

THE IMPACT OF NEUROTICISM ON LEISURE SATISFACTION: ONLINE GAME APPLICATION

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This study was designed to uncover the impact of neuroticism on leisure satisfaction based on online games in Taiwan, the country that has the second largest online game-playing market in the world. A systematic sampling produced 500 usable questionnaires for the final data analysis. The findings indicate a negative relationship between neuroticism and leisure satisfaction. This research therefore provides evidence that overall leisure satisfaction decreases in persons with a greater neuroticism tendency.

Keywords: neuroticism, leisure satisfaction, online games, five factor model, personality traits.

Playing online interactive electronic games which are rooted in the Internet, has grown from being a small to a major player in global entertainment. The online game global market value is predicted to soar from US\$ 5.2 billion in 2006

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to more than US\$9.8 billion in 2009, according to a DFC Intelligence (2004) survey. Countless technology breakthroughs as well as broadband infrastructure development will further facilitate future growth (Fu, 2003). Previous research, however, emphasizes online game company management more than the social behavior effects resulting from playing online games. Hence, studies of online game social behavior essentially provide better insight into online game profiles. The effect of personality on leisure has been elaborately illustrated (Barnett, 2006); nevertheless, in the context of online games, there has been a call for more research to explore the relationship between leisure and personality, especially the characteristic of neuroticism (Hamburger & Ben-Artzi, 2000). A robust literature review reveals limited research on the social behavior playing of online games (Cheng, Kao, & Lin, 2004). This study, therefore, was an attempt to uncover the impact of neuroticism on leisure satisfaction based on online games in Taiwan, the second largest worldwide market (Cheng et al., 2004).

NEUROTICISM

Personality traits are consistent behavioral characteristics, which are psychological in nature. Personality traits reflect who we are, and determine our affective, behavioral, and cognitive styles (Mount, Barrick, Scullen, & Rounds, 2005). Although various researchers use different traits to describe personality, the Five-Factor Model (FFM) is a general model for understanding normal personality (Goldberg, 1993; Gomez, 2006). Neuroticism, one of the FFM factors, reflects the extent to which individuals are irritable, anxious, vulnerable, unstable, and distressed (Goldberg, 1992). This study compares neuroticism with the leisure field. Several empirical studies have found that neuroticism is not related to the leisure domain (Kirkcaldy, 1990); however, some detect a strong relationship between neuroticism and leisure service use (Hamburger & Ben-Artzi, 2000).

LEISURE SATISFACTION

Leisure is a complex human need fulfilled by engaging in individually defined pleasant experiences. Beard and Ragheb (1980), define *leisure satisfaction* as:

“Positive perceptions or feelings that an individual forms, elicits, or gains as a result of engaging in leisure activities and choices. It is the degree to which one is presently content or pleased with her general leisure experiences and situations. This positive feeling of pleasure results from the satisfaction of felt or unfelt needs of the individual.” (p. 22).

Leisure satisfaction research is relatively new, and knowledge limited. Two studies investigated leisure satisfaction determinants in an attempt to design a two-layer model for general satisfaction conceptualization (Van Praag, Frijters, & Ferrer-i-Carbonell, 2003). We proposed to investigate neuroticism’s impact on leisure satisfaction.

METHOD

SUBJECTS

The self-selected sample participants consisted of 500 online game players who completed a questionnaire at Internet cafes in Taipei, Taiwan. The total sample consisted of 45% male ($n = 228$) and 55% female ($n = 272$).

INSTRUMENTS

The Leisure Satisfaction Scale (LSS; Beard & Ragheb, 1980) is a twenty-three item measure with six subscales. Participants respond to items on a 7-point Likert scale. The LSS is designed to "provide a measure of the extent to which individuals perceive that certain personal needs are met or satisfied through leisure activities". Need categories met by leisure are the basis for the LSS subscales. The subscales are: (a) psychological, (b) educational, (c) social, (d) relaxation, (e) physiological, and (f) aesthetic. Beard and Ragheb (1980) report internal consistency reliabilities for subscales ranging from .85 to .92. The study also reports several factor analyses results supporting the subscale structure. Internal consistency reliabilities for the present study range from .76 to .89 (see Table 1).

