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Research Article

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The Effect of Anxiety on the Primary Students Achievement in Music Learning

Osamah (Mohammad Ameen) Ahmad Aldalalah

School of Educational Sciences, Jadara University, Jordan.
Email: usm.osamah@gmail.com

Abstract The purpose of this study was to investigate the effects of anxiety on the primary student's achievement in music. The independent variable was the anxiety levels (low, moderate & high).The dependent variable was the Students Achievement. The sample consist of (161) Students. The findings of this study showed that students with moderate anxiety students performed significantly better than low and high anxiety students. This study found that students with high and low anxiety have low achievement; students with moderate anxiety have high achievement.

Keywords Anxiety, Music

1. Introduction

The accelerating pace of modern life and diligent work for living which adds a burden characterized by psychological stressors Affected of the psychological interests and integrated personality of individuals is a major concern for educators be it in the family, school or the pupulation at large [1]. Self-understanding and control is required for the human to adapt to the nearby environment. Thinking towards inability makes a person to adapt live insecurely [2]. Aldalalah & Gasaymeh [3] demonstrated that undesirable life proceedings outcome in stress and morbidity and affects one's self concept and life style. Undesirable events need better adaptability to new situations. Persons would touch anxious as a result of day-to-day chores, responsibilities and increased stress of life.

2. Anxiety

anxiety is one of the student's most vital attributes, and is a standout amongst the most considered factors with regards to the learning and instructing process. Alshawa & Alhayek [4] conceptualized anxiety as a passionate state overpowered with interesting emotions. There are various types of tension, for example, test uneasiness, discourse anxiety, arithmetic anxiety and different types of tension. These types of anxiety portray an undesired passionate state like dread, regardless of the distinctions in the circumstances inciting such enthusiastic state [5]. Understudies with high levels of anxiety have low-performance levels in the normal learning settings. By differentiate, understudies who report low levels of anxiety perform better regardless of whether the scholarly capacities of the two gatherings of understudies were comparable [6]. Anxiety is a feeling that outcomes from the enactment of dread, which is considered thusly an expressive idea of an evaluative circumstance of a specific undermining setting. Hawwash & Elemat [7] contend that anxiety and dread side effects are typical for the person who is continually considering wellsprings of risk. Such negative musings communicate through reasoning about occasions and conditions related with such negative considerations.

This will in the long run prompt absence of capacity in the on edge individual to ponder these negative musings or consider them with rationale, therefore summing up the anxiety provoking boosts to any apparent circumstance has been threatening [8]. The consideration of the on edge individual is constantly associated with the ideas or the boosts identified with inciting uneasiness. Therefore, the individual looses quite a bit of his

capacity to transmit his contemplations and encounters to other inside procedures or other outside inciters [9].It is qualified to take note of that anxiety is a typical human wonder, and its seriousness differs starting with one individual then onto the next.The more noteworthy the level of anxiety in the individual, the more the individual is described as bothered and depleted.Anxiety effectsly affects a person's consideration and considering, along these lines diminishing the scholastic accomplishment of the individual [10]. Understudies revealing elevated amounts of anxiety have been portrayed by poor achievement [11]. Low achievement among this gathering has been clarified by expressing that anxiety in the distinctive circumstances blocks review of beforehand learned material.This implies they isolate their consideration between the requests of the learning errand and other learning assignment identified with angles comprising for the most part of negative self commitment and exhibiting sentiments of vulnerability [12]. As for students demonstrating lower levels of anxiety, they dedicate much of their attention to the learning task, thus showing good performance [13]. Tobias [14] proposed a model illustrating the effects of anxiety on the learning process. He separated the learning process into three basic stages of information processing; inputs, process and outputs Figure (1).

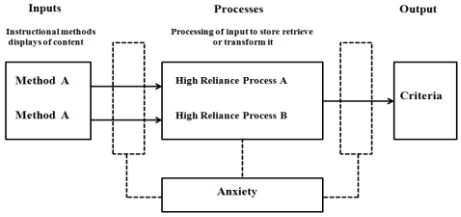

Figure 1: Model of Anxiety Treatment Interaction, [14]

As illustrated in Figure 1, anxiety impacts the learning process in several areas. Tobias categorized the intervention of anxiety as follows:

Pre Processing Interference: In this stage, the teacher works on helping the individual learner reformulate the learning process inputs to reduce the intervention of anxiety.

