



Perceived Stress and Affect (Positive & Negative) in Musicians and Non-Musicians

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Abstract

The current study investigated the relationship between musical participation and emotional well-being. The study compared perceived stress and positive and negative affect levels among musicians and non-musicians. Participants included 100+ adults (18-25 years old) recruited through purposive sampling. Musicians actively played an instrument for at least 2 years with

regular practice, while non-musicians had minimal or no musical experience. The Perceived Stress Scale ("PSS") measured perceived stress, and the Positive and Negative Affect Schedule ("PANAS") assessed positive and negative emotions. Descriptive statistics summarized the data for each group. Normality tests confirmed data suitability for parametric analysis. Independent samples t-tests compared musicians and non-musicians on all variables. The results revealed no significant differences between the groups in perceived stress, positive affect, negative affect, perceived helplessness, or lack of self-efficacy. Contrary to our initial hypothesis, musicians did not report lower stress or higher positive affect compared to non-musicians. Further research might explore the influence of factors like music genre, practice intensity, or performance anxiety on emotional well-being in musicians.

Keywords: *Perceived stress, Positive Negative affect, "PSS", "PANAS", Music*

Introduction

Music and Emotion

Music is a powerful force that transcends cultures and permeates our lives. It could evoke a wide range of emotions, from joy and serenity to sadness and anger. The current research explores the influence of music on stress and emotional well-being, with a particular focus on the experiences of musicians compared to non-musicians.

Musicians and non-musicians experience stress in distinct ways. For musicians, a major source of stress is centered around performance. The pressure to excel can manifest in anxieties around delivering flawless performances and meeting high artistic standards. The competitive

nature of the field adds another layer of stress, pushing musicians to constantly hone their skills through demanding practice schedules.

Non-musicians, on the other hand, face stress primarily related to their professional lives. Work demands, meeting deadlines, and navigating complex workplace dynamics are significant sources of strain. Financial concerns, including managing bills, debts, and economic uncertainties, also weigh heavily. Social interactions add another dimension of stress, as maintaining relationships, navigating social norms, and dealing with conflicts can be challenging.

Impact of Musical Activity on Perceived Stress

Active music-making, which involves playing an instrument, singing, or composing, offers a powerful stress-relieving experience. During active participation, individuals experience a state of flow, where their focus is completely absorbed in the creative act. This allows for expressive release, reducing tension and promoting emotional well-being. Furthermore, active music-making engages multiple brain regions, enhancing cognitive functions like memory and problem-solving, while providing an outlet for processing emotions and reducing anxiety.

Passive music listening, on the other hand, involves a more receptive engagement with music, such as listening to recordings, attending concerts, or enjoying playlists. While not as directly stress-relieving as active music-making, passive listening still offers benefits. Calming or uplifting music can lower cortisol levels (the stress hormone) and promote relaxation. Music can also serve as a distraction from daily worries, providing a mental escape. Certain songs can evoke memories, emotions, and nostalgia, creating a sense of comfort and positive feelings.

Influence of Musical Genres

The specific genre of music can also influence its impact on stress. Classical music, with its intricate melodies and harmonies, is often associated with relaxation. Listening to classical pieces can have a calming effect. Jazz, characterized by improvisation and syncopated rhythms, can be both exciting and relaxing, with smooth or cool jazz offering particularly soothing qualities. Rock and pop music offer a wider range of influences, with some finding rock anthems energizing and stress-relieving, while others prefer softer ballads. Ultimately, personal preference plays a significant role in determining the most stress-relieving music for everyone.

The Influence of Music on Positive Affect: Participation vs. Listening

Musicians and non-musicians experience the mood-boosting effects of music differently. Active music participation offers unique advantages. Playing an instrument, composing, or singing allows musicians to express emotions, manage stress, and find comfort. Creating music becomes a powerful outlet, leading to frequent positive emotions. The state of flow, where musicians become fully immersed in the creative process, further contributes to their happiness.

For non-musicians, the benefits come primarily through passive listening. Calming melodies, uplifting tunes, or nostalgic songs can evoke positive feelings and provide a mental escape. Interestingly, studies suggest that there may not be a significant difference in overall happiness and emotional well-being between musicians and non-musicians. Both groups find solace in music, although through different avenues.

Stress Relief Melodies: Musicians vs. non-musicians

Musicians and non-musicians turn to different tools when facing stress. For musicians, music itself becomes a central coping mechanism. Playing instruments, composing, or simply listening to music allows them to express emotions and find release from stress. The act of creating music fosters emotional processing and regulation, leading to a calmer state.

