Internet gambling as digital leisure: Exploring psychological needs and the moderating influence of game preferences

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Introduction

- Internet gambling has emerged as both a public health issue (Cowlishaw & Kessler, 2016; Korn & Shaffer, 1999; Shaffer and Korn, 2002) and a legitimate leisure activity (Binde, 2013; Neal, 2005; Williams et al., 2011).

- Between 50-90% of the adult population in most developed countries participate in gambling with problems occurring in 2-3% of the population (Williams, et al, 2012).

- Vast majority of studies have focused on the negative impacts of excessive gambling (Cotte, 1997; Griffiths, 2009; Petry, 2005; Shaffer & Martin, 2011; Whelan et al., Steenbergh & Meyers, 2007),which has limited our overall understanding.

Introduction

- Few studies have considered gambling behaviour and its outcomes from a leisure perspective and yet conceptually, most gambling activities meet various definitions of the multidimensional construct of leisure (Newman et al., 2014; Stebbins, 2007; 2013).

- In order to provide sustainable approaches to digital leisure and prevent gambling-related harm it is essential to develop an understanding of the processes driving participation, and the outcomes from these processes.

Introduction

- This study examines the psychological needs satisfied through Internet gambling participation and their relationship to gambling preferences and health-related variables.

- Research questions:
  - What are the psychosocial need dimensions of Internet gambling?
  - What is the relationship between the psychosocial need dimensions and preferences for different forms of Internet gambling?
  - What is the relationship between SWB and preference for different forms of Internet gambling?

Theoretical Framework

- Leisure is a means by which psychological needs not currently available through other life domains can be met (Chick & Hood, 1996; Haggard & Williams, 1991; Knopf, 1987).

- The DRAMMA model (Newman et al., 2014) has been proposed for directing future research on this topic. This has five psychological mechanisms triggered by leisure that may, in turn, promote SWB:

    - Detachment-Recovery, Autonomy, Mastery, Meaning, Affiliation

- There is some support for this model in the specific context of gambling participation, but our review of the literature identified six psychological needs that may be satisfied through Internet gambling:

Theoretical Framework

- **Detachment**

The ability to 'detach' as means to cope with stress or negative emotional states has been identified as an important outcome from leisure participation (Hobfoll, 1989; Hutchinson, Bland & Kleiber, 2008; Meijman & Mulder 1998) and gambling participation (Blaszczynski & Nower, 2002; Diskin and Hodgins, 2001; Griffiths, Wood, Parke and Parke, 2006; Jacobs, 1987; Stewart & Zack, 2008).

- **Excitement**

Ethnographic interpretations refer to excitement as the need to seek out 'physical, emotional and sensory rush' and 'feelings of being alive' (Loroz, 2004) or the experience of extreme emotional highs and lows (Cotte, 1997). More quantitative approaches have identified arousal as an important motivational factor (Lee, Chae, Lee & Kim, 2007; Lloyd et al., 2010; Platz & Miller, 2001; Wardle et al., 2011), and reinforcer of gambling participation (Boyd, 1976; Brown, 1986, Lloyd et al., 2009; Rockloff & Dyer, 2006; Wulfert et al., 2005; 2008).

- **Mastery**

From a leisure perspective, activities that provide opportunities for participants to be challenged, to learn and to demonstrate skill are argued to satisfy the need for competence. According to self-determination theory (SDT) (Deci and Ryan, 1985; 2000) the psychological need for competence is fundamentally important to optimal functioning, and that if thwarted, could reduce SWB (Church et al., 2013; Tay & Diener, 2011; Fritz & Sonnentag, 2006; Seligman, 2012).

Theoretical Framework

- **Autonomy**

Autonomy has also been identified as an important psychological need in SDT (Deci & Ryan, 1985; 2000) and SWB has been shown to be higher in activities where autonomy is facilitated (Bartholomew et al., 2011; Deci & Ryan, 2008; Newman et al., 2014). Research has identified autonomy as a psychological benefit of land-based casino gambling (Loroz, 2004).

- **Affiliation**

Most motivational theories advocate the importance of affiliation needs. In the gambling studies literature, social motives are identified in most studies (e.g. Cotte, 1997, Flack & Morris, 2015; Lambe, Mackinnon & Stewart, 2015; Lee et al., 2007; Schellenberg et al., 2016; Stewart & Zack, 2008; Wardle et al., 2011), but most commonly in relation to poker (Sundqvist et al., 2016) and sports betting (Sundqvist et al., 2016).

- **Self-Affirmation**

Research has highlighted the importance of developing one's self-concept and identity to well-being (Swann, 1987). Due to the limited opportunity for self-determination provided in modern society, leisure is considered one of the few life domains which provide opportunities for self-affirmation (Haggard & Williams, 1991) and games in virtual environments have been shown to facilitate expressions of an individual's ideal self (Kleban & Kaye, 2015; Suh, 2013)

Method (Participants)

- Ethical clearance provided by IRB services .

