphasis of gender differences.

Ryan (2005) also employs the pre-post research design to compare children's anxiety levels during a regular school day and on the school concert performance day. There were one hundred and seventy-three children aged nine to thirteen who took part in the study. They were asked to fill out the State-Trait Anxiety Inventory for Children (STAIC) during a regular school day and on the day of a school concert. Although the psychological measurement used in the study is a highly reliable and a valid one, there are still some methodological problems that might create a number of confounding variables. For example, the time that children completed the form on the performance day is questionable as it was not completed immediately before or after the performance but with a few hours distance of the performance. In addition, only filling out the anxiety measurement on a regular school day might not be as valid if there was a test scheduled on the same day. Although there are a few shortcomings found in this piece of work, it provides some valuable information about music performance anxiety in children which is the area seriously neglected before.

From the existing proof, it is justified to conclude that music performance anxiety has various levels of impacts on musicians who are from different age ranges, no matter children or adults, and those who have diverse training backgrounds, music students, amateurs or professional musicians. A number of studies suggest that music performance anxiety might have an early onset as early as in childhood and could have negative impacts on children. Unfortunately, little attention has been given to young musicians by far (Ryan, 1998, 2000, 2004).

### **Factors Contributing to Music Performance Anxiety**

Present data suggests that music performance anxiety has its early onset. One might be curious to learn about what the possible factors are that could cause music performance anxiety. In her review paper, Kenny (2006) points out that there are six factors that could contribute to music performance anxiety in children and they are: the innate temperament of individuals, the increasing cognitive capacity and self-reflective function, the type of parenting and other interpersonal experiences that one had, one's perception and interpretation of the world, technical skill and mastery, and the specific positive and negative performance experiences that one has had. Wilson (1999) identifies the causes of music performance anxiety that are due to individual differences such as fear of negative evaluation, general anxiety and stress levels, and some other situational factors such as playing solo rather than in group, performing than practicing, playing for competition rather than leisure, difficulty levels of the performing pieces, and preparation for the performance. Hembree (1988) conducts a meta-analysis study to investigate the nature, effects, and treatment of academic test anxiety which is also a form of specific anxiety and shares the

similar root with music performance anxiety. He reviewed over five hundred related studies and it was found that one's anxiety level is related to different factors such as ability levels, genders, grades, ethnicity, and birth order.

### 1) Self-Esteem

Apparently, there are many variables that could contribute to the high level of music performance anxiety. Among all the potential variables, self-esteem is the most frequently addressed one. Sinden (1999) intends to explore how self-esteem and other variables such as perfectionism, coping style, and self-efficacy that would contribute to music performance anxiety on one hundred thirty-eight college students who were active orchestra players. The Rosenberg's Self-Esteem Scale (1965) was used to measure participants' self-esteem levels in the study. Findings suggest that low levels of self-esteem could effectively predict high levels of music performance anxiety. Ryan (1998) aimed to examine the relationship between music performance anxiety and self-esteem in twenty-six piano students who were age twelve. The author adapted the State-Trait Anxiety Inventory for Children (STAIC) designed by Spielberger et al. (1973) and aimed to measure children's anxiety level. In addition, the author also used the Coopersmith Self-Esteem Inventory (1987) that was designed to measure individual's self-esteem levels. This self-esteem measure is designed to test one's self-esteem level in three specific domains including the social one, the school one, and the one at home. Ryan, however, only administered the social self-esteem part in her study as the count of the total self-esteem scores as she believed that music performance anxiety was a form of social phobia. In addition to the psychological measures, the physiological measurement, as indicated by heart rate was also taken during a

non-recital day and different stages before the recital in Ryan's study. Results from the study reveal that self-esteem is significantly correlated with both state anxiety and trait anxiety which support the hypothesis of the study. Due to the fact that the two other domains of self-esteem scales had not been done, it would not be possible to verify if social self-esteem is really a strong predicting factor of state anxiety and trait anxiety. In other words, conclusions can only be drawn when sufficient information on the players' overall self-esteem levels is provided.

## 2) Gender Differences

In addition to self-esteem, gender is another often studied attributor to music performance anxiety. Ryan (2004) conducted a study to investigate the effect of gender differences in music performance anxiety of twenty-six children who were sixth-graders. Again, the State-Trait Anxiety Inventory for Children (STAIC) designed by Spielberger et al. (1973) was employed in the study to measure children's anxiety levels one month before the experiment and immediately after their performance. Data revealed that boys and girls responded to music performance anxiety in different ways. Girls usually exhibited greater changes in physiological measures such as increased heart rate while boys displayed more anxious behaviors.

## 3) Personality

In addition to self-esteem and gender differences, personality is assumed to be an important factor that attributes to a high level of music performance anxiety.

Kenny et al. (2004) conducted a survey on forty-eight professional operatic singers which aimed to investigate the relationships of music performance anxiety, occupational stress, state and trait anxiety, and perfectionism among them. It revealed that all the measures of the musicians are higher than those obtained in the norm groups even though they reported to have better personal resources of self-care. The researchers therefore conclude that music performance anxiety is closely associated with trait anxiety while occupational stress is a factor that contributed to the quality of work experiences to the opera singers. Koivula et al. (2002) further elaborate that only those negative patterns of perfectionism such as dependent on competence aspects would lead to high levels of cognitive anxiety.

#### 4) Situations

Besides many of the inherent variables, other situational variables could also influence one's music performance anxiety level. In examining some possible situational factors, the effects of the setting of performance such as the different sizes of audience on one's music performance anxiety are frequently studied.

Simon and Martens (1979) who had identified music performance anxiety accidentally found that playing solo in a band resulted the highest level of anxiety as versus to other conditions such as playing in a music group, competing in a physical education class, taking a test, practicing with a sport team, and competing in a physical on an organized sports team. Apparently, the performance context might affect one's anxiety level. Ryan (2004) also agrees that children's anxiety levels vary in different solo performance contexts. In addition to the setting of the performance, the facts that the audience sizes and



the identities of the audience also play a significant role in one's music performance anxiety level.

LeBlanc et al. (1997) invited twenty-seven high school band players to rate their music performance anxiety levels on a visual analogue scale under different circumstances including performed alone in a practice room, performed in a practice room with one researcher present, and performed in the rehearsal room with all researchers, a peer group, and a tape recording being made. Results obtained from the study are concurrent with those found in some previous ones which all agree that performers' anxiety levels are associative to the audience group sizes. In another words, the larger the audience group sizes ones play in, the higher the anxiety levels that the performers experience. Although the measurement of anxiety levels in the study is based on performers' subjective report which could be regarded as less scientific, self-report does help to provide some valuable information on one's personal and subjective appraisal about his or her stress level. In addition, the authors attempted to collect performers' heart rate as a form of objective measurement in order to triangulate with the subjective measurement which makes the study to be reliable. Jackson & Latane's (1981) agree that the sizes and status of the audiences could produce various levels of anxiety to the performers.

##### 5) Parenting Styles

Kenny (2006) points out that parenting is another major contributor to high level of music performance anxiety level. This notion is supported by a number of scholars including Chorpita (2001). Chorpita regards parenting to be a particularly essential contributor of the development of anxiety because parents are the main socializing agents for children. As the result, children's

experiences are controlled by parents. Kenny & Ackerman (2007) point out that proper parenting style is important in preventing anxiety and depression in children. They suggest that parents to be “responsive, unobtrusive, not be overly protective” in order to allow children to have control over themselves and their environments. Other desired parenting style includes proper ways to deliver praise and punishment. Paivio (1964) finds that boys who are frequently rewarded and infrequently punished are low in audience sensitivity. On the other hand, children who are unfavorably evaluated for their social behaviors and achievement and frequently being punished for failures are higher in audience sensitivity than their counterparts.

Wood et al. (2003) reviewed research in the past decade in regard to the topic of parenting and childhood anxiety. They conclude that observed parental control during the parent-child interactions is constantly associated with shyness and child anxiety disorders. Bersharat (2003) examines the association between parental perfectionism and test anxiety in high school students. It has been revealed that there is a significant association between test anxiety and maternal perfectionist attitudes. However, inconsistent findings have been obtained about the role of parental acceptance and modeling of anxious. In addition, there is little evidence to support the statement that parenting style is related to children’s trait anxiety. Mcleod et al. (2006) conducted a meta-analysis on 47 studies to examine the relationship of parenting and childhood anxiety. Contrary to a lot of the existing evidence, parenting is found to contribute only 4% to the variance in child anxiety. This finding suggests that the connection between the parenting and childhood anxiety is insignificant and parenting could play a less important role in childhood anxiety than anticipated. Nonetheless, the analysis reveals that parental control is more strongly

associated with childhood anxiety than parental rejection. In addition, a more negative parenting style is associated with more childhood anxiety.

#### 6) Technical Skills and Experiences

In addition to some social factors such as parenting, the factors of technical skills and mastery level of the instruments are also considered to be another crucial factor that attributes to the high level of music performance anxiety (Kenny, 2006). As the matter of fact, it is revealed that different conceptualizations have been formulated in regarding to the formation of test anxiety in the past few decades (Paulman & Kennelly, 1984). Scholars first placed great emphasis on one's drive-orientation, and then moved onto one's cognitive-attentional formation. Investigation on the relationship between test anxiety and one's skills deficits was the study focus in later of the years (Kirkland & Hollandsworth, 1980). They find that participants in the skills-acquisition group declare to have greater knowledge of effective test-taking skills and less attentional interference during testing than the other groups. Harris and Johnson (1980) also reveal that highly anxious participants who have received the individualized covert modeling with study skills training gained significant academic improvement than other groups. The result suggests that study skills training is as important and other form of psychotherapy training (Harris and Johnson, 1980).

Merritt et al. (2001) introduced a particular vocal and skills training program and is proved to help alleviating individuals' perceived anxiety in speech. In order to investigate if test anxiety is truly a result of skills deficit, Paulman & Kennelly (1984) conducted a study on sixty-four college students who were divided into high-anxious and low-anxious groups. It is found that those

participants who were skilled and highly anxious performed as well as those who had lower anxiety level but all skilled in a simple task. However, students who were unskilled and highly anxious did poorly in comparing to their low anxious and unskilled peers in a more complex task. Findings suggest that one's problem solving ability is independent from one's test anxiety level as well as his or her exam-taking ability. In addition, good test-taking skills could compensate for anxiety-related deficits but the deficits would still affecting one's performance as the task complexity increased. Paulman & Kennelly's work suggest that skills could counterbalance the aversive effects that caused by test anxiety but skills deficit should not be regarded as the sole causation of test anxiety. By implying this reasoning logic in music performance anxiety, over practice might have little effect on musicians' levels of performance anxiety.

#### 7) Occupational Stress

As suggested in the previously mentioned literature, musicians are prone to have higher anxiety level than other people but why is that? One of the reasons could be due to the job nature of musicians. According to the description of the Bureau of Labor Statistics of the U.S. Department of Labor (2008), the work nature of musicians includes spending considerable amount of time practicing and having to tolerate stress caused by unemployment. In addition, musicians are required to receive long-term on-the-job training. "Aspiring musicians begin studying an instrument at an early age, musicians need extensive and prolonged training and practice to acquire the necessary skills and knowledge to interpret music at a professional level. Self-discipline is vital because producing a quality performance on a consistent basis requires constant study and practice." (the Bureau of Labor Statistics of the U.S.

Department of Labor, 2008). Given that musicians are expected to face many uncertainties in their career, Kenny et al. (2004) make a fair comment that music performers are likely to experience more stress by the very nature of the profession and music performance anxiety, therefore, this should be considered to be a unique form of anxiety. Furthermore, the process of music performance requires a high level of concentration and such fine trained skills as fine motor dexterity, co-ordination, memory, aesthetic, and interpretation of music which would also produce higher stress levels.

Kenny and Ackerman (2007) identify three types of major stressors including psychosocial, occupational, and physical stressors in musicians. The psychosocial stressors include feelings of loneliness and homesickness, infidelity and broken relationships. The occupational issues include language difficulties in new environments, unfamiliar stage arrangement because of different concert venues, and the inconsistent quality of changing room. Beside physical injuries, musicians' physical stressors consist of factors such as having to move instruments and luggage, adjusting to time zones and coping with jet lag when performing on tour, and lack of sleep. Furthermore, they also need to deal with financial insecurity. Since there is a long list of factors that contribute to high level of music performance anxiety and the duty of musicians is to perform at an excellent level, it is anticipated that music performance anxiety might have negative impacts on musicians' performance level and affect their performance outcomes.

In closing this section, it is fair to conclude that there are a number of contributors, the inherent ones and the external ones, that are associated with high level of performance anxiety. It is observed that more consistent findings are obtained in the study of music performance anxiety and one of the

possibilities is the execution of proper measurement, the State-Trait Anxiety Inventory. It would be helpful to clearly define the term “anxiety” and adapt a reliable measurement in order to generate more reliable results.

### **Using Qualitative Research Methods to Examine Anxiety**

An extensive review has been conducted to examine anxiety as well as music performance anxiety. Apparently, all of the studies reviewed for the present study have been done by using quantitative methods. Other than quantitative research methods, could qualitative research methods be used to examine anxiety? This section is aimed to answer this question.

Theoretically, quantitative research is an approach that built upon the pre-defined hypotheses that intend to look at the casual relationships between variables and findings, which would be able to be generalized and predictive across all times and in all settings (Morse and Field, 1995). Thomas (2003) introduces three most commonly used quantitative methods and they are surveys, correlation analyses, and experiments. The survey method is a means used to collect information about the present status of certain identified variables within specific groups. Thomas (2003) regards it as the most effective way to collect data within specific groups which are expressed numerically and could be computed. However, results of the surveys only provide averages and percentages of the variables but fail to provide qualitative information of the variables. Another quantitative method is correlation studies which aim to enhance the understanding of two variables. In other words, it is used to examine what one variable would be if another variable was altered. The Correlation method is a convenient way to provide precise information about the relationships between variables. However, the correlation coefficient is valid

only when the measurements have good reliability. The last quantitative method to be introduced is experiments. An experiment is the manipulation of treatment conditions. It is aimed at studying the outcomes of objects that are being treated in a defined way as well as to search for the reasons of why the treatment has certain effects.

Qualitative research is a process that employs the inductive model in understanding, explaining, and developing a theory while hypotheses and theories are evolved from data (Morse and Field, 1995). Thomas (2003) also identifies three types of qualitative methods which include case studies, ethnographies, and experience narratives. A case study is the description of individuals that explains why one acts the way he or she is. According to Thomas (2003), the greatest advantage of case study is the unique information that it provides in examining the relationship of many external factors and individuals. Since individuals are the focus of case studies, the major shortcoming of this approach is the poor generalization of findings. Ethnography is regarded as a special kind of case study that the researcher takes the role of participant-observer who participates in the activities of the people, organization, or event being examined. One of the strengths of the ethnographic study is to provide valuable information of the characteristics and dynamics of the groups being studied. However, it fails to provide objective data since the researchers are also participants in the groups and has intimate interactions with other participants. The third kind of qualitative method introduced here is called experience narratives which refer to an account of events that is described by individuals who are also participants or observers. More important, the experience narratives are stories of individuals which have influential impacts in one's life. This qualitative approach provides chances for

readers to learn about the commonalities and differences of people. However, these experiences do not help to understand how variables such as education and background are distributed in the population. In addition, these experiences are usually personal and are not transferable or generalized by others.

