

# THE RELATIONSHIP OF MUSICAL SELF-EFFICACY AND MUSIC PERFORMANCE ANXIETY DURING THE EXAMINATION SITUATION WITH MUSICAL ACHIEVEMENT OF MUSIC UNDERGRADUATE STUDENTS

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**Abstract:** The purpose of this study was to examine the relationship between musical self-efficacy and music performance anxiety during the examination situation with musical achievement of undergraduate students in Assumption University School of Music. The participants of this study were 68 undergraduate students enrolled at Assumption University School of Music during the first semester of the academic year 2018-2019. Data on musical self-efficacy were collected using the Musical Self-Efficacy Questionnaire (Zelenak, 2010). Data on music performance anxiety during the examination situation were collected using an adaptation of the Kenny Music Performance Anxiety Inventory (K-MPAI; Kenny, 2016). Data on musical achievement were collected using the examination of the Applied Music and Instrumental Instruction courses. Analysis of the collected data revealed that the participants' musical self-efficacy went from a slightly high level in Year 1 to a high level in Year 2, 3, 4 or over. Moreover, the participants' music performance anxiety during the examination situation went from experiencing a moderate degree in Year 1 students, to a slightly high degree in students enrolled in Year 2, 3, 4 or over. The level of musical achievement was almost excellent throughout the three groups of students participating in this study. Neither the musical self-efficacy nor the music performance anxiety during the examination situation of undergraduate students in Assumption University School of Music were found to be significantly correlated to their musical achievement, regardless the education year students were enrolled in. Based on the results from this study, recommendations for students, instructors and future researchers are provided.

**Keywords:** Musical Self-Efficacy, Music Performance Anxiety, Musical Achievement, Examination Situation, Music Undergraduate Students.

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## 1. INTRODUCTION

The conception of self-efficacy refers to the belief of one's ability to undertake certain task to our own desire and determination. Individuals with low self-efficacy levels are inclined to avoid risking accomplishment, but will incline to endure throughout difficulties if their self-efficacy levels are high and assure that they have the qualities to succeed the task (Bandura, 1997). Self-efficacy has been found to be the most suitable predictor of attainment in music performance (McPherson & McCormick, 2006; Zelenak, 2010) and the initial arbitrating feature between music performance anxiety and impact on musical achievement (Dempsey, 2015).

Anxiety revolves around the emotion related to nervousness, excitement, worry and fear. These feelings could influence an individual to become anxious and incapable to function as usual (Barlow, 2000). Thus, music performance anxiety (MPA) could impact the performance of musical students. MPA is a symptom that has effects on the lives of students in numerous ways (Kenny, 2008). Anxiety could affect their mental state, emotion and behavior, which would likely cause the performers to have stage fright. Such anxiety does not only revolve around musicians alone but also to those who have to act out in the public such as those who do public speaking, dancing, act or those who participate in the act of drama (Kenny, 2010).

Self-efficacy is anticipated to have influence on students' academic performance and goals (Bandura, 1997). In such a way, for musicians to be able to perform in any situations or under specific limitations are all linked to musical self-efficacy (MSE) judgments, since they are the most influential thoughts an individual could grasp, regarding to their influence on how that person's capability in executing the tasks (Bandura, 1997; Zelanak, 2010). Thus, musical self-efficacy (Zelanak, 2010) and music performance anxiety (Kenny, 2010) can be major factors influencing the students' performance during the examination situation, which will then impact their musical achievement. Hence, students' musical achievement depends on MSE and MPA during the examination situation.

The first author, being an alumnus of Assumption University School of Music who completed the Music Business program, has experienced the hindering in his music performance through music performance anxiety along with his musical self-efficacy (MSE) during his examination situations. Similar to what has been reported in previous studies (e.g., Kenny, 2010; Ritchie & Williamon, 2007; Zelanak, 2010), the anxious feeling made musical performers experience stage fright and hindrance in performance despite of my thorough rehearsal. The research literature provides evidence that music performance anxiety is significantly related to musical achievement (e.g., Dempsey, 2015; Zelanak, 2010), and having higher levels of self-efficacy has been found to be an important determinant of musical achievement (e.g., McPherson & McCormick, 2003; Ritchie & Williamon, 2007), as well as having lower levels of MPA during the examination situation (e.g., Brugués, 2009; Dempsey, 2015; Kenny, 2010).

