Pakistan Journal of Positive Psychology

Print ISSN : 3078-6428 | Online ISSN : 3078-6436
Pakistan Journal of Positive Psychology

Original Article

EFFECT OF BACKGROUND MUSIC ON EATING SPEED OF CONSUMERS

Muhammad Nadeem[a*]

[a]Department of Psychology, Govt. Graduate College, Toba Tek Singh, Pakistan

*Correspondence to: Mr. Muhammad Nadeem, Lecturer, Department of Psychology, Govt. Graduate College, Toba Tek Singh, Pakistan.
E-mail: psychologistnadeem@gmail.com

KEYWORDS
Background music, pop music, classical music, eating speed and quantity

CITE THIS ARTICLE:
Nadeem, M. (2025). Effect of background music on eating speed of consumers. Pakistan Journal of Positive Psychology, 2(1), 18-22.

ABSTRACT

The present study is inspired by a marketing technique used by fast food restaurants. Usually in fast food restaurants, pop music is run by the marketers in order to increase the eating speed and food quantity intake of the consumers because the resultant owners want their consumers to eat fast in order to get space for new customers and eat more in order to increase profitability. In order to energize and arouse the hunger of the consumers, fast food marketers run pop music instead of classical music or no music at all. Keeping in view this marketing strategy, the present study intended to examine the effect of background music on eating speed. A self-made test was administered to 60 male and female students by using a simple random sampling technique. Certain hypotheses were developed for this experiment. Main findings of the present study revealed that pop music increases eating speed, whereas classical music reduces eating speed, as compared to no music. Findings also indicated that during pop music, people ate more food in a given period of time as compared to classical music and without music.

I. INTRODUCTION

Eating behavior is influenced by numerous factors (Kalnina et al., 2022). Along with biological factors such as hormones, genes (de Castro, 2002, 2004a), and blood glucose (Wang et al., 2022), external factors play a greater role. These external factors include environmental and social aspects within the eating context and have a direct impact on human food intake (Bell & Pliner, 2003; de Castro & Plunkett, 2002; Marcone et al., 2020). Over the past years, due to the rapid increase in obesity, environmental factors have become incredibly important (Flegal et al., 2002; Kvalsvik et al., 2021). It seems that environmental factors increase the individuals' motivation to eat. Television viewing is one of the environmental factors that has been widely studied and has often been linked with obesity. The time duration of television viewing has been associated with body fat content, reduced energy expense, and amplified food intake (Bauman et al., 2000; Bellisle & Dalix, 2001; Kahan & Mehrzad, 2020).

It is likely that watching television is an entertaining practice that probably makes the individual neglect the feeling of satiety and fullness. Further studies also support this assumption by claiming that attentive listening to a recorded story during eating increases meal amount (Bellisle et al., 2004). Besides television viewing, there are many factors that influence eating speed. Previous reviews indicated that music is also a key factor that affects food and fluid intake. Despite the previous rate of soft drink use and loud music exposure, escalating auditory stimulation leads towards an augmentation in total food expenditure under naturalistic conditions (Spence, 2020). By increasing the loudness of the music positively affected the people's drinking behavior. Other researchers also documented that constant exposure to rock-type music, which is quite similar to pop music, enhances the tendency to drink alcohol (Hirsch, 2022).

The base of music is effective in raising both food and fluid intake. McElrea and Standing (1992) revealed in a laboratory experiment with college students that participants' drinking speed increased with fast music as compared to slow music. Similarly, music tempo has a great impact on chewing intensity; increased music speed is related to an increased number of bites (Migliavada et al., 2024). On the other hand, slower music was associated with a slower rate of eating and high bar bills for the consumers as well (Stroebele & de Castro, 2006). Further, background music reduces customers' dining speed considerably; however, the slower rhythm boosted the customers to drink more. By controlling different factors like lighting, temperature, and loudness of the music, it was confirmed that listening to slow-paced music during eating notably expanded the time spent dining as well as considerably increasing the restaurant bill (Caldwell & Hibberd, 2002). Other studies demonstrated that that type of music, particularly classical and jazz music, leads to higher expenses in comparison to pop music or no music at all (North et al., 2003). Likewise, music's reasonable density appears to be preferential in cafeteria settings (North & Hargreaves, 1996).

Besides, it was investigated in both real-world and experimental settings that the presence of other individuals while eating increases food intake and time duration of the meal as well (de Castro, 1990, 1994a; de Castro & Brewer, 1992; Raynor et al., 2015). Moreover, eating location was connected with the duration of the stay. Bell and Pliner (2003) examined the longest duration of lunch meals in reasonably priced restaurants as compared to fast-food restaurants and worksite cafeterias. Hence, it is likely that environmental factors such as music have an additional effect on meal duration (Kaiser et al., 2016). The present study examined the impact of listening to music while eating, as it was hypothesized that pop music increases eating speed and classical music decreases eating speed as compared to a normal environment.

