

Research Summary

Assessing the Contribution of Gambling Venue Design Elements to Problem Gambling Behaviour

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Research Topic

This study examined how design elements of gambling environments moderate gambling behaviour.

Research has shown that environmental features may combine to *trigger* the cognitive and behavioural consequences underlying problem gambling.

The main theoretical framework guiding the identification of the critical environmental variables in this study assumes that environments differ in the extent to which they elicit pleasure, arousal, and **dominance**, as well as in their **information rate** and **restoration**.

The goals of this study were to:

- explore patterns of problem gambling that emerge from the interaction of variations in individual temperament (chronic emotion across a variety of settings) and emotional reaction engendered by different gambling settings; and
- test whether casino design moderates psychological determinants of gambling behaviour in different sectors of gamblers.

Two contrasting casino designs were tested:

1. **Playground Design** - The casino environment is inviting and energizing, and stimulates curiosity and exploration. People feel centered and at home -- spaces feel more rewarding, secure, natural, and intimate.
2. **Gaming Design** - The casino design is related to functionality -- for example, the gambling equipment is the dominant decorative feature and the décor only highlights and enhances the equipment layout. "Maze" layouts and lower ceilings create a sense of intimacy.

In two studies, this research tested whether the effects of the casino design (i.e., playground vs. gaming) on **gambling intention** depend on:

- a. the emotional temperament of gamblers; and
- b. variations in six décor dimensions: (1) sound, (2) lighting, (3) colour, (4) crowding, (5) machine clustering, and (6) symmetry.

Definition of Terms

Dominance: Sense of feeling controlled or dominated by the environment.

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Information Rate: A function of the complexity, stability, and novelty present in an environment. High-information situations or events increase arousal. People react to these events with greater concentration and greater physical activity (e.g., loud and fast speech, gesticulation, expressive face, and increased bodily tension). As time passes, and they get used to the situation, arousal levels gradually drop back to "normal" levels.

Restoration: The preservation and recovery of directed attention capacity. Restoration serves to counteract the depletion of attention resources during concentrated activity. In a restorative setting, relief is provided from demands on a person's attention. Consequently, the person feels mentally refreshed. Restorative stimuli involuntarily draw attention, and are easy, interesting, and pleasing to perceive.

Gambling Intention: Intent to gamble beyond planned or controllable levels.

Canadian Problem Gambling Index (CPGI): Instrument designed to assess gambling and problem gambling behaviour in general populations, geared towards the gambling opportunities available in the Canadian context. Its four levels of gambling (severe problem, moderate problem, mild problem, and non-problem) render it more accommodating to the continuous nature of problem gambling.

Study 1

Research Design & Methods

- This study tested the effect of *sound* on gambling behaviour and emotion.
- Sound was manipulated by replacing ambient casino sounds with a rock music soundtrack.
- Participants were 104 gamblers (53% males), with an average age of 43 years.
- Groups of 1-4 participants watched videos with either the natural gambling sounds or the rock music soundtrack in the two casino designs.
- After viewing the videos, participants completed a series of scales and measures used to assess:
 - o gambling intention;
 - o restoration;
 - o pleasure;
 - o arousal;
 - o dominance; and
 - o information rate.
- The **Canadian Problem Gambling Index (CPGI)** was among the scales used to assess gambling behaviour.
- Various statistical tests were used to analyze the data.

Results/Discussion

- **Sound – ambient casino sounds vs. rock music**
 - o Pleasure and restoration ratings were higher with rock music for both the playground and gaming designs.

Study 2

Research Design & Methods

- This study tested the effects of five décor variables on gambling behaviour and emotion, including:
 - o *lighting* - flashing versus stationary lighting;
 - o *colour* - monotone versus complementary colour scheme;
 - o *crowding* - crowded versus less crowded venue;
 - o *clustering* - grouping of machines with similar features versus random arrangement;
 - o *symmetry* - symmetrically versus asymmetrically configured design layout.

- A professional production team videotaped selected scenes within Las Vegas casinos to produce 20 videos capturing the five décor variables within the two casino designs.
- The sample included 484 gamblers, evenly split by gender, with 60% 19-45 years of age, 30% 46-65 years of age, and 10% 66 years of age or older.
- Participants viewed one video filmed within a playground design casino and another video filmed within a gaming design casino.
- While viewing the videos, participants were instructed to imagine themselves within the casinos, as they would later be asked to recall how they felt in each setting.
- After viewing the videos, participants completed the same scales and measures used in Study 1.
- Participants also rated casinos on the following measures:
 - o emotion - how did they feel while in the casino;
 - o liking of the casino - did they enjoy being in the casino;
 - o approach/avoidance reactions - did they want to stay in the casino or leave;
 - o legibility - were they able to navigate through the casino with ease;
 - o coherence - did the components of the casino appear integrated;
 - o complexity - was there a lot to see or do in the casino;
 - o mystery - did their experience in the casino make them want to explore it further.
- Data were assessed using various statistical tests.

