Correlating Music Preference and Anxiety Levels in College Music Students- A Survey Study

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ABSTRACT

In a previous study done by Rentfrow & Gosling (2003), music preference and depression were linked; however, there are no prior studies that have correlated music preference to anxiety levels, especially in college students. Aside from the selected participant group being highly accessible to the researcher, college students may be the largest consumers that listen to new music genres. This study aims to determine if there is a correlation between music preference and anxiety levels in college students. Research with updated music genre availability may contribute to the music education discipline. This quantitative study used two pre-established measures: The Short Test of Music Preference (STOMP) (Rentfrow & Gosling, 2003) and The State-Trait Anxiety Inventory (STAI) (Spielberger, Gorsuch, Lushene, Vagg, & Jacobs, 1983). Participants took about 10 minutes to complete both surveys and received refreshments for their efforts. Data were analyzed using the Pearson-product-moment correlation procedure to examine the bi-variate relationship between music preference and anxiety level. Descriptive statistics and figures for all variables were computed using Microsoft Excel (2018) and IBM Statistical Package for the Social Sciences (Version 27). Similar trends of music preference across different groups are displayed. Current state and trait anxiety are in the high percentile rank across normal groups of the same age. Some significant results were found where two similar genres, Rock and Alternative, had a negative correlation with state anxiety, and two others, Pop and Soundtrack, had a positive correlation with trait anxiety. It is suggested that Rock and Alternative genres can be relaxing for momentary feelings of anxiety, and Pop and Soundtrack genres may be stimulating for anxiety in general.

INTRODUCTION

•The Internet eased music selection through different platforms (Radocy & Boyle, 1988). Music streaming comes with on-demand song selection.

•Evolving music genres have expanded due to the increase of technology; Some of these genres may include explicit or violent lyrics (Anderson, Carangey & Eubanks, 2003; Nishina, 2017). Violent lyrics may cause intrusive thoughts which are possibly associated with anxiety.

•Most research uses an experimental design to test the effects of music on anxiety that may be experimentally induced (Kaempf & Amodei, 1989). These feature control groups, post test pretest methods, and experimentally induced anxiety. Most experiments feature music selected by the researcher or feature a music listening section.

•A study by Rentfrow & Gosling (2003) has found a link with music preference and depression, but there are few correlational studies on music and anxiety, especially in college students. The current research in this area will incorporate natural anxiety levels with a survey study design.

PURPOSE OF RESEARCH

This study aims to examine the following research questions:

1. What are the **music preferences** of college students?
2. What are the current **anxiety levels** of college students?
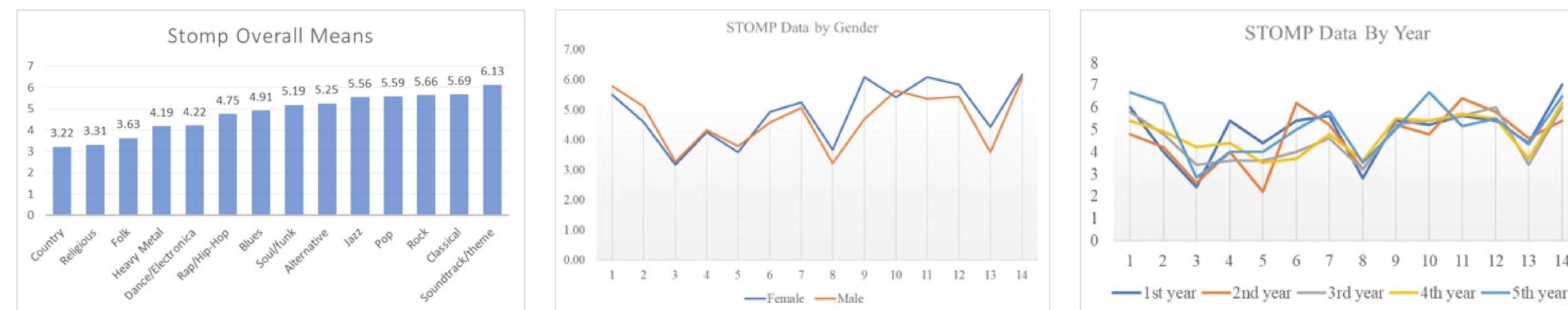3. Does music preference **correlate** with anxiety levels?

By answering the above, the researcher hopes to update current music preference research and increase **mental health awareness**

METHODS

• A convenience sample of (N=32) participants, ages 18-24, volunteered for the study. Participants must have been enrolled in a course at Texas A&M University-Kingsville during the Summer I 2023 semester.

• This study features a **quantitative** design, utilizing two surveys for an overall **correlation study** design.

