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Differences in Music Performance Anxiety Levels between Underclassmen and Upperclassmen Music Education Undergraduates

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Research has documented that music performance anxiety is an issue that can affect musicians at all levels (Dews & Williams, 1989; Hamann, 1982; Hamann & Sobaje, 1983; Kirchner, 2003; Kokotsaki & Davidson, 2003; Osborne & Kenny, 2008; Ryan, 2004). In particular, the effect of music performance anxiety on the quality of performance and the mental well-being of performers has been well documented (Clark & Agras, 1991; Kirchner, 2003; LeBlanc, Jin, Obert, & Siivola, 1997), and musicians at even the highest levels continue to suffer from issues related to it. Performers who suffered from music performance anxiety noted that they were often consumed with feelings of apprehension, poor self-esteem, and despondency (Kirchner, 2003).

Researchers generally divide anxiety into two types: state and trait (Spielberger, Gorsuch, Lushene, Vagg, & Jacobs, 1983). Spielberger et al. defined state anxiety as anxiety experienced in a particular situation, or a "palpable reaction or process taking place at a given time and level of intensity" (1983, p. 5). Trait anxiety, conversely, refers to "differences between people in the tendency to perceive stressful situations as dangerous or threatening and to respond to such situations with elevations in the intensity of their state anxiety reactions" (1983, p. 5). Subjects can have differing levels of state and trait anxiety. An example of high state anxiety can include being nervous before a performance or test, while high trait anxiety could manifest itself as someone who worries more than the average person, or who tends to be anxious in all situations, not just those where high stress is involved. Spielberger et al. developed the State-Trait Anxiety Inventory as a standardized instrument to measure levels of both of these types of anxiety. Many studies (Abel & Larkin, 1990; Cox & Kenardy, 1993; Hamann, 1982; Hamann & Sobaje, 1983; Kendrick, Craig, Lawson, & Davidson, 1982; Kokotsaki & Davidson, 2003; Nagel, Himle, & Papsdorf, 1989; Ryan, 2004; Zinn, McCain, & Zinn, 2000) have utilized this instrument as a primary method of measuring self –reported anxiety.

Through the State-Trait Anxiety Inventory and other measures, a variety of factors that can contribute to music performance anxiety have been established. In many studies, performance anxiety has been found to have differing effects on performances of musicians of different genders (Abel & Larkin, 1990; Kokotsaki & Davidson, 2003; Osborne & Kenny, 2008; Rae & McCambridge, 2004; Ryan, 2004). Ryan (2004) noted that male and female piano students

reacted differently to high-stress performance situations. Utilizing heart rate monitors and behavioral observation, the study found that female students reached a higher heart rate before playing, while male heart rates were highest while performing. In addition, male students displayed anxious behaviors including movement of the arms, hands, feet, and legs, significantly more frequently than did females. Whereas Ryan (2004) measured physiological characteristics, Kotosaki and Davidson (2003) noted that college-aged senior females were more likely to report anxiety than were males when given the State-Trait Anxiety Inventory. The authors suggested this might be due to a greater willingness among females to self-report anxiety than males. Rae and McCambridge (2004) had similar findings among secondary-level music students, with females having higher levels of self-reported music performance anxiety compared to their male peers. As Abel and Larkin (1990) found, it may be that in high-anxiety situations, females tend to report greater subjective anxiety, while males tend to exhibit greater physiological responses.

Many studies have found that years of experience or performance level had little or no correlation to the amount of music performance anxiety experienced by a performer (Cox & Kenardy, 1993; Kirchner, 2003; Rae & McCambridge, 2004). Kirchner (2003), in particular, found that piano professors who gave multiple recitals suffered from the same physiological and psychological effects, as did many undergraduates. Conversely, Hamann's (1982) study of undergraduate and graduate music students found that while performers with a greater number of years of formal study may perform better in increased anxiety conditions, increases in performance anxiety were more commonly linked to self-reported high trait anxiety.

Research looking specifically at the performance anxiety levels of undergraduate music education majors is sparse. In one of the few studies that examined this issue, Conway, Eros, Pellegrino, and West (2010) found that the different emphases placed on music education majors made for a wider array of activities and foci. Undergraduates who focus primarily in performance generally are concerned with ensembles and practicing, while music education undergraduates have many of the similar tasks combined with the pressure to go into schools and teach as early as possible. Students in the study noted tension they experienced between practicing and educational aspects of their degrees. Additionally, music education undergraduates perceived themselves as having a different identity from performance students, due to their additional tasks (Isbell, 2006). Performance anxiety could affect music education majors differently due to this difference; this study intends to begin to look at this population. Therefore, the primary purpose of this study is to determine whether there are differences in self-reported levels of music performance anxiety between under- and upper-classmen music education undergraduate students.

Method

The participants were music education majors enrolled in four sections of a required woodwinds methodology course at a large university in Texas. Participants included 32 underclassmen (12 males and 20 females) and 24 upperclassmen (11 males and 13 females). Underclassmen were students in their first two years of undergraduate university study; upperclassmen were all other students.

