The Global Journal of Contextual Thought
(A Double-Blind, Peer-Reviewed, Quarterly, Multidisciplinary Journal)
Volume: 1, Issue: 2 October, 2025 Home Page: www.tgjct.org Email: editor@tgjct.org ISSN: 3107-7528 (Online)

Music and Career: Unravelling the Mental Development of Learners at Higher Secondary School Level

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DOI: https://doi.org/10.70798/TGJCT/01020005

Abstract

The intersection of music and career development among higher secondary school learners is a captivating and intricate field of inquiry. To explore this relationship, a study was conducted aiming to assess how the duration and dimension of music listening influence mental development, particularly concerning male and female learners at the higher education level. Employing a mixed-methods approach, 1332 students (831 female, 501 male) from various higher secondary institutions across India were randomly sampled. Data collection utilized both physical and online modes, employing self-made standardized tools to gauge music listening habits, duration, dimensions, and mental development. The results of the study unveiled a consistent pattern: regardless of the duration, regular exposure to music had a positive influence on promoting higher levels of career development. This highlights the potential of music as a beneficial tool in supporting for career development through cognitive processes and overall learning outcomes among students. Moreover, the findings indicated that different categories of music had a positive impact on career development, regardless of the specific genre being listened to. The study also shed light on gender-based differences in music preferences and their impact on career development. It revealed significant disparities between male and female respondents in terms of music listening habits, preferred types of music, and subject preferences ($t= 2.91 > 2.58$, $p < \alpha$ for habits; $t= 2.82>2.58$, $p < \alpha$ for music types; $t= 2.80 > 2.58$, $p < \alpha$ for subjects), offering valuable insights into how gender influences individuals' choices regarding music and its effects on career development. Overall, the study underscores the positive role of music in career development across various academic discipline, highlighting its potential as a supportive tool for enhancing learning and engagement, particularly in subjects that may benefit from increased various career stimulation through musical stimuli.

Keywords: *Career Development, Gender, Higher Education Level, Learners, Music*

Introduction

Throughout ages music has been recognized as an innate expression of mankind and their experiences and has immense benefits to human beings. Sama Veda, among all the Vedas is considered as the origin of Indian music. Since then, music is not only the medium for prayer in our religious ceremonies but also stands as a medium of entertainment and social occasion. Music is a rhythmical pattern of creation of sounds which penetrates deep into our soul and affects every aspect of our being. The vibration produced by music has the ability to awake our consciousness and takes us beyond the quality of life. Music with its pervasive effect on us has been a subject of research on the field of education and its impact on the learners. Music profoundly influences our mood, uplift it and possesses remarkably healing capacities. To keep our brain engaged during the inevitable process of ageing, listening to or playing music plays a crucial role. We feel ourselves swayed and moved whenever we get an

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opportunity to listen to music, be it on a shopping spree or in a theatre. Irrespective of our age, gender, caste, creed and socio-economic status music doesn't only impact the life of every individual but also helps in associating our behavior accordingly with shifting moods. Music can be a powerful tool with its ability to evoke strong emotional responses. We listen to the songs that we pair with our emotions, anger, sadness or happiness, and thus music validates our present state of emotions there by helps us to reach our emotional destination. The knowledge of pairing the right music with one's current mood helps to develop self-regulation. Music doesn't only create an impact on our habits and behavior but also acts as a motivator, a timer for completing any assigned tasks and acts as an enhancer of mood. Music, the art of compilation of sound, melody and rhythm expresses a significant form of emotions and ideas. Music is the beat that keeps our heartbeats healthy, changes our perception, helps to correlate with the hard emotions of life, gives a frission, enriches the retention power of memory, acts as a distressor and a powerful healing tool. Music speaks the universal language of humanity. Not even so there are some communities like Native Americans who believed that the power of music is so pervasive that it was through the song of a great deity the world was created. Apart from this, some other sources like tales from classical mythology, ancient history and the Bible are also treated as foundations for musical knowledge. According to Hindu rituals music is the key to connect with God and helps in embracing spirituality essence. For centuries the Indian classical music is a timeless art form that has been silently woven into the culture as an avenue of healing and connecting humanity. Rooted in the ancient traditions of India, this melodic treasure trove is not only a delight to our auditory functions but classical Raga therapy has demonstrated remarkable potential of healing body, mind and spirit. As colors affect moods so does music.

