UNDERSTANDING GAMING FLOOR INFLUENCES ON PLAYER BEHAVIOUR

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Efforts to entice and retain player activity within a casino gaming environment require bringing to bear a range of sensory and physical influences. The challenge is to accomplish the operators' objectives while at the same time ensuring any potential negative effects on the player are minimised. How casinos keep this in balance is at the heart of how the gaming floor works, and assessing such matters is becoming a necessary part of social responsibility.

The way that an environment is designed can influence and facilitate human behaviour. This article briefly overviews the empirical research that has examined the design psychology and features of casinos including (i) casino atmospherics, (ii) aural stimulation in casinos, (iii) visual stimulation in casinos, (iv) olfactory stimulation in casinos, and (v) environmental stimulation and novelty in casinos.

CASINO ATMOSPHERICS

Research into how individuals react to the characteristics of a space has been a growth area over the last 20 years. In commercial environments, research has shown that the desire to stay in a shopping environment is positively associated with layout and décor. Other features of the shopping environment have been studied including textures, design and layout, lighting, aromas, music, and employee uniforms (Wood & Griffiths, 2008). However, much less is known about gambling environments.

A number of studies have been carried out examining casino atmospherics from the perspective of slot machine players (e.g., Mayer, Johnson, Hu & Chen, 1998). Leisure services (like gambling) usually want the player to spend longer amounts of time in the venue because the longer that they are in there, the more money they will spend.

According to Mayer and Johnson (2003), casino operators have a number of aims. These are to (i) get customers into the casino, (ii) keep players in the casino, and (iii) get repeat patronage. The first aim can be achieved through such things as advertising, loyalty schemes and 'word of mouth' referrals. The second and third aims depend on many factors including the type of accommodation, the types of game offered, the opportunities to win, restaurant quality,


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customer-staff interactions, and casino 'atmosphere'. From the player's perspective, Mayer and Johnson argue that 'atmosphere' may be the most difficult to understand.

In terms of casino design, there have been two macro-design principles proposed that aim to create environments that gamblers will be more likely to find relaxing and in which they will be more likely to spend their time and money. The first type is referred to as the 'playground' casino design in which the aim is to create a feeling of 'restoration' and comfort by including elements of moving water, green spaces and natural light (Kranes, 1995).

In contrast, the second type of casino design proposes that effective design is based on focusing a gambler's attention on the slot machines by using low ceilings, compact gaming areas, and minimising distractions. This is to make the machines themselves the foremost characteristic of the décor. Maze-like walkways are suggested to create a personal space where continuous gambling can be encouraged.

Friedman (2000) has arguably conducted the most research on casino environments and his findings show that after location, interior design is the most important variable in increasing or decreasing the effect of casino success. Friedman argues that casino design influences the decision of whether or not customers who are staying at competing properties will choose to play at another casino.

His view on casinos is that design encompasses many features including the interior architectural dimensions, décor, game arrangement, traffic-flow pattern, focal points, lighting and signage. From a financial perspective, Friedman found that short line of sight, a maze-type lay out, and tightly packed congested gaming areas created higher player counts than those casinos with more spacious layouts.

Research carried out by Mayer and Johnson (2003) suggest that the casino atmosphere may be a much narrower construct than previous conceptualisations with floor layout and theme appearing to be the most important to players. Other studies (e.g., Wakefield & Blodgett, 1996; 1999) have also reported that casino floor layout is an important factor in how players perceive casino atmosphere.

Ladouceur, Jacques, Sevigny and Cantinotti (2005) tested three different types of arrangement of slot machines – machines set in private cubicles, machines placed against the wall, and machines that were placed on a counter. The latter two arrangements were in open view of other customers and the cubicle arrangement was out of direct view. According to self-report measures there was support for the claim that cubicle arrangement (affording more privacy) was more likely to foster a loss of control and encourage excessive gambling as a result of the increased levels of privacy and absence of other potential distraction.

Although, these claims were not supported by the behavioural data from the same research, the authors concluded that a responsible gaming approach may involve choosing EGM arrangements that offer high levels of visibility and/or social interaction so to minimise the high levels of isolation that may facilitate problem gambling.

A study by Mayer et al (1998) reported that a casino's atmosphere (which was a composite of casino theme, décor, lighting, noise levels, and smoke effects) had the most influence on player satisfaction. A follow up study by Johnson, Mayer and Champaner (2004) examined casino atmospheric from a player perspective. The man-made physical surroundings of service settings have been referred to as 'servicescapes' (Bitner. 1992; Lucas).

Servicescapes comprise three important aspects, (i) ambient conditions (e.g., décor, theme, lighting, colour, noise, temperature, architecture, etc.), (ii) spatial layout and functionality (e.g., the way that seats, entrances, exits, etc. are arranged, i.e., the 'built' environment), and (iii) signs, symbols, and artefacts. Satisfaction with servicescape may also influence repeat patronage, although satisfaction with servicescape appears to have a stronger effect on players' desire to stay than on repeat patronage (Wakefield & Blodgett, 1996; 1999).