Anxiety is a subjective sensation and a mental response to a real situation that was “a feeling of worry, upset, uncertainty, and fear that comes from thinking about some threat or danger” (*Mosby Medical Encyclopedia*, 1996, p.52). Over the past few decades, an enormous number of studies have been conducted in relating to the topic. However, almost all of the existing studies employ the quantitative approach to investigate anxiety. Cox et al. (1995) conducted a study to review the publication trends in anxiety disorders during the period of 1990 to 1992. It revealed that there are four hundred and thirty-two studies that have been done in anxiety disorders that were published in fourteen journals. Among these studies, there is about 43% are experimental or treatment studies, while the rest use some other designs such as correlation. However, there is no qualitative approach found in the review. The commentary in the *Society of Biological Psychiatry* (2002) also examines the trends of social anxiety disorders. It was revealed that there are a number of relevant topics such as emotion, motivation, attention, and behavior genetics that are being emerged but no qualitative methods are mentioned. One of the reasons could have resulted from the historical value on the quantification of mathematics which is considered to be the “queen of science” (Guba and Lincoln, 1994). Those subjects that are less quantifiable, such as social sciences were regarded as “soft”. In addition, the aims of the researchers also are influenced by the research approaches that one adopts. Individuals would employ quantitative



approach if they intend to work with variables and make predictions while individuals would choose to use qualitative approach if they are concerned about the meaning and the ways people perceive the world (Willig, 2001). In addition, quantitative studies can measure the effect size of the variables while meta-analyses only include studies where there are reported effect sizes. On the other hand, qualitative studies would not be able to provide such information because the data is not numerical.

Although great emphasis has been placed on quantitative study in the past few decades concerning the topic of anxiety, attempts to use the qualitative approach have been made. For instance, Menzies (1960) conducted a case study which was aimed to tell the readers about the high level of stress and anxiety that the nurses experienced. The study took place in the 1960s in England when the senior nursing staff found that the nursing deployment system was inefficient. The inappropriate allocation of the nurses was believed to be a major contributor of the situation. Those trained and qualified nurses were assigned to perform administration and teaching tasks while the student nurses were responsible for the direct clinical work in order to meet the nurse-staffing requirement. However, all student nurses were required to undergo a certain period of practical training. Since the priority of the hospitals was given to the patient-centered needs and the needs of medical school rather than the training needs, crises arose and the system required review. Menzies (1960) interviewed 70 nurses and observed some operational units in order to examine the contributing factors to the ineffective system. After meeting with the nurses and related medical staffs, the author found that nurses were under substantial high levels of stress and anxiety. She further suggested that it would be essential in developing a more effective student-nurse allocation system by

alleviating their anxiety. However, it was found that the nature of the nurse's task was not the only source of anxiety and she continued to explore some other possible sources of anxiety. At last, it was found that the social defense system was accountable for the high levels of anxiety in nurses. By definition, the social defense system was a consensus between an organization and the staffs that all of the staffs followed. The study used a grounded theory approach to investigate how nurses employed the social defensive system against their anxiety. This work appears to be subjective as the author introduces a lot of her own interpretations to explain the ineffective student-nurse allocation system without evidence. In addition, this paper is loose in structure because the author fails to define certain essential terms such as social system and nursing service. Furthermore, she fails to provide certain important details such as how the data are collected, what kinds of questions are being asked, how many and who are being interviewed. Therefore, the paper seems to be a subjective report rather than an evidence-based empirical study. It certainly has its historical value because it was written in the 1960s. Another piece of work which uses the qualitative approach was written by Kadam et al. (2001). The study is aimed at exploring the perspectives in relation to the health care needs of individuals who suffer from anxiety and depression. The study started with a screening survey which randomly sampled twenty-nine participants for an interview. Eighteen participated in an individual interview. After analyzing data collected from twenty-seven participants using the techniques of grounded theory, it was found that the major problem participants encountered included the controlling of unwelcome and intrusive thoughts and feelings. In addition, they had different preferences about their health needs. Furthermore, they were skeptical about pharmacological treatments. This piece of carefully-designed

and well-carried out work provides in-depth information on how individuals who suffer from anxiety and depression perceive their illness and their other health care needs. In addition, the application of certain sampling techniques such as screening and random sampling should be valued. To conclude, researchers gather some useful information by using qualitative techniques that would have been difficult to get by using quantitative approaches.

In addition to studying the topic of anxiety, using qualitative methods to examine the effectiveness of a specific intervention in treating anxiety has also been attempted. Kracker and Wang (2002b) use qualitative analysis to explore the effectiveness of the Kuthlthau's six-stage Information Search Process or ISP model on participants' research perceptions. The Information Search Process or ISP model developed by Kuthlthau was based on grounded theory which showed that feelings were as important in each stage of research as thoughts and actions (Kracker and Wang, 2002a). The six stages included task initiation, topic selection, pre-focus exploration, focus formulation, information collection, and search conclusion. Ninety college students participated in Kracker and Wang's (2002b) study. Forty-two of the participants from experimental and control groups wrote paragraphs to describe their feelings and perceptions in writing a major research before and after they attended the 30-minute presentation. A method of coding was used in order to identify the keys words. There were one hundred and twenty-two words identified as affective words in one hundred and eighteen paragraphs and eight categories were included in the cognitive coding section. The codes were assigned to the unit with numerical codes in addition to the text labels which were presented in order. For example, when a participant wrote "I was more concerned with having to take the time to complete the assignment than with worrying about it.", the sentence will be

coded as 13. The order of the coding was be: (2 2 9) / Affective/Apprehension group/concerned (worried), (3 1 1) / Cognitive/Task Initiation/Comprehending, (3 7 4)/ Cognitive/Overall/Time awareness, (4 1 1) / Meta-Affective/Emotional states/Anxiety, (5 1) / Meta-Cognitive/Pre-focus phase, and (5 4) / Meta-Cognitive/Overall. Another example would be that a participant felt “Now that the report is complete, I feel very relaxed and glad to have the burden done”, this sentence was coded as 17. The coding orders of this sentence was (2 3 6) / Affective/Calm group/Relaxed, (2 15 1) / Affective/Relief group/Relief, (4 1 5) / Meta-Affective/Emotional states/Confidence, and (4 1 6) /Meta-Affective/Emotional states/Relief. The software program called QSR NUD\*IST was employed in the process of coding. The reliability rate for the affective coding was 65% and 80% in the cognitive coding. This piece of carefully-designed work provides extremely valuable information about how participants felt about and perceive research which would be difficult to obtain by only using quantitative methods. In addition, the pre-post presentation paragraphs provide information on how the participants change in their perceptions about thesis writing after the intervention. In fact, the pre-post measurement is a frequently used methodology in quantitative study. In other words, the authors use a scientific design to collect qualitative data which is innovative and valuable.

When studying anxiety, qualitative data can serve the function of providing valuable descriptive and in-depth information of how individuals perceive specific situations which helps to enhance readers’ understanding in specific phenomena that the information may not be able to be obtained in psychometric measurements. From the previous literature, it is obvious that one can use qualitative techniques to conduct studies using the scientific method. However,

qualitative research does not start with a testable hypothesis and it is usually being labeled as “unscientific” (Mays and Pope, 1995; Green and Britten, 1998). Some researchers have suggested that qualitative research is too subjective and anecdotal with little evidence of replication or generalization (Mays and Pope, 1995). According to Mays and Pope, bias to the qualitative methods could be the longstanding tradition of quantitative research in the health field. In order to solve the weaknesses in qualitative research as identified by the quantitative researchers, many possible alternatives have been introduced. Such a technique is called “triangulation”. Triangulation is defined as “the use of two or more methods of data collection in the study of some aspect of human behaviour” (Cohen et al., 2007, p.141). The purpose of blending qualitative and quantitative methods together is to complement rather than compete with each other (Jick, 1979). *Marshall and Cooper (1979)* attempted to measure the manifestations of stress, anxiety and its dynamics in 186 managers associated with the health, personality and characteristics of their job and organization. Both middle managers and senior managers reported high levels of job-related stress. However, it was found that there was no one single method that could measure anxiety properly due to its high demand characteristics which are not easy to define. In addition, anxiety is an emotive reaction and potential problems could arise during the process of measurement such as a phone call from family passing on bad news. Finally, they employed the triangulation method to collect data which allowed the researchers to examine and appreciate anxiety from various dimensions. By doing so, a survey was administered to a group of randomly selected employees in order to collect self-report data. In addition, personal interviews were also conducted to a subgroup of the selected employees as to documented employees’ anxiety.

Theoretically, there are a number of advantages in using the triangulation method in studying anxiety (Jick, 1979). First of all, triangulation is an overall strength multi-method design which provides more confident data for researchers. In addition, it helps to stimulate researchers to develop more creative interventions when collecting data which can be counter-balanced with the conventional data collection methods. Furthermore, triangulation is helpful in uncovering some out-of-norm dimensions which could be over-looked when using a single-method design since different viewpoints lead to different elements and do not fit in a model. Although triangulation appears to be an ideal research method, Jick (1979) spells out some shortcomings of the method as well. First of all, it is extremely difficult to replicate a multi-method design study because replication is considered to be a necessary element in any scientific research. In addition, triangulation might have little impact on any research which has ambiguous research questions or is based on unclear theories and concepts. Furthermore, triangulation is not a one-size-fits-all strategy for all research and there are a number of constraints such as time, costs and the quality of the observers that could prevent its effectiveness.

Existing literature suggests that there are pros and cons in using quantitative and qualitative research methods. Therefore, there is no single perfect research method in examining a specific phenomenon. Given that “music performance anxiety” is a relatively novel construct which requires concrete operant definition, the present study employed mainly the quantitative research. In addition, the focus of the present study was to examine the relationships between music performance anxiety, ages, self-esteem, and performance outcomes but not the specific experiences of music performance anxiety in the participants. Therefore, protocols aligned with quantitative

research methods were chosen for the present study. Furthermore, financial cost was another major concern for the research in the present study. It was impossible to interview all of the participants in the present study because numbered they about two hundred participants and it was felt that the data would not be representative enough if only a few participants were interviewed, especially in terms of the main aims of the study i.e. the purpose was to examine the actual relationships rather than the perceived relationships. However, in order not to neglect the crucial experiences that the participants might have which helped to enhance one's understanding about music performance anxiety, the present study added a section in the questionnaire that asked the participants to identify as many feelings as they could which were considered to be the symptoms of music performance anxiety. These qualitative data were used to triangulate with the quantitative data that were obtained from other psychological measurement such as the State-Trait Anxiety Inventory and hopefully to provide more information that could not be obtained by using the quantitative data alone.

## **1.2 Self-Esteem and Music Performance Anxiety**

After reviewing some possible variables that might be associated with music performance anxiety, self-esteem was regarded to be an essential one which is worth elaborating further in this section. Before moving forward onto the discussion, it would be advantageous to review the fundamental knowledge of self-esteem.

## Self-Esteem

Self-esteem is regarded as the global evaluation of one's own worth (Bee, 2000). Accordingly, children first develop global self-evaluation around the age of seven. Harter (in Bee, 2000) points out that children begin to make differentiated judgments about themselves in respect to skills in academics or athletics, physical appearance, peer social acceptance, friendships, romantic appeal, and relationships with parents by then. Harter further elaborates that children's self-esteem level is comprised with two internal assessments or judgments and they are the discrepancy about self and their sense of support respectively. This discrepancy is about the differences between the ideal self and the real self. Theoretically, every child has his or her own standard about self. Children possess high levels of self-esteem when their discrepancy is low. In contrast, children have low levels of self-esteem when discrepancy is high. Bee (2000) further suggests that culture could play an essential role in the formula of self-esteem because each culture or subculture assigns value to a particular quality or skill and children's choices of goals or preferred qualities are shaped by the culture that they are living in. In accordance to Harter (in Bee, 2000), another major component that has great influence on children's self-esteem is the overall sense of support that the children feel and receive from the important people, like parents and peers, around them. She finds that those children who usually have higher self-esteem scores are the ones who also felt that other people generally like the way they are compared to those who report to have less overall support.



## Embarrassment and Self-Esteem

Having briefly reviewed the formation of self-esteem, what is its relationship to performance anxiety? In the past few decades, numbers of theories have evolved in order to explain the formation of performance anxiety. Kenny (2004) proposes that performance or test anxiety is a distressed feeling that has resulted from failure in a task with a high aim and low ability. Jackson and Latane (1981) employ the Modigliani's theory of embarrassment, which considers performance anxiety to be a fear of losing self-esteem when one is being evaluated by others in a specific situation. Modigliani (1968) also believes that embarrassment is a sense that results from the awareness of how others perceive the individual in an immediate moment. Modigliani trusts that certain personal traits such as empathetic ability, various kinds of self-esteem, and test anxiety could predict one's susceptibility of embarrassment. As a result, he proposes a theoretical framework about the process of becoming embarrassed. In his study, it is revealed that self-esteem and test anxiety is correlated to the embarrassibility scale at a moderate level. Modigliani points out that what happens in the moment that makes one feel inadequate would not make someone feel embarrassed. Rather, one's interpretation on how others view oneself creates the sense of embarrassment. Having worked extensively on the topic, a later work of Modigliani (1971) confirms that embarrassment only occurs in the presence of others. Modigliani's work on embarrassment is precious because he offers some valuable insights and information about the construction of performance anxiety. In addition, dissecting performance anxiety from a psychological angle is a novel attempt which has not been examined the way he did before.

If the assumption of embarrassment, or being afraid to be judged, is correct, why would the musicians or performers have such a great concern about their performances? Or why would a less perfect performance impose such a great threat to the performers' self-esteem? In order to understand more about the relationship between self-esteem and the music performance quality, it would be beneficial to enter the musicians' world and to learn more about their attitude toward music which is expressed by their musical playing.

### Self-Esteem and Music Performance Anxiety

The ultimate goal of any performer is to have the music performed at one's best or optimal level in each performance. However, music is a form of art which has no objective or standardized measure to decide what is a piece of good music. Sloboda (2000) points out that an "(E)xpert musical performance is not just a matter of technical motor skill, it also requires the ability to generate expressively different performances of the same piece of music according to the nature of intended structural and emotional communication." (p. 397). He also states that the technical component and the expressive component are independent from each other, yet interact with each other as well and both skills could be enhanced by practice. Apparently, delivering and communicating the meaning of music is the duty of any musician and the process requires great effort from the musicians. Unfortunately, as mentioned before, appreciating a piece of music is a highly subjective activity and without knowing the expectation of the audience, any performer would possibly feel frustrated, inadequate, and incompetent when he or she feels that one fails to perform at one's own level. By using the logic of the embarrassment theory, a musician might not feel as embarrassed when he or she performs / practices by oneself. In contrast, it

could create a sense of disaster for the players to play in front of audiences and having to know that he or she might be judged poorly by the audience.

