



The moderating role of intrinsic motivation to know on the relationship between novelty seeking and video game playing

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ABSTRACT

The present study investigated the moderating role of adolescent's intrinsic motivation to know on the relationships between novelty seeking and video game playing among 400 Iranian adolescents. Results showed that novelty seeking was significantly related to video game for adolescents who have high level on intrinsic motivation to know. The Current findings highlight the importance the motivation of game on personality traits and video game.

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Introduction

Recently new technologies such as the emergence of computer had numerous benefits for human beings have appeared. Specialists have used computer technology to keep adolescents and even for amusing mature people. As a result, eventually video and computer games as new business were emerged in the market and it brought huge advantages for capitalist. King and Deilfabbro (2009) have utilized heavy term for gamers who play for over 30 hours per week. Moreover, many researchers have resulted that boys pay attention to video games more than girls (i.e. Griffiths et al. 2004; Hill, 2006; Ko et al. 2005; Sherry, 2004; Hauge & Gentile, 2003; Gentile, 2008; Gentile et al. 2004; King et al. 2010; Salguero and Mortan, 2002; Hartmann and Kilmmt, 2006). Prevalence of internet game addiction is more among adolescents than adults (i.e. Lin and Tsar, 2002; Yang and Tang, 2007; Whang et al. 2003; Kwon, Chung and Lee, 2009). According to several countries in Asia such as Taiwan, Korea, and China the progression of electronic and video games may have a serious threat for children and adolescents in Iran as a Asian country. The research by Allahverdi-pour and his colleague (2010) has shown that participants spend an average of 6.3 hours per week and 47% of participants play games expansively in Iran. Therefore, children and adolescents are at high risk of addictive tendency to these behaviors and because of the lack of necessary life skills, they may not be able to control such abnormal behaviors. Moreover, there are insufficient studies on video game playing in Iran. For example, Zamani et al. (2009) have also emphasized on this point and have suggested performing further studies on video games in Iran.

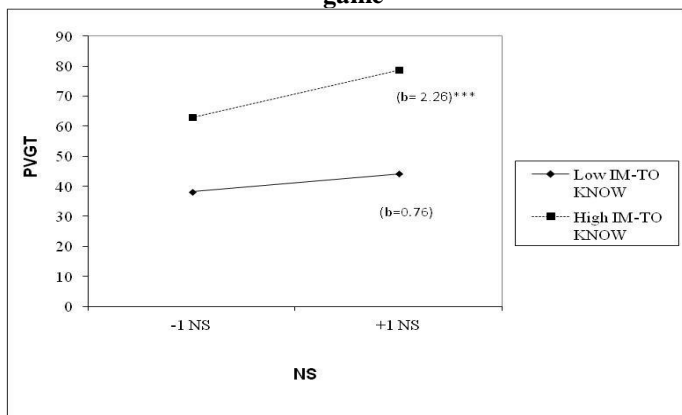
Besides, regarding other variables of current study which stress on personality traits and video game playing, some studies have suggested that there is a relationship between personality traits and video game playing. For example Huh and Bowman (2008) have found that personality is significantly related with online game playing. It was also advised by Lang (2006) that personality traits are related to biological differences which may lead to kind of choice associated to media (Park 2007). Kim et

al. (2010) have studied video game playing and personality traits based on Cloninger's model of tridimensional personality traits. Results have shown that role playing games (RPG) and real-time strategy games (RTS) groups had higher novelty seeking (NS) scores and self-directedness (SD) scores, respectively. Moreover, the sports game group had higher reward dependency scores than the other groups and as a conclusion this research suggests that RPGs may have specific factors that are attractive to latent game addicts with higher NS scores. Cloninger et al. (1994) have believed that highly novelty seeking may lead to less attentions and product addictive behaviors. In fact, novelty seeking is a one of dimensions of temperament which highly novelty Seeking (NS) individuals are excitable, quick-tempered, exploratory, ardent, curious, enthusiastic, impulsive, disorderly, and easily bored, Enthusiastic and quick engagements quickly with new subjects are advantages of high novelty seeking that may be for the reason that they potentially explore reward. On the other hand, there are some disadvantages, for example, excessive anger and quick disengagement of frustration. This situation may causes inconsistencies when they communicate or relationships with other people, or instability in attempts. In contrast, lowly Novelty Seeking individuals tend to be slow tempered, uninquisitive, indifferent, unemotional, unenthusiastic, thrifty, reflective, and tolerant of monotony, reserved, systematic, and orderly.

It is simple to pinpoint when activities are based on personal value or interest, people commit their autonomy for choice and utilize rewards as informational feedback. Thus, people possess intrinsic motivation. In contrast, less sense of control, freedom and or choice by influence of events or conditions that either the means or ends of activity interfere with perceived autonomy. Therefore, this situation can undermine intrinsic motivation (Deci, Koestner and Ryan, 1999). As a conclusion, according to above perceived concepts; it results that particularly intrinsic motivation may associate to dimensions of temperament. Finally, motivation may be as a cognitive moderator of the relation between video games and personality and act as an internal factor that might be somewhat

difficult to change in order to protective effects. Moreover, self-determination theory may also describe level of the player making choices between gaming products but players differ in their game choices, presumably because they find certain games more fitting with their personal interests and competence. The present study extends prior studies by concentrating on the moderating influence of adolescent's intrinsic motivation to know on the relationships between novelty seeking and video game. Therefore, this study aimed (1) to examine direct relationship between novelty seeking with video game playing, (2) to identify whether this relation is moderated by adolescent's intrinsic motivation to know, and (3) to evaluate the specific conditioning which follow up under this moderating effect.

