PDF version of: This Article (75 KB) | This Issue (1.1 MB)

JOURNAL OF GAMBLING ISSUES

contents
intro
feature
policy
research
clinic
first person
opinion
review
letters
submissions
links
archive
subscribe

opinion

[This article prints out to 12 about pages.]

The psychology of music in gambling environments: An observational research note

Mark Griffiths & Jonathan Parke, Nottingham Trent University, Nottingham, U.K. E-mail: soc3griffmd@ntu.ac.uk

Abstract

Effects of the listening context on responses to music largely have been neglected despite the prevalence of music in our everyday lives. Furthermore, there has been no research on the role of music in gambling environments (e.g., casinos, amusement arcades) despite gambling's increased popularity as a leisure pursuit. An exploratory observational study in gambling arcades was carried out to investigate (i) how music is used as background music in amusement arcades, and (ii) how slot machines utilize music in their design. Results indicated that arcades often have music that caters for their customer demographics and that this may influence gambling behaviour. Furthermore, music from the slot machine itself appears to produce important impression formations about the machine (i.e., quality of the machine, familiarity, distinctiveness, and the sound of winning). It is suggested that music (whether it is in the gambling environment or in the activity itself) has the potential to be important in the acquisition, development, and maintenance of gambling behaviour. Some preliminary ideas and hypotheses to be tested are offered. **Key words**: gambling, gambling environments, music, situational characteristics

Introduction

Effects of the listening context on responses to music largely have been neglected despite the prevalence of music in our everyday lives (North & Hargreaves, 2000). Furthermore, there has been no research on the role of music in gambling environments (e.g., casinos, amusement arcades) despite their increased popularity as a leisure pursuit. Pleasant feelings, and other modifications of mood associated with listening to music, have been described by

several authors (e.g., Deliege & Sloboda, 1997; North & Hargreaves, 1997; Sloboda, 1991). The relationship between human behaviour and music is necessarily complex. Hargreaves and North (1999) reviewed the functions of music in everyday life and concluded that the social functions of music are manifested in three principal ways for the individual: management of self-identity, interpersonal relationships, and mood. Studies have shown that different types of music can have different types of effects on listeners. Two of the many effects music can have may be to heighten psychological arousal or to relax (North & Hargreaves, 1997). This may have an effect on behaviour in commercial situations such as shopping or gambling. For instance, does the presence of music make people spend more or less money in such environments?

Early studies showed that when customers in a supermarket were exposed to loud music, their shopping rate—how much they bought per minute spent in the store—was higher than when quiet music was played. However, people would spend proportionally less time in the supermarket, so in the end the result was the same for the shop owner (Smith & Curnow, 1966). On this basis, it could perhaps be speculated that people may spend more in a gambling environment because gambling behaviour is limited to factors such as event frequency (i.e., the number of times it is possible to gamble within a given time period).

There is little doubt that music can effect both spending and perceptions of the environment. North, Hargreaves, and McKendrick (2000) reported on the effects of music on customers' perception of the atmosphere in both a city centre bank and a bar. They found a positive correlation between ratings of the listening environment and ratings of the music. The results demonstrated that music can have reliable effects on atmosphere and purchase intentions in commercial environments. They have also found that music can increase or decrease sales of wine depending on what type of music is played as background music (North, Hargreaves, & McKendrick, 1999).

North and Hargreaves (1998) have also examined the effect of different types of music in a university campus cafeteria. They examined how the presence of a certain type of music affected customers' view of the atmosphere in the cafeteria and how it influenced their purchase intentions. Pop music made customers view the cafeteria as an "optimistic" and "confident" environment, but not peaceful. Classical music led to a feeling of "elegance" and "high class," but scored lowest on the "optimism" factor. The absence of music altogether resulted in a feeling of "peacefulness" but a lack of confidence. "Easy listening" music led to the most negative feedback. Overall there was no statistically significant differences amongst the amounts customers were prepared to

spend when subjected to different types of music. However, the study showed that customers were willing to pay more for their food when they had been exposed to classical or pop music.