Non-musicians have a broader range of coping strategies. Social support from friends and family plays a significant role, offering a listening ear and a sense of connection. Actively tackling challenges head-on and engaging in hobbies are other common approaches. Relaxation techniques also contribute to stress reduction. Interestingly, music listening can still be a valuable tool for non-musicians. Uplifting melodies and familiar tunes can provide emotional comfort and a mental escape from daily pressures.

The Moderating Role of Musical Skill Level

The impact of music on stress and emotional state can vary depending on an individual's musical skill level.

Professional musicians experience a unique interplay between stress and artistic fulfillment. The pressure of performance, auditions, and maintaining a high level of artistry can lead to significant stress. However, professional musicians also derive immense satisfaction from their mastery. The joy of creating, interpreting music, and connecting with audiences contributes positively to their overall emotional well-being.

Amateur musicians face a different set of challenges. They often juggle their musical pursuits with other life responsibilities like work and family. Their stress levels may depend on how effectively they manage this balance. Despite these challenges, playing music provides a sense of accomplishment and fulfillment for amateur musicians. They experience positive emotions during practice sessions or community performances.

For casual music listeners, music primarily serves as a stress-reliever. Listening to favorite songs can soothe nerves, elevate mood, and provide a form of emotional escape. Music also evokes memories, nostalgia, and emotional resonance for casual listeners. Certain songs can trigger specific feelings, shaping their overall affective experience.

Intensity and Duration of Musical Involvement

The intensity and duration of musical involvement also play a role in shaping emotional well-being. Regular practice, rehearsals, and performances can have varying impacts on stress levels depending on an individual's skill level. For example, the demands of frequent performances may cause more stress for professional musicians than for amateurs. The duration of musical involvement also shapes affect. Whether it's a lifelong commitment or an occasional hobby, music leaves lasting emotional imprints on individuals. Long-term engagement with music can contribute to a person's overall emotional well-being.

Methodology

Purpose Of the Present Study

The purpose of the study was to examine the connection between being a musician and emotional well-being in young adults. This was achieved by investigating two key aspects of emotional experience: perceived stress and positive and negative emotional affect, as measured by the PANAS tool.

The objective of the study was to gain a comprehensive understanding of the link between musical participation and emotional well-being in young adults. To achieve this, researchers compared perceived stress levels between musicians and non-musicians using the PSS scale. Additionally, they investigated emotional response by comparing positive and negative affect (measured by PANAS) between the groups. Finally, the study explored the relationship between perceived stress and both positive and negative affect within each group, aiming to reveal if stress impacts emotional experiences similarly for both musicians and non-musicians, or if there are any differences related to musical participation. By examining these aspects, the research sought to provide a clearer picture of how actively engaging with music might influence emotional well-being in young adults.

Hypotheses

- H1: Musicians will report lower levels of perceived stress ("PSS") compared to non-musicians.

- H2: Musicians will report higher levels of positive affect ("PANAS") compared to non-musicians.
- H3: There will be a significant negative correlation between perceived stress ("PSS") and positive affect ("PANAS") in both musician and non-musician groups.
- H4: There will be a significant positive correlation between perceived stress ("PSS") and negative affect ("PANAS") in both musician and non-musician groups.

Sample

The study investigated the link between musical participation and emotional well-being in young adults (18-25 years old). Researchers recruited two distinct groups: musicians (playing an instrument for at least 2 years with regular practice) and non-musicians (minimal or no musical experience). A purposive sampling strategy ensured participants met these criteria. Recruitment methods could include online databases of music schools (for musicians), online participant pools (for both groups), social media platforms, flyers, online postings, or partnerships with music schools, church music bands, and college music societies. All participants had to be free from diagnosed mental health conditions that could significantly impact stress or emotional affect. The target sample size was at least 100 participants, with at least 50 in each group.

Instrument

The research utilizes the *Perceived Stress Scale (PSS)* and *Positive and Negative Affect Schedule (PANAS)* to assess stress and emotional states in participants. The PSS, a 10-item self-report measure, gauges perceived stress levels over the past month. Scores are derived by summing ratings on a Likert scale. Higher scores indicate greater perceived stress. The PANAS, a 20-item self-report measure, assesses both positive and negative emotions. It consists of two 10-item subscales: Positive Affect (PA) and Negative Affect (NA). Scores are calculated by summing ratings on a Likert scale. Higher positive affect scores reflect greater positive emotions, while higher negative affect scores indicate stronger negative emotions. Both instruments offer reliable and valid measures for stress and emotional states research. The PSS is beneficial for assessing non-specific perceived stress, while the PANAS provides a more comprehensive picture of affective states by encompassing both positive and negative emotions.

Design

The study investigated the potential link between musical participation and emotional well-being. The study aimed to understand if musicians experience lower levels of perceived stress and higher levels of positive emotions compared to non-musicians. The study employed a quantitative, cross-sectional survey design.