• One survey is the **Short Test of Music Preference** (STOMP) (Rentfrow & Gosling, 2003). There are 14 music genres: Classical, Country, Blues, Country, Dance/Electronica, Folk, Rap/hip-hop, Soul/funk, Religious, Alternative, Jazz, Rock, Pop, Heavy Metal, and Soundtracks/theme songs. Participants marked responses on a 7-point Likert scale ranging from 1 (Strongly dislike) to 7 (Strongly like). If participants were unsure about a genre, they were asked to mark a 4 (neutral). This is a standardized survey with over 50,000 users. The **reliability** for the STOMP estimates to .7, indicating a good internal consistency.

• The next survey, also standardized, is the **State-Trait Anxiety Inventory** (Spielberger, Gorsuch, Lushene, Vagg, & Jacobs, 1983). The STAI included two forms: State Anxiety was measured with Form Y-1 that included 20 items, and Trait Anxiety was measured using 20 more items with Form Y-2. Both assessments used a 4-point Likert scale ranging from "Almost never" to "Almost always." State anxiety prompts the participants to mark their responses based on their current feelings in that moment. Trait anxiety asks for participants to record responses for how they feel in general or on a regular basis. The STAI was found suitable for individuals with at least a sixth-grade reading level. The **reliability** for both forms estimates to .9, indicating high internal consistency.

• The Procedure for this study began with the IRB approval. Summer Music faculty was emailed an Invite to Research. The faculty assisted with participant recruitment and posting flyers around the school of music. Students interested in volunteering showed up to the Music Lab to complete the surveys. Data collection was complete within a few hours. Refreshments were provided to participants as a token of gratitude.

RESULTS

• Data from the STOMP was analyzed through Microsoft Excel into 3 categories: STOMP overall, STOMP by Gender, and STOMP by Year at Institution.

Stomp Overall Means — Country 3.22, Religious 3.31, Folk 3.63, Heavy Metal 4.19, Dance/Electronica 4.22, Rap/Hip-Hop 4.75, Blues 4.91, Soul/funk 5.19, Alternative 5.25, Jazz 5.56, Pop 5.59, Rock 5.66, Classical 5.69, Soundtrack/Theme 6.13

STOMP Data by Gender

STOMP Data By Year

• **Descriptive statistics** using **raw scores** of the STAI forms Y-1 and Y-2 data (**Range of 20-80** for both Y-1 and Y-2):

STAI Test #	Mean	Standard Error	Standard Deviation
STAI Y-1 Total	49.44	.908	5.136
STAI Y-2 Total	51.63	.798	4.513

• Tests of Normality: **Shapiro-Wilk** establishes normality when >.05

STAI Test #	Significance
STAI Y-1	.571
STAI Y-2	.657

•Data was analyzed using **SPSS** and Pearson Product Moment Correlation
•All 14 STOMP genres were analyzed; Significant values are shown.

STOMP Category	STAI One Total	STAI Two Total
Alternative	-.422*	
Rock	-.408*	
Pop		.421*
Soundtrack/Theme		.361*

*. Correlation is significant at the 0.05 level (2-tailed).

• Two closely related genres, *Alternative* and *Rock*, showed a significant **negative correlation** with STAI form Y-1. These genres may **increase state anxiety with increased preference**.

• Two more genres, *Pop* and *Soundtrack/Theme*, displayed a positive correlation with the STAI form Y-2. This indicates that trait anxiety may increase with increased preference of these music genres.

DISCUSSION

•The STOMP illustrated similar trends when displayed on line graphs and separated by gender and year.

•Current anxiety levels of students at this institution are high, ranking from the 68 to 100 percentile.

•Correlations between 4 STOMP genres and the STAI suggests that anxiety levels may be linked to music preference.

•Current music preference highlights Soundtrack/Theme as most preferred and Country as least preferred.

•Trends in preference are similar across different years and gender.

•Alternative and Rock Genres may soothe state anxiety at a moment; Pop and Soundtrack/Theme songs may stimulate trait anxiety in general.

LIMITATIONS

•This sample was small, and most participants had musical training.

•Not a diverse subject pool; Individuals in this South Texas area are predominantly Hispanic.

•Findings may not be applicable to other generations/ages

FUTURE RESEARCH DIRECTIONS

•A larger sample that consist of college students with different majors may increase perspective and generalizability

•An updated STOMP with current music genres may expand the scope of examination.

•Research with different cultural and language backgrounds may produce cross cultural evidence.

•Longitudinal study that examines changes of music preference and anxiety levels may gain better understanding of this line of research.

REFERENCES

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