Given this previous research, another area worthy of further investigation is that of "background music" in gambling environ- ments and the use of music in certain forms of gambling, as in the use of music in slot machines. A number of authors (e.g., Hess & Diller, 1969; White, 1989; Griffiths, 1993) argue that the sound effects (including music) can be gambling-inducers. Constant noise and sound in a gambling environment (such as the sound of money falling into payout trays) gives the impression (i) of a noisy, fun, and exciting environment, and (ii) that winning is more common than losing (as you cannot hear the sound of losing!). However, these are very general sound effects that create the overall impression, rather than music specifically.

Since there is little work on the psychology of music in gambling environments, the research study carried out was primarily exploratory. It had the aims of investigating (i) how music is used as background music in arcades, and (ii) how slot machines utilize music in their design. Since the study was exploratory there were no specific hypotheses.

Method

The following data were extracted from a larger study examining situational characteristics of amusement arcades (Parke & Griffiths, 2001). Only the findings regarding music and sound are reported here. The observations that follow in the next section were collated from two different sources:

1) An in-depth observational study of amusement arcades (mainly) in Nottingham, U.K. (over 600 hours). A substantial amount of time was spent in one particular amusement arcade. This is because the second author was able to collect data while working in the arcade itself. All data were collected with the consent of the arcade owner.

2) Participant and non-participant observation by both authors over a ten-year period as either researcher (first author) or gambler (second author) respectively. The data collected from these sources are more speculative, but are capable of generating hypotheses.

The approach was on the whole empirical and qualitative, and can be regarded as an observational field study capable of suggesting hypotheses but not of confirming fact. Due to its qualitative nature, much of the data reported in this results section cannot be

reported without some kind of initial interpretation that would normally find inclusion in a "discussion" section. A more general discussion of these results follows the results section.

Results and preliminary discussion

The findings from this study are broken down into a number of distinct areas. These are observations concerning the (i) use of background music in arcades, (ii) use of music in slot machine gambling, (iii) use of music in pubs and clubs housing slot machines, and (iv) the absence of music in some gambling environments (e.g., betting shops). These are examined in turn.

Background music in arcades

It is clear from our observations that arcades often have music that caters to customer demographics. Furthermore, the clientele can be differentiated between those who play "low-tech" (reel order) machines, and those that play "high-tech" (feature) machines. Arcades and designated areas in arcades that have feature-orientated (hi-tech) slot machines often attract males aged around 18 to 30 years. In these areas, dance and rock music are often played or (alternatively) customers will ask for requests. Requests by the gamblers themselves may possibly have the strongest effect on gambling behaviour as these songs have personal meaning, bringing new factors (such as emotionality) into play. Reel order (lo-tech) machines, in contrast, attract a different group of gamblers—primarily women aged over 45 years. These areas or arcades often decide to play pop-music-based radio, or play pre-recorded music that was first released in the 1980s. Arcades which cater for those under 18 years of age invariably play pop music, or may have a jukebox to cater for these tastes and also to earn additional income.

In the arcade where the second author worked to collect data, the arcade was split into two levels, the first level housed both high-tech and low-tech slot machines, and the second level housed video games. Three different genres of music were used by the arcade management. These were:

- Easy listening music (local radio station, country music) was played in the first level in the morning to cater to the majority of older players, many of whom were female.

- Rock and dance music was played in the first level in the afternoon and evening to cater to the younger males usually playing the hi-tech fruit machines.

- Pop and dance music was played in the second level to cater to older teenagers playing video games.

In this particular arcade, it is important to note that playing music that customers requested was encouraged. During informal interviews with the management, the researchers were told that playing requests kept the customers happy "and when they are happy, they are spending."

Music used in slot machine gambling

Music appears to be important in many slot machines—particularly newer machines which feature television shows, films, and video games. The music that slot machines are capable of producing is important in a gambler's impression formation about the machine. More specifically it is associated with (i) the quality of the machine, (ii) familiarity, (iii) distinctiveness, and (iv) the sound of winning. These are expanded upon below.

- **Quality of machine** – The quality of the music on a slot machine appears to be important, as most gamblers equate the quality of a machine with the quality of the sound and music. For some, this may be the primary reason for choosing a particular slot machine to play.