II. METHOD

Participants

The study aimed to examine the effect of background music on eating speed. For this purpose, two types of music, including pop and classical, were taken into consideration. It was hypothesized that pop music will increase eating speed as compared to classical music and eating without background music. The overall sample was divided into three groups. In this study, a between-groups experimental design was selected; more specifically 3*3 independent group design was selected. In the present study, participants comprised university students (N = 60), who were further divided across three treatment conditions. Participants were selected through a simple random sampling technique and then assigned to groups randomly. In the experiment, 20 participants were eating food when they were listening to pop music, then 20 participants ate food when they were listening to classical music, and 20 participants ate food without music.

Measures

For the purpose of this study, some material was purchased by researchers that included six hundred small samosas and 60 disposable plates. Besides this, a laptop to play music, boofers, and a stopwatch were also used during the experiment to count time. First of all, permission was sought from the head of the department of psychology and the course in charge for the data collection. The respondents were contacted. The demographic information was collected through the demographical sheet, and confidentiality of their information was ensured.

Procedure

The experiment was conducted in the Department of Psychology at the University of Sargodha. The participants were assigned through simple random sampling to the two experimental groups and one control group. The participants of the 1st group were selected as the pop music group, the 2nd group was the classical music group, and the 3rd was the no music or control group. Firstly, the pop music group was called in the experimental room. After sitting on the set chairs, every participant was given ten samosas on a plate, and then an Indian pop song was played. Two minutes after starting the music, it was announced in the room that all participants should start eating. During eating, they were also listening to pop music. Then after five minutes it was announced to stop eating. All participants counted their remaining samosas and noted how many were left and how many they ate on

the given response sheet. After some time, the second group was called in, and the music was changed. In this time, classical ghazal was selected for this group, and the same procedure was repeated but with classical music after minutes to take the response on the response sheet. In the end, no music group was called in the room, and the same procedure was performed, but this time no music was played during eating time, the same time was given to them, and the responses were taken on the response sheet. In the end, all participants were thanked for their cooperation.

III. RESULTS

Table 1: Mean, standard deviation and F-values for students belonging to three groups on food quantity

	No Music (n = 20)		Pop Music (n = 20)		Classical Music (n = 20)				
Variable	*M*	*SD*	*M*	*SD*	*M*	*SD*	*F*	*P*	*Post-Hoc*
Food Quantity	4.70	2.13	6.50	2.80	3.20	1.61	10.94	.000	1<2>3

Table 1 shows the mean, standard deviation, and *F*-values for students listening to no music and listening to pop and classical music. The findings indicate significant mean differences among students on eating quantity with $F(2,57) = 10.94$, $p < .001$. The findings indicate that students listening to pop music significantly consumed more food quantity ($M = 6.50$, $SD = 2.80$) as compared to students listening to classical music ($M = 3.2$, $SD = 1.61$) and no music ($M = 4.7$, $SD = 2.13$).

Table 2: Post-Hoc comparisons using LSD

				95% CI	
(I) group	(J) group	MD (I-J)	*p*	*LL*	*UL*
Pop	Classical	3.300*	.000	1.89	4.71
	Control	1.800*	.014	.39	3.21
Classical	Pop	-3.300*	.000	-4.71	-1.89
	Control	-1.500*	.038	-2.91	-.09
Control	Pop	-1.800*	.014	-3.21	-.39
	Classical	1.500*	.038	.09	2.91

*p< .05

Post-hoc tests using LSD indicate that the mean scores of students listening to pop music are significantly different from classical music and no music. Mean scores of classical music are significantly different from pop music and no music. Mean scores of students listening to no music significantly differed from students listening to pop music and classical music. The student listening to pop music scored significantly higher as compared to the classical music and no-music listening groups of students.

IV. DISCUSSION

Results of this study support our hypothesis that music has a significant effect on eating speed. Eating speed for the control group is significantly different from the classical group and the pop group. It indicates that eating speed changes with the change of music. Findings show that music has a psychological impact on eating speed. Music is the spiritual diet of man and has a direct and close relation with human emotions, and so it drives human behaviors. The slower or faster the music is, the slower or faster you are in your working, respectively. Results confirmed that pop music increases eating speed over normal eating speed. There was found a significant difference in eating speed between the control group and the pop music group. It shows the additive psychological influence of fast music. Results show that fast music stirs your emotions and makes you more active and excited. As a result, the work or behavior of man got changed and became quicker and faster. Contrary to pop music, classical music decreases the eating speed. Eating speed while listening to classical music is lower than the control group. This result also supports the hypothesis that music psychologically influences human behavior. Classical

music soothes emotions and renders man slower psychologically and consequently physically. It makes man work or behave smoothly and in a linear manner.

All the findings and results proved our hypothesis that music has a psychological impact on human behavior in the form of increasing or decreasing eating speed and quantity. Results also testified that fast music increases while slow music decreases eating speed compared to that of no music. In this respect present study concurs with previous research (Bell & Pliner, 2003; McCarron & Tierney, 1989). It is because of this psychological impact of music on different human behaviors like eating, shopping, etc., that the owners of restaurants and shopping malls are having special concern for music. The use of slow or classic music is a strategy by shopkeepers to prolong the period of sitting and buying. On the other hand, in fast food restaurants, pop music is played to make eating speed fast because of the economy of space in restaurants as well as the greater earnings from greater food consumption. The present study has applied significance for fast food restaurants, as music can be effectively used as a marketing strategy. In future research the sample experiment should be replicated in the fast food restaurants.