For these aforementioned reasons, the researchers decided to conduct an empirical study in order to examine the relationship of MSE and MPA during the examination situation with musical achievement of undergraduate students in Assumption University School of Music.

### **Research Objectives**

The following were the specific research objectives addressed in this study.

1. To determine the level of musical self-efficacy of undergraduate students in Assumption University School of Music.
2. To determine the level of music performance anxiety during the examination situation experienced by undergraduate students in Assumption University School of Music.
3. To determine the level of musical achievement of undergraduate students in Assumption University School of Music.
4. To determine whether there is a significant relationship of musical self-efficacy and music performance anxiety during the examination situation with musical achievement of undergraduate students in Assumption University School of Music.

### **Theoretical Framework**

This study was conducted based on the social cognitive theory (Bandura, 1997), and anxiety disorders theory (Barlow, 2000).

#### ***Social Cognitive Theory***

Social cognitive theory states that humans are largely a product of learning, influenced by three reciprocal influences: cognitive, environmental, and behavioral factors. Cognitive (sometimes called personal) factors refer the personal cognitive functions such as attention, memory, reasoning, language, thoughts, imagery, goal setting and decision making. Environmental factors refer to circumstances external to the person that can either serve as barriers or facilitators to learning, such as reinforcement, punishment, or physical condition of the individual's environment. Behavioral factors refer to the individual efforts made by people to use the abilities to perform a specific action, such as past engagement

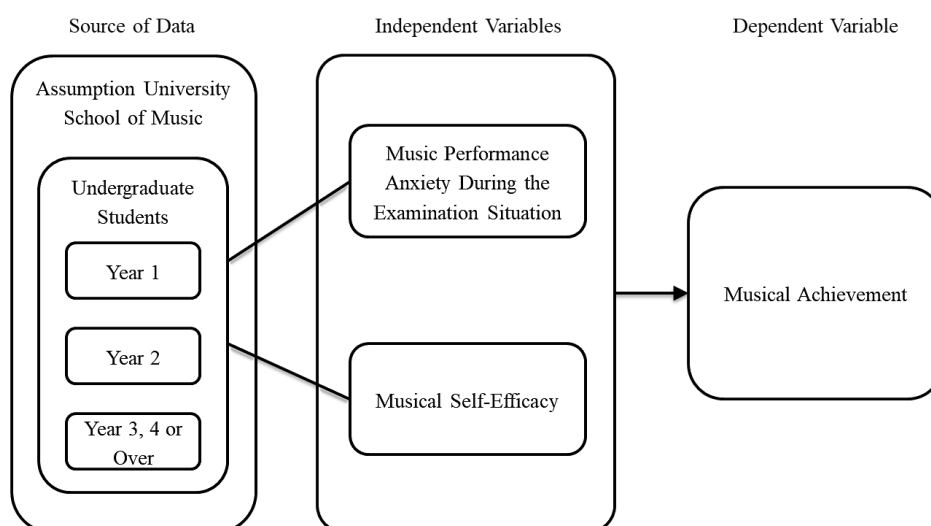
actions, habits, skills, and practice. Behavioral factors influence environmental and cognitive factors. For example, one's past behavior influences cognitive factors such as self-efficacy beliefs, because people judge their abilities based on their own direct experience (Bandura, 1997).

### *Anxiety Disorders Theory*

Barlow's (2002) anxiety disorders theory explains how the unexpected experience of bursts of emotions could lead to anxiety disorders in vulnerable individuals, because they are perceived as emotions or bodily reactions that are out of control. The anxiety disorders theory encompasses a number of mental disorders related to fear and anxiety, which can be affected by past experiences, present occurrences, and concern of future incidents (Barlow, 2000). Anxiety is most likely to be triggered by the prevailing of fear of negative evaluation and consequence in social settings (e.g., fear of embarrassment or humiliation, or flaw in public performances or appearances; Barlow, 2000, 2002).

### **Conceptual Framework**

Figure 1 depicts the conceptual framework of the study.



**Figure 1: Conceptual Framework for the Current Study**

## **2. LITERATURE REVIEW**

In this section, some previous studies related to the research variables addressed in this study are reviewed and summarized.