- **Familiarity** – Music that a slot machine produces is important in creating familiarity. Griffiths and Dunbar (1997) in their research on the psychology of familiarity in relation to slot machines have argued that the names of machines and the music they emit appear to be important in terms of acquisition of gambling behaviour. It is often the case that slot machines are named after a person, place, event, television show, or film. Not only is this something that is familiar to the slot machine player but may also be something that the potential players might like or affiliate themselves with. Table 1 highlights some examples of some very common U.K. slot machines that all have theme tunes familiar to U.K. citizens. Some of the most popular slot machines are those that feature *The Simpsons*. There are many cases similar to these, where it could be speculated that the slot machine becomes more enticing because it represents something that is special to the gambler. It is possible that familiarity is a very important aspect of why, for example, media-related slot machines have been more prominent over the last decade in the U.K. The media theme may induce a "psycho-structural interaction" (Griffiths, 1993) and may result in repeated use. Consequently, if the themes are increasingly "familiar," an individual might be more likely to persevere with the complexities of a machine. Players may find it more enjoyable because they can easily interact with the recognizable images and music they experience. Therefore, the use of familiar themes may have a very persuasive effect, leading to an increase in the number of

people using them, and the money they spend.

Table 1
Some common examples of U.K. fruit machines that employ music

Machine name	Theme genre
The Simpsons	U.S. TV show
Friends	U.S. TV show
Eastenders	U.K. TV show
Coronation Street	U.K. TV show
Only Fools and Horses	U.K. TV show
Gladiators	U.K. TV show
Blind Date	U.K. TV show
The Crystal Maze	U.K. TV show
Match of the Day	U.K. TV show
Sky Sports	U.K. TV show
The Flintstones (Viva Rock Vegas)	U.S. film
Indiana Jones	U.S. film
The Pink Panther	U.S./U.K. TV show/film
Tetris	Videogame
Sonic the Hedgehog	Videogame
Mario Kart	Videogame

- **Distinctiveness** – Music can be used in slot machines to create a distinctive feature that is memorable to players and that may facilitate further gambling. For instance, the company *Red Gaming* utilises a distinctive guitar riff when slot machine players gamble on the game's feature, for example, on the slot machine *Rampage*. We have noted that some gamblers who played this machine were eager to play again as a consequence of the music. When the jackpot is won on this machine, the machine plays a rock music anthem.

- **Sound of winning** – Music from a slot machine is instrumental in creating that sound of winning. As seen in the example above, a particular piece of music (i.e., a rock anthem) can send out a signal that a person has won on the machine, both to the player and to others in the vicinity . It also helps raise the self-esteem and standing of the person playing. This is clearly reinforcing for the gambler and may lead to further play. As with the sound of falling coins in the payout tray, music can create the illusion that winning is more common than losing, for you do not hear the sound of

losing. As a consequence, successful slot machines will minimise music that signals losses.

Music in pubs and clubs with slot machines

The use of music in pubs and clubs is both interesting and different from arcades. More specifically, we have noted in our observations that:

- The music is "focal" rather than in the background.

- The quality of background music (for example, good quality sound systems used by DJs and live bands) improves in terms of sound, volume, and content.

- Most slot machines in these environments are high-tech (feature) machines that cater for the same group as the club or pub itself (i.e., males aged 18 to 30 years).

We speculate that all of these can potentially increase arousal and risk taking—particularly the quality of the music. On the negative side, pub and club music can detract from the machine's auditory cues that may be needed for "skilful" gambling.

Absence of music in some gambling environments

Some gambling environments, such as bookmakers, do not play any background music whatsoever. The main reason for this is that it would obviously interfere with both the television broadcasting of events being gambled on—horse races, greyhound races, etc.—and other betting information that is given out, such as possible sports betting, random numbers betting, and tips from experts who are interviewed. The lack of background music in these environments perhaps has a marginal effect, but its implications are nonetheless worth considering. We speculate that the lack of music will:

- limit arousal

- put more focus on the loss for the gambler (i.e., the lack of soothing auditory stimuli heightens the loss feeling). Music would be likely to reduce negative affect experienced by players through cognitive regret and frustration.

- lower gamblers' concentration levels. Given that there is seldom any music (not even from the slot machines on the premises), players' concentration levels may be negatively affected, as there will be no auditory cues from the machine and no facilitating effect from the background music. The only background noise is the broadcast commentary on

sporting events.