TABLE 1
RELIABILITY COEFFICIENTS FOR SIX SUBSCALES

	psychological	educational	social	relaxation	physiological	aesthetic
Reliability coefficients	.88	.87	.82	.87	.76	.89

The neuroticism measurement scale, comprising eight items, is cited from Saucier's (1994) Mini-Markers. A 7-point Likert-type scale was used, with increments from 1 = *strongly disagree* to 7 = *strongly agree*. One item was omitted due to the item-total correlation result. The Cronbach end value is .76, which is above the required level.

RESULTS

The LSS measurement scale items were subjected to confirmatory factor analysis using full-information maximum likelihood (FIML) estimation procedures in LISREL 8.3 (Jöreskog & Sörbom, 1993) to assess measurement validity. The measurement model reveals discriminant and convergent validity. Discriminant validity is shown by correlation estimates between any two constructs. No correlation gives the value of 1. Convergent validity is shown by large and

significant standardized loadings of each item on its construct ($p > 0.01$). Table 2 shows the results.

TABLE 2
MEASUREMENT MODEL RESULTS

Construct	Items	Factor Loadings	TD	<i>t</i> -value	Average Variance Extracted
Psychological					0.66
	Item 1	0.71	0.50	17.73	
	Item 2	0.84	0.29	22.88	
	Item 3	0.87	0.24	23.93	
	Item 4	0.83	0.31	22.20	
Educational					0.63
	Item 5	0.84	0.30	22.24	
	Item 6	0.76	0.42	19.40	
	Item 7	0.81	0.34	21.18	
	Item 8	0.78	0.40	19.93	
Social					0.55
	Item 9	0.78	0.39	19.97	
	Item 10	0.82	0.33	21.18	
	Item 11	0.59	0.65	13.85	
	Item 12	0.76	0.42	19.28	
Relaxation					0.67
	Item 13	0.71	0.49	17.93	
	Item 14	0.89	0.20	25.16	
	Item 15	0.91	0.18	25.79	
	Item 16	0.76	0.43	19.48	
Physiological					0.53
	Item 17	0.57	0.68	12.57	
	Item 18	0.84	0.30	19.55	
	Item 19	0.76	0.42	17.52	
Aesthetic					0.67
	Item 20	0.81	0.34	21.37	
	Item 21	0.84	0.29	22.49	
	Item 22	0.80	0.36	20.83	
	Item 23	0.84	0.29	22.58	

Pearson correlations among neuroticism and leisure satisfaction are shown in Table 3. A correlation pattern inspection indicates that neuroticism and leisure satisfaction negatively correlate, indicating that overall leisure satisfaction decreases in persons with a greater neuroticism tendency.

TABLE 3
PEARSON CORRELATIONS AMONG NEUROTICISM AND LEISURE SATISFACTION

	Psychological	Educational	Social	Relaxation	Physiological	Aesthetic
Neuroticism	-.10	-.15	-.18	-.17	-.21	-.25
<i>p</i>	.002**	.001**	.001**	.001**	.000**	.000**

Note: $N = 500$; * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

CONCLUSION

According to Hamburger and Ben-Artzi (2000), there have been other studies examining the relationship between neuroticism and leisure. This study contributes to existing literature by investigating the effect of neuroticism on leisure satisfaction based on online game application. Findings indicate a negative relationship between neuroticism and leisure satisfaction. The lack of research concerning leisure and personality trait interrelationships led to our focus for the study. A wealth of literature relates personality to both stable and situational leisure preferences and participation for the Western world. It is important that this literature be extended with data from developing countries, such as Taiwan. This study is important since it serves as a guide to future research, which will investigate the effects of the interaction between leisure and personality in terms of the individual's well-being.

It is possible that the narrow demographics of our sample may limit the generalisability of the results of this investigation. The survey was completed at Internet cafes; thus, one could argue that participants do not represent typical online gamers. Future research could employ representative online questionnaires. Future research could also adopt other personality traits, such as experiential openness, agreeableness, and conscientiousness, to generate factor influence on leisure satisfaction. Moreover, because the empirical evidence is from Taipei, Taiwan, finding generalizations are limited. Therefore, future studies involving other industries and countries might also provide worthwhile insights.

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