Therefore, it is reasonable to conclude that an imperfect performance, as perceived by the musicians could impose a tremendous threat to their self-esteem.

In addition to their perception of the abilities to convey music, musicians' passions about music and devotion to music definitely could be another major reason that produces high levels of anxiety to themselves. Osborne et al. (2005) have the best illustration by the saying that "the greater the commitment to music, the greater the expectation from self and others regarding performance standard and quality" (p. 314). In fact, devotion and commitment to music could be displayed in different ways. For instance, Sandgren (2003) provides a detailed description on the career path of opera singers by different age stages in terms of social roles, personal level, occupational stress, and artistic development. Choice of appropriate repertoire, developing a high level of technical skills and musical skills have been the major artistic concerns for the singers which will last onto the later stages of their professional ages. From the description of the career path of the opera singers, it is fair to assume that musicians are in a loop of setting progressive goals which could be challenging to their musical skills as well as their self-esteem.

Ryan (1998) has conducted a carefully-designed experiment to investigate how a piano performance affected children's anxiety level and also the relationship between music performance anxiety and self-esteem. Ryan measured the heart rate of twenty-six piano students aged twelve at three different stages in a performance procedure. She first started to measure children's heart rate from the moment they was sitting stage-side and waiting to

perform. Then she took children's heart rate as he or she to be the next performer. She finally recorded children's heart rate again as they walked back to the stage after completing the performance. In order to gain a better sense on children's anxiety levels, Ryan also collected children's subjective rating of their anxiety level as measured by the State-Trait Anxiety Inventory for Children. Furthermore, Ryan also employed the Coopersmith Self-Esteem Inventory to learn more about the children's self-esteem level. All the psychological measures were completed immediately after they performed. It was revealed in the study that self-esteem is correlated significantly with the state as well as the trait anxiety. In addition, a worthy piece of information was generated from the study that anxiety is considerably related with the social self-esteem which suggests that music performance anxiety might share the same root with social phobia. In addition to the quantitative data, Ryan also conducted interviews to collect qualitative data. As revealed in the interviews, children reported that the primary cause of their anxiety was being afraid of making mistakes in front of people. This finding is concurrent with Modigliani's (1968, 1971) theory of embarrassment that occurs in the presence of others.

Ryan's (1998) study is a well-designed one which provides highly reliable and valid data to support the notion that there is a significant negative relation between self-esteem and music performance anxiety. A similar conclusion is also drawn from Sinden's study conducted in 1999. Sinden carried out a survey on one hundred thirty-eight university music students by using the Performance Anxiety Scale by Nagel's team, the Self-Esteem Scale by Rosenberg and some other scales for psychological measures. Findings revealed in the study suggest that the level of one's self-esteem could significantly predict the level of one's music performance anxiety alongside

perfectionism, coping style, and self-efficacy. In addition, variables such as concern over mistakes, doubt about one's actions, personal standards, and parental criticism advanced the level of music performance anxiety. Although Sinden's work is not an empirical work, it provides some value proof to support the assumption that there is a significant negative relation between music performance anxiety and self-esteem. In addition, self-esteem could have its root in social construct.

Since all forms of anxiety are rooted in social construct, similar findings are also obtained in many other studies on different forms of anxiety. For instance, a review paper by Godbey (1997), concluded that poor self-concept and inability to handle frustration might be potential causes of mathematics anxiety. Koivula et al. (2002) also suggest that those elite athletes who are low in self-esteem display high levels of performance anxiety. Furthermore, the relationship between self-esteem and performance anxiety was also examined by Hong (2002) in an academic context. He found that among 1,672 students from a secondary school in Taiwan, students who had high academic achievement were those who had higher scores in self-esteem when compared to their counterparts who had moderate or lower academic achievements. In addition, students who were more anxious were also found to have lower self-esteem scores. Findings obtained from the study once again confirm that there is a close relationship between performance anxiety and self-esteem. Aiming to learn more about the relationship of the two factors, Hembree (1988) conducted a meta-analysis on 562 studies. The analysis reveals that test anxiety related inversely to students' self-esteem. In other words, those students who have higher test anxiety levels are those who hold lower self-esteem than those who have lower test anxiety levels. With convincing evidence, the majority of the

existing studies point to the direction that self-esteem is quite likely a critical element that affects one's music anxiety level.

### **1.3 Music Performance Anxiety and Performance Outcomes**

Sarason and Mandler (1952) have conducted a study to investigate factors that may be related to test anxiety. They categorized about five hundred college students as high- or low-test anxious based on their responses to a test anxiety questionnaire designed by them. Participants' anxiety scores were compared with their academic scores including those obtained when they were admitted to the university. The scores included a Mathematical Aptitude Test (MAT), and a Scholastic Aptitude Test (SAT). In addition, a predicted grade average (PGA) was generated based on their high school achievement and compared to their actual grade average (AGA). It was found that students from the high anxiety level group scored significantly lower in MAT scores, SAT scores, and PGA scores but higher in AGA scores. In other words, those students who are low in anxiety levels generally did better in the tests when compared to their peers who were higher in their anxiety level.

These findings are based on the assumption that anxiety is a learned drive. Sarason and Mandler regard anxiety as a learned response to conditions that involve intellectual achievement. Individuals who have non task-relevant behaviors often display negative behaviors such as wanting to escape and feeling inadequate while their task-relevant responses are more positive which leads to the completion of the task. In other words, when someone has a task-directed drive, he or she directs their attention on the tasks they are working on. Staying on-task helps individuals to reduce the levels of anxiety and perform better. In contrast, someone might recall previously learned

information in test situations and produced task-irrelevant responses and this is called learned anxiety drive. Individuals who have strong anxiety drives are usually self-absorbed and tend to engage in the consequences of failure and participate in task-irrelevant behaviors (Sarason, 1984). The action of participating in task-irrelevant eventually might lead to impairment in individuals' performances.

The authors also attempt to explore other potential causes of test anxiety and social class is one of these potential causes. It was hypothesized that students in the low anxiety group were those who came from a social and economic strata in which intellectual achievement was not highly valued. On the other hand, students who were in high anxiety group were the ones who came from lower-middle and upper-lower social classes where the intellectual achievement was highly valued. The hypothesis of the relationship of social class and test anxiety has been confirmed after comparing the occupation and education of students' fathers.

Following the same vein, evidence to prove that performance anxiety might undermine one's performance outcomes is consistent with many other studies. For example, Zatz & Chassin (1985) conducted a study on three hundred and six fifth and sixth graders. It was found that the high test-anxious students reported experiencing higher level of anxiety than their low-anxious peers. In addition, the high-anxious students reported experiencing more negative self-evaluations (e.g. "The others probably think I'm dumb", "I must be making many mistakes", I "can't do this — I give up") and off-task thoughts (e.g. "Pretty soon I'll get to do something else", "I wish this was over", "I am hungry"), and thoughts of unfavorable social comparisons. They had difficulties with concentration, and wished to escape the test more often than their low-anxious

counterparts. Furthermore, the low-anxious students reported to having significantly more positive self-evaluations than the high-anxious students. These findings support the hypothesis of the study that there is a negative correlation between students' performance and test anxiety level. In addition, there is a positive correlation between positive self-evaluations and test performance. Therefore, the authors conclude that performance anxiety is likely to create cognitive distress and affects individuals' levels of performances.

Similar results are also obtained in a study by Stevenson & Odom's (1965). In their study, 318 participants from 4 to 6 grades performed five tasks which included paired associates, concrete discrimination, abstract discrimination, concept formation, and anagrams tasks. It was revealed that participants who had high levels of anxiety appeared to perform less desirably than children who had lower levels of anxiety. The study concludes that anxiety has the most harmful effect on tasks involving some complicated procedures such as verbal reasoning. The negative relation between anxiety and performance was not only found in the study of children but also in adults. For instance, an inverse relationship was found in a group of college students as measured by the Mathematics Anxiety Rating Scale (MARS) and mathematics test (Morris et al., 1978). It was revealed that those who scored higher in MARS performed less well in mathematics tests.

According to Kenny (2004), anxiety can impair one's performance in certain ways. First of all, it disrupts one's attention which leads to interference with normal processing. For instance, the highly anxious individuals might need to pay more attention to their anxiety than the tasks that they are engaging in. In addition, anxiety leads to off-task and incompetent behaviors. The behavioral selection effects that anxiety induces might lower one's effort or lead to less



competent behaviors. Since music performance involves a very complex process such as fine trained skills as fine motor dexterity, co-ordination, memory, aesthetic, and interpretation of music (Kenny et al., 2004), high level of music performance anxiety could further damage the performers' achievement.

### **Relationship of Music Performance Anxiety and Self-Evaluated or Anticipated Outcomes**

From the studies in the previous section, it is evidenced that anxiety can affect one's performance outcomes significantly. This could be the consequence of the procedure of the cognitive appraisal of anxiety when one is supposed to pay undivided attention to the task that he or she is performing but he or she pays attention to some other task-irrelevant materials instead. Thomas (2001) defines anxiety as "(A) vague uneasy feeling of discomfort or dread accompanied by an automatic response ... a feeling of apprehension caused by anticipation of danger" (p. 142). Therefore, one's anxiety is caused by an individual's anticipation and appraisal of the situation. By using the social cognitive theory to explain anxiety, Bandura (1989) suggests that there is an interactive and a close relationship between one's action, cognition, affection, personal factors, and the environment. According to him, self-efficacy is a cognitive belief pattern that could either help or hinder one's behaviors. The process of predicting events and exercising control over those events in daily living requires judgment which is affected by one's self-perception and past experiences. Bandura (1989) concludes that "(P)eople's perceptions on their efficacy influence the types of anticipatory scenarios they construct and reiterate" (p. 1176). Those who consider themselves insufficient tend to visualize themselves as failures and those who judge themselves efficacious

usually envision themselves to succeed in performance. Having to identify oneself to be a failure is not a pleasant feeling. Bandura (1989) points out that one's anxiety level is determined by how capable one perceives oneself. Individuals who anticipate selves being unable to cope with potential threats experienced higher anxiety level than those who believe they could cope and avoidant behaviors could be the result. The relationship between one's action and one's self-perceptions of coping efficacy is further elaborated by the example of a person who is willing to take risky chances. It is believed that such a person could perceive stronger coping efficacy. On the contrary, it is presumed that someone who displays avoidant behaviors might consider himself or herself being not able to cope with the uncertain situation.

Since one's anxiety level is attributed by one's perception of his or her coping ability, Hong (1999) attempted to investigate if there is a direct or an indirect relationship between test anxiety, perceived test difficulty, and test performance. Two hundred and eight undergraduate students took part in the study. They were asked to fill out a modified version of the Test Anxiety Inventory (TAI) developed by Spielberger in 1980 and the inventory aimed to measure participants' emotional status at the time of their final examination. Participants' were asked to indicate their anxiety level on a four-point scale from "not at all" to "very much so" before they took the examination. In addition, they were asked to identify their perceptions on test difficulty by such questions as "Compared to other subjects, this statistics exam will be difficult (before) / was difficult (after)" and "I think this exam will be a difficult one for me (before) / This exam was a difficult one for me (after)." By using the scores the participants obtained in the examination, it was revealed that the perceived test difficulty did not affect students' test performance as directly but worry aroused by the

difficulty perception affected their performance. The study reveals that there is a strong relationship between worrying before the test and perceived test difficulty during the examination. In addition, there is a strong relation found between students' perception of test difficulty before the examination and students' anxiety level. These findings suggest that participants who consider the test to be more difficult exhibit a higher level of anxiety than their peers who consider the test to be less difficult. In addition, worry and anxiety also has a significant direct effect on participants' test difficulty perception. Following the same line, similar findings are also obtained from different study. Salmon and McDonald (1970) studied 38 teaching interns on their self evaluation of their own teaching performance. Those who stated dissatisfaction with their teaching performance before evaluating their own teaching, tended to devalue their institute. Those who were high in satisfaction rated themselves higher in the Professional-Self concepts. Sixty-seven fourth graders were asked to identify their thoughts and feelings before engaging in a math task (Houston et al., 1984). Researchers find that the cognitive behavior, namely reassurance is significantly negative correlated with another one, performance denigration. This suggests that participants who focus more on the upcoming task could experience fewer derogatory thoughts about their performance.

#### **1.4 Treatment of Music Performance Anxiety**

Music performance anxiety is defined by Salmon (1990, p. 3) as “the experience of distressful apprehension about and/or actual impairment of performance skills, in a public context, to a degree unwarranted given the individual's musical aptitude, training, and level of preparation.” According to Osborne and Kenny (2005), there are three components of music performance

anxiety, namely somatic, cognitive, and behavioral. Music performance anxiety might not only affect one's performance outcomes but could cause various levels of psychological harm to musicians, especial younger ones. Unfortunately, the effect of music performance anxiety has not been able to draw enough public attention. As a result, young music students do not have sufficient sources and information about the anxiety from their parents or music teachers nor the proper ways to deal with the feelings (Ryan, 2004). Accordingly, the best advice that music teachers could offer is mainly on technical aspects of the performance and parents usually tend to suggest their children to use imagery and pretend as if they are playing at home. Apparently, the available treatment of music performance anxiety is not known to most of the people, even music educators.

Kenny (2005) has conducted an extensive review on the treatment for music performance anxiety for professional musicians. Accordingly, there are two major treatment modalities for music performance anxiety and they are psychological treatment and pharmacological treatment. The identified psychological treatment for music performance anxiety includes behavioral interventions, cognitive interventions, cognitive behavioral interventions, combined interventions, meditation, biofeedback, music therapy, Ericksonian resource retrieval, hypnotherapy, and the Alexander technique. Among these identified interventions, the cognitive-behavioral approach is considered to be the most effective intervention in coping with music performance anxiety (Kenny, 2005; Kenny, 2004; Kenny & Ackerman, 2007). Cognitive Behavioral Therapy (CBT) is an intervention that differs from the traditional talk therapy which combines educational and psychological aspects and requires practice to be familiar with the technique (Kenny & Ackerman, 2007). The approach is based on the theory that negative emotions are resulted from one's negative thinking

patterns and behaviors which need to be identified and altered.

When compared to various psychological interventions, a pharmacological solution is considered to be the more preferred treatment modality especially for those professional musicians who look for the quickest and easiest way to deal with their performance anxiety problems (Kenny, 2004). Among different drugs, beta blockers are the most popular medication used to treat music performance anxiety (Kenny, 2005). Fishbein et al. (1988) conducted a survey study on two thousand two hundred and twelve professional musicians who played in professional orchestras. It revealed that 27% of the respondents report to using beta blockers to deal with music performance anxiety and the occasion to use beta blockers included before auditions (72%), before solo recitals (52%), difficult orchestral performances (50%), and concerto performances (42%). In addition, about 4% of the respondents reported using beta blockers before every orchestral performance. Unfortunately, beta blockers are found only to be effective in treating the somatic complaints of the anxiety such as palpitations, hyperventilation, tremor, and sweating palms but have little effect in treating the cognitive and psychological problems such as negative self-talk and low self-esteem in music performance anxiety (Kenny, 2005).