Conclusions

Our tentative observations lead us to conclude that music (whether it is in the gambling environment or associated with the activity itself) may have a role in the acquisition, development, and maintenance of gambling behaviour. Based on our observations, we suggest that slot machines can be more appealing depending on the music in the background or from the machine itself. Therefore, it can be speculated that gambling may also increase in these areas where music is a critical factor.

How music initiates gambling behaviour is open to speculation. However, a theoretical model outlined by Condry and Scheibe (1989) described the stages in the persuasive process (as applied to advertisements). This can be adapted to the playing of slot machines. The framework constructed can be used to display the possible effectiveness of familiar musical themes in slot machine gambling. The stages in the persuasive process have been identified as exposure, attention, comprehension, yielding, retention, and decision to buy. Of these stages, the "decision to buy" is reinterpreted here as the decision to gamble. The following adaptation of this framework illustrates the point.

Exposure: For an advertisement to be effective, the individual must first be exposed to it. The same can be said for slot machines. Exposure to slot machines can occur at two levels. At the macro level, U.K. slot machines are endemic and can be found at a wide variety of outlets, and are thus constantly exposed to the public. Secondly, at a micro level, machines within premises are placed so that they can easily be seen. For instance, in public houses, they are usually found near doorways or close to the bar.

Attention: Even though many people may be exposed to the machine, very few may pay attention to it. Therefore, to gain the attention of an individual, manufacturers may use diverse and/or familiar sights and sounds to achieve this (e.g., the use of a television show's theme tune, bright flashing lights, a picture of a celebrity). In general, the musical tunes are repeated often enough to catch a person's attention particularly when no one is playing on the machine.

Comprehension: When the individual is fully attentive, the message has to be comprehended and understood. Therefore, as far as slot machines are concerned, if a familiar musical theme is incorporated into the machine, the individual is more likely to comprehend that gambling may be socially acceptable, because the images and sounds they see and hear are familiar and

likeable.

Yielding: The individual agrees with the message or claim made by the advertiser. When referring to slot machine gambling, if a familiar television show's musical theme is included in the design of the machine, the person may be more likely to fully accept (i.e., agree) that gambling is socially acceptable because they "like" the images and sounds that are experienced.

Retention and decision to gamble: According to Condry and Scheibe (1989) these two final stages occur much later than when the individual is initially exposed to the advertisement. When in the shop, the person must recall the product that may have been advertised a long time previously, and decide whether to buy it. With regards to slot machine gambling, it is possible that the players may be instantly attracted to the machine because they are aware of immediately familiar images and sounds, leading to a much quicker decision to gamble. This point can be better illustrated with the following example.

A person may enter a public house, have a drink, and then notice the familiar tune of *The Simpsons* television show coming from a slot machine not far from the bar. However, the person decides not to gamble, never having done so before. The following day, they visit another public house, which has two fruit machines adjacent to one another. Their "attention" is gained when they once again hear *The Simpsons* tune that they recognise. They "comprehend" that because this well-known and likeable signature tune is incorporated into the machine, it is acceptable to take a closer look. They may believe that the gambling process involves a theme based around aspects associated with *The Simpsons* television show, and because they are attracted to, and "agree" with the "message," they "yield" to the view that gambling on this particular slot machine is socially acceptable. This leads to the "decision to gamble." This hypothesised example suggests that the decision to gamble may involve a number of stages, and that familiarity of the music appears to be an important aspect. It would appear that familiarity not only promotes a skill orientation once a player has begun to gamble (Griffiths, 1994) but may also be an important factor in a player's (or non-player's) initial decision to gamble. This line of thinking requires further research, as it is a potentially important factor in determining people's initial decision to gamble.

It could be the case that music maintains or exacerbates gambling behaviour in some individuals. This will obviously depend on the musical preferences of gamblers themselves. Given previous research in other commercial environments, it is likely that pop music will be the most effective. Empirical research would be useful in the following areas, as background music might:

- increase confidence in slot machine players

- increase arousal in slot machine players

- relax the slot machine player

- help the slot machine player disregard previous losses

- induce a "romantic" affective state leading the gambler to believe that their chances of winning are better than they are.