Results/Discussion

- **Lighting – flashing vs. stationary**
 - o Gambling intention ratings were marginally higher with flashing lights for both the gaming and playground design.
 - o Arousal and dominance ratings were higher with flashing lights, and these ratings were marginally larger for the gaming design.
- **Colour – monotone vs. complementary**
 - o Gambling intention ratings were higher with monotone colour schemes for the gaming design only.
 - o Liking ratings were higher with monotone colour schemes for both designs.
 - o Approach reaction ratings were higher with monotone colour schemes for the gaming design, but lower for the playground design.
 - o Information rate and complexity ratings were higher with monotone colour schemes in the gaming design, but the reverse occurred in the playground design.
- **Crowding – crowded vs. less crowded**
 - o Gambling intention and restoration ratings were higher in the crowded venues for both designs.
 - o Approach reaction ratings were higher in the crowded venues for the gaming design only.
 - o Information rate ratings were higher in the crowded venues for the gaming design, but lower for the playground design.
- **Clustering – grouping vs. random arrangement**
 - o Gambling intention ratings were higher in venues with the grouping of slot machines by theme for the gaming design only.
 - o Emotion, approach reaction, pleasure, arousal, and legibility ratings were lower in venues with a random arrangement of slot machines in the playground design only.
 - o Coherence ratings were higher in venues with the grouping of slot machines by theme for the playground design, but were lower for the gaming design.
- **Symmetry – symmetrical vs. asymmetrical layout**
 - o Restoration, information rate, liking, and pleasure ratings were lower in venues with symmetrical layouts for the playground design, but increased for the gaming design.

- Problem gamblers (based on CPGI scores) indicated that they experienced more pleasure, felt more restored, and generally liked the settings better than gamblers in other categories.

Limitations

- The findings cannot be generalized to Ontario as the videos used in this research were of Las Vegas casinos.
- Although the researchers believed the simulated scenarios captured the psychologically relevant processes of the casinos, the videos may have lacked some of the richness of the in situ environments.
- Broad generalizations should be made with caution as all the psychological indices relied on self-report measures rather than overt gambling behaviour.
- The recruitment of participants was restricted to gamblers, which may have contributed to the low participation rates for non-problem gamblers.

Conclusions

- Arousal induced by flashing lights appeared to aggravate poor decisions made by gamblers who may have been chasing losses by betting and spending more than planned, or engaging in unplanned additional games.
- Complementary colours appeared to be more likely to attenuate irresponsible gaming intentions in a gaming casino model. Monotone colours seemed incongruent and sufficiently psychologically distressing to motivate unplanned gambling behaviour.
- A crowded casino appeared to motivate increased gambling beyond planned levels.
- The grouping of machines by theme in the gaming design appeared to make it easier for patrons to decide where they wanted to play, thereby increasing gambling intention. When similar machines were grouped together in a playground design, restoration, liking of the casino, approach, pleasure, arousal, and legibility all decreased, while gambling intention remained the same.
- A symmetrical layout appeared to have attenuated fascination in the playground setting and, consequently, the transfer of positive emotions.

Implications & Future Research

Two décor variations reduced gambling intentions for both casino designs: a less crowded venue and the use of stationary lights. Therefore, treatment providers may aid the recovery of their problem gambling patients by advising them to avoid gaming areas characterized by excessive flashing lights and to visit casinos at less hectic time periods.

Both casino designs were shown to have potentially harmful effects. The playground design rejuvenates so that gambling can continue beyond planned levels, and the gaming design exhibits poor restorative qualities related to decisions about continuing to gamble. Future research initiatives might attempt to identify décor variations within each design that reduce gambling intention and maintain psychological well-being, or hold gambling intention static while increasing psychological well-being.

The researchers report consistently demonstrating that the playground design yields higher scores than the gaming design on environmental pleasure, restoration, and perceived likelihood of gambling irresponsibly. Casino designers might consider these findings to help ensure the casino environment does not stimulate emotions that may encourage excessive gambling behaviour.

An assumption of the study was that spending more than planned is an at-risk gambling behaviour for all gamblers. However, it may be that over-spending is not problematic for recreational gamblers. This should be explored in future research.