During Processing Interference: In this stage, the inputs of the learning process are being processed by the individual learners. Tobias [15] found that some of the individual effort dedicated to the information processing is directed to the state of anxiety. Post Processing Interference: This kind of interference is used to describe the situation in which the learning process occurs. Interference occurs due to some disorders in the recall of previous learned information as a result of anxiety.Anxiety is described as a form of fears hindering students' achievement in the different educational stages. Several researchers concluded that the negative correlation between anxiety and academic achievement is attributed to the fact that anxiety provokes a comprehensive individual distress, and, thus, has negative effects on the different mental processes such as attention, thinking recall and reasonable judgments [16]. Such mental processes are said to be a prerequisite for success in the different learning tasks. Consequently, state of anxiety has negative impact on the learner's individual achievement. A student with high levels of anxiety appears incompetent and perceives himself as unable to pass a certain test. Due to the anxiety provoking response, the student has perceptions that the surrounding environment determines his abilities and competency [17]. Sawalha & Assfa [10] pointed out that several factors affect the performance of students with high anxiety levels, including student's dependence on teacher, teacher's character and behaviors, and reinforcement provided to the student. Several studies confirmed the presence of negative correlation between anxiety levels and academic achievement, and the students with high levels of anxiety will learn better if we worked on reducing levels of anxiety in the learning environment via using a program designated to reduce anxiety and train students to use effective study skills. In another study Woodward [18] examined the effect of mathematics anxiety on students' achievement and found a negative correlation between mathematics anxiety and achievement. Brown [19] investigated the effect of test anxiety on students' results. The results revealed a correlation between anxiety and achievement. More specifically, the results found students with low levels of test anxiety had better scores in academic aptitude tests. A study conducted by Fong [20] examined the effects of cartoon animations on students' procedural knowledge in biology. The results of this study confirmed previous results demonstrating the negative effects of anxiety on students' performance, but this effect varied across students. The results of the study demonstrated that students with moderate levels of anxiety outperformed both students with low and high levels of anxiety. This result is

consistent with the finding by Toh [21] who reported a correlation between anxiety level and student achievement. Research has indicated that anxiety for musical performance prevails with adverse effects on students' musical performance [22]. The opera performers showed attendance concern, which increased their vulnerability and stress regarding their job [23]. Alfano, Beidel & Turner [24] and Lewinsohn, Gotlib, Lewinsohn, Steeley, & Allen [25] demonstrated that social concern is most widely seen in a community that perceivably has effects on musical performance.Researchers who studied the factor of musical concern in musicians demonstrated that musical concern appears as a result of three cooperating factors: perception, automatic agitation, and explicit behavioral response [26]. Musical concern, in the first place, starts in the form of psychological events developed into anxiety in the nervous system that has an effect on musical performance. Some features of concern would be threatening for a performer in the case where concern may adversely affect the performance level [27]. As a matter of fact, musical concern is deemed relatively old, but the research interest in this field is modern as compared to other disciplines. There was a considerable variance across studies in their focus on the effects of anxiety. A few studies focused on the impact of anxiety on some variables, but the majority of these studies examined the effects of anxiety on academic achievement. Most studies confirmed the effect of anxiety on several variables, including achievement.

Despite the fact that some studies have focused on the impact of anxiety on musical performance, as it is the case in the current study, a revision of the previous literature indicates that no study has examined the effect of anxiety on learning music in general, and learning different music theories specifically.