V. CONCLUSION

The goal of the current study was to investigate how background music affects eating speed while taking this marketing technique into consideration. 60 pupils were given a self-made exam utilizing a straightforward random sample method. For this experiment, hypotheses were created. The primary results of this study showed that, in comparison to no music, pop music speeds up eating while classical music slows it down. The results also showed that participants ate more food during pop music than during classical music or when there was no music playing.

Disclosure Statement
No potential conflict of interest was reported by the authors.

Funding
The author received no funding from any organizations.

VI.REFERENCES

Bell, R., & Pliner, P. L. (2003). Time to eat; the relationship between the number of people eating and meal duration in three lunch settings. *Appetite, 41,* 215 218.

Bellisle, F., & Dalix, A. M. (2001) Cognitive restrain can be offset by distraction, leading to increase meal intake in women. *Journal of Clinical Nutrition, 74,* 197-200.

Bellisle, F., Dalix, A. M. & Slama, G. (2004). Nonfood-related environmental stimuli induced increase meal intake in healthy women: Comparison of television viewing versus listening to a recorded story in laboratory setting. *Appetite, 43,* 175 180.

Caldwell, C., &Hibbert, S. A. (2002). The influence of music tempo and musical performance on restaurant patron's behavior. *Psychology and Marketing, 19,* 895-917.

de Castro, J. M. (1990). Social facilitation of duration and size but not rate of the spontaneous meal intake of human. *Physiology and Behavior, 47,* 1129-1135.

de Castro, J. M. (1994). Family and friends produce greater social facilitation of food intake than other comparison. *Physiology and Behavior, 56,* 445-455.

de Castro. J. M., & Brewer, E. M. (1992). The amount eaten in meals by human is a powerful function of number of people present. *Physiology and Behavior, 51,* 121-125.

de Castro. J. M., & Plunkett, S. (2002). A general model of intake regulation. *Physiology and Behavior, 51,* 121-125.

Hirsch, A. R. (2022). The Auditory System and Nutrition. In *Nutrition and Sensation* (pp. 229-233). CRC Press.

Kahan, L. G., & Mehrzad, R. (2020). Environmental factors related to the obesity epidemic. In *Obesity* (pp. 117-139). Elsevier.

Kaiser, D., Silberberger, S., Hilzendegen, C., & Stroebele-Benschop, N. (2016). The influence of music type and transmission mode on food intake and meal duration: An experimental study. *Psychology of Music*, *44*(6), 1419-1430.

Kalnina, I., Straumite, E., Klava, D., Kruma, Z., Bartkiene, E., Isoldi, K. K., ... & Guiné, R. P. (2022). Analysis of factors that influence eating habits in different countries. *Journal of Hygienic Engineering & Design*, *38*.

Kvalsvik, F., Øgaard, T., & Jensen, Ø. (2021). Environmental factors that impact the eating behavior of home-living older adults. *International Journal of Nursing Studies Advances*, *3*, 100046.

Marcone, M. F., Madan, P., & Grodzinski, B. (2020). An overview of the sociological and environmental factors influencing eating food behavior in Canada. *Frontiers in nutrition*, *7*, 77.

McCarron, A., & Tierney, K. J. (1989). The effect of auditory stimulation on the consumption of soft drinks. *Appetite*, *13*(2), 155-159.

McElrea, H., & Standing, L. (1992). Fast music causes fast drinking. *Perceptual and Motor skills*, *75*(2), 362-362.

Migliavada, R., Luceri, F., & Torri, L. (2024). Chew that beat! How music tempo influences eating behaviors and emotions. *Food Quality and Preference*, *118*, 105195.

North, A. C., & Hargreaves, D. J. (1996). The effect of music on responses to dieting area. *Journal of Environmental Psychology, 16,* 55-*64.*

North, A. C., Shilecock, A., & Hargreaves, D. J. (2003). The effect of musical style on restaurant consumer's spending. *Environmental and Behavior, 35*, 712-718.

Raynor, H. A., Goff, M. R., Poole, S. A., & Chen, G. (2015). Eating frequency, food intake, and weight: a systematic review of human and animal experimental studies. *Frontiers in nutrition*, *2*, 38.

Spence, C. (2020). Extraordinary emotional responses elicited by auditory stimuli linked to the consumption of food and drink. *Acoustical science and Technology*, *41*(1), 28-36.

Stroebele, N., & de Castro, J. M. (2006). Listening to music while eating is related to increases in people's food intake and meal duration. *Appetite*, *47*(3), 285-289.

Wang, Y., Xie, W., Tian, T., Zhang, J., Zhu, Q., Pan, D., ... & Dai, Y. (2022). The relationship between dietary patterns and high blood glucose among adults based on structural equation modelling. *Nutrients*, *14*(19), 4111.