### **1.5 Music Performance Anxiety and Cultural Differences**

All studies reviewed in the previous sections were conducted in Western countries. Would Chinese students experience music performance anxiety as the Western music students do? If so, would they experience the similar level of anxiety then their Western counterparts or the Chinese students would experience different levels of music performance anxiety? In order to address these questions, it would be helpful to examine the characteristics of different

cultures.

In general, Chinese students are regarded to perform better academically than students in the Western countries (Salili, 1996). As suggested in the existing literature, cultural differences in the concept of achievement and learning goals might make the difference. The Eastern culture is usually known as collectivist and the Western one is frequently identified as individualist (Helmke & Tuyet, 1999). Based on evidence from previous studies, it can be concluded that people from a collectivistic background usually shared the traditional value of Confucius believing that they have the responsibilities to maintain harmonious relations with others in the society (Chao, 1994). On the other hand, people from the West who are brought up with an individualistic background would pay more attention to themselves, concentrating on their own personal qualities and self-achievement (Brand, 2004).

Having been raised in different backgrounds, students hold different values regarding their achievement goals. Salili (1996) gives a comprehensive elaboration on how Chinese culture affects students' achievement goals. The achievement goal of Chinese students is under the influence of Confucian philosophy, which is socially formed and they hold a strong value of effort, hard work, and endurance. Since they take more personal responsibility for their success and failure, they are more likely to spend much more time on their study than their Western counterparts. In addition, coming from a highly social-oriented background, Chinese students have a different causal attribution for achievement belief than their Western peers who attribute their performance mainly to internal and controllable factors such as effort. Furthermore, Chinese teachers seldom used praise except for the extraordinary performance which indicates both a high level of ability and effort in contrast to the praise delivered

in the Western society which was given frequently but inconsistently. Biggs (1996) also pointed out the different teaching orientations between the East and the West in music and art. The former one concerns skills development and is performance-oriented while the later one emphasizes exploration and is process-oriented.

Other than the different value systems in education, students from the East and the West also have different emotional experiences in responding to the academic achievement and tests. According to Crystal et al. (1994), the American academic standard is lower when compared to the ones in many East Asian countries such as China, Hong Kong, and Japan. One of the reasons for this is students' perception of tests. Hong and Peng (2008) attempted to examine the effect of test value or utility value, as defined by its relation to their future life decisions and learning on students' performance. About eight hundred Chinese students from grade seven to grade eleven took part in the study. It was revealed that those who held a higher stronger test value regulated their motivation and meta-cognitive activities more. Therefore, the authors concluded that students' perception on test value did not have a direct effect on their performance but did indirectly through mediation of motivational regulation.

Given that students from a collectivistic society regard test as an important procedure in building their future, it is a sensible assumption that they could experience higher levels of test anxiety than students from different background. However, existing cross-cultural studies in the field do not support the hypothesis. For instance, Crystal et al. (1994) compared different psychological maladjustment symptoms such as stress, depression, anxiety, aggression, and somatic of high schools students from Taiwan, Japan, and the

United States. Findings revealed that American students reported more frequent feelings of stress than their Asian counterparts. In addition, students from the three countries reported experiencing similar levels of depressive mood. Furthermore, American students indicated having the highest level of anxiety about school and aggressive feelings. Nonetheless, Chinese students reported having more somatic complaints than their peers. Helmke & Tuyet (1999) also find that university students from Germany experienced a higher level of test anxiety than their Vietnam counterparts as indicated by using more compensated learning strategies. Ollendick et al. (1996) found that children from Nigeria experience the highest level of fear among Australian, Chinese, and American peers.



## Chapter 2

### Methodology

#### 2.1 Psychological Measures

There are a few psychological measurements used in the present study. One of them is the State-Trait Anxiety Inventory for Children (STAIC) which was first developed by Spielberger (1973) and then translated into Chinese by Li & Lopez (2004a,b). The inventory contains 20 questions in the A-State form and aims to measure situational anxiety by asking participants to indicate their feelings in a specific situation by statements such as “I feel very calm, calm, not calm”, “I feel very frightened, frightened, not frightened”, “I feel very sure, sure, not sure”. The A-Trait form also consists of 20 questions which measure one’s anxiety as a personal construct such as “I worry about making mistakes”, “I feel troubled”, “It is hard for me to asleep at night.” As stated in the STAIC manual, the measure has a satisfactory level of internal consistency (boys = 0.78, girls = 0.81), test-retest reliability, and test validity (Spielberger et al., 1973). The Chinese version of the State-Trait Anxiety Inventory for Children, or STAIC (Li & Lopez, 2004a, b) also displays adequate internal-consistency reliability, appropriate concurrent validity, and construct validity. The STAIC is adopted in the present study because it is a highly-valid and widely used instrument in the study of music performance anxiety (Kokotsaki & Davidson, 2003; Ryan, 2005). In addition, scores in state anxiety and trait anxiety could provide additional information to distinguish the nature of anxiety.

Although the State-Trait Anxiety inventory for Children is a highly valid instrument for measuring anxiety, it fails to provide further description about participants’ music performance anxiety levels. As a result, another set of psychological measurements is used to measure participants’ music

performance anxiety level. Participants of the present study were asked to identify their feelings immediately after they took the music proficiency test and from a list of twelve items that were adapted from the Music Performance Anxiety Inventory for Adolescents or MPAI-A (Osborne and Kenny, 2005). The inventory is originally designed for adolescents and composed with three components of MPA which include somatic, cognitive, and behavioral with fifteen items. However, only twelve items were included in the present study and they are “feeling funny in the stomach”, “nervous”, “heart beat very fast”, “tremble or shake”, “worry about ability to perform”, “sweaty hands”, “muscle tense”, “afraid of making mistakes”, “rather play in a group than on own”, “worry that parents or teacher might not like my performance”, “feel panic when making mistakes”, and “hard to concentrate on music”. These twelve are also considered as the major symptoms of MPA. From the validation study on the measurement MPAI-A (Osborne and Kenny, 2005), it is stated that the internal consistency rate of the measurement is about Cronbach alpha 0.91. In addition, a significant positive correlation is also obtained between MPAI-A and STAI by using Pearson correlation coefficients. Since the measurement is a highly-valid one and has good correlation with STAI, it is appropriate to include the measurement in the present study.

Another major psychological construct in the present study is self-esteem and it is measured by the Rosenberg’s (1965) Self-Esteem Scale (SES). The SES scale is originally designed for the use with adolescents but is also used with wider age ranges. The scale consists of ten statements on self perception such as “On the whole, I am satisfied with myself.”, “I feel I do not have much to be proud of”, “All in all, I am inclined to feel that I am a failure”. Participants were asked to indicate the best description by either circling the options strongly

agree, agree, disagree or strongly disagree. According to some existing reviews (University of Maryland, 2009), the measurement has a high reliability and the test-retest correlations ranged from 0.82 to 0.88. In addition, the Cronbach's alpha of the measurement ranged from 0.77 to 0.88. The measurement can portray the global self-esteem level of individuals perfectly but it does not serve the purpose to provide information on one's self-esteem in specific domains.

## **2.2 Music Performance Measurement**

Another major dependent measurement in the present study is students' music performance outcomes. Goolsby (1999) states that placement, summative, diagnostic, and formative assessments are the four types of assessment that are suitable for instrumental evaluation. Placement assessment is the use of auditions and challenges to determine a players' abilities so as to assign players to the proper positions and sections. Summative assessment takes form in concerts, festivals, recitals or any form or events that aim to demonstrate and evaluate the learning product of the groups publicly. Diagnostic assessment that focuses on learning problems and error detection is the most common tool of the assessment. Formative assessment emphasizes regular monitoring of the players in order to ensure their learning pace is proper and periodic evaluation is used. All these assessments take place in the learning process of music learning at one point or the other. For example, one needs to take the placement assessment in order to enter an ensemble and being placed in the proper position. After joining the ensemble, one will be evaluated by the diagnostic and formative assessment as to ensure one's learning progress. One will perform in a concert which is a form of

summative assessment. It is important to note that these assessments take place in a continuum format and they are cyclic. The placement and summative assessments are used often in band and orchestra in which diagnostic and formative assessments are daily practice for musical instruments teaching.

In order to make sure that all the players are playing up to certain levels as well as in the correct positions, placement assessment usually takes place in any orchestra or musical body at least once a year. This form of assessment judges individual students based on their abilities which were reflected in auditions and challenges. Upon the completion of the assessment, they would be positioned and assigned to proper places according to the conductors' judgments. As the present study is a quasi-experiment which took place in a real life situation, this common practice which is used to determine participants' performance levels will be the assessment method of participants' performance levels. In order to be able to compare individuals' performance level and to determine their performance quality, their positions as assigned by the conductor based on their performance in the musical proficiency assessment would be used as the measure performance outcomes which are categorized into "remain unchanged", "promoted", or "demoted". Even though it would be ideal and extremely useful to have numeric scale scores at time 1 to compare with time 2, this data was just not available. In addition, the judge is independent from the research design and the method of scoring had to be taken from the existing protocols in a practical way. Although there are existing studies that aimed to examine the effects of music performance anxiety on the players' performance quality such as final examinations and public performances, none of the results has directive effects such as affecting their placements in musical bodies.

Owing to the fact that the present study was conducted in a real life situation and there is no existing data collection methods that could be replicated from previous studies, the innovative way of using “remain unchanged”, “promoted”, or “demoted” as the measure of the quality of their performance is used in the present study. Other than obtaining the absolute scores of the participants’ playing, the comparison of one’s previous performance should be an acceptable way to assess one’s musical proficiency which is also a common practice in orchestras.

### **2.3 Research Questions**

#### Research Question 1:

#### Does music performance anxiety have an early onset in young children?

Music performance anxiety has been a commonly found problem which affects not only professional musicians but also young music students. Previous studies suggest that MPA has an early onset which begins in childhood (Kenny, 2006; Hembree, 1988). However, the majority of the studies place great attention on professional musicians and little consideration has been given to the problem of music performance anxiety in children (Ryan 2004; Ryan, 2005; Kenny et al., 2004). Research question 1 intended to investigate whether there was support for the claim that music performance anxiety has an early onset in young children. Participants were recruited from a local youth orchestra and were as young as seven years old, which is believed to be the age that children first develop the global self-evaluation (Bee, 2000). Participants filled out the state anxiety form of the State-Trait Anxiety Inventory for Children which aimed to measure the participants’ state anxiety level soon after they finished the music proficiency assessment. After completing the state anxiety form, they were

asked to provide personal data such as gender, age, instrument assessed, year of learning and personal feeling toward the assessment. In order to gain better understanding about the participants' feelings during or after the performance, twelve adjectives or phrases were provided on the researcher-designed questionnaire for the participants to circle. The items were adapted from the Music Performance Anxiety Inventory for Adolescents or MPAI-A (Osborne and Kenny, 2005) which was originally designed for adolescents. Validation has been done to test the instrument by Osborne and Kenny (2005) and high level of internal consistency with the Cronbach alpha 0.91 was recorded. The inventory composed with three components of MPA which were somatic, cognitive, and behavioral. The twelve items included feeling funny in the stomach, nervous, heart beat very fast, tremble or shake, worry about ability to perform, sweaty hands, muscle tense, afraid of making mistakes, rather play in a group than on own, worry that parents or teacher might not like my performance, feel panic when making mistakes, and hard to concentrate on music. These twelve were also considered as the major symptoms of music performance anxiety. According to existing literature, young children did experience music performance anxiety and it was hypothesized that young participants in the present study would experience music performance anxiety as indicated by circling the same number of adjectives from the list as participants in older age groups.

#### Research Question 2:

##### To what extent is music performance anxiety related to self-esteem?

Self-esteem has been regarded as an essential factor that contributed to a high level of performance anxiety (Sinden, 1999; Hong, 2002) and evidence

consistently suggests that music performance anxiety is negatively related to self-esteem (Ryan, 2004, 2005). Research question 2 examined to what extent music performance anxiety was associated with self-esteem. Participants were asked to fill out another set of state and trait scale of the State-Trait Anxiety Inventory for Children in addition to the Self-Esteem Scale a month later. The scores obtained from the anxiety scale were used for comparison of participants' anxiety levels under different situations. Based on existing studies, it was anticipated that participants with higher anxiety levels would score lower in self-esteem. In addition, it was assumed both participants' state and trait anxiety levels would be negatively correlated with self-esteem.

### Research Question 3:

#### Does music performance anxiety affect participants' performance outcomes?

With evidence from a number of studies (Sarason and Mandler, 1952; Sarason, 1984; Zatz & Chassin, 1985; Stevenson & Odom's, 1965; Kenny, 2004), it is concluded that music performance anxiety is negatively associated with the quality of performance which implies that performance anxiety could damage one's performance outcomes. Participants in the present study were believed to be in an extremely stressful situation, having to perform alone in a public area in a testing situation. Research question 3 was aimed to test whether there was support for the claim that performance outcomes were to be affected by one's state anxiety levels. It was predicted that participants with higher state anxiety levels would perform poorer than those who had lower anxiety levels. In other words, there would be a *negative* correlation between anxiety levels and performance.

The present study tested the stated questions in the Hong Kong context. Although numerous study revealed that Hong Kong Chinese students possess lower self-esteem than their counterparts who are American (Lai et al., 2001), British, and British Chinese (Chan, 2000), the researcher believed that Hong Kong is a well-developed city and children are raised in the Westernized style as children in the Western countries. Therefore, it is predicted that results obtained from the second research question would be similar to those obtained from other studies conducted in the Western countries. From existing cross-cultural literature, it is suggested that Chinese culture has placed high value on academic achievement and almost every Chinese student dreams of being excellent in all form of performances. Therefore, it is not surprising to learn that Hong Kong Chinese music students could have experienced higher anxiety level than their American counterparts (Brand & Beebe, 2003). However, scholars such as Biggs (1996) and Salili (1996) comment that Chinese students are nurtured in a collectivistic society with intrinsic learning motivation and that only comparing them with their Western peers would be too superficial. Taking cultural difference into consideration, especially the value that Chinese hold about not being outclassed in any performance, it is expected that participants in the present study would have experienced greater anxiety level and higher anxiety levels which would hamper their performance outcomes, as tested in research question 3.



## **2.4 Research Method**

### Participants

One hundred and seventy-four (N=174) Chinese participants aged from 7 to 18 of a local youth orchestra in Hong Kong participated in the present study. The orchestra is a private organization which provides music education opportunities for those who are interested in during their off-school hours. Therefore, members from the orchestra come from different primary and secondary schools all over Hong Kong. In addition, members come from different social classes with diverse family and educational backgrounds.