It is evident from the observations we have presented that much of the data is speculative. However, all of the observations lead to further interesting research hypotheses concerning the role of music in gambling. Furthermore, much of the data presented in this paper relates to music in one particular setting (i.e., an amusement arcade) and one particular type of gambling, such as slot machine gambling. It could be the case that music effects are different for other types of gambling and gamblers. This obviously needs to be explored further by examining other gambling genres.

References

Condry, J., & Scheibe, C. (1989).
Non program content of television: Mechanisms of persuasion. In Condry, J. (Ed.), *The psychology of television*, pp. 217–219. London: Erlbaum Publishers.

Deliege, I., & Sloboda, J. (1997).
Perception and cognition of music. Hove, U.K.: Psychology Press.

Griffiths, M. D. (1993).
Fruit machine gambling: The importance of structural characteristics. *Journal of Gambling Studies, 9,* 101 – 120.

Griffiths, M. D. (1994).
The role of cognitive bias and skill in fruit machine gambling. *British Journal of Psychology*, *85,* 351–369.

Griffiths, M. D., & Dunbar, D. (1997).
The role of familiarity in fruit machine gambling. *Society for the Study of Gambling Newsletter, 29,* 15–20.

Griffiths, M. D., & Parke, J. (2002, April).
The environmental psychology of gambling: An observational analysis. Paper presented at the Canadian Foundation on Compulsive Gambling (Discovery 2002) Conference, Niagara Falls, Ontario, Canada.

Hargreaves, D. J., & North, A. C. (1999).
The functions of music in everyday life: Redefining the social

in music psychology. *Psychology of Music, 27,* 71 – 83.

Hess, H. F., & Diller, J. V. (1969).
Motivation for gambling as revealed in the marketing methods of the legitimate gaming industry. *Psychological Reports, 25,* 19 – 27.

North, A. C., & Hargreaves, D. J. (Eds.). (1997).
The social psychology of music. Oxford, U.K.: Oxford University Press.

North, A. C., & Hargreaves, D. J. (1998).
The effect of music on atmosphere and purchase intentions in a cafeteria. *Journal of Applied Social Psychology*, *28,* 2254 – 2273

North, A. C., & Hargreaves, D. J. (2000).
Musical preferences during and after relaxation and exercise. *American Journal of Psychology, 113,* 43–67.

North, A. C., Hargreaves, D. J., & McKendrick, J. (1999).
The influence of in-store music on wine selections. *Journal of Applied Psychology, 84,* 271–276.

North, A. C., Hargreaves, D. J., & McKendrick, J. (2000).
The effects of music on atmosphere in a bank and a bar. *Journal of Applied Social Psychology, 30,* 1504–1522.

Russell, P. A. (1987).
Effects of repetition on the familiarity and likability of popular music recordings. *Psychology of Music, 15,* 33 – 43.

Smith, P. C., & Curnow, R. (1966).
"Arousal hypothesis" and the effects of music on purchasing behavior. *Journal of Applied Psychology, 50,* 255–256.

White, S. (1989).
Against the odds. *Young People Now,* April, 26–27.

Committee

Dr. Mark Griffiths is professor of gambling studies at the Nottingham Trent University. He is internationally known for his work into gambling and gaming addictions and was the first recipient of the John Rosecrance Research Prize for "Outstanding scholarly contributions to the field of gambling research" in 1994, winner if the 1998 CELEJ Prize for best paper on gambling, and 2003 winner of the International Excellence Award for "outstanding contributions to the prevention of problem gambling and the practice of responsible gambling." He has published over 130 refereed research papers, two books, numerous book chapters and over 350 other articles.

Jonathan Parke is a postgraduate researcher and part-time lecturer at Nottingham Trent University and a visiting lecturer at Salford University, Manchester. In the past year, he entered the field of gambling and gaming research with many conference and research papers in the United Kingdom. He has also as a consultant for government and industry.

issue 13 — march 2005

camh

Centre for Addiction and Mental Health
Centre de toxicomanie et de santé mentale

contents | intro | feature | policy | research | clinic | first person account | opinion | reviews

letters | archive | submissions | subscribe | links

Editorial Contact: phil_lange@camh.net
Subscribe to our automated announcement list: gamble-on@lists.camh.net
Unsubscribe: gamble-off@lists.camh.net