McPherson and McCormick (2006) had investigated musical self-efficacy (MSE), according to grade level, on primary and middle school students in Australia using Australian Music Examinations Board (AMEB). There were total of 446 participants with the aid from 176 teachers in this research study. The research found that there was a significant and negative correlation between grade level and MSE, which means that the lower the grade of the students the less their expectation as well as the higher their sense of MSE, and vice versa. The study also reported a significant and negative relationship between music performance anxiety and musical achievement.

Dempsey (2015) had investigated musical self-efficacy (MSE), and music performance anxiety (MPA) on 65 Canadian children (ages 8 to 12) and teenagers (ages 13-17) studying at private studios and music schools in the Ottawa and Niagara regions. Data were collected using the Music Performance Anxiety Inventory for Adolescents (MPAI-A) and the Self-Efficacy for Musical Learning and Musical Performance. The instruments were used on 65 participants in the research study. The findings revealed a significant correlation among music performance anxiety with age, whereas no significant correlation among gender and MPA was discovered. A significant and negative correlation was found between MSE and MPA, implying that students with lower levels of MSE have the tendency to have greater levels of MPA and vice versa.

Zelenak (2010) examined the musical self-efficacy of 293 middle and high school students attending a municipal high school in the southeastern United States. The study was conducted with the intention to develop and validate the Music Performance Self-Efficacy Scale (MPSES). The study took place within a month and the results revealed that the MPSES was a valid and reliable instrument to measure self-efficacy in music performance between high school students. No significant difference in musical self-efficacy was found between middle and high school students or among band, chorus, and string orchestra students.

Ritchie and Williamon (2007) conducted a study on the musical self-efficacy of 88 music students from the Royal College of Music, London, and the University of Chichester. Data on musical self-efficacy was collected by administering the General Musical Self-Efficacy Scale. The study took place within a month, and the findings showed that there was no significant difference between male and female on their level of self-efficacy. However, it was concluded that musical self-efficacy was important for the academic performance, gender was an explanatory factor of musical achievement, and students needed assistance from peers, teachers, and others to improve their self-efficacy level.

### 3. METHODOLOGY/PROCEDURE

In this section, details on the study's population, sample and research instruments are provided.

#### *Population and Sample*

A population sample of 68 undergraduate students at Assumption University School of Music during the first semester of the academic year of 2018-2019 was used in this study. There were 27 students enrolled in Year 1; 18 students enrolled in Year 2; 13 students enrolled in Year 3, and 10 students enrolled in Year 4 or over. Participants in Year 3, 4 or over were combined into one group because of the small sample size.

#### *Research Instruments*

This study was conducted using the following research instruments: the Musical Self-Efficacy Questionnaire, the Music Performance Anxiety During the Examination Situation Questionnaire, and the Musical Achievement Test.

**Musical Self-Efficacy Questionnaire.** In order to measure the participants' level of musical self-efficacy, the researchers administered the Musical Self-Efficacy Questionnaire (see Table 1), which was adapted from the Music Performance Self-Efficacy Scale (MPSES; Zelenak, 2010). Only the rating scale was adapted from a 101-point rating scale to a 7-point Likert scale, ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). The questionnaire is comprised of 24 items, arranged in the following parts: mastery experience (Items 1-7), vicarious experience (Items 8-12), verbal/social persuasion (Items 13-18), and psychological state (Items 19-24).

**Table 1: Items in the Musical Self-Efficacy Questionnaire**

Item No.	Item statement
I. Mastery experience	
1	I have had positive experiences performing music in the past
2	I have had positive experience performing in large ensembles
3	I have had positive experiences performing solo or in a small ensemble
4	I have had positive experience performing simple music
5	I have had positive experiences performing complicated music
6	I have overcome musical challenge through hard work and practice
7	I have used a practice routine to help me prepare for my performance
II. Vicarious experience	
8	I have improved my music performance skills by watching professional musicians, who are similar to me in some way, perform well
9	I have improved my music performance skills by watching other students, who are similar to me in some way, perform well
10	I have used other music students as models to improve my performance skills
11	I have compared my performance skills with those of other students who are similar in musical ability to me
12	I have watched other students of similar musical ability as me perform a piece of music, and then decide whether I could, or could not, perform the same piece of music