The orchestra is composed of four major groups, the beginners (BP), junior orchestra (JO), intermediate orchestra (IO), and senior orchestra (SO). However, only members from the first three groups were invited to participate in the present study since members from SO were not required to take an assessment. Repertoires of the orchestra ranged from Baroque period to popular music in accordance with the conductors' selection. Rehearsals were held weekly and chances to perform publicly were offered on a regular basis.

### Procedure

The study took place between March to June 2007 which required two visits to each of the following groups, beginners (BP), junior orchestra (JO), and intermediate orchestra (IO). Before the study began, approval was granted from the School of Education Ethics Committee of Durham University. Written consent which stated the purpose of the study was obtained from the parents a month before data collection began. Confidentiality of the study was assured. Participants were also informed about the nature of the study on the experimental day.

Participants were asked to fill out two sets of questionnaires after they took the bi-annual music proficiency assessment. The main goal of the assessment was to provide better understanding for the conductors about each player's music proficiency level. The assessment was considered to be a highly stressful condition because it was not only the official test in the orchestra, it also was a benchmark of the participants to be promoted to higher level of desks and used to screen for musical skills competency. Furthermore, each player was asked to play a solo part within the presence of their peers, contrary to playing as a group with peers and it could be a highly stressful condition. The music proficiency assessment took place during a regular rehearsal session and some groups required two sessions to finish the assessment depending on the number of participants.

Assessment content was drawn from current learning materials. In order to give enough time for the members to prepare for the assessment, conductors of the groups announced it about two weeks before the assessment. A double-blinded test was adopted in order to have a fair-based assessment. The conductors were placed behind a screen which aimed to separate them from the players. Each participant was asked to draw a number at the beginning of the assessment session from a supporting staff. They were asked to remain silent during the entire assessment process. After they were called, they had to play a passage or two as assigned by the conductors. If they needed to ask questions regarding the assessment, they had to tell the supporting staff rather than speaking directly to the conductors. The conductors then listened to their playing and rated their performances. The result would be used to determine if the participants would be promoted to another desk, current position unchanged, or desk rearrangement.

Since Chinese was the primary language using in Hong Kong, the Chinese version of both measurements were employed in the present study. However, English version of both tests was also available for those participants who used English as their first language.

### Phase 1

After completing the bi-year music proficiency assessment, participants were asked to rate their anxiety level on the state form of STAIC. The inventory contained 20 questions in the A-State form which aimed to measure situational anxiety and asked children to indicate how they felt in a specific situation such as “I feel very calm, calm, not clam”, “I feel very frightened, frightened, not frightened”, “I feel very sure, sure, not sure”. There were also 20 questions in the A-Trait form which measured anxiety as a personal construct such as “I worry about making mistakes”, “I feel troubled”, and “It is hard for me to sleep at night”. Participants were only required to fill out the A-State form in this phase.

In addition, the participants were asked to complete a researcher-designed questionnaire (see Figure 1 below). Questions number one to seven of the questionnaire were employed to collect the demographic data such as name, age, gender, and also the participants’ music training background such as the instrument that they played, years of learning, and their experiences in taking a similar assessment.

As pointed out by Hopko et al. (2005), anxious participants usually experienced negative cognition such as fear of negative evaluation before or during the test. To assess these experiences, participants were asked a series of questions related to their feelings before and during the assessment from question numbers eight to ten. They were also asked to give reasons for their answers. According to Rothlisberger (1992) (cited in Ryan, 2004), individuals

who were expected to perform better were higher in anxiety levels. Therefore, in question number twelve, participants were asked to rate their performances, as better, worse, or the same relative to their daily practice.

In order to gain better understanding about the participants' feelings during and after the performance, twelve adjectives or phrases were provided on the researcher-designed questionnaire for the participants to circle in question number fourteen. The items were adapted from the Music Performance Anxiety Inventory for Adolescents or MPAI-A (Osborne and Kenny, 2005) which were originally designed for adolescents. Three components of MPA, namely somatic, cognitive, and behavioral, were included. The twelve items included feeling funny in the stomach, nervous, heart beat very fast, tremble or shake, worry about ability to perform, sweaty hands, muscle tense, afraid of making mistakes, rather play in a group than on own, worry that parents or teacher might not like my performance, feel panic when making mistakes, and hard to concentrate on music. These twelve were also considered as the major symptoms of music performance anxiety. As suggested by Fehm and Schmidt (2004), coping with music performance anxiety is crucial for musicians' career. However, the existence of the anxiety was frequently ignored or under-estimated. Question number fifteen regarding participants' coping method, whether to neglect it, to tell music teacher, to tell parents, talking to self, taking deep breath, or using other specific coping methods was asked, which helped to suggest if any necessary music education policy was needed.

### Figure 1: Questionnaire

Please help to fill out this questionnaire and return to the researcher upon completion, thank you very much!

1. Name:	
2. Age:	
3. Birthday:	
4. Member of:	
5. Year(s) of enrollment:	
6. Instrument:	_____ Years of Learning: _____
7. Have you ever taken any instrument proficiency assessment like this before?	Yes / No
8. How did you feel before the assessment?	
9. Why?	
10. How did you feel during the assessment?	
11. Why?	
12. What do you think your performance in this assessment in comparing to your daily play? (please circle the answer)	Same / Better / Worse
13. Why?	
14. Have experienced such conditions before or during the performance: (please circle all the possible adjectives)	Feels funny in the stomach / nervous / heart beats very fast / tremble or shake / worry about ability to perform / sweaty hands / muscle tense / afraid of making mistakes / rather to play in a group than on own / worry that parents or teacher might not like my performance / feel panic when making mistakes / hard to concentrate on music Others: _____
15. If you have ever had such experience, how did you deal with that? (can choose more than one)	<ul style="list-style-type: none"> <li>i. tell your music teacher</li> <li>ii. tell your parents</li> <li>iii. try to work out by self (please specify) _____</li> <li>iv. others (please specify)</li> </ul>

## Phase 2

The researcher visited the groups again during their regular rehearsal one month after their assessment. Participants were asked to fill out A-State and A-Trait forms of the State-Trait Anxiety Inventory for Children as a baseline comparison. In addition, they were also asked to complete the Self-Esteem Scale by Rosenberg (1965). The Self-Esteem Scale was originally designed for the use with adolescents but has also been used with wider age ranges. It consisted of 10 statements on self perception such as “On the whole, I am satisfied with myself.”, “I feel I do not have much to be proud of”, “All in all, I am inclined to feel that I am a failure”. Participants were asked to indicate the best description by either circling the options strongly agree, agree, disagree or strongly disagree.

**Table 1: Procedures of the Study**

<b>Phases</b>	<b>Procedures</b>	<b>Instruments</b>
1. Pre-experiment (one month prior the experiment)	a. Approval from the School of Education Ethics Committee of Durham University. b. Written consent obtained from the parents.	a. Application letter b. Consent form
2. Experiment Day	a. Participants took the music proficiency assessment. b. Participants reported their emotional states as well as to provide personal information.	a. Conductors' ratings b. STAIC A-State form (PreSAS), researcher-designed questionnaire
3. Post-experiment (one month after the experiment in a regular rehearsal)	a. Participants reported their emotional states and self-esteem level.	a. STAIC A-State form & A-Trait form (PostSAS), Self-Esteem Scale (SES)

## Chapter 3

### Results

There were two main psychometric measures used in the analysis. The global construct of music performance anxiety was measured by the State-Trait Anxiety Inventory for Children (STAIC). The A-State form was administered twice, once during a regular rehearsal time and once immediately after participants taken the music proficiency assessment. The A-Trait form only administered once during a regular rehearsal time. Taking the A-Trait test once and A-State test several times has been found as a common practice in many other anxiety related study such as Kokotsaki & Davidson (2003) and Ryan (2005). As the State-Trait Anxiety Inventory for Children was administered twice in the present study and consisted of measuring participants' state and trait anxiety levels, it will be referred to as "Pre-test state anxiety scores (PreSAS)" and "Post-test state anxiety scores (PostSAS)" and the STAIC A-Trait will simply be referred to as "Trait anxiety scores (TAS)" in the results section. The pre-test anxiety scores were obtained during a regular rehearsal day and were used as the baseline of the participants' anxiety levels. The pre-test state anxiety would be used to compare to the post-test state anxiety scores which were attained immediately after the participants took the music proficiency test. Another psychometric measure used in the present study was the 10-item Self-Esteem Scale which was employed to measure participants' global self-esteem level. This instrument will be referred to as SES in this results section. The results were presented in terms of the associated research questions.

One hundred and seventy-three participants completed the (PreSAS and PostSAS) state form of the anxiety scale. They were aged from 7 to 18 (mean

= 11.4, S.D = 2.06). 60.9% (n = 106) of the participants were male and 39.1% (n = 68) were female. The mean of the learning years of musical instrument was 4.2 (S.D. = 1.93). Participants also completed the researcher-designed questionnaire (see figure 1) immediately after they took the music proficiency assessment. Approximately, 80% (n = 139) of the participants had experience of taking a similar test.

Table 2 gives information of the number of participant who had previous experience taking a similar assessment to the one used in this study. The data shows that about 82% of the male (n=86) and about 78% of the female (n=53) had experience taking similar assessments.

**Table 2: Number of participants with and without the experience of taking similar assessments to the assessment used in the current study; broken down by gender.**

	male	female	Total
<b>With experience</b>	86	53	139
<b>Without experience</b>	19	15	34
<b>Total</b>	105	68	173

***Research question 1: Is there a relationship between Music Performance Anxiety (MPA) and Age?***

Research question 1 investigated whether there was support for the claim that MPA has an early onset in young children. All four measures of music performance anxiety (the pre-test anxiety scores, post-test anxiety scores, trait anxiety scores, and number of symptoms) were used here for initial analysis. The measure “numbers of symptoms” consisted of twelve adjectives or phrases which were adapted from the Music Performance Anxiety Inventory for



Adolescents or MPAAI-A (Osborne and Kenny, 2005). The inventory was originally designed for adolescents in order to measure the three components of MPA and they were somatic, cognitive, and behavioral. The twelve items included feeling funny in the stomach, nervous, heart beat very fast, tremble or shake, worry about ability to perform, sweaty hands, muscle tense, afraid of making mistakes, rather play in a group than on own, worry that parents or teacher might not like my performance, feel panic when making mistakes, and hard to concentrate on music. These twelve were also considered as the major symptoms of MPA. A Pearson correlation test was conducted to gain a basic understanding of the relationship between participants' ages and the measures of anxiety. Results are shown below in Table 3.

**Table 3: Correlations of age and four measures of anxiety**

	<b>Correlation Coefficients</b>
<b>Trait Anxiety Scores</b>	0.06
<b>Pre-Test Anxiety Scores</b>	0.19*
<b>Post-Test Anxiety Scores</b>	-0.01
<b>Numbers of Symptoms</b>	0.16*

\*correlation is significant at the 0.05 level (2-tailed)

Results from the Pearson's Correlation analysis confirmed that age was significantly related to pre-test anxiety ( $n = 153$ ,  $r = 0.19$ ,  $p < 0.02$ , two-tailed) and numbers of symptoms ( $n = 174$ ,  $r = 0.19$ ,  $p < 0.04$ , two-tailed) but not the trait anxiety or the post-test anxiety.

In order to gain a better understanding about how music performance anxiety affected participants of different ages, participants were split into two age groups for further analysis. Age Group 1 consisted of participants aged 7-10,

Age Group 2 were participants aged 11 and above. An Independent-Sample T-Test was conducted to examine if there were any differences between the groups' means across four measures of anxiety. Findings of the analysis are shown below in Table 4.

**Table 4: Mean scores for the 20-item STAIC A-Trait, A-State (pre- and post-test) and average numbers of symptoms of two different age groups of participants and the results from the t-test in terms of significance.**

	<b>Age Group 1 (7-10)</b>	<b>Age Group 2 (11-18)</b>
<b>Trait Anxiety Scores</b>	32.59 (n=58)	32.99 (n=96)
<b>Pre-Test Anxiety Scores</b>	27.7 (n=58)	29.49 (n=95)
<b>Post-Test Anxiety Scores</b>	36.85 (n=62)	37.57 (110)
<b>Numbers of Symptoms</b>	3.06 (n=63)	3.62 (n=111)

An independent samples t-test confirmed that there were no significant differences found in means for any of the four measures between participants in the younger age group and participants in the older age group as indicated in Table 4. In the trait anxiety measure, there was no significant difference found in the 0.05 level:  $t(152)=-0.35$ ;  $p=0.73$  between those who were younger ( $M=32.59$ ;  $SD=6.38$ ) and those who were older ( $M=32.99$ ;  $SD=7.16$ ). In the pre-test anxiety measure, there was no significant difference found in the 0.05 level:  $t(151)=-1.78$ ;  $p=0.08$  between those who were younger ( $M=27.7$ ;  $SD=6.11$ ) and those who were older ( $M=29.49$ ;  $SD=6.06$ ). In the post-test anxiety measure, there was no significant difference found in the 0.05 level:  $t(170)=-0.53$ ;  $p=0.59$  between those who were younger ( $M=36.85$ ;  $SD=7.92$ ) and those who were older ( $M=37.57$ ;  $SD=8.75$ ). In the numbers of symptoms measure, there was also no significant difference found in the 0.05 level:  $t(172)=-1.43$ ;  $p=0.15$  between those who were younger ( $M=3.06$ ;  $SD=2.03$ ) and those who were older

(M=3.62; SD=2.69).

To summarize, the initial findings revealed that the measures of pre-test anxiety level and numbers of symptoms were related with age (Table 3) but there was no significant difference between the measures of anxiety and age groups (Table 4). In other words, participants of all ages experienced similar level of music performance anxiety and there was no relationship between participants' music performance anxiety and their ages.

**Research question 2: Relationship of self-esteem and MPA**

Research question 2 examined to what extent music performance anxiety was associated with self-esteem i.e. the lower the anxiety, the higher the self-esteem. A Pearson Correlation analysis was performed by using the Trait Anxiety Score, Pre-SAS, Post-SAS, and number of symptoms as the independent variables and SES as the factor. Results of the analysis are shown in Table 5.