There were two participant groups: musicians who actively play an instrument for at least two years with regular practice (at least twice a week), and non-musicians with minimal or no musical experience. Both groups were within the age range of 18-25 years old to control for

potential developmental effects on stress and affect. We aimed for a minimum of 100 participants in each group to ensure sufficient data for analysis. Data collection was conducted through an online survey platform. The survey consists of three main sections.

The first section gathered basic demographic information such as age, gender, and education level. The second section utilized a validated and standardized self-report measure of perceived stress, such as the Perceived Stress Scale ("PSS"). Finally, the third section employed a validated scale to measure positive and negative emotions, like the Positive and Negative Affect Schedule ("PANAS"). Statistical software was used to analyze the collected data. Descriptive statistics, including means and standard deviations, was used to summarize perceived stress and affect scores for each group (musicians and non-musicians). Independent samples t-tests were then conducted to compare these scores between the two groups.

Additionally, we explored potential relationships between variables, such as music practice frequency and stress levels, through further analyses like correlations.

While this study relied primarily on self-reported data, we acknowledge the potential benefits of incorporating external data or employing a more objective approach. Some potential options include Physiological measures of stress response, such as heart rate variability (HRV) or cortisol levels, could be collected alongside self-reported stress for a more comprehensive picture. Including a short music performance task for musicians and a non-musical control task for non-musicians could provide insights into performance anxiety or task-related stress.

A longitudinal design following participants over time could offer a more robust understanding of the causal relationships between music participation, stress, and affect. However, this design requires a longer timeframe and more resources.

Ethical considerations are paramount throughout the research process. Informed consent was obtained from all participants, and the study complied with established ethical guidelines for research involving human subjects. We ensured anonymity and confidentiality of all participant data.

Result

The sample consisted of 104 participants, with 54 from the Musicians group and 50 from the non-musicians group. The sample had 53 females and 51 males. The data was not normally distributed.

Table 1

Descriptive statistics of study variables

		Mean	Standard Deviation
1	Positive affect	33.48	6.81
2	Negative affect	26.59	7.71
3	Perceived stress	21.72	4.79
4	Perceived helplessness	12.91	4.74
5	Lack of self-efficacy	8.80	2.61

Table 1 represents the descriptive statistics (mean and standard deviation) of all the study variables – affect (positive affect, negative affect), perceived stress (perceived helplessness, lack of self-efficacy).

Table 2*Normality test among musicians and non-musicians' participants for study variables*

		Kolmogorov-Smirnov ^a			Shapiro-Wilk		
Have you been practicing music for 2+ years. (Play a Musical Instrument)		Statistic	df	Sig.	Statistic	df	Sig.
Positive affect	No	.108	50	.198	.972	50	.282
	Yes	.081	54	.200 [*]	.964	54	.108
Negative affect	No	.141	50	.015	.980	50	.567
	Yes	.102	54	.200 [*]	.967	54	.140
Perceived stress	No	.092	50	.200 [*]	.969	50	.220
	Yes	.067	54	.200 [*]	.977	54	.394
Perceive helplessness	No	.081	50	.200 [*]	.987	50	.848
	Yes	.124	54	.037	.969	54	.173
Lack of self efficacy	No	.101	50	.200 [*]	.966	50	.154
	Yes	.118	54	.060	.973	54	.260

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Table 2 represents the normality test statistics among musicians and non-musicians' participants for the study variables. The Shapiro-Wilk Sig. index indicates that the data for the study sample was normally distributed for affect (positive affect, negative affect), perceived stress (perceived helplessness, lack of self-efficacy) suggesting parametric condition.

Table 3*T test between musicians and non-musicians' participants across study variables*

	Mean	SD	T	Sig. (2 tailed)	Result
Positive affect					
Non-musicians	32.38	6.88	1.59	.11	NS
Musicians	34.50	6.64			
Negative affect					
Non-musicians	26.70	7.28	.13	.89	NS
Musicians	26.50	8.16			
Perceived stress					
Non-musicians	21.94	4.55	.44	.65	NS
Musicians	21.51	5.04			
Perceived helplessness					
Non-musicians	13.22	4.34	.63	.52	NS
Musicians	12.62	5.10			
Lack of self-efficacy					
Non-musicians	8.72	2.37	.33	.74	NS
Musicians	8.88	2.83			

NS-Not significant, S-Significant

Table 3 represents the t statistics between musicians and non-musicians on affect (positive affect, negative affect), perceived stress (perceived helplessness, lack of self-efficacy). Results suggested that there is no significant difference in the affect (positive affect, negative affect), and perceived stress (perceived helplessness, lack of self-efficacy) between the two sample groups.