Rationale of the study

Various literature reviews explore how music can contribute to the mental development of learners. It covers various aspects, including the expression and regulation of emotions through music, the enhancement of empathy and mental intelligence, and the role of music in reducing stress and anxiety (Li et al., 2022; Liang et al., 2022). The review also examines empirical studies on the influence of music on mental achievement, discussing the research designs and measurements used, as well as key findings and implications for practice. It addresses challenges such as limitations of music education, issues of access and equity, and the importance of teacher training in integrating music into education. Furthermore, the review provides recommendations for integrating music into diverse educational settings, policy implications, and areas for future research. By examining the existing literature, this review aims to provide educators, researchers, and policymakers with a comprehensive understanding of the potential benefits and challenges of incorporating music into education. Music is a widely recognized means of expression and communication that has a positive impact on people of all ages and cultures worldwide (Angel-Alvarado et al., 2022; Varadi, 2022; Wang et al., 2022). Engaging in musical activities not only provides relaxation but also offers various beneficial effects (Krupke, 2003; Hasanova, 2021). Previous studies have shown that music strategies can improve student achievement, making learning easier, faster, and more enjoyable. Music enhances memory, mental engagement, creativity, consciousness, and spiritual connection. Throughout history, music has been associated with physical and mental healing. Ancient cultures used music for trance induction and prescribed it to alleviate fear, anxiety, and emotional distress. Music has a physiological effect on the body, influencing pulse, respiration rates, blood pressure, and emotional responses. Different aspects of music, such as pitch, tempo, and melody, can evoke different emotional and physical responses. High-pitched, fast-paced music can increase anxiety, while low-pitched, slow-tempo music tends to have a calming effect. Music has been found to induce relaxation and reduce stress, making it a potential tool for coping with pain and anxiety (Hendricks et al., 1999; Davis, 2010; Ozer & Demirbatir, 2023). This review emphasizes the importance of music education in promoting mental and emotional well-being among learners and highlights the need for further research and support in integrating music into educational practices.

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Objectives of the Study

1. To assess the influence of music on career development of learners at higher secondary school level.
2. To analyse the influence of dimension of music on career development of learners at higher secondary school level.
3. To study how music influence male and female learners for their career development at higher secondary school level.

Hypotheses

$H_0$1: There would have a different level of influence of music on career development of learners at higher secondary school level.

$H_0$2: Influence of music on various dimensions would have different consequences on the career development of learners at higher secondary school level.

$H_0$3: Influence of Music would have a significant relationship between male and female learners pertaining to their career development at higher secondary school level.

Research Methodology

Design of the Study

This study follows a descriptive survey design, which is quantitative in nature.

Sample

The sample of the study consists of 1332 higher secondary school students selected from private and government school in West Bengal, Jammu, Assam, Delhi, Uttar Pradesh, Haryana, Jharkhand, Orissa.

Tools

To collect data to collect data on the relationship between various subjects and mental development through music among higher secondary school students, the researchers designed a self-made questionnaire. With 12 closed items, utilizing a five-point Likert scale with response options: Strongly Agree, Agree, Undecided, Disagree, and Strongly Disagree. Each correct response was assigned a score, with the highest correct response receiving five marks and the lowest correct response receiving one mark. This scoring system allowed for a comprehensive assessment of the influence of music on learners' career development at higher secondary school level. Out of the 12 items, eight items represented positive responses, with scores ranging from five to one (Strongly Agree to Strongly Disagree). Conversely, four negative items had scores ranging from one to five (Strongly Agree to Strongly Disagree).

Result and Discussion

$H_0$1: ***There would have a different level of influence of music on career development of learners at higher secondary school level.***

From Table 1, the respondents' music listening habits are detailed as follows: 420 students intend to listen to music for an hour a day, 354 listen for more than an hour a day, 468 listen for most of the day, 39 listen the entire day, and 51 do not listen to music at all.