Table 5: Correlation coefficients of the STAIC A-Trait scores, STATC A-State (pre- and post-test) scores, and SES scores

**Table 5: Summary of the Correlation coefficients of the STAIC A-Trait, STAIC A-State (pre- and post-test), and SES**

	<b>A-Trait</b>	<b>Pre-SAS</b>	<b>Post-SAS</b>	<b>SES</b>	<b>Symptoms</b>
<b>SES</b>	-0.45**	-0.40**	-0.31**	1	-0.15
<b>A-Trait</b>	1	0.49**	0.30**	-0.45**	0.31**
<b>Pre-SAS</b>	0.49**	1	0.30**	-0.4**	0.07
<b>Post-SAS</b>	0.30**	0.30**	1	-0.31**	0.28**
<b>Symptoms</b>	0.31**	0.07	0.28**	-0.15	1

\*\*correlation is significant at the 0.01 level (2-tailed)

Data in Table 5 revealed that as hypothesized, self-esteem was negatively correlated to all the anxiety measures at significant levels ( $p < 0.00$ , two-tailed) but numbers of symptoms. Since the initial findings suggested that there might be a strong relationship between self-esteem and music performance anxiety, a linear regression was performed to identify which variables were the best predictors on SES. In this model, several variables were included. They were participants' gender, age, STAIC A-Trait score, STAIC A-State pre- and post scores, and their years of learning the musical instruments. The variables were tested as to determine which variable(s) might best predict self-esteem. Using the forward method, a significant model emerged ( $F_{3,147} = 17.38, p < 0.0005$ ). Adjusted R square = 0.247. Significant variables are shown in Table 6 below:

**Table 6: Predictors of Self-Esteem**

<b>Predictor Variable</b>	<b>Beta</b>	<b><i>p</i></b>
<b>Trait Anxiety Score</b>	-0.34	$P < 0.00$
<b>Gender</b>	-0.18	$P = 0.02$
<b>PreSAS</b>	-0.22	$P = 0.02$

Regression analysis shows that participants' trait anxiety is the most significant predictor of their self-esteem levels while gender and PreSAS are other significant predictors. An independent-samples t-test was conducted to compare the self-esteem scores for males and females. There was a significant difference in the scores for males [ $M = 29.19, SD = 4.26$ ], and females [ $M = 27.15, SD = 5.95; t(152) = 2.48, p = 0.01$  (2-tailed)]. Other tested variables including age, PostSAS, and years of learning the musical instruments were found not to be significantly different in this model in predicting participants'

self-esteem levels.

**Research question 3: Relationship between achievement and MPA**

Research question 3 explored if music performance anxiety (MPA) was related to performance outcomes. Again, STAIC A-State post-test scores of participants were used as the measure of MPA. Performance outcomes were measured by their position in their sections that was whether participants were promoted to higher positions; position remained unchanged, or rearranged to lower positions (demoted). There were 36.6% (n=59) of the participants promoted to higher posts after the assessment, 41.6% (n=67) of the participants remained unchanged position, and 20.1% (n=35) of the participants were rearranged to lower posts.

A One-way ANOVA was performed to investigate whether there were any differences between participants' performance outcome groups (i.e. promoted, unchanged or demoted) for each of the anxiety levels (as measured by the trait anxiety scores, pre-test anxiety scores, post-test anxiety scores, and the numbers of symptoms). Mean scores were listed in Table 7 below and standard deviations were in parentheses.

**Table 7: Mean Scores and Standard Deviations of the Trait Anxiety, Pre-Test Anxiety, Post-Test Anxiety, and Numbers of Symptoms with Participants' Actual Performance**

Actual Performance / Measures of Anxiety	Trait Anxiety	PreSAS	Post-SAS	Numbers of Symptoms
Up (n=) state number of p's	32.39 (6.83)	27.73 (5.02)	36.52 (7.76)	3.64 (2.33)
Unchanged	33.22 (7.33)	29.5 (6.88)	38.68 (8.68)	3.18 (2.38)
Down	32.9 (5.96)	29.48 (6.24)	36.86 (9.72)	3.57 (2.72)

Table 7 shows that there were no differences in the mean scores of all anxiety measures. The analysis of a one-way ANOVA was performed for each dependent measure with post-hoc comparisons using the least-significant-differences (LSD) test and the results confirmed that there were no significant differences found between the performance outcomes and all four measures of anxiety. Contrary to the hypothesis for the research question, findings suggest that participants' performance did not seem to make a difference on anxiety scores. They were just as anxious when their performance was better as well as when they performed worse than previously.

Another analysis that was able to be computed was an assessment of the relationship between how participants performed and how they felt they had performed. In the study, participants were asked to evaluate their performance, whether it was better than usual, the same, or worse than usual immediately after they took the music proficiency assessment. There were 30.5% (n=53) of the participants rated their performance same as usual, 23% (n=40) of them considered their playing better than usual, and 46.6% (n=81) marked their performance worse than usual. Table 8 provides more information on participants' self-evaluated results by relating this to their actual performance.

**Table 8: Cross-tabulation of numbers of participants' self-evaluated performance outcomes and their actual performance outcomes of the music proficiency assessment**

Self-evaluated Performance Outcomes	Actual Performance Outcomes		
	Up	Same	Down
Same	19	19	10
Better	16	12	9
Worse	24	36	16

Table 8 revealed that 31.6% (n=24) of the participants who thought they had performed poorly actually performed better in the assessment. In addition, about 47.8% (n=36) considered their playing worse but resulted in being fair and they maintained their same position. As the matter of fact, there were only 21% (n=16) of the participants who evaluated their playing worse than usual and who were graded as less desirable and their position was moved down. By looking at their self-evaluated performance, about 80% of the participants were pessimistic about their performance and underestimated their abilities to achieve the assessment.

In order to examine whether there were differences between MPA and performance, a one-way ANOVA test was conducted by using the Trait Anxiety Score, Pre-SAS, Post-SAS, SES, and number of symptoms as the dependent variables and participants' expectation on their performance as the factor. Results of the analysis are shown in Table 9.

**Table 9: Means of the Post-SAS of participants on their performance expectations. Standard deviations are in parentheses.**

	STAIC A-Trait	Pre-SAS	Post-SAS	SES	No. of Symptoms
<b>Expected Better</b>	32.11 (6.84)	28.38 (5.53)	31.73 (7.87)	28.70 (4.56)	2.68 (1.93)
<b>Expected Same</b>	31.32 (6.89)	27.97 (5.73)	35.37 (6.56)	28.60 (5.19)	3.19 (2.36)
<b>Expected Worse</b>	34.24 (6.67)	29.62 (6.64)	41.38 (7.81)	28.10 (5.07)	3.94 (2.70)

Analysis revealed that there was a significant difference found between the PostSAS and the self-evaluated performance ( $F(2,169)= 24.81, p<0.00$ ). Post-hoc comparisons using the least Significant Differences (LSD) test revealed that mean anxiety scores were significantly lower for those who

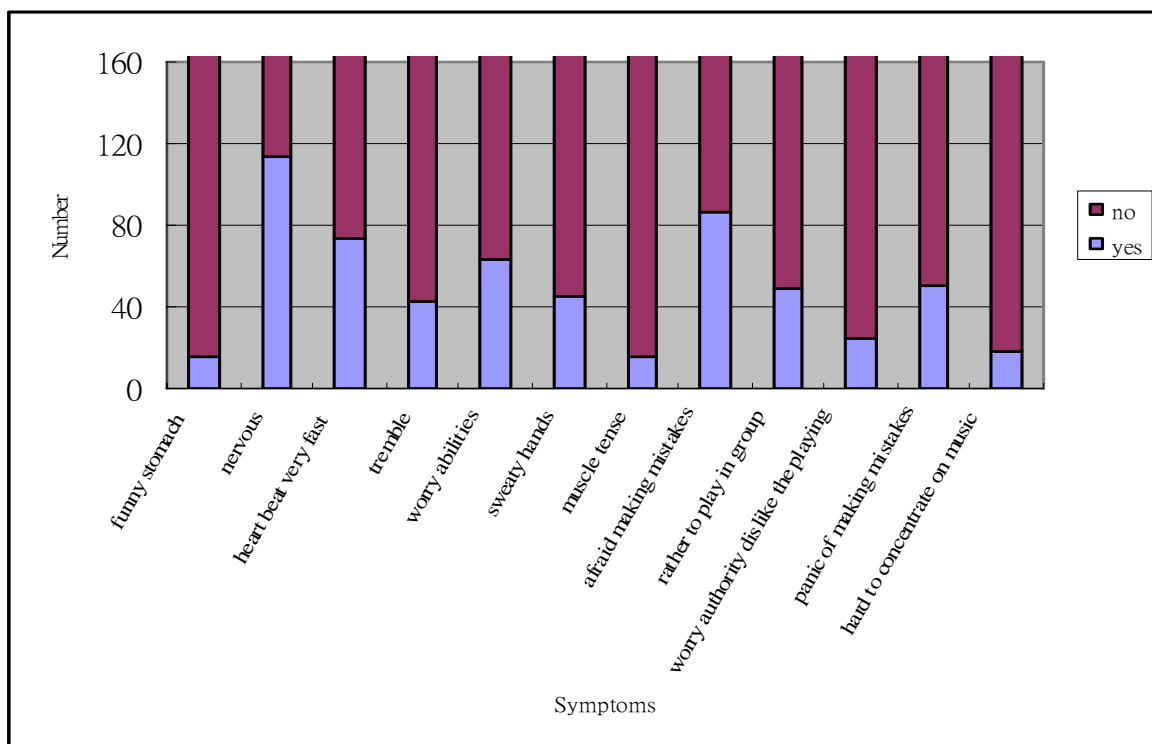
expected to perform better when compared to those who expected to do the same ( $p < 0.00$ ) and those who expected to do worse ( $p < 0.00$ ). There was also a significant difference between those who expected to do the same and those who expected to do worse ( $p < 0.02$ ). The key conclusion here was that the more confident the participants were of their performance, the lower their anxiety levels. Significant difference was also found in the number of symptoms and participants' self-evaluated performance ( $F(2,171) = 3.93, p < 0.02$ ). Findings suggest that one's bodily, emotionally, and cognitively reactions to music performance anxiety could have affected one's perception of his or her anticipation of performance outcomes. Although it was assumed that self-esteem and trait anxiety levels could have affected one's anticipated performance outcomes, findings show that STAIC Trait, PreSAS, and SES have no significant effects on one's anticipated performance outcomes.

### **Other analyses**

Participants were asked to identify their feelings during the assessment. Figure 2 provided detailed information on the frequencies of participants' experiences in the measure of numbers of symptoms. It was revealed that nervous was the most frequently experienced symptom ( $n = 114, 65.5\%$ ). Afraid of making mistakes ( $n = 86, 49.4\%$ ) and felt heart beat very fast during or after the performance ( $n = 74, 42.5\%$ ) were also the most frequent experienced symptoms among the twelve symptoms of music performance anxiety.



**Figure 2: Frequencies of music performance anxiety symptoms experienced by participants**

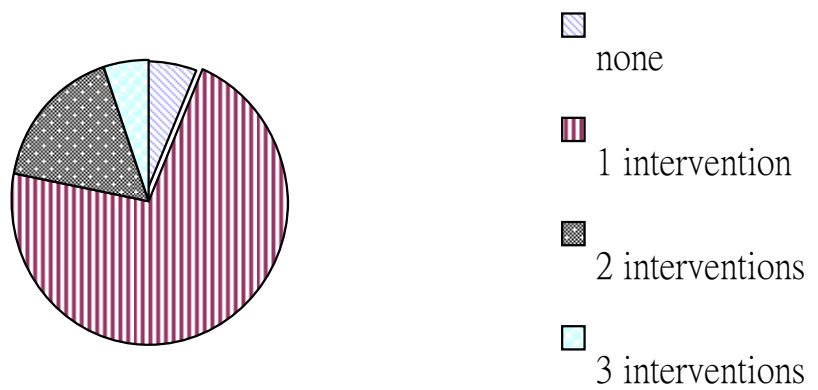


In addition, participants were asked to identify the way(s) that they dealt with MPA which included 1. telling their teachers; 2. telling their parents; 3. working out by self with deep breath; 4. working out by self with distracting oneself; 5. working out by self by ignoring the anxiety; and 6. working out by self by talking to oneself. It was found that only 20.7% (n=36) told their teachers and 40.8% (n=71) of the participants told their parents about the anxiety attack. Among the four self-help strategies, self-talk was the most frequently used strategy which 21.3% (n=37) of the participants used. About 15% (n=26) of the participants took deep breaths and tried to distract themselves when the anxiety occurred while 8% (n=14) chose to neglect the anxiety.

It was also revealed that about 6% (n=11) did not use any intervention when the anxiety attacked, about 72% (n=125) employed one intervention, 17% (n=29) used two interventions, and only 5% (n=9) used three interventions to cope with

their anxiety. The numbers of interventions used by the participants when PMA attacked was shown in Figure 3.

**Figure 3: Number(s) of interventions children used to handle MPA**



## Chapter 4

### Discussion

#### 4.1 Music Performance Anxiety and Age

The present study is intended to investigate three questions. The first question is to examine if MPA has an early onset in young children. If so, this would indicate that not only professional musicians but also music students of young ages are also being affected by music performance anxiety. To begin with, a correlation analysis was conducted and it found that significant correlation is found between age, PreSAS, and numbers of symptoms as evidenced in Table 3. In order to determine if there are any differences found in different age groups, participants are divided into two groups (age 7 to 10 and 11 to 18). As indicated in Table 4, results indicate that participants from all ages experience similar levels of MPA with no significant differences. However, the younger participants in general have lower anxiety levels, whether levels were taken in a regular rehearsal day or immediately taken after the music proficiency test when compared to their older counterparts. This finding suggests that children as young as the age of seven could experience music performance anxiety and children's anxiety levels might advance as they grow older. Findings obtained in the current study are supported by existing literature in relation to anxiety disorders in children (Kashani et al., 1989; Bernstein et al., 1996; Dadds et al., 1997). For instance, Bernstein et al. (1996) review a number of epidemiological researches on anxiety disorders in children and adolescent during the period of 1986 to 1996. The review shows that there is a high prevalence of anxiety disorders in children who are not referred to receive any diagnosis or treatment. In addition, anxiety is found as early as in the first

grade which could be a significant predictor of anxiety in their later years. In their study with 210 children aged from 8 to 17, Kashani et al. (1989) find that anxiety is the most frequently reported psychopathology.

The STAIC A-State form is employed in the present study as an indicator of anxiety. Since anxiety could be expressed in different forms such as cognitive, affective, and somatic, the number of MPA symptoms participants experienced was also used as another indicator of anxiety. It is revealed in the present study that the younger group experienced fewer symptoms than their older counterparts did. Nonetheless, participants from all age groups reported having different numbers and forms of symptoms. Sarason (1984) suggests that performance anxiety manifests itself at four levels including emotional, physiological, behavioral, and cognition. Therefore, findings obtained in the present are supported by existing literature.

In addition, the present study reveals that in the emotional construct, nervous is the most frequently reported experience of anxiety with the number at 65.5% (n=114) as shown in Figure 2. This finding contradicts the one found in other works (Parker et al., 2001; Crystal et al., 1994) which suggest that Chinese are more frequent to report somatic symptoms. Parker et al. (2001) explain that the reason could be related to the Chinese emotional language which is hooked up with metaphors and physical symbolization. In addition, it is found in the present study that the cognitive construct (afraid of making mistakes) and physiological construct (heart beating very fast) are some other frequent experiences of anxiety at the numbers of 49.4% (n = 86) and 42.5% (n = 74) respectively. In sum, the numbers of symptoms are positively correlated with ages suggesting that the older the children, the greater number of symptoms they experience. This finding is consistent with Ryan's (2005) which supports

the claim that MPA has an early onset in young children.