III. Verbal/social persuasion	
13	My friends think I am a good performer on my primary instrument
14	Members of my family believe I perform well
15	My music teacher has complimented me on my musical performance
16	People have told me that my practice efforts have improved my performance skills
17	I have received positive feedback on music performance evaluations
18	I have met or exceeded other people's expectations of being a good musician for someone of my age
IV. Physiological state	
19	I do not worry about making small mistakes during a performance
20	Performing with my instrument makes me feel good
21	I enjoy participating in musical performances
22	I am learning, or have learned, to control nervousness during a performance
23	I do not worry about small mistakes during a performance
24	I have positive memories of most, or all, of my past musical performances

**Music Performance Anxiety During the Examination Situation Questionnaire.** This instrument was an adaptation from Kenny Music Performance Anxiety Inventory (K-MPAI; Kenny, 2016). The researcher has selected 22 items out of 40 items from K-MPAI (see Table 2). The chosen items were considered suitable to the research purpose, which was to evaluate music performance anxiety level of students during the examination situation rather than concerts or other venues. Also, three of the original items (i.e., Items 8, 17, and 19), which were negatively worded, were rewritten to be positively worded. The questionnaire used a 7-point Likert scale, ranging from 1 (*strongly disagree*) to 7 (*strongly agree*).

**Table 2: Items in the Music Performance Anxiety During the Examination Situation Questionnaire**

Item No.	Item statement
1	Even if I work hard in preparation for a performance, I am likely to make mistakes
2	Prior to, or during a performance, I get feelings akin to panic
3	I never know before a performance whether I will perform well
4	During a performance I find myself thinking about whether I'll even get through it
5	Thinking about the evaluation I may get interferes with my performance
6	Prior to, or during a performance, I feel sick or faint or have a churning in my stomach
7	Even in the most stressful performance situations, I am confident that I will perform well
8	I am often do not concerned about a negative reaction from the audience
9	Prior to, or during a performance, I experience increased heart rate like pounding in my chest
10	I give up worthwhile performance opportunities
11	Before the performance, I worry about whether I will play well enough
12	My worry and nervousness about my performance interferes with my focus and concentration
13	Prior to, or during a performance, I have increased muscle tension
14	I often feel that I have nothing to look forward to
15	After the performance, I replay it in my mind over and over
16	I worry so much before a performance, I cannot sleep
17	When performing without music, my memory is not reliable
18	Prior to, or during a performance, I experience shaking or trembling or tremor
19	I am not confident of playing from memory
20	I am concerned about being scrutinized by others
21	I am concerned about my own judgment of how I will perform
22	I remain committed to performing even though it causes me great anxiety

**Musical Achievement Test.** Musical achievement was measured based on the grade earned by undergraduate students in Assumption University School of Music in the examination of the Applied Music and Instrumental Instruction courses. The scores were interpreted as follows: excellent (3.76-4.00); almost excellent (3.26-3.75); very good (3.01-3.25); good (2.76-3.00); fairly good (2.26-2.75); satisfactory (2.00-2.25); fail (1.00-1.99).

### Research Findings

The research findings obtained from the data collection and analysis follows, presented by research objective.

#### Findings From Research Objective 1

Table 3 shows the overall mean scores, standard deviations and interpretations of the level of musical self-efficacy, and its subscales, held by the undergraduate students in Assumption University School of Music who participated in this study.

**Table 3: Mean Scores, Standard Deviations and Interpretations of the Musical Self-Efficacy and Its Subscales for the Participants in This Study**

Variable	Year 1			Year 2			Year 3, 4 or over		
	<i>M</i>	<i>SD</i>	<i>I</i>	<i>M</i>	<i>SD</i>	<i>I</i>	<i>M</i>	<i>SD</i>	<i>I</i>
Musical self-efficacy	4.58	1.17	Slightly high	5.32	1.14	High	5.21	1.25	High
Mastery experience	4.42	1.13	Moderate	5.30	1.07	High	5.34	1.29	High
Vicarious experience	4.59	1.28	Slightly high	5.48	1.19	High	5.00	1.34	High
Verbal/social persuasion	4.70	1.07	Slightly high	5.24	1.08	High	5.16	1.04	High
Physiological state	4.65	1.20	Slightly high	5.30	1.25	High	5.27	1.32	High

Note. *I* stands for "Interpretation".

#### Findings From Research Objective 2

Table 4 shows the overall mean scores, standard deviations and interpretations of the level of music performance anxiety during the examination situation experienced by the undergraduate students in Assumption University School of Music who participated in this study.