Discussion

The type of music itself might also be relevant. Research by Peck (2021) suggests that specific genres or self-selected music might be more effective for stress reduction than others. Our musician participants might not have been exposed to music that they found particularly relaxing or stress-relieving. The chosen music might not have aligned with their individual preferences, potentially diminishing its impact. Furthermore, the way musicians interact with music is distinct from non-musicians. For them, music is often intricately tied to practice, performance, and even livelihood. This constant engagement with music could make it less effective as a relaxation tool compared to non-musicians who might experience music as a more passive and leisure activity.

Studies by Usry (2006) highlights the effectiveness of relaxation techniques in general, and music might not be the most effective technique for all musicians, especially when it's so closely linked to their professional lives. Finally, baseline stress levels might also play a role. Our study design might not have accounted for potential differences in stress levels between musicians and non-musicians before the intervention. Musicians might already experience lower baseline stress due to the emotional benefits they derive from playing music. In this case, the music intervention might not have had a significant impact because their stress levels were already relatively low. By investigating these possibilities in future research, we can gain a clearer understanding of why music might not have reduced stress for musicians in our study. Exploring individual music preferences, the type of music used, and potential differences in baseline stress levels could provide valuable insights for future investigations into the complex relationship between music and emotional well-being in musicians. Our study investigated the connection between active musical participation and emotional well-being in young adults. We compared perceived stress and emotional affect (both positive and negative) between musicians and non-musicians.

Limitations and Considerations for Future Research

The research acknowledges some limitations and proposes exciting avenues for future exploration in the music-stress connection for musicians.

This study acknowledges limitations that offer exciting opportunities for future research on the music-stress connection in musicians. A larger and more diverse sample size, along with including a wider age range, would strengthen the generalizability of findings. Future studies could also delve deeper into the specifics of musical experience, such as the type of music played, practice intensity, and performance experience, to see how these factors influence emotional well-being. Additionally, considering gender as a variable is important to understand how music participation, emotional response to stress, and gender identity interact. Furthermore, longitudinal studies tracking musicians over time can offer valuable insights into how sustained musical participation shapes emotional well-being throughout their journey. Finally, there's promise in researching specific music-based relaxation techniques. Investigating the effectiveness of tailored music making or focused music listening based on individual preferences could provide practical tools for musicians to manage stress through their musical background. By addressing these limitations and pursuing these future directions, researchers can gain a deeper understanding of the complexities of the music-stress connection in musicians and empower them to utilize music's potential as a powerful tool for emotional well-being.

By addressing these limitations and pursuing these future directions, researchers can gain a deeper understanding of the complexities of the music-stress connection in musicians. This knowledge can empower musicians to utilize music's potential as a powerful tool for emotional well-being.

Conclusion

The study examined the association between active musical participation and emotional well-being in young adults. We compared perceived stress and positive and negative affect between musicians and non-musicians. Contrary to our initial hypothesis, the results did not reveal significant differences in perceived stress, positive affect, negative affect, perceived helplessness, or lack of self-efficacy between the two groups. While these findings offer valuable insights, they also highlight the complexity of the music-stress relationship and the need for further exploration. The current study employed a standardized approach to assess emotional well-being in musicians and non-musicians. Utilizing established measures like the "PSS" and "PANAS" ensured reliable data collection, and the sample size of over 100 participants allowed for initial investigation.

However, some limitations warrant consideration for future research. Specificity of Musical Participation: The study treated all musical experience similarly, without distinguishing between genres or styles. Research suggests that the emotional impact of music might vary depending on the type of music played or listened to. Future studies could explore the influence of specific musical genres (classical vs. rock) on emotional well-being to provide a more nuanced understanding. Practice Intensity: The minimum requirement of two years of playing experience might not capture the full picture. Future research could delve deeper by categorizing musicians based on practice frequency or duration to examine potential variations in emotional well-being. Performance Anxiety: The study focused on general stress but did not specifically address performance anxiety, a significant stressor for many musicians. Performance anxiety could potentially counteract the mood-boosting effects of music playing. Future studies that incorporate measures of performance anxiety alongside general stress measures can provide a more

comprehensive understanding of how music participation influences emotional well-being in musicians.

In conclusion, while this study did not find a direct association between active musical participation and reduced stress or increased positive affect in young adults, it highlights the need for further exploration that considers the multifaceted nature of musical experience. By investigating the potential influence of factors like music genre, practice intensity, and performance anxiety, future research can shed light on the complex interplay between music and emotional well-being in musicians. This knowledge can empower musicians and educators to utilize music's potential for promoting not just musical skills but also emotional well-being.

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