Lucas (2003) found that certain aspects of casino atmosphere were significantly related to player satisfaction including interior décor, navigation (i.e., floor layout), cleanliness, and seating comfort. Johnson, Mayer and Champaner (2004) examined ten elements of casino atmosphere (theme, décor, noise level, colour, ceiling height, lighting, temperature, floor layout, employee uniforms, and smell).

Using the statistical technique of factor analysis, five factors emerged (theme/décor, noise level, ceiling height, floor layout and employee uniform). Only three of these were significantly related to player satisfaction (theme/décor, employee uniform, and noise level in that order, i.e., theme/décor being the most important variable). Overall, Johnson et al (2004) concluded there was a direct linkage between atmospheric elements of casinos and player satisfaction – at least in casino slot machine players.

More recently, Finlay, Kanetkar, Londerville and Marmurek (2006) found in a laboratory-based study, that the 'playground' design created higher levels of pleasure and lower intentions to gamble. In contrast, the Friedman design created lower levels of pleasure and a higher intention to gamble.

However, these findings should be treated with caution as it is difficult to ascertain whether this effect would apply to the acquisition of gambling behaviour in addition to its maintenance. Furthermore, the authors measured intention to gamble after viewing a video recording of the environment, rather than actual gambling behaviour within a live environment. Given that the clear distinction between gambling intention and actual gambling behaviour, these findings are open to further empirical testing.

Finlay and Marmurek (2003) looked specifically at the design of casinos and how this affects a person's intention to gamble. They concluded that when more stimuli were present in the gambling environment (e.g., flashing lights, jackpot sirens, noise, bright colours), more risk-taking behaviour was induced compared to a less dynamic environment. The findings from this research provide a useful starting point in which to focus upon the effect of specific stimuli found in a gambling environment (such as aural, visual and olfactory stimulation).

AURAL STIMULATION IN CASINOS

A number of authors have made the point that the sound effects (particularly in slot machines) are gambling-inducers (e.g., Parke & Griffiths, 2003; Finlay & Marmurek, 2003). Constant noise and sound 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). Sounds are thought to make wins more salient and more memorable and enhance the atmosphere of game play (Griffiths, 1993).

>> IT COULD BE HYPOTHESISED THAT 'VEGAS' AS AN ENVIRONMENT HAS SOME INHIBITING EFFECTS ON GAMBLING LEVELS. BECOMING AROUSED OR EXCITED BY THE 'VEGAS EXPERIENCE' IS POSSIBLE EVEN WITHOUT HAVING GAMBLED AT ALL. THEREFORE, WHILE THEY MAY BE ATTRACTING A WIDER RANGE OF CUSTOMERS TO THEIR RESORTS, IT COULD BE ARGUED THAT THEY ARE SIMULTANEOUSLY LOWERING THE DRIVE TO GAMBLE. >>

Over the last ten years, music appears to play an increasingly important part of gambling venues either as background music or the use of music incorporated into particular games such as slot machines. However, Blaszczynski, Sharpe & Walker (2003) note that there is a lack of empirical evidence currently available to indicate whether problem gambling would be decreased through the removal of music stimulus.

Music effects of the listening context have largely been neglected despite the prevalence of music listening in our everyday lives. Additionally, Griffiths and Parke (2005) noted that there has been no research on the role of background music in gambling environments (e.g. casinos) despite having the potential to be important in the acquisition, development and maintenance of gambling behaviour.

Pilot research by Griffiths and Parke (2005) indicated that the music played in gambling venues varied during different periods of the day and depending on weekdays or weekends. Pop music was played in the daytime, whereas more relaxing music was played in the evening to create an elegant ambience. Griffiths and Parke (2003) also stated that the presence of music and sound effects appears to heighten emotional states although the complexities of the relationship between the two are still unclear. In relation to gambling, it may be that certain types of music help gamblers achieve their arousal-based goals in terms of winning.

Marmurek, Finlay, Kanetkar and Londerville (2007) examined the relationship between casino atmosphere and 'at-risk' gambling intentions (that is, the likelihood of gambling beyond planned levels). Video simulations were developed to represent the two models of casino design ('playground design' versus 'gaming design'). Two simulations of each casino design were created by including either ambient gambling sounds or replacing those sounds with a music track.

Measures of psychological reactions of 'at-risk' gambling intentions for the four settings were collected from over 100 gamblers. Results showed that music increased perceived 'at-risk' gambling intentions in the playground setting. However, 'at-risk' intentions decreased with music for the gaming design. The study suggested atmospheric variations within a casino should be tailored to the specific macro gaming environment.