Students self-assessed their performance anxiety by answering questions on a researcher-designed assessment tool, the Performance Anxiety Inventory (PAI). The instrument was based on the standardized State-Trait Anxiety Inventory (STAI), developed to measure self-reported levels of anxiety (Spielberger et al., 1983). The STAI measures two types of anxiety: state

(anxiety in a particular situation) and trait (general anxiety). The complete inventory contains two halves, each with 20 items using 4-point Likert-type scales.

The adapted Performance Anxiety Inventory contains 73 items using a 5-point Likert-type scale with response options that range from "Never" to "Always." The inventory begins with: "During a solo musical performance, in front of an audience of social and professional peers, I feel…" The items on the inventory include both positive and negative reactions and feelings that may exist during performances. Items on the inventory are divided into two groups: 47 statements regarding psychological effects of performance anxiety and 26 items regarding physiological effects. The possible score range of the instrument is from 73 to 365, with a higher score indicating a greater degree of self-reported music performance anxiety. Participants were given 20 minutes to complete the questionnaire at the end their class period. The researcher read the recruitment statement before distributing informed consent forms to those who chose to participate in the study.

Items for the inventory were checked for content validity by a panel of experts, which included an undergraduate music major, a doctoral performance major, and a music professor. A field test was conducted to check for clarity using three undergraduate music majors, including a vocal music education major, an instrumental music education major, and an instrumental performance major. The questionnaire was pilot tested with another section of the woodwinds methods course from which the population was drawn. Internal consistency for the inventory was deemed sufficient (Cronbach's alpha = .952).

Normality of the data was assessed through observation of the skewness and kurtosis values of the dependent variable (performance anxiety) for each level of the independent variable (undergraduate level of study) as well as the observation of the relevant histograms. No value exceeded one; therefore, the data were assumed to be normal. Homogeneity of variance was found to be violated (p = .003); therefore, an independent samples Student's t-test with equal variances not assumed was used.

Descriptive statistics, including ranges, means, and standard deviations were calculated for each level of the independent variable. Undergraduate level of study was determined through demographic self-responses from the participants. An independent samples Student's t-test with equal variances not assumed was calculated to compare underclassmen and upperclassmen means on the Performance Anxiety Inventory. An alpha level of .05 with a non-directional hypothesis was established for the analysis.

Results

A wider range of scores was reported for underclassmen (ranging from 114 to 267) than for upperclassmen (ranging from 153 to 224). While underclassmen performance anxiety scores (M = 180.594, SD = 40.331) were lower than were those of upperclassmen (M = 184.542, SD = 21.053), an independent samples Student's t-test with equal variances not assumed found no statistically significant difference between the means t (48.915) = -.474, p = .637, d = .123. The calculated effect size indicates no practical effect, according to Cohen's suggested cut-off of .2 for a small effect (Cohen, 1988). In addition, the 95% confidence interval of -20.677 and 12.782 captures zero, indicating that the result is not statistically significant from the null hypothesis (mean difference = 0), and therefore, the null hypothesis was not rejected.

Discussion

This study was conducted to determine whether there was a difference in self-reported music performance anxiety between underclassmen and upperclassmen level undergraduate music education majors. Subjects were given the Performance Anxiety Inventory (PAI), a researcher developed instrument that had been pilot tested on a similar population prior to the study. The lack of statistical significance and small effect size indicated that there was no difference between the groups, and therefore, the null hypothesis was not rejected.

The lack of difference between the means of the groups is consistent with previous literature that has shown increased experience level does not correlate with a decrease of performance anxiety (Cox & Kenardy, 1993; Kirchner, 2003; Rae & McCambridge, 2004). Cox and Kenardy (1993) noted that performance anxiety was no different for students with fewer years of study than for those with more experience. This supports the conclusion that the music education undergraduate population is similar to others previously examined in the literature. Although music education majors often have different perceptions of their own identity as musicians, as noted by Isbell (2006), this current study suggests that they may be similar to the general population of musicians in terms of music performance anxiety research.

There are certain variables that may have been unaccounted for in this study. Because this study measured only self-reported performance anxiety, subjects could misestimate their own levels of anxiety. As Abel and Larkin (1990) noted, females tend to self-report higher levels of anxiety, while males tend to exhibit greater physical symptoms of anxiety. Therefore, the results within each group could differ based on having unequal numbers of each gender within each group (underclassmen and upperclassmen). Additionally, the researcher-developed Performance Anxiety Inventory asked the subjects to visualize themselves in a solo performance situation, as opposed to giving the test during that type of situation, as is common with the State portion of the State-Trait Anxiety Inventory. Subjects could misestimate their recollections of music performance anxiety. The instrument could be modified and pilot tested again to see if it is as reliable in those types of situations.

Music performance anxiety can affect musicians at all levels. Previous research studies have tended to document that years of experience do not affect self-reported and physical measures of music performance anxiety. This study supports previous research while tentatively extending those generalizations to music education undergraduates, as opposed to a general musician population. Further research is necessary to examine music education undergraduates and their relationship with music performance anxiety. Due to their multifaceted identities, studies looking at relationships between music performance anxiety and speech anxiety among music education undergraduates would be useful in determining whether general anxiety exists across all aspects of music educators.

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