A possible explanation to the phenomenon of why older children seem to have greater number of anxiety is due to their cognitive levels. Langendörfer et al. (2006) suggest that as the children grow older, they experience more performance anxiety. It is important to note that younger children who report no experiences in anxiety might not be a valid observation as they are just simply not mature enough to identify or name any anxiety related feelings as the older ones do. In fact, Chan and Lee (1993) find that the psychological symptoms are stronger in junior students than senior students. Ollendick et al. (1996) also reveal that Chinese children aged 11 to 13 experience higher levels of fear when compared to their younger (aged 7 to 10) and older (aged 14 to 17) counterparts.

In addition to the early onset of music performance anxiety, it was hypothesized that children from Hong Kong would experience a similar anxiety level to children in Western countries. Since there are limited numbers of existing studies examining MPA in children, it is difficult to make comparisons. The only available study of MPA in children of Ryan's (2005) reveals that the STAIC A-State mean scores in children aged from nine to thirteen were 29.48 during regular school day and 31.28 on the day of school concert. The STAIC A-State mean scores recorded in the present study for the children aged from seven to fourteen are 28.52 during a regular day and 37.12 right after the music proficiency assessment. In comparing the scores in the two studies, it is not difficult to tell that children in Hong Kong have a lower anxiety level baseline than the children in Ryan's (2005) study. There is a 19% difference of the STAIC A-State post-test scores in the children from Hong Kong and children from Ryan's (2005) study. One of the reasons might be due to the time the measures were administered. The measure taken in the present study is right

after an assessment while the test taken in Ryan's (2005) is on a school concert day which is considered to be a less stressful moment. According to Beck et al. (2005), anxiety is an emotional response to the appraisal of a threatening stimulus. Therefore, the closer to the exposure of the threatening stimulus, namely music performance in the present and Ryan's study, the higher anxiety level one experiences.

#### **4.2 Music Performance Anxiety and Self-Esteem**

Existing literature suggests strongly that there is a negative relationship between MPA and self-esteem and the second research question of the present study is to test to what extent is MPA related to self-esteem. If there is a relationship between the two factors, this would suggest that individuals who have lower self-esteem would experience higher level of music performance anxiety and vice versa. Findings from the present study suggest that self-esteem is significantly correlated to PreSAS, PostSAS, trait anxiety scores which suggest that high levels of anxiety might be associated with a low level of self-esteem, as seen in Table 5. These results could be regarded as significant when compared to the findings obtained in other similar study such as  $r^2=-0.20$  in Lundgren & Schwab's (1977) and  $r^2=-0.19$  in El-Anzi's (2005). Findings from the present study support the claim that MPA is negatively correlated to self-esteem which is consistent with previous studies (Ryan, 2005; Sinden, 1999; Godbey, 1997; Hong, 2002; Anzi, 2005).

Beck et al. (2005) propose that a specific situation poses a threat to an individual if one's self-esteem is tied up with his or her performance. The present study revealed that regardless of the forms of anxiety, trait or state, it is significantly and negatively correlated with self-esteem. When talking about the

threat to one's performance, we often associate that with state anxiety. However, the present study suggests that trait anxiety had the strongest negative association with self-esteem rather than state anxiety. By using a regression model, trait anxiety is identified as the strongest predictor of low level of self-esteem (see Table 6). This finding is concurrent with the evidence obtained in a number of existing studies (Kenny et al., 2004; Anshel & Brinthaup, 2006; Li & Lopez, 2005; Craske & Craig, 1984).

Although existing studies suggest that Hong Kong Chinese students tend to have lower self-esteem than Western students (Chan, 2000; Watkins et al., 1996; Brand, 2004), it is hypothesized that children from Hong Kong in the present study would have the same self-esteem level as children in Western countries. It is revealed that participants in the present study possess higher scores in self-esteem with the mean of 28.4 which is higher than their Korean (Choi et al., 2007) and the Japanese counterparts (Schmitt & Allik, 2005). Even though participants in the present study score slightly lower in self-esteem than their American counterparts in Cai et al.'s (2007) study, it is arguable that the scale is only a cognitive measurement and the cultural difference is being neglected. When other cultural factors are taken into consideration, it is found that Chinese feel as positive as Americans but they are less inclined to evaluate themselves in an expressive manner. Talking about cultural factors, Salili (1996) points out that the Chinese society perceived ability as a controllable factor and valued effort highly. The deemphasized individual belief could be a help to Chinese students which imposes less of a threat to their self-esteem when they are facing failures.

The inventory testing participants' self-esteem was devised by Rosenberg (1979) and aims to look at individuals' global self-esteem. Global self-esteem is

“the individual’s positive or negative attitude toward the self as a totality” (Rosenberg et al., 1995). Anxiety is an important emotional consequence for individuals when there are discrepancies between appraisals by others and the individuals’ self-evaluations (Lundgren & Schwab, 1977). As music performance involves the process of continuous self-evaluation, individuals could find their playing imperfect and feel anxious. The belief in one’s confidence that an individual could attain a specified performance level is called self-efficacy as referred by Bandura (1982). According to Bandura (1982), self-efficacy tends to enhance performance outcomes. As indicated in the present study, there are 24 participants who stated that they performed worse than usual but they eventually got promoted. Craske and Craig (1984) suggest that there is a negative correlation between self-efficacy and performance anxiety. A similar claim is also made by McPherson and McCormick (2006). They propose that self-efficacy is found to be the most important predictor of achievement in examinations. Lundgren and Schwab (1977) find that self-esteem is the more critical element in anxiety as it is associated with the expectations that individuals might lack the capabilities to perform successfully.

Self-esteem has been regarded as a highly correlated factor with anxiety (Sinden, 1999; Hong, 2002; Ryan, 2004, 2005). However, some other personality characteristics of children should not be over-looked. These characteristics include one’s attributions, which could affect one’s motivation, goal setting, self-monitoring, self-regulation, self-confident, self-efficacy (Kenny and Ackerman, 2007), neuroticism, extraversion, perfectionism, self-efficacy, coping strategies, and intrinsic and extrinsic motivation (Langendörfer et al., 2006). Since the major focus of the present study is about the relationships between self-esteem and music performance anxiety, it does not examine any



other named factors, only the coping strategies. It is revealed that 6% (n=11) of the participants do not employ any strategy when the MPA attacks and 72% (n=125) of the participants use 1 intervention (see Graph 4). Nevertheless, no relation is found between the number of interventions used and the level of MPA. Furthermore, the goal orientation of parents might also contribute to children's anxiety. Ablard and Parker (1997) find that children with performance goals parents are more likely to exhibit dysfunctional perfectionism than children with learning goal parents. Levels of competition also affect individuals' self-esteem and anxiety (Rubinstein, 1977). Again, the present study does not intend to make any investigation on the effect of parents' performance goals on children's self-esteem and performance anxiety level due to the emphasis of the researcher. However, it would be interesting to examine the differences of the Chinese and the Western parenting styles and their contributions to children's performance anxiety and self-esteem level.

### **4.3 Music Performance Anxiety and Performance Outcomes**

The third research question of the present study is to investigate whether music performance anxiety would affect the quality of performance and lead to a less desirable level of achievement. If the findings are supportive of the claim, this would imply that a high level of music performance anxiety can affect one's performance outcomes. In contrast to almost all of the existing studies on the effects of music performance anxiety on performance quality (Kenny, 2004, 2005, 2006) and other performance-anxiety related studies (Nichols, 1996; Zatz & Chassin, 1985; Anzi, 2005), it is revealed in the present study that MPA has no significant impact on participants' performance quality and assessment outcomes (see Table 9). Similar findings are also found in Ryan's (1998) study.

There are many explanations to these insignificant findings and one of them is the ways of the data being collected.

The definition of achievement in the present study refers to participants' position arrangement after they took the proficiency assessment, whether being promoted, unchanged, or lowered. Unfortunately, the numbers of participants in different instrumental sections were not equally distributed. There are totally 132 participants coming from the strings section and only 40 players coming from wind section in the present study. To break down the number, there are only ten wind players in each orchestra which consists of three to four different instruments such as saxophone, flute, clarinet, and bassoon. It would not be possible for the wind players to be promoted or demoted when there are only 2 to 3 players in a sub-section. In other words, participants from the wind sections are required to take the music proficiency assessment as the participants from the string sections but the results do not truly reflect their abilities. This phenomenon is indicated in the assessment results that a majority of the participants from the wind sections remain unchanged.

Another reason which might have contributed to the non-significant difference between the anxiety levels of the participants in different groups, is the limited assessment criteria which does not allow changes in performance to emerge so easily. It would have been preferable to use the ipsative assessment format which means to compare participants' scores in the assessment to their own daily playing. However, this is not feasible because the conductors do not grade participants' playing individually and regularly. Therefore, the students took a normative assessment with no baseline for comparison. Anyway, the assessment method used in the present study, the placement assessment is based on students' abilities reflected in auditions and

them being positioned properly by the conductors, is considered to be the most common one used in band and orchestra (Goolsby, 1999) which happens in real situations.

Although the initial analysis does not suggest any relation between music performance anxiety and performance outcomes, the matter could be further investigated from different angles. As suggested by Thomas (2001), anxiety is an aroused uneasy feeling when one anticipates potential danger. According to Bandura (1989), the feeling of anxiety is rooted in one's perception of incompetence in handling the danger. Therefore, the measure of self-evaluated outcomes is used as another measure of anxiety. Analysis of the present study reveals that participants' anticipation on their performance is significantly related to the anxiety scores such as STAIC A-Trait and PostSAS. In addition, those participants who regard their playing as worse than their usual playing, score highest (mean=41.38) in the PostSAS. Those who consider themselves playing better than their usual playing, have the lowest scores in the PostSAS (means=31.73).

The procedure of asking examination takers to identify their feelings before they took the test and to evaluate the examination outcomes is also used in Hong (1999). In Hong's study, it is revealed that students who perceive the test more difficult, display higher levels of anxiety and worry than their peers who consider the test to be less difficult. Similar findings were also obtained in different study. For example, Burns' (2004) finds that students who have higher levels of expectation on their performance in the final examination and overall course grade would experience higher levels of anxiety. Feather (1965) concludes that students' estimation of their probabilities at a task will likely be negatively correlated to their test anxiety. Mandler & Sarason (1953) confirm

that subjective experiences of failure are significantly correlated with a less desired performance. From the evidence of the previous studies and the present study, it is presumed that the relationships between anxiety and achievement could be multidimensional rather than one-dimensional. As suggested by Hong (1999), the perceived test difficulty does not affect students' test performance directly, but worry aroused by the perception of difficulty affects their performance which suggests an indirect relationship between the factors. The relationship between the two elements requires further investigation.

To date, no consensus can be reached in regard to the effect of test anxiety on test-takers' performance. For instance, Burns (2004) hypothesizes those college students who have higher anxiety perform poorly in the final examination in a business class but findings are not supportive of the claim and he concludes that test anxiety on examination performance is not universal. Chen (2007) examines the effects of test anxiety and reading anxiety on students' performance in reading and reveals that there is no significant difference between the levels of test anxiety and reading performance or between the levels of reading anxiety and reading performance. There are a number of studies that find that anxiety has a very limited effect on children's school achievement (McCandless & Castaneda, 1956) and intelligence (Bodas, 2003). Sherman and Wither (2003) suggest it is a "complete surprise" as findings in their study do not only reject the hypothesis that mathematics anxiety leads to deterioration of mathematics achievement but also fails to provide a significant difference between the two factors.

The idea of negative relation between test anxiety and test performance has been supported by considerable evidence (Hembree, 1988). However, after their six year longitudinal study examining the relationship between the two

factors, Hill and Sarason (1966) conclude that the two factors might not be in a simple linear fashion. The claim is based on their work on the relationship of intelligence scores (I.Q.) and anxiety. They find that most of the participants in the study are considered well above average in intelligence but they still experience a high level of anxiety. Therefore, they suggest that intelligence and anxiety do not necessarily have a simple relation as anxiety could possibly change over time.

There are a number of theories trying to explain the relationship of anxiety and performance. Among them, the inverted U hypothesis by Yerkes & Dodson originated in 1908, is the most famous one (Kenny and Ackerman, 2007; Hardy & Parfitt, 1991). Accordingly, the optimal performance is achieved at an intermediate level of arousal which suggests very low and very high levels of arousal predict poor performance. Developed in 1988, Martens and his associates argued that an anxiety response consists of a cognitive component and a somatic component which have different antecedents and could be handled differently (Kenny and Ackerman, 2007; Hardy & Parfitt, 1991). It is suggested that the cognitive anxiety remains high and stable during an important event while the somatic anxiety will emerge later when one arrives the site. Another theory that is used to explain the complicated relationships of the two variables is the catastrophe theory developed by Fazez & Hardy in 1988 (Hardy & Parfitt, 1991). The model attempts to explain the relationship between the different anxiety components and performance. Kenny and Ackerman (2007) further elaborate the theory and suggest that people have individual ways to respond to stressful situation. In addition, it is rare to produce a catastrophe even for the highly anxious individuals. Furthermore, those highly anxious professional performers are likely to employ different pre-performance

compensatory strategies such as over-learning, additional rehearsals, or visiting venue before performance which could help to alleviate their anxiety.

Besides those major findings, it is revealed that participants in the present study have very limited resources in handling the MPA. Only 20.7% (n=36) of the participants would tell their teachers while 40.8% (n=71) of the participants choose to tell their parents about the anxiety attack. Participants employ self-help strategies in handling MPA and self-talk is the most frequently used strategy (21.3%, n=37). In addition, about 15% (n=26) of the participants take deep breaths and try to distract themselves when the anxiety sits in, but 8% (n=14) of the participants choose to neglect the anxiety. Furthermore, about 6% (n=11) of the participants do not use any intervention when the anxiety attack, about 72% (n=125) of the participants employ one intervention, 17% (n=29) of the participants use two interventions, and only 5% (n=9) of the participants use three interventions to cope with their anxiety.

To summarize, the study examines three research questions: 1. whether MPA have an early onset in young children; 2. to what extent is MPA related to self-esteem; and 3. whether MPA would affect the quality of performance and lead to a less desirable level of achievement. The findings from this study therefore suggest that MPA do have an early onset and participants have experienced MPA as young as the age of seven which is concurrent with existing findings. In addition, it was found that music students in Hong Kong experience comparable levels of MPA to music students in Western countries. For example, music college singing students score 39.93 in the STAI (adult version of the STAIC) soon after they take the singing examination (Kokotsaki & Davidson, 2003). The STAI A-State score obtained in Kokotsaki and Davidson's (2003) study is even higher than the one obtained in the present

study (mean=37.21). Another study of Hong Kong children's' anxiety levels using STAIC by Li & Lopez (2005) reveal that participants scored 39.31 before taking the school examination and scored 31.39 after the examination. The scores of Hong Kong children before the examination were even slightly lower than the ones obtained in Kokotsaki and Davidson's (2003). The findings from the present study further suggest that MPA is negatively related to self-esteem and trait anxiety level which could be a strong predictor of the level of self-esteem. Although findings from the present study do not support the claim that MPA could have negative effects on one's performance level, it is revealed that performer's expectation on his or her performance could have a strong relation to one's anxiety level. The present study also reveals that music students in Hong Kong have very limited resources or interventions in handling their music performance anxiety.