- 40,000 Unibet customers (active players – active in the 30 days preceding the survey) were randomly selected to receive e-mails: 10,000 UK; 15,000 Swedish; 15,000 Dutch residents (among the most diverse in Europe).

- Invitation to participate in an online questionnaire survey with an incentive: prize draw to win one of two iPads.

- The median completion time: 7.1 minutes: mean completion time: 17.6 minutes.

- After eliminating 121 questionnaires with duplicate IP addresses and Unibet account numbers, 1541 completed questionnaires remained.

Method (Measures)

1. **Gambling Involvement and Preferences**
   - participation in a range of different forms of gambling in past 12 months.
   - the form of gambling they spent the most time on.
   - frequency, net expenditure, duration of sessions.
   - the number of online sites used in the 12 months.

2. **Satisfaction of Psychological Needs**
   - importance of gambling as a recreational activity.
   - extent to which 26 psychological needs were satisfied (derived from gambling, leisure activity/need satisfaction, motivation and Driver's (1983) Recreation Experience Preference Scale).

3. **Health and Well-being**
   - levels of happiness and stress over the preceding 12 months
   - a binary response option (yes, no) asking people whether in the past 12 months they had:
       i. "*any serious problems with depression, anxiety, alcohol or drugs or other mental health problems*".
       ii. "*any physical disability or chronic health problem that limits the amount or kind of activity you can do at home, work or school*".

4. **Demographic Variables**

EFA Pattern Matrix, Communalities and Reliability Alphas for the Psychological Gambling Needs

Items	Factors					Com
	1	2	3	4	5	
It gives me intellectual stimulation	**.803**	.010	-.008	-.053	-.042	.59
It causes me to learn new things	**.727**	.021	-.040	.031	-.016	.52
It allows me to test my abilities	**.701**	-.041	.039	.089	.014	.57
It improves my general decision-making and/or problem solving skills	**.677**	-.020	.140	-.064	-.001	.54
It allows me to compete with others	**.478**	.017	-.043	.014	**.305**	.41
It allows me to release some stress	.087	**.925**	-.073	-.103	-.033	.88
It allows me to relax	-.015	**.614**	-.049	.176	-.028	.47
It allows me to escape from problems in my daily life	-.087	**.586**	.170	.003	.026	.42
It allows me to create an image of myself (as a gambler) that I like	.028	-.002	**.908**	.008	-.053	.81
It allows me to create an image of myself (as a "gambler" that others like	-.013	.004	**.794**	-.016	.074	.67
It improves my self-esteem	.265	.035	**.518**	.033	-.044	.50
It allows me to take risks that I enjoy	.021	-.022	.045	**.730**	-.052	.53
It gives me excitement	.215	-.007	-.141	**.648**	-.057	.48
It allows me to test my luck	-.159	.032	.074	**.560**	.092	.44
It alleviates my boredom	-.103	.265	.061	**.333**	.100	.30
It allows me to socialize with people I know	-.041	-.050	.007	.069	**.837**	.68
It allows me to socialize and/or meet new people	.099	.038	-.013	-.073	**.830**	.75
Eigenvalue	**5.55**	**2.13**	**1.52**	**1.17**	**1.05**	
Variance (%)	**32.67**	**12.54**	**8.91**	**6.88**	**6.19**	
Cronbach's alpha coefficient	**.83**	**.77**	**.84**	**.70**	**.73**	
Number of items	**5**	**3**	**3**	**4**	**3**	

Notes: The Kaiser-Meyer-Olkin measure of sampling adequacy: .85; Bartlett's test of sphericity: $\chi2 = 5496.38$; df: 136; $p<.001$. Com = Communality

1: 'Mastery'; 2: 'Detachment'; 3: 'Self-Affirmation'; 4: 'Excitement'; 5: 'Affiliation'