Based on student responses, those who listen to music for an hour a day have a high mental development level of 177, an average mental development level of 243, and an academic achievement of 66.82%. Among the 354 students who listen for more than an hour a day, the high development level is 152, the average mental development level is 202, and their academic achievement is 66.09%. Students who listen to music most of the day show a high mental development level of 250, a low mental development level of 218, and an academic achievement of 67.60%. For the 39 students listening the entire day, the high mental development level is 39, the low mental development level is 24, and their academic achievement is 71.06%. Among the 51 students who never

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listen to music, the high mental development level is 19, the average mental development level is 32, and their academic achievement is 64.28%.

Table 1:

Duration of Listening Music by Respondent	Level of Mental Development of Learners				Gain Scores of Learners on Mental Development	Percentage of Gain Scores of Learners on Mental Development
	No. of Response (Frequency)	Higher Level	Average Level	Low Level		
a) An hour a day.	420	177	243	0	16841	66.83%
b) More than an hour a day.	354	152	202	0	14038	66.09%
c) For the whole day.	39	24	15	0	1663	71.06%
d) Most of the day I like to listen music.	468	250	218	0	18984	67.61%
e) Do not like to listen music.	51	19	32	0	1967	64%
	Total No. of Respondents 1332					

These results indicate that students who listen to music all day exhibit the highest academic achievement levels, suggesting they are very mentally active. Students who listen to music for an hour or more daily also show high academic achievement. This supports the hypothesis that music positively influences memory, concentration, and attention, significantly impacting academic performance. Thus, music engagement correlates with notable improvements in students' study habits and mental development.

$H_0$2: ***Influence of music on various dimension would have a different consequence on the career development of learners at higher secondary school level.***

From table no. 2 depending on the types of music listen by the respondents on mental development, total number of respondents who listen to rock music is 71, number of respondents who listen to folk songs is 52 while the number of respondents who prefer to listen to the genre of classical music is 405. 291 respondents listen to devotional songs whereas 369 respondents listen to any type of songs except the mentioned four.

According to this table among 171 total number of respondents who listen rock songs, 111 respondents scores higher level of mental development and remaining 60 of them shows average level of mental development while the percentage of gained score of learners on mental development is 68.98. Out of 96 respondents who engage themselves in listening folk songs, 52 respondents shows higher level of mental development and 44 respondents have average level of their mental development and percentage of gained score under this table is 70.26. Learners who responded in favour of listening classical music is 405 among which 142 respondents suggest higher level of mental development while 263 students have average level of mental development but their gained score of mental development is 66.47%. 291 learners have responded for devotional songs. Among these categories of respondents 180 shows average level of mental development and remaining 111have higher level of

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mental development and their gained score of mental development is 65.85%. Learners who have responded for other types of songs without any specification of genre are 369 among whom higher level of mental development has taken place among 206 respondents and 163 have average level of mental development. 67.70% is the gained score of learners who listen to different types of songs.

Table 2:

Types of Listening Music by Respondent	Level of Mental Development of Learners				Gain Scores of Learners on Mental Development	Percentage of Gain Scores of Learners on Mental Development
	No. of Response (Frequency)	Higher Level	Average Level	Low Level		
a) Rock Song	171	111	60	0	7077	68.98%
b) Folk Song	96	52	44	0	4047	70.26%
c) Classical Song	405	142	263	0	16153	66.47%
d) Devotional Song	291	111	180	0	11497	65.85%
e) Others Song	369	206	163	0	14989	67.70%
	Total No. of Respondents 1332					

Thus, the data supports the idea that types of music listen by respondents have significant role in shaping the mental development of higher educational learners with different genres of yielding different impacts on academic outcomes.