#### **4.4 Limitations**

There were several limitations of the present study. Firstly there was an uneven distribution of participants coming from strings section (77%) and wind section (23%). For a study of this nature and insignificant difference found in participants' placement assessment outcomes, means that those with poor performances in the wind section might have been excluded, thereby contributing to existing findings. The reason of participants from wind section have been more likely to have performed well was because their performance outcomes were based on their position arrangement after they took the assessment. However, there were only a wind player or two in each sub-section (like flute, clarinet) and they literally had no room to be promoted or demoted. Therefore, most of them stayed in their original positions which were

recorded as “unchanged”. Compared to the frequent changes that occurred for pupils in the strings section, participants from the wind section appeared to perform better.

Secondly, although using participants’ placement assessment results as the outcomes of performance is a novel design, the categories were limited to Better, Same, and Worse. A pre and post fully interval scale would have allowed a more sophisticated set of statistical analysis to be completed e.g. One or two-way ANOVA, regression and multiple regression.

Thirdly, the state anxiety measure (SAS) was completed immediately after participants completed their placement assessment. According to the Yerkes & Dodson’s U hypothesis (Kenny and Ackerman, 2007; Hardy & Parfitt, 1991), optimal performance is achieved at an intermediate level of arousal and very low or high levels of arousal could predict poor performance. The assessment environment was very stressful for the participants since they have to wait for their numbers to be called which could be high enough to damage their performances. Therefore, PostSAS ratings might be higher relative to present one (36.21) if the measure were taken before the assessment. The timing of the assessment and effects of waiting for an assessment are issues that should be taken into consideration when designing studies that examine music performance anxiety

Owing to the low number of participants in the adolescent age group (12-18), an unusual grouping of different age groups (7-10 and 11-18) was used. Although this grouping did reveal significant differences, the lack of pupils in aged less than 7 meant it was not possible to assess the anxiety and self-esteem of students in the lower age groups.



Notwithstanding these limitations, it is reassuring that the data from the study did suggest that music performance anxiety affected musicians in their early years. In addition, music performance anxiety is significantly correlated with self-esteem. Furthermore, music performance anxiety showed a multi-dimensional relationship rather than one-dimensional relationship with musicians' performance outcomes.

## Chapter 5

### Implications

#### 5.1 Implications for Practice

The present study investigates three research questions. The first question is to examine if MPA has an early onset in young children. If so, this would indicate that not only professional musicians but also music students at young ages are also being affected by music performance anxiety. From the findings obtained in the present study, it is revealed that children as young as the age of seven experience music performance anxiety and with significant number of prominent symptoms. One important point that needs to be addressed here is that the age of seven is the youngest onset age obtained in the present study. Many epidemiological studies suggested that anxiety disorders could be identified in children earlier than the age of seven (Bernstein et al., 1996).

Although not every student who learns musical instrument would become a professional musician, every student starting from primary one in Hong Kong is required to learn a musical instrument every year. As the outcomes-based learning approach is used, students' proficiency will be assessed based on their performance and having to perform no matter individually or publicly is an inevitable action. Therefore, the impact of music performance anxiety should not be overlooked. It is recommended educators as well as parents to be educated on identifying music performance anxiety because results in the present study show that participants choose to tell their teachers (20.7%) and their parents (40.8%) about their anxious experiences. As revealed in the present study, trait anxiety is the strongest predictor of state anxiety. Knowing

the children's temperament could be a useful indicator which helps to identify the problem in an early stage. In point of fact, Dadds et al. (1997) find that anxiety in later childhood and early adolescent could be treated effectively through an early school-based cognitive-behavioral therapy (CBT) program. Evidently, educating teachers and parents with the knowledge of music performance anxiety is crucial to students' psychological well-being as well as academic development. In addition, students should also be educated on the topic so that they know when and how to report their condition when the anxiety attacks.

Findings in the present study also reveal that participants have very limited ways to deal with their anxiety and some of them even choose to neglect the condition. Parenting could be a crucial factor that contributes to high level of music performance anxiety. Therefore, educating parents in the values regarding their children's learning could adjust their expectations on the achievement outcomes, which might create less anxiety for their children. Although practices and rehearsals are believed to be some effective strategies which help to ease individuals' anxiety (Mandler & Sarason, 1953), findings in the present study do not support this view. There are about 80% of the participants (n=139) at different ages who report to have experiences in taking similar music proficiency assessment. However, different levels of anxiety are also reported which suggests that previous performing experiences have little benefits to lower one's music performance anxiety levels. Similar findings are also obtained by Rae and McCambridge (2004) who studied 120 young musicians aged from 15 to 18. It is concluded that there is no association of years of playing or grade achieved and MPA. Again, findings reinforce the notion that practice might not be an effective means to ease children's music

performance anxiety. Since practices and rehearsals might not help to alleviate students' music performance anxiety levels, teaching students to identify how they feel and to report what is disturbing them to related figures could be important. It has pedagogic implications for music educators at all levels as well as education program for training music teachers.

The second research question of the present study is to test to what extent MPA is related to self-esteem. If there is a relationship between the two factors, this would suggest that individuals who have lower self-esteem would experience higher levels of music performance anxiety and vice versa. Findings from the present study support the claim. In referring to existing literature, there are many factors identified that might play a major role in influencing students' self-esteem. For example, the teaching style of music teachers could be essential to help music students to establish a healthy self-esteem in music. The music learning and instrumental performance process shared numbers of essential features with spoken language, such as producing meaningful sounds in a logical sequence and precise timing, and many motor learning tasks, such as movement of joints and limbs without verbal components (Finney and Palmer, 2003). Similar to the mathematics learning process, the music learning process relies heavily on the cognitive process. In addition, it involves the transformation of a semiotic representation and the application of the semiotic system that is the understanding of music notations (symbols) and the transformation (to play) of the notations (Duval, 2006).

Traditionally, music learning relies heavily on the process of providing and receiving frequent critical feedback from music teachers (Atlas et al., 2004). However, it is indicated that the levels of sensitivity to criticism could affect students' motivation as well as performance. For example, music students who

are high in sensitivity are associated with lower ratings of the importance of the activity and decreased levels in enjoyment and confidence (Atlas et al., 2004). Another study reveals that participants who are low in self-esteem perform substantially worse than their high self-esteem counterparts after negative feedback (Brockner, 1987). In addition, they also express much less motivation to share related information. Interestingly, the individuals with lower self-esteem perform equally well as their high self-esteem peers after positive feedback. Therefore, it is essential for the music teachers to learn how to provide constructive feedback to students, especially to those who are sensitive to criticism. This would not only be beneficial to the students but also to the teachers as well. Crocker (1993) finds that those who are high in self-esteem recall three times as much negative behavior than the lower self-esteem participants after failure. This suggests that negative feedback might not facilitate effective learning. In addition, music students are being affected emotionally by the criticism which will inevitably affect their learning (Atlas et al., 2004). Therefore, music educators could try to use more positive reinforcement instead of the traditional critical feedback. Learning to provide proper and positive feedback is especially important for Chinese teachers because it is found in Brand's (2004) cross-cultural study that Chinese music education students have significantly lower self-esteem than their counterpart and peers from America and Australia. Brand (2004) explains that it might cause by the deviation in students' self perceptions.

Knowing how important it is to deliver constructive feedback is extremely crucial for parents. Nowadays in Hong Kong, parents are very involved in children's learning process and various forms of feedback on children's performance are delivered. Parents' undivided attention to children could be

rooted in the traditional Chinese idea of “guan” or training, which is a type of supportive mother-child relationship (Chao, 1994). Although Chinese students are usually identified as over-achievers, high levels of achievement do not imply low levels of self-esteem. In addition, too much parental involvement might cause tremendous stress to children. There are 55% of children being interviewed in Macmillan’s (2004) study that state that they do not want their parents to attend their lessons and practice sessions. One interviewee claims that the parent’s presence would make her feel nervous while another interviewee claims that she does not like other people to hear her making mistakes. Evans (1980) reveals that those participants who have weak self-esteem are more defensive to negative intellectual and personal feedback. In addition, they usually tend to avoid the evaluative situations. As mentioned above, negative feedback could demote children’s motivation in learning if they are low in self-esteem or sensitive to criticism. It is crucial for parents to gain a better understanding about their children in order to create a better and healthier learning environment for them.

The third research question of the present study is to investigate whether MPA would affect the quality of performance and lead to a less desired level of achievement. If the findings are positive, this would imply that a high level of music performance anxiety could affect one’s performance outcomes. With the application of the chosen methodology used in the present study, it is found that, contrary to majority of existing studies, there is no relationship between MPA and the performance outcomes. Although findings in the present study do not support that particular claim, an interesting phenomenon arisen. It is found that about 80% of the participants who evaluate their performance as poor but actually did fair or even better. It is fair to conclude that the participants are

experiencing certain levels of stress with the interpretation of the Yerkes & Dodson's U hypothesis. Even though the anxiety levels of the participants are not great enough to affect their performance outcomes, the anxiety definitely creates high levels of cognitive and emotional distress in them leading to distorted and inaccurate self-evaluation. Similar findings are also obtained in Bergee (1993). Brass players' self-evaluation scores are poorly correlated to their peers' and the faculty's. The author, therefore, suggests exploring further the relationship of self-concept and self-evaluation. The discrepancy between self and external raters is usually contribute to by anxiety according to Norton and Hope, (2001) who find that the greater the anxiety level, the poorer the performance is being anticipated.

Apparently, there is an indirect relationship between music performance anxiety and the performance outcomes. Unfortunately, the participants have very limited resources to deal with their anxiety. For example, only 20.7% (n=36) would tell their teachers and 40.8% (n=71) of the participants choose to tell their parents about the anxiety attacks. In addition, about 72% (n=125) of the participants employ one intervention, 17% (n=29) use two interventions, and only 5% (n=9) use three interventions to cope with their anxiety. Therefore music teachers and parents are encouraged to acquire knowledge of music performance anxiety and management methods in order to help easing children's anxiety levels.

## **5.2 Implications for Policy**

The current music education policy in Hong Kong requires every student to learn a musical instrument starting at the age of 6. A lot of the young children could have started their music learning as early as the age of three. However,

the policy-makers only focus on the benefits that music brings to children but overlook the potential side-products of it such as music performance anxiety. A standardized assessment or screening tool should be developed so that children with special needs could be identified properly or their needs will be left untreated. Anderson et al. (1987) find that the prevalence rates of anxiety disorders in a group of 792 children are from 2.4% to 3.5% and they were not referred to receive proper treatment. As suggested by Dadds et al. (1997), prevention and early intervention are very promising in dealing with anxiety. Therefore, educational and treatment protocols for music performance anxiety should be developed. Bernstein et al. (1996) propose a multimodal approach in treating anxiety disorders in children. The approach consists of a few components including “feedback and education to parents and child about the specific disorder, consultation to primary care physicians and school personnel, cognitive-behavioral interventions, psychodynamic psychotherapy, family therapy, and pharmacotherapy” (p. 1116). From this suggested approach, it is clear that not only children’s parents and teachers but also the government should take part in the prevention and intervention of music performance anxiety.

Having to perform and being evaluated is a mandatory process of music learning, music educators and parents should pay close attention to children’s psychological development such as music performance anxiety in addition to their physical conditions. Certain steps could be taken such as including psycho-education in music lessons in order to teach children about the basic knowledge of MPA. In addition, proper teaching strategies such as creating a performing environment under a low stress situation, exposing students to performance systematically, and peer evaluation could be introduced.



Furthermore, it is ideal to provide students with knowledge in coping music performance anxiety such as relaxation.

According to the findings revealed in the present study, self-esteem is closely related to music performance anxiety. Different psychological health well-being programs such as self-esteem enhancement program with and / or without music performance element should be developed and included in music lessons. In addition, it is also found that trait anxiety is related to the level of self-esteem and the programs should attempt to address this issue.

Furthermore, training for music educators and parents to provide proper feedback in regard to students' performance is essential especially for those who are sensitive to criticism. For example, positive reinforcement should be used to replace the traditional critical feedback. This does not only help to facilitate a better learning process for students but also closer parental relationships.

Although evidence between high level of music performance anxiety and poor performance outcomes has not been found in the present study, high levels of MPA does affect one's perceived performance outcomes and could affect one's performance indirectly. According to Bandura's (1989) social cognitive approach, there is a close relationship between one's anticipated scenarios and his or her ability to cope with the potential threats. In other words, students in the present study might perceive themselves unable to survive in the music proficiency. In this case, Self-efficacy could be a crucial factor to alleviate one's music performance anxiety. Attribution retraining could be used to help enhance students' self-efficacy. In addition, music teachers are encouraged to learn different relaxation techniques such as the Alexander technique, biofeedback, progressive muscle relaxation training

(Kenny, 2004) so that they can help to offer needed help to students prior to any performance and proficiency assessment.

## Chapter 6

### Conclusion

Music performance anxiety has its very unique nature. In addition, it also shares a lot of the features of other anxiety disorders. The present study suggests that music performance anxiety has an early onset as other anxiety disorders do. In addition, it is revealed that music performance anxiety is negatively correlated with self-esteem. Furthermore, the present study suggests that music performance anxiety and performance outcomes have a multidimensional rather than a one-dimensional relationship. In other words, the anxiety does not directly affect one's performance outcomes but the anxiety which is directly related to self-esteem could distort one's perception of his or her performance.

Without any doubt, music performance anxiety affects a wide range of music students and professional musicians. Although it has been getting much attention in the past few decades in the West, it is still an untouched topic in Hong Kong and the present study is aimed to cultivate this area. The majority of the public in Hong Kong, including music educators, are unaware of music performance anxiety and the potential harmfulness it brings. Findings of the present study provide useful information in understanding the relationships of MPA with age, self-esteem, and performance outcomes. Hopefully, it helps to draw the attention of music educators, parents, and music students who are unaware of the presence and effects of music performance anxiety and bring changes. For example, music educators who use the traditional critical feedback pedagogy could employ the positive reinforcement approach in order to facilitate students' learning and playing, parents who are keen to have their children to learn musical instruments would pay more attention to their children

in regard to the issue of music performance anxiety, and the government that executes the policy “one student, one musical instrument” could also include psycho-education training for music educators as well as students.

Back to the time of the ancient China, one of the greatest philosophers Mencius asked King Hui of Liang on one occasion whether enjoying music by ones self or with others was more pleasant and the king replied that it should be enjoyed with others. When the king was asked which made him feel more pleasant, to enjoy music with a few others or enjoy it with many others, he replied with many others. The world famous ballet dancer Mikhail Baryshnikov once said, “(T)he essence of all art is having pleasure giving pleasure”. Hypothetically, music and other performing art forms could provide both the performers and audiences very pleasant and unforgettable experiences. However, if the performers are preoccupied with high level of anxiety, there will be no joy for either the performers or the audiences.

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