3. Music Theory

Music theory is oftentimes worried about portraying how artists and authors make music, including tuning frameworks and creation techniques among different points. Due to the regularly extending origination of what constitutes music, Music theory is the cornerstone of music and includes the principles that make music sound great, and empower music to be composed and played by performersby musicians [28]. Music theory as a functional train incorporates the strategies and ideas arrangers and different artists use in making music. The advancement, conservation, and transmission of music theory in this sense might be found in oral and composed music-production conventions, melodic instruments, and different ancient rarities. In this way, every music student wishes to know the nuts and bolts of music theory [28]. Many resarchers such as Nosir [29] define music theory as the area in which music works are studied. It chiefly manages the dialect and thought of music where it is formed and translated. It helps to arrange the different music examples and structures experienced during the time spent piece all through types, styles or amid authentic periods [30]. According to Chew [31] music is a language that possesses both universal context and notations. music is a dialect that has both widespread setting and documentations. On the other hand, the music provides a unique structure for musicians to reveal their musical concepts [32]. This is on account of it centers around music documentation is made in wording out of the segments of the documentation. Likewise, it includes essential melodic ideas that might be seen in types of the structure, the association and the history [33]. These musical concepts have an important part in establishing the required knowledge for understanding the improvement stages in music and the mode in which the notation is utilized in various situations. The music theory learning has undergone enormous changes through the past century, including the incorporation of important theoretical contributions, and the arrival of the specialized academic music theorist, have reshaped much of how music theory is taught [34].

Research Questions

- Will students with moderate anxiety (MA) attain significantly higher post-test scores (PTS) than low anxiety (LA) students?
- Will students with low anxiety (LA) attain significantly higher post-test scores (PTS) than high anxiety (HA) students?

4. Methods

4.1 Sample

The sample consisted of 161fifth-grade students and was randomly selected from six different primary co-educational schools enrolled in the Irbid Governorate (Jordan) in the second semester for the 2017/2018 academic year.

4.2 Instruments

The music achievement test: that was administered on the participants of the three groups in this study is adapted from the music theory competency test developed by the researcher. the reliability of the test questions was calculated using the Cronbach Alpha procedure to calculate the internal consistency. The Cronbach Alpha of the test was 0.83, the internal consistency of the test was 0.87 The Discrimination Index values ranged from 0.48–0.89 and the difficulty values ranged from 0.30–0.61. Trait anxiety Scale: This test is used to measure the anxiety. The scale of trait anxiety consists of statements asking about feelings. Generally, the test consists of 20 items. Each item has a 4 point scale response. These are: 1- being almost never, 2- being sometimes, 3- being often and 4- being almost always. This instrument is adopted from Maznah, Ng and Yoong [35]. The reliability coefficient of this instrument was computed by the implementation of Cronbach Alpha whereby it was 0.81 for the whole scale. The internal consistency in this instrumentwas 0.894.The total score of the Trait Anxiety Test is 80. Trait anxiety of the students was divided into three levels: Low, Moderate and High.

Instruments Validity: Validity of the instruments are important aspects that should be taken into account when conducting a research. Validity consists of two different aspects that is face and content validity. The feedback and comments received from the panel of experts were employed to establish the necessary clarifications, changes, and modifications before and after piloting the study.

4.3 Research Variables

The present research contains two types of variables (independent, dependent and moderating variables) that are presented as follows:

- Independent Variable: Anxiety levels (low, moderate& high).
- Dependent Variable: Post Test Score (Music Theory Learning)
- Moderating Variable: The students achievement levels in the Music Theory class has three levels (low, Medium & high)

4.4 Implementation of the Actual Study

After ensuring the validity and reliability of the study instruments, identifying a study population and a study sample was the next step. The researcher has to consider the following aspects:

- Trait anxiety Scale of the students was divided into three levels: Low, Moderate and High.
- The study sample was divided into three achivment groups (low, medume and high) depending on their achievement in the music class in the first semester.
- The pre-test was given to the students to be answered.
- After three weeks the researcher teaches them the music theory unit.

5. Results

The analyses of the collected data were carried out through various statistical techniques such as the ANOVA. The data were compiled and analyzed using the Statistical Package for the Social Science (SPSS) for Windows computer software.

5.1 Description of the Post-test Scores of Students with Different Levels of Anxiety (LA, MA & HA)

A comparison was made between the three groups of students, that is, those with low levels of anxiety, moderate level of anxiety and high level of anxiety (LA, MA & HA) based on the means of the post-test scores using the descriptive procedure (Table 1).

Table 1: Post-Test Scores of Students with Different Levels of Anxiety (LA, MA & HA)

Anxiety	Mean	Std. Deviation	N
Low	20.08	2.81	48
Moderate	23.3	2.99	80
High	17.60	3.73	33
Total	21.17	3.84	161

From table 1, shows an apparent variance in the arithmetical means and standard deviations of the responses of students on the post-test by the Levels of Anxiety (LA, MA & HA). To illustrate the significance of the statistical differences between the arithmetic means, one-way ANOVA was used according as shown in Table (2).