**Table 4: Mean Scores, Standard Deviations and Interpretations of the Music Performance Anxiety During the Examination Situation Experienced by the Participants in This Study**

Variable	Year 1			Year 2			Year 3, 4 or over		
	<i>M</i>	<i>SD</i>	<i>I</i>	<i>M</i>	<i>SD</i>	<i>I</i>	<i>M</i>	<i>SD</i>	<i>I</i>
Music performance anxiety during the examination situation	4.47	1.15	Moderate	4.50	1.43	Slightly high	4.57	1.35	Slightly high

Note. *I* stands for "Interpretation".

#### Findings From Research Objective 3

The findings regarding the level of musical achievement of undergraduate students in Assumption University School of Music are reported in Table 5.

**Table 5: Overall Mean Scores, Standard Deviations, and Interpretations of the Musical Achievement of Undergraduate Students in Assumption University School of Music**

Education year	<i>N</i>	Minimum	Maximum	<i>M</i>	<i>SD</i>	Interpretation
Year 1	27	1.75	4.00	3.59	.62	Almost excellent
Year 2	18	3.00	4.00	3.72	.41	Almost excellent
Year 3, 4 or over	23	1.75	4.00	3.40	.64	Almost excellent

#### Findings From Research Objective 4

Table 6 below indicates the bivariate correlations of musical self-efficacy and music performance anxiety during the examination situation with musical achievement, in regard to the undergraduate students at Assumption University School of Music participating in this study.



**Table 6: Bivariate Correlations of Musical Self-Efficacy and Music Performance Anxiety During the Examination Situation With Musical Achievement of the Undergraduate Students at Assumption University School of Music Participating in This Study**

Variables	1			2			3		
	Year 1	Year 2	Year 3, 4 or over	Year 1	Year 2	Year 3, 4 or over	Year 1	Year 2	Year 3, 4 or over
1. Musical self-efficacy	—	—	—						
2. Music performance anxiety during the examination situation	.51* (.007)	.56* (.012)	.40* (.058)	—	—	—			
3. Musical achievement	-.30 (.135)	.39 (.113)	-.13 (.557)	.14 (.497)	.37 (.127)	-.27 (.198)	—	—	—

*Note.* \*denotes a statistically significant relationship (statistical significance level set at  $p = .05$ , two tailed).  $p$ -values appear within parentheses below the correlation coefficients.

#### 4. DISCUSSION

In this section, a discussion of the research findings from the current study is provided, by relating such findings with the ones reported by previous research studies.

##### *Musical Self-Efficacy*

The findings of the current study showed that the musical self-efficacy of undergraduate students in Assumption University School of Music went from a slightly high level in Year 1 to a high level in Year 2, and the participants' musical self-efficacy kept a constant high level during Year 3, 4 or over. This result is partly in agreement with the one reported by Zelenak (2010), who found no differences in the levels of musical self-efficacy of middle and high school students attending a municipal high school in the southeastern United States. Also, the findings from this study are partly in agreement with the ones reported by Dempsey (2015), who investigated musical self-efficacy in Canadian children (ages 8 to 12) and teenagers (ages 13-17) and found similar results between the levels of self-efficacy for music performing for both groups.

The results from this study are not in line with those reported by McPherson and McCormick (2006), who investigated musical self-efficacy on primary and middle school students in Australia. They found that the higher the grade students are enrolled in, the lower their level of musical self-efficacy, and vice versa. This might be because an increasing grade level means an increasing level of complexity of music skill and performance, and hence a greater difficulty in maintaining or increasing musical mastery.

##### *Music Performance Anxiety During the Examination Situation*

The findings of the current study showed that the music performance anxiety during the examination situation of undergraduate students in Assumption University School of Music went from experiencing a moderate degree of unpleasant psychological and mental symptoms before and during the examination situation in Year 1, to a slightly high degree in Year 2, and the participants' music performance anxiety during the examination situation kept a constant slightly high level during Year 3, 4 or over. These results can be grounded on the fact that, as students' musical skills develop year by year, they will feel more competent and capable to master musical tasks and persist in the face of difficulties, stressors, and unpleasant psychological and mental symptoms before and during the examination situation (Bandura, 1997).