In another laboratory study, Dixon, Trigg and Griffiths (2007) investigated the effects of background music on virtual roulette gaming behaviour. In their experiment, 60 participants played virtual roulette in one of three conditions. The three conditions were (i) no music, (ii) slow tempo music, and (iii) fast music (20 participants in each condition). Ten games of roulette were played with speed of betting, amount spent across high, medium and low-level risk bets and total amount spent recorded. Their results showed that speed of betting was influenced by musical tempo with faster betting occurring while listening to higher tempo music.

However, there was no relationship between musical tempo and either the size of the bet or the overall amount spent. Although not carried out in a casino, the results provide valuable insight into how background music can be manipulated to increase the speed of gambling.

VISUAL STIMULATION IN CASINOS

There is some evidence that colour evokes affective states and influences behaviour. It has been suggested that some colours are associated with certain moods, i.e. red is 'exciting' and 'stimulating', blue is 'comfortable', 'secure' and 'soothing', orange is 'disturbing' and green is 'leisurely' (Griffiths & Parke, 2003). In addition, variations in colour can affect human physiological reactions such as blood pressure and breathing rate (Acking & Kuller, 1972). Some researchers have found that colour may affect peoples' mood, arousal level, and their attitudes, and it has been speculated that these differences may indirectly affect behaviour. By comparing peoples' galvanic skin responses, it has been shown that red induces higher levels of arousal than green (Mehrabian & Russell, 1974).

To date there has been little research into the differential effects of colour stimulation on more complex behaviour in ecologically valid settings, and only one study by Stark, Saunders and Wookey (1982) has examined the differential effects of red and blue coloured lighting on gambling behaviour. In this experiment, Stark and his colleagues hypothesised that if red was arousing, gamblers exposed to red light were likely to gamble more frequently, stake more money and take more risks than gamblers exposed to blue light. Their hypothesis was confirmed with red lighting having less of an inhibitory effect on gambling behaviour than blue lighting.

OLFACTORY STIMULATION IN CASINOS

Olfaction (i.e., smell) has also been investigated experimentally in a gambling environment. Hirsh (1995) investigated the effect of ambient aromas on gambling behaviour in a Las Vegas casino at two slot machine areas odourised with pleasant but distinct aromas and at an unodourised control slot-machine area. The amounts of money gambled in the three areas were compared for the weekend of the odourisation and for the weekends before and after.

The amount of money gambled in the slot machines surrounding the first odourant during the experimental weekend was significantly greater than the amount gambled in the same area during the weekends before and after the experiment, possibly due to olfactory evoked recall. The increase appeared greater on Saturday, when the concentration of odourant was higher.

The amounts of money gambled in the slot machines

surrounding the second odourant and in the control area did not change significantly compared to the weekends before or after the odourization. Again, although research in the area of olfaction and gambling is limited, it does suggest that smell may influence gambling behaviour.

ENVIRONMENTAL STIMULATION AND NOVELTY IN CASINOS

In a review of the environmental psychology of gambling, Griffiths and Parke (2003) reported that another way in which the environment might affect gambling behaviour depends on how 'stimulating' or novel a particular gambling environment might be for the gambler. They speculated that new and/or more unusual environments might inhibit high levels of gambling and risk-taking as new environments usually signal uncertainty to the individual making caution an automatic response.

Furthermore, arousal theories of gambling assume that excitement and stimulation are primary motivations for gambling. In fact, several studies have shown increased levels of arousal to the result of gambling. If this is true, it is logical to argue that the need to gamble or to take risks might be lower if the individual is already receiving stimulation from somewhere other than gambling itself. Therefore, a stimulating gambling environment may lower the need to be aroused from gambling.

Las Vegas is an ideal destination that can be used to empirically test these speculations. It could be hypothesised that 'Vegas' as an environment has some inhibiting effects on gambling levels. Destination resorts are novel and exciting environments. Becoming aroused or excited by the 'Vegas experience' is possible even without having gambled at all. Live shows, firework displays, and architectural originality are a few examples from an endless list of provisions that this area offers in addition to the gambling experience. Therefore, while they may be attracting a wider range of customers to their resorts, it could be argued that they are simultaneously lowering the drive to gamble.

Admittedly, there are some problems with this speculation. The theory assumes that individuals are motivated only by the need to become aroused, a claim that

is empirically unsubstantiated. Secondly, increased arousal may lead to an increased desire to gamble. Research is clearly needed in this area to evaluate the effect of environmental stimulation with any precision. In any case, there is a strong possibility that this does have an effect despite the inherent ambiguity.

CONCLUSIONS

From this brief review of the empirical literature on casino design, there is some evidence to suggest that the casino environment may be manipulated by the use of sound/music, light/colour and aroma/smells. However, the empirical base is limited and further research is needed before reaching any definitive conclusions.

Finally, it is also worth noting that there are some features of gambling venues that many authors have commented upon (such as the fact that casinos tend not to have clocks, no windows, and no natural daylight). Unfortunately, there is little empirical research on the effect that this has on players and whether gambling venues would be viewed as more socially responsible if they introduced clocks and daylight. CGI

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