The study reveals that music exerts varying effect on the mental development of learners. Different genre of music has different level of influence on mental development of learners. Among total 171 respondents who favored rock songs, 111learners exhibited high level of mental development. Similarly, among 96 folk songs listeners who were deeply immersed in regional culture, 52 individuals showcased high level of mental development. In both these cases the number of learners comprising the average level of mental development was lower than the higher level of mental development. For the rock songs listeners, the gained score of mental development was 68.98% while the result that revealed the percentage of gained score of learners on mental development was distinctly higher for the folk song listeners and the gained score was 70.26. Analysis of the table clearly points out that number of learners who responded in favor of listening classical music was the highest and the total number was 405 listeners. Strikingly, the result unveiled that the classical music aficionados exhibited an average level of mental development with only 142 learners displaying high level of mental development while the double number, exactly 263 learners, under this category showed moderate mental development. Moving on to devotional music enthusiasts there laid a tendency of more average level of mental development among learners. Contrastingly, 369 students who opted for listening various types of songs other than rock, folk, classical and devotional exhibited 67.70% as their gained score of mental development. Under this category 206 respondent scored high level of mental development while 163 showed average mental development.

This study shows that music enthusiasts who are associated with folk songs and rock songs exhibits higher percentage of mental development and therefore a better academic performance is expected. To convey otherwise, types of music undoubtedly exert varying effects on the academic outcomes of the higher educational learners and influences the mental development of the learners.

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$H_0$3: ***Influence of Music would have a significant relationship between male and female learners pertaining to their career development at higher secondary school level.***

Table 3:

Influence of Music on Subjects	Level of Career Development of Learners												Gain Scores of Learners on Career Development			Percentage of Gain Scores of Learners on Career Development		
	No. of Response (Frequency)			Higher Level			Average Level			Low Level			Female	Male	Total	Female	Male	Total
	Female	Male	Total	Female	Male	Total	Female	Male	Total	Female	Male	Total						
a) Science	57	60	**117**	27	21	**48**	30	39	**69**	0	0	**0**	2273	2356	**4629**	32.37 %	33.56 %	**65.94 %**
b) Social Science	75	27	**102**	44	06	**50**	31	21	**52**	0	0	**0**	3041	1046	**4087**	49.68 %	17.09 %	**66.78 %**
c) Language	207	36	**243**	64	18	**82**	143	18	**161**	0	0	**0**	8154	1431	**9585**	55.92 %	10.24 %	**65.50 %**
d) Professional Course	165	171	**336**	83	92	**175**	82	79	**161**	0	0	**0**	6709	7142	**13851**	33.27 %	35.42 %	**68.71 %**
e) Others	327	207	**534**	162	105	**267**	165	102	**267**	0	0	**0**	13172	8473	**21645**	41.11	26.44	**67.55 %**
	Total No. of Respondents 1332																	

The 3rd table demonstrates that listening to music has a positive impact on the mental development of both male and female students across various subjects, with no significant differences between genders. For science subjects, both 60 male and 57 female students had a mental development level of 65.94%. Among these, 21 male students exhibited high mental development, while 39 had average development, resulting in a gain score of 33.56%. For females, 27 students had high mental development, and 30 had average development, with a gain score of 32.3%. In social science subjects, 37 male students and 65 female students showed a mental development level of 66.78%. Of the male students, 6 demonstrated high mental development, and 21 had average development, with a gain score of 17.09%. Among females, 44 showed high mental development, and 31 had average development, leading to a gain score of 49.68%. For language subjects, 36 male students and 207 female

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students had mental development levels of 65.74%. Among the males, 18 students were in the high mental development category, and 18 were in the average category, with a gain score of 10.24%. For females, 64 had high mental development, and 143 had average development, with a total gain score of 55.92%. In professional courses, 171 male and 165 female students showed a high mental development level of 68.71%. Of these males, 92 exhibited high mental development, and 79 had average development, resulting in a gain score of 35.42%. Among females, 83 had high mental development, and 82 had average development, leading to a gain score of 33.27%. Lastly, in other courses, 207 male students and 327 female students had a mental development level of 67.56%. Among the males, 105 had high mental development, and 102 had average development, with a gain score of 26.44%. For females, 162 showed high mental development, and 165 had average development, resulting in a gain score of 41.11%. Overall, these results suggest that listening to music while studying positively influences mental development in both male and female students across various subjects. The data indicates that the effect of music on mental development is similar for both genders, thereby proving that music has a universally beneficial impact on students' mental development regardless of gender.