CFA Five Factor Model of Psychological Gambling Needs

Latent Variables and Items\	Standardised Loadings	t-Values (Critical Ratios)	SMCs
Mastery (ξ_1: α = 0.83; *AVE* = 0.46; *CCR* = 0.80)			
It gives me intellectual stimulation	0.77***	88.35	0.59
It causes me to learn new things	0.73***	93.89	0.53
It allows me to test my abilities	0.73***	92.76	0.53
It improves my general decision-making and/or problem solving skills	0.75***	84.47	0.57
It allows me to compete with others	0.40***	77.76	0.32*
Detachment (ξ_2: α = 0.77; *AVE* = 0.43; *CCR* = 0.70)			
It allows me to release some stress	0.82***	71.30	0.68
It allows me to relax	0.58***	88.65	0.33
It allows me to escape from problems in my daily life	0.70***	59.36	0.49
Self-Affirmation (ξ_3: α = 0.84; *AVE* =0.55; *CCR* = 0.80)			
It allows me to create an image of myself (as a gambler) that I like	0.70***	68.56	0.50
It allows me to create an image of myself (as a "gambler" that others like	0.79***	70.60	0.62
It improves my self-esteem	0.78***	80.84	0.61
Excitement (ξ_4: α = 0.70; *AVE* = 0.41; *CCR* = 0.68)			
It allows me to take risks that I enjoy	0.76***	93.80	0.58
It gives me excitement	0.64***	98.36	0.42
It allows me to test my luck	0.56***	81.42	0.31
Affiliation (ξ_5: α = 0.73; *AVE* = 0.52; *CCR* = 0.71)			
It allows me to socialize with people I know	0.77***	64.26	0.59
It allows me to socialize and/or meet new people	0.92***	62.67	0.85
It allows me to compete with others	0.31***	77.76	0.32*

Notes: *complex item loading on 'Mastery' and 'Affiliation'; *** $p<0.001$.

Comparative Fit Indices for Four, Five and Six CFA Models

| CFA Model	χ^2 (df)	Normed χ^2	RMSEA	(LO -	HI)	NFI	IFI	TLI	CF1
4 Factor Model	355.14 (82)	4.33	.047	.042	.052	.93	.94	.92	.94
5 Factor Model	**305.89 (90)**	**3.40**	**.039**	**.035**	**.044**	**.94**	**.96**	**.94**	**.96**
6 Factor Model	811.78 (189)	4.30	.046	.043	.050	.90	.92	.90	.92

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Notes: RMSEA = root mean square of approximation; NFI = normed fit index; IFI = incremental fit index; TLI = Tucker-Lewis index; CFI = comparative fit index.

Differences in Psychological Need Satisfaction by Dominant Gambling Preferences

Factors		Sum of Squares	df	Mean Square	F	p
Mastery	Between Group	41.29	4	10.32	13.17	**<0.001**
	Within Group	530.70	677	0.78		
Detachment	Between Group	8.76	4	2.19	2.48	**0.04**
	Within Group	598.01	677	0.88		
Self-Affirmation	Between Group	6.99	4	1.75	2.06	0.08
	Within Group	574.01	677	0.85		
Affiliation	Between Group	9.24	4	2.31	2.66	**0.03**
	Within Group	588.76	677	0.87		
Excitement	Between Group	1.96	4	0.49	0.65	0.63
	Within Group	509.48	677	0.75		

Notes: One-way ANOVA results.

Psychological Need Satisfaction by Dominant Gambling Preferences
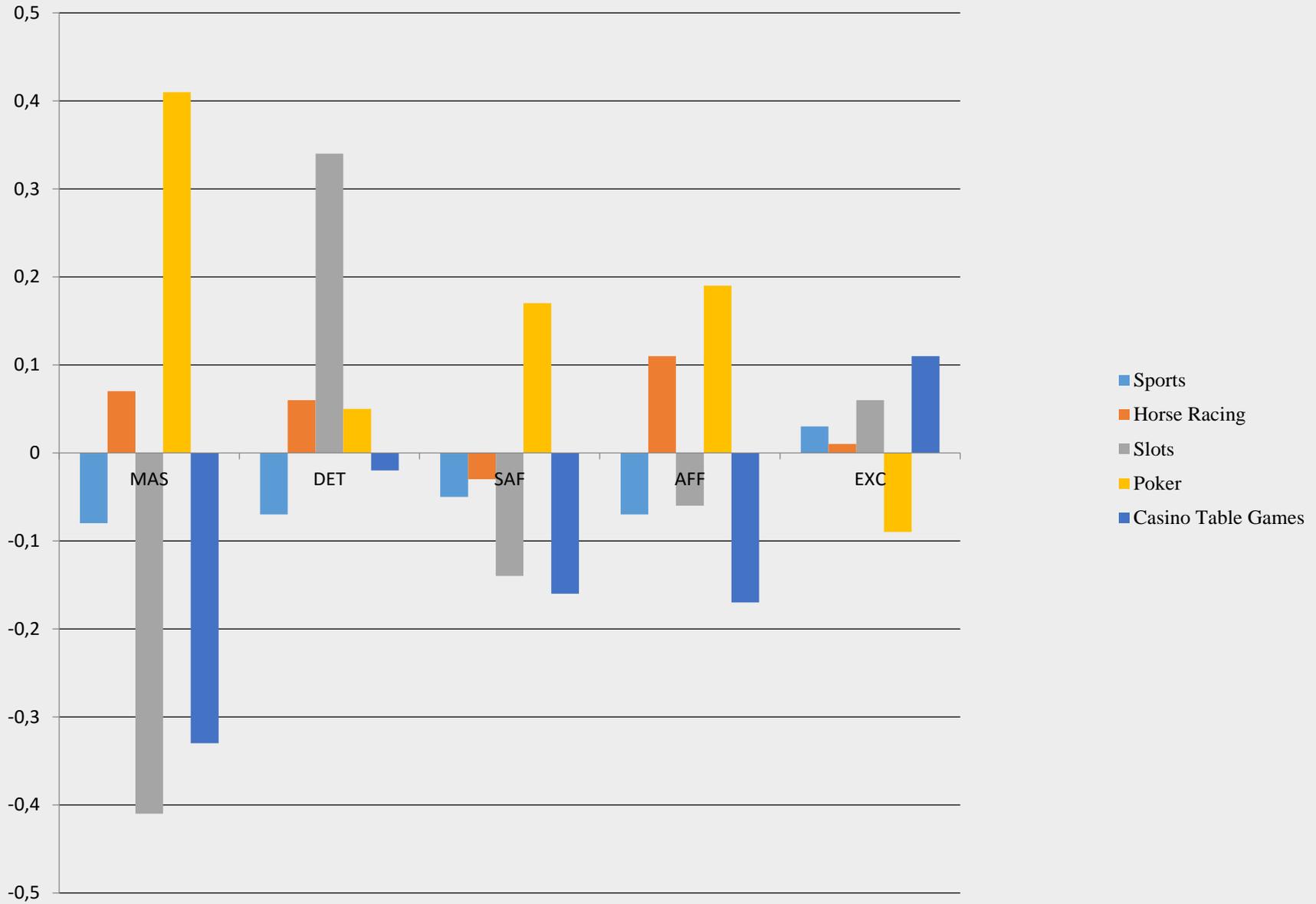
Notes: Results from one-way ANOVA with Bonferroni post-hoc tests;

