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Trait and state emotion congruence in simulated casinos: Effects on at-risk gambling intention and restoration

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Abstract

This research examined the effects of casino design and congruence in trait and state emotion on at-risk gambling intentions and psychological restoration. Video simulations representing two casino designs (playground vs. gaming) were presented to 484 participants (241 males) varying in gambling sub-type. The playground design features a recognizable theme, elements of nature, and spaciousness; the gaming design focuses on the gambling machines in a maze-like setting with low ceilings. For low trait arousal participants, at-risk intentions were higher when environmental arousal (EA) was high (mismatch) than when low (match). For high trait arousal participants, at-risk intentions were higher when EA was high (match) than when low (mismatch). A similar pattern of results occurred for restoration but only for pleasure trait-state congruency in non-problem gamblers. For problem gamblers, the effects of trait-state congruence on restoration were restricted to those with low trait pleasure for the playground design. The effects of congruence in trait and state emotion are bounded by the positivity of the outcome (at-risk gambling intention vs. restoration), the design of the casino (playground vs. gaming), the dimension of emotion (arousal vs. pleasure), the pole of the emotion (low vs. high), and gambler subtype (problem vs. non-problem).

Keywords: Restorative environments; Environmental emotion; Trait-state fit; Environmental behavior; Environmental psychology

1. Introduction

The impact of environmental variables has recently garnered a prominent focus in the study of gambling behavior (Adams, 2005; Earley, 2000; Griffiths & Parke, 2003; Wood, Griffiths, Chappell, & Davies, 2004). Environmental features of gaming settings are assumed to activate cognitive and emotional precursors to problem gambling (Sharpe, 2002). The design of a casino, as well as specific environmental elements within the casino, can affect the likelihood of gambling beyond planned levels.

Emotional responses vary across casino designs (Finlay, Kanetkar, Londerville, & Marmurek, 2006; Marmurek, Finlay, Kanetkar, & Londerville, 2007). Atmospheric variations induced by a casino's environment influence an individual's sense of cognitive well-being (restoration) as well as the likelihood of gambling beyond planned levels (at-risk gambling intention). In the current study, emotional impact is contrasted for two casino designs: the *playground* design (Kranes, 1995); and, the *gaming* design (Friedman, 2000).

1.1. Casino designs

Kranes (1995) conceptualizes casinos as playgrounds, spacious places (high ceilings, uncluttered layout of slot machines) where the environment is inviting and energizing, stimulating curiosity and exploration. Playground casinos convey an instantly recognizable theme, inducing senses of order, freedom, and vitality. These casinos feature natural elements such as sunlight, warm colors, the presence of vegetation and moving water. This constellation of natural attributes is among those known to elicit favorable emotional reactions (Nasar, 2000).

In contrast to Kranes (1995), Friedman (2000) proposed that the design of a casino be related to functionality.

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In the *gaming* design, gambling equipment is the dominant decorative feature; décor is used only to highlight and enhance the equipment layout. High ceilings and interior décor that is impressive, imposing or memorable are to be avoided so as not to distract from gambling activity. A maze layout of slot machines provides secluded, intimate gambling areas. Finlay and colleagues have found that the *playground* design, relative to the *gaming* design, generated higher levels of situational pleasure and arousal, feelings of being psychologically refreshed, and estimates of the likelihood of gambling beyond planned levels.

Hogan and Roberts (2000) argue that, in general, behavioral outcomes are a function of the degree of fit between defined dimensions of situational and trait factors. "Personality traits may be viewed as facilitating or thwarting the pursuit of …goals in a behavior setting context" (Walsh, 2000, p. x). The current research examines the interplay between the individual temperament of gamblers and characteristics of casino environments. The casino designs induce situational emotions. Complementary or opposing emotions may characterize the personality or character of the gamblers. It is hypothesized that the emotional congruence between a gambler's temperament and the affect created by the gambling environment will influence gambling behavior. Literature on environmental emotion, individual temperament and trait–environment interactions is reviewed briefly in the next section.

1.2. Dimensions of state and trait emotion

The emotional impact of an environment can be defined along the PAD dimensions of pleasure, arousal and dominance (Mehrabian & Russell, 1974; Michon, Chebat, & Turley, 2005; Valdez & Mehrabian, 1994). These dimensions consistently account for emotional responses across a variety of environments. For example, Mehrabian and Wixen (1986) reported that male preference ratings of video games were related to their PAD ratings. Colors and sounds influenced the level of pleasure; information rate (complexity) influenced arousal; and, player control options affected feelings of dominating the game.

Individuals may be characterized by their natural predisposition or temperament. Temperament is described as "an individual's average emotional state across a representative sample of life situations" (Mehrabian, 1996, p. 134). Emotions are defined, as they were for environmental emotional impact, as combinations of the three independent PAD variables. Pleasure assesses an individual's relative preponderance of positive versus negative states; arousal measures the chronic strength and duration of arousing responses; dominance gauges an individual's characteristic feeling of control over life situations. For example, Mehrabian (1995) assessed the emotional structure of individuals who attempted suicide. Suicidal individuals were more unpleasant, more likely to become aroused and more likely to feel submissive in situations than were controls.

PAD temperament is similar to the notion of "first natures" proposed by Little (1996, 2000). When a person is compelled by a situation to act in a way that is not "natural" to that person, then a cost in well-being is exacted. The greater the discord between situational burdens and first natures, the greater will be the psychological strain. Moreover, when natural tendencies are suppressed for intense or lengthy periods of time, the effectiveness of information processing and problem solving may be reduced. Little argues that the "costs of acting out of character can be mitigated by the availability of 'restorative niches' where individuals have a chance to express their first natures" (Little, 1996, p. 96). A restorative niche is a place or setting where individuals may escape in order to restore their first natures. In such places, chronic interests, orientations and competencies can be expressed.

1.3. Environment × person interactions

Kahana, Lovegreen, Kahana, and Kahana (2003) examined the role of congruence between personal orientations and dimensions of the environment as determinants of satisfaction and psychological well-being in older persons living in a community setting. The environmental dimensions were physical (amenities, proximity to services, safety, tranquility) or social (homogeneity of the backgrounds of neighbors, solitude). Person dimensions were self-generated personal needs and preferences. The researchers highlighted the usefulness of considering the fit between personal characteristics and environmental affordances for understanding satisfaction and psychological well-being.

Lawton (1999) also has stressed the importance of measuring degrees of person–environment congruence as a predictor of psychological well-being. Three types of incongruence were identified. Non-directional incongruence is non-valenced deviation "reflecting the hypothesis that any departure from exact balance would be associated with ill-being" (Lawton 1999, p. 102). Positive incongruence occurs when there is an environmental oversupply; negative incongruence exists when there is in an environmental undersupply. Lawton proposed that positive incongruence erodes well-being. Only an excess of a resource (e.g., too much noise) would lead to a poor outcome. Too little of a resource has a neutral effect; "the relationship to well-being disappears below some threshold" (Lawton 1999, p. 103).

The advantage of harmonizing individual differences with situational stimuli has been reported in attitude changes studies. Matching the content of a message to characteristics of the recipient's motivational, cognitive or emotional predisposition is an effective mode of persuasion (Petty, Wheeler, & Bizer, 2000; Schwartz & Clore, 1996). One specific area of persuasion research has identified the