These results suggest that listening to music positively influences cognitive enhancement and mental development across all subjects for both genders. The mental development levels are consistently high, with minor variations in gain scores between male and female students. This indicates that music's effect on mental development is universal and not influenced by gender. The higher gain scores for females in social science and language subjects might suggest that females experience slightly more pronounced cognitive benefits in these areas, but overall, the benefits of listening to music while studying are evident for all students. These findings support the integration of music into educational strategies to enhance learning outcomes and cognitive development universally.

Major Findings

- Extensive duration of listening music positively influenced mental achievement of learners.
- Listing various types of music also influenced mental achievement of learners.
- Devices used to listen music has remarkably influenced mental achievement of learners.
- Music also influenced study habit and mental achievement of learners.
- Influence of music as a learning style on mental achievement had been revealed based on various subjects.
- No significant differences have been found among the learners in the influence of music as a learning style on mental achievement based on their field of study, such as Science, Social Science, Literature, other subjects, and professional courses at the higher education level.

Discussion

The data reveals that different learners have varied preferences when it comes to music, with rock being mentioned by participants. However, the influence of rock music on mental achievement appears relatively lower compared to other genres. Whereas, the number of responses for folk music is not provided, so no specific conclusions can be drawn about its preferences or its influence on mental achievement based on the given data. Meanwhile, the classical music is highly preferred by the participants, and it shows a high mental achievement percentage. Classical music is often associated with relaxation, focus, and emotional depth, contributing positively to mental well-being. (Stewart et al., 2019). Participants, also mentioned "other" as their preferred type of music. Without specific genre details, it is challenging to draw precise conclusions. However, the high mental achievement percentage suggests that these participants find satisfaction and positive experiences in their preferred "other" music. Participants similarly reported none of the provided genres as their preferred type of music. Despite not aligning with the listed options, they still experience some level of mental satisfaction or enjoyment in their preferred music choices. Regarding devices, music systems and mobile devices were popular choices with high

mental achievement percentages. Caravans and FM recorders had lower usage and may offer fewer engaging experiences. Laptops/ desktops were associated with high mental engagement, while FM recorders had a lower mental achievement percentage. Based on the responses, it can be observed that percentage of mental achievement vary depending on individual perspectives on music's impact on studying. Extensive duration of listening to music and the variety of music genres also influenced mental achievement (Collingwood, 2016). The devices used to listen to music significantly influenced mental achievement. Additionally, music influenced study habits and mental achievement among learners. The influence of music as a learning style on mental achievement was revealed across various subjects. No significant differences were found among learners in different fields of study. Therefore, the results suggest that music, when used as a learning style, can have a beneficial impact on mental achievement among learners in higher education. These findings are particularly significant as they indicate that the positive influence of music is not limited to specific fields of study, highlighting its potential as a universally applicable learning strategy. The individuality of music preferences among learners further emphasizes the importance of considering personal music choices to optimize the influence on mental achievement.

Conclusion

Based on the above discussion it can be concluded that as music is the integral part of our life thus, it can be included at a higher education level. Many universities and colleges offer music programs and courses as part of their curriculum. These programs may cover a wide range of areas within music, including music theory, composition, music history, performance, music technology, ethnomusicology, and more. However, at the higher education level, music programs are often designed to provide students with a comprehensive understanding of music as an academic discipline, as well as develop their practical skills and artistic abilities. Students pursuing degrees in music may have opportunities to participate in ensembles, recitals, concerts, and collaborative projects. In addition to standalone music programs, music can also be integrated into other academic disciplines. For example, in fields like music therapy, music education, or sound engineering, music plays a central role in the curriculum. Overall, music can be a valuable and enriching component of higher education, allowing students to explore their musical interests, develop their talents, and deepen their understanding of the art form. Moreover, further research with larger sample sizes and more detailed analysis is recommended to solidify these conclusions and elucidate the relationship between music, study habits, and mental achievement.

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