##### *Musical Achievement*

In this study, it was found that the level of musical achievement (i.e., the skill accumulated and demonstrated by undergraduate students in Assumption University School of Music as a product of their music aptitude, experience, and music training) was constantly almost excellent throughout the three groups of students, and hence the different education

years of the participants. This can be due to the course passing policy that is implemented in the Assumption University School of Music. According to the curriculum of the Assumption University School of Music, for the requirement courses such as Applied Music and Instrumental Instruction courses, students are not allowed to graduate with a grade below C. Therefore, those students who earn a D or lower grade will have to repeat the course again in the following semester.

#### ***Relationship Between Musical Self-Efficacy, Music Performance Anxiety During the Examination Situation and Musical Achievement***

Neither the musical self-efficacy nor the music performance anxiety during the examination situation of undergraduate students in Assumption University School of Music were found to be significantly correlated to their musical achievement, regardless the education year students were enrolled in. This can be interpreted as a lack of explanatory and predictive power for their musical achievement of both the musical self-efficacy and the music performance anxiety during the examination situation held by the participants. This finding was different from a previous research done by Dempsey (2015) on the musical self-efficacy of Canadian children (ages 8 to 12) and teenagers (ages 13-17). She found that musical self-efficacy and music performance anxiety were significant predictors and determinant of musical achievement, although they were not its only influence.

Also, the findings from the current study are not in line with those reported by by McPherson and McCormick (2006), who investigated musical self-efficacy on primary and middle school students in Australia. McPherson and McCormick (2006) found that there was a negative relationship between musical self-efficacy and music performance anxiety with musical achievement.

Since neither the musical self-efficacy nor the music performance anxiety during the examination situation of undergraduate students in Assumption University School of Music were found to have an explanatory and predictive power for their musical achievement, other variables that might have a significant effect on musical achievement must be considered. For example, the exposure a student has to performance opportunities either for themselves or from watching others, as well as music practice conditions (Dempsey, 2015). The instrument played by the music performer might be also an explanatory factor on musical achievement (Zelenak, 2010), as well as gender and level of assistance from peers and teachers (Ritchie & Williamon, 2007).

## **5. RECOMMENDATIONS**

Based on the findings of this study, the following recommendations are provided for students, instructors and future researchers.

#### ***Recommendations for Students***

This study revealed that participants' musical self-efficacy ranged was slightly high for Year 1 students, and its subscales ranged from moderate to slightly high. It is important for Year 1 undergraduate students in the Assumption University School of Music to improve their musical self-efficacy. This could be achieved by students themselves increasing their exposure to performance opportunities either for themselves or from watching others (Dempsey, 2015). Also, an improvement of their own music practice conditions may contribute to increase their musical self-efficacy (Dempsey, 2015). These recommendations can be also useful for Year 2, 3, 4 or over undergraduate students, since their level of musical self-efficacy was found to be high, and it can be improved to a very high level.

In relation to participants' music performance anxiety during the examination situation, it went from experiencing a moderate degree of unpleasant psychological and mental symptoms before and during the examination situation in Year 1, to a slightly high degree in Year 2, 3, 4 or over. This indicates that music performance anxiety management of undergraduate students in the Assumption University School of Music should be dealt through a thorough practice regime and getting to know the performing location well to avoid any negative emotions during the examination situation (Kennedy, 2010).

#### ***Recommendations for Instructors***

From this study, we understand that the participants did not reach the maximum level of musical self-efficacy or the lowest level of music performance anxiety during the examination situation. This could lead to long-lasting effects on the students, that could prolong during the university years depending on how severe the negative emotions are (Brugués,



2009; Kenny, 2010). Henceforth, it is important for instructors to identify if any negative signs are shown by the students to receive any kind of support or treatment. This implies the need for instructors to help their students develop both their musical self-efficacy and their confidence as they progress on their career (McPherson & McCormick, 2006).

#### **Recommendations for Future Researchers**

We would like to suggest future researchers to conduct similar studies on large-size populations, in order to have more representative outcomes. Also, in addition to musical self-efficacy and music performance anxiety, other research variables that may significantly influence musical achievement should be considered, especially to include the consideration of emotions and cognition during the examination situations. As it was previously mentioned, the level of exposure a student has to performance opportunities either for themselves or from watching others, the music practice conditions, gender, and the level of assistance from peers and teachers can be considered in a future study as independent variables (Dempsey, 2015; McPherson & McCormick, 2006; Ritchie & Williamon, 2007).

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