MAS: 'Mastery'; DET: 'Detachment'; SAF: 'Self-Affirmation'; AFF: 'Affiliation'; EXC: 'Excitement'.

Respondent Health-related Variables by Dominant Gambling Preference

	Stress			Happiness		
	n	**x**	**s**	**n**	**x**	**s**
Sports	767	4.95	1.60	767	5.67	1.40
Horse Racing	119	5.07	1.67	119	5.32	1.45
Slots	143	5.03	1.89	143	5.15	1.41
Poker	269	4.96	1.70	270	5.67	1.51
Casino Table Games	64	5.30	1.40	65	5.41	1.53
Total	1362	4.99	1.65	1364	5.57	1.44

$F(4,1357) = .80$; $p = .53$; $\text{eta}^2 = .002$.

$F(4, 1357) = 5.47$; $p<.001$; $\text{eta}^2 = .02$.

Notes: x = sample mean; s = sample standard deviation.

Initial Implications and Considerations

- "*Gambling benefits very many people, each by a little, and hurts a rather smaller number of people, but each by a lot*" (Forest, 2013: 25). This represents a first step in understanding the potential psychosocial mechanisms that may underpin such 'minor benefits'.

- Five internet gambling need satisfaction dimensions were identified: 'Mastery', 'Detachment', 'Self-affirmation', 'Affiliation' and Excitement' and these were noted to correspond to some existing motivational theories of gambling participation:

  - Skill development or enhancement (Binde, 2013; Wardle et al., 2010).
  - Relaxation and escape (Binde, 2013; Dow-Schull, 2002; Fang & Mowen, 2009; Lloyd et al., 2009; Wardle et al., 2010).
  - Social motivations (Binde, 2013; Cassidy, 2012; Lloyd et al., 2009; Sheeran & Orbell, 1999; Wardle et al., 2010).
  - Excitement (Binde, 2013; Jacobs, 1986; Lloyd et al., 2009; McCormick et al., 1987; Neighbors et al.,2002; Platz & Millar 2001; Wardle et al., 2010).

Initial Implications and Considerations

- Most links between dominant gambling preference and need satisfactions seem coherent and make intuitive sense, for example:

    - poker : mastery, affiliation, self-affirmation
    - slots: detachment

- Some preferences were associated with higher levels of overall happiness:

    - sports and poker
    - is satisfying certain needs more adaptive than others?

- Understanding the needs satisfied by different gambling preferences is essential for:

    - prevention and reduction of associated harms
    - enhancement of leisure benefits

Limitations and Next Steps…

- There are conceptual challenges to untangle – 'benefits' 'motivations', desires', 'need satisfactions', and 'pleasure'
    - critically, whether outcomes construed as 'benefits' are adaptive or maladaptive?
    - examine relationship with problem gambling and HWB

- Measurement issues and future research:
    - improve metric for need satisfaction; importance of needs were not measured
    - more robust measures for health correlates needed

- Data from only one operator (Unibet)
    - establish external validity of the findings

- Other considerations for future research include:
    - compare to a non-gambling leisure activity
    - examine differences across media

Thank You
Questions and Comments?