5.2 ANOVA of the Post-test Scores of Students with Different Levels of Anxiety (LA, MA & HA)

In order to reduce the statistical error, the pre-test scores were used as the covariate, and a comparison was made among students with different levels of anxiety (LA, MA & HA) using the ANOVA procedure (Table 2).

Table 2: ANOVA of the Post-Test Scores of Students with Different Levels of Anxiety (LA, MA & HA)

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	838.785	2	419.392	43.300	0.000
Within Groups	1530.345	158	9.686		
Total	2369.130	160			

Table (2) shows that there are no statistically significant differences at the level of significance ($\alpha = 0.05$) due to different levels of anxiety (LA, MA & HA). Therefore, the researcher further investigated the univariate statistics results (analysis of covariance ANCOVA) by performing a post hoc pairwise comparison using the scheffe command for dependent variable in order to identify significantly where the differences in the means resided. Table 3 is a summary of the post hoc pairwise comparisons among students' learning across the three anxiety groups (LA, MA & HA).

Table 3: Summary of Post Hoc Pairwise Comparisons

(I) Anxiety	(J) Anxiety	Mean Difference (I-J)	Std. Error	Sig.a
Low	Moderate	-3.21667(*)	0.56821	0.000
	High	2.47727(*)	0.70377	0.003
Moderate	Low	3.21667(*)	0.56821	0.000
	High	5.69394(*)	0.64388	0.000
High	Low	-2.47727(*)	0.70377	0.003
	Moderate	-5.69394(*)	0.64388	0.000

Table 2 and Table 3 show that there are statistical differences among the students' learning in the three anxiety groups: there are statistical differences among students' learning in the low, moderateand high anxiety groups in music theory learning. There are statistical differences between students' learning in low anxiety group and high anxiety group in music.

6. Discussion

This study found that there were differences in the post-test scores among students with different levels of anxiety. Generally, students with moderate anxiety level outperformed students with high and low anxiety level regardless of the treatment modes. This result is consistent with many studies that show that student academic achievement is correlated to their level of anxiety [8], [14]. Most of the studies show positive impact of moderate anxiety level on learning. This indicates that a certain degree of anxiety (not too high and not to low) helps students in their learning [20]. This study shows that students with a moderate anxiety level outperformed students with high and low anxiety level. This result is consistent with the finding by Toh [21] who reported a correlation between the anxiety level and student achievement.

Duffy [36] reported a curvilinear relationship between anxiety levels and student achievement obtained by high and low anxiety students whereas students with moderate anxiety level obtained optimum results. A study by Sawalhah & Assfa [10] also reported low anxiety students achieved higher gain scores compared to high anxiety students. There are several possible explanations to the findings of this study. Alshawa & Alhayek [4] indicated that minimal stimulus causes boredom among the low anxiety students whereas excessive stimulus will lower learning among the high anxiety students. This finding may explain the low achievement seen among the low and the high anxiety students. The low anxiety students may not pay sufficient attention to the instruction whereas high anxiety students may feel that the instruction may be too demanding.

Warr & Downing [5] found that high anxiety students experience a high level of anxiety regardless of the test difficulty and this may contribute to their low unsatisfactory achievement. There are at least two possible theoretical explanations for this relationship. First, the students' lack of competency in music could be contributing to the increased mental effort. As described earlier, the results from this study showed a strong negative correlation between learning and anxiety. Students with high levels of anxiety performed more poorly on the post-test scores. If the high anxious students do indeed have lower levels of information processing, then, their greater mental effort scores reflect an increased cognitive load for a lack of low achievement. The second possible explanation to the detrimental effect of anxiety level on working memory capacity. Intrusive thoughts and worry caused by reaction to anxiety can consume working memory resources, leaving fewer resources available for processing incoming information. As a result, anxious individuals are more likely to experience a cognitive overload, as they must attend to both the anxiety reaction and processing incoming information at the same time. Then the relationship between anxiety and mental effort can be explained by the extraneous cognitive load experienced by anxious students coping with the anxiety reaction [37].

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