Figure 1. Plotting the Interaction Between Novelty Seeking and Intrinsic Motivation to know with adolescent's video game



Hypotheses of the Current Study

The purpose of the study is to investigate the moderating effect of intrinsic motivation to know on the relationships between novelty seeking and video game. Therefore, it hypothesized that novelty seeking can related to video game for adolescents who have high level of intrinsic motivation to know.

Methodology

Participants

A total of 400 with Proportions of female (178) and male (222), 1-3 grade students participated in this study from secondary schools in the district of Ahvaz, Iran.

Procedures

The multistage cluster sampling is established by obtaining a series of simple random samples in the stages. In present study, a cluster has more than one unit in its (e.g., districts, schools, classrooms, and a team). Firstly, because of heterogeneous effects of social- economic states between districts the researcher decided choose whole districts (four districts). In second stage, random samples of schools selected from each of the district that selected in stage one.). In the third stage, a random sample of classes selected from each of the schools based on academic grades (1, 2, and 3). Finally, chose all the students for this study.

Measures Demographics

The questions about their gender and grade were written by adolescents on the questionnaires.

Problematic Video Game Playing Test (PVGT)

Based on version of the Internet Addiction Test (IAT) The PVGT is adjusted. The Internet Addiction Test (IAT) is established by a 20-item questionnaire which designed by Young (1998) to consider and measure clinical features of Internet use. According to this questionnaire, every item was scored by on a five-point Likert scale which is ranged from "1 = Never" to "5 = Always". Thus, total scores will range from 20 to

100. As According to Table 1, reliability in the present study (alphas of 0.87)

Temperament and Character Inventory (TCI)

The TCI (Cloninger et al., 1994) is a self-administered tool designed with 240-item, to recognize differences between people in seven basic dimensions of temperament and character. Participants can answer true or false. Kaviani and poorahmad (2005) investigated validity and normality of TCI in Iran and they have chosen 125 items from 240 items. A good internal consistency was found for each subscale in Iranian sampling (Kaviani & Pourahmad, 2005). This study obtained reliability alphas of .074 for TCI

Video Game Playing Motivation Scale (VGMS)

The VGMS is an adopted version of the Gambling Motivation Scale (Chantal et al., 1994, cited in King, 2009) a 28- items measure of a person's motivation to gamble. Each item is scored on a 7- point likert scale, which rated from "Not at all" to "exactly". The Video Game Playing Motivation Scale (VGMS) measures seven types of motivation. Higher scores on each motivation subscales state greater motivation. Since the operant term "game" was appropriate to both gambling and gaming activities, eighteen items were kept identical to the original version. Reliability of this test was shown by alphas of .074.

Results

Normality of the distribution of scores for all variables of the study was assessed by taken EDA, skewness and kurtosis values before data analyses. The distribution of scores on the measures used in this study was within the predictable values (Table 2).

Pearson Product-Moment correlation was applied for evaluating the relations between all the variables of study. Based on scientific research tradition, all calculations were conducted at alpha 0.05 (2-tailed). As presented in Table 3, the results from the correlation analyses determined significant association related to novelty seeking and video game ($r=0.30, p<0.001$).

Moreover, to assess the moderating effect of intrinsic motivation to know a hierarchical regression analyses were used. As suggested by Aiken and West (1991), in order to decrease multicollinearity, independent variables were centered before investigative the regression analyses. Therefore, gender variable were controlled at Step 1. novelty seeking was placed at step 2, intrinsic motivation to know was controlled at step3 and finally, hierarchical multiple regression analysis examine the moderating effects by including their interaction terms at a last Step in the regression equation. The analysis of regressing adolescent's video game has revealed

Potentially confounding variable of gender entered at step 1 of the hierarchical regression analyses resulted in a minimal R^2 of 0.2% variance to pvgt, which was not significant. The main effects of ns as the independent variable entered at Step 2 accounted for 9% variance to PVGT, increasing the total R^2 to 9.2% ($F\{2,397\}=20.210, p\leq 0.001$). The R^2 change for instrinct to know in Step 3 emerged significant. The moderating effect of instrinct to know on the relation of NS to PVGT was evaluated at Step 4. These interactions accounted an additional 0.8% variance to PVGT after controlling for the main effects of variables ($F\{4,395\}=78.87, p\leq 0.001$). Examination of the variables within the fourth block revealed that the interaction of ns and instrinct to know emerged significant ($\beta = 0.089, p \leq .05$). Therefore, intrinsic motivation to know had moderating influences on the relationship between novelty seeking and video game.

Table 1. Scale Mean, Standard Deviation, Alpha Coefficient (400)

Scale	No. of items	Alpha
PVGT	20	0.90
Motivation of Games	28	0.94
intrinsic motivation to know	4	0.81
intrinsic motivation to accomplish	4	0.72
intrinsic motivation experience ssstimulation	4	0.80
extrinsic motivation identified	4	0.73
extrinsic motivation interjected	4	0.74
extrinsic motivation regulation regulation	4	0.75
Amotivation	4	0.77
Personality	125	0.74
Temperament		
NS	20	0.70
HA	20	0.70
RD	15	0.71
P	5	0.70
Character		
SD	25	0.70
ST	15	0.74
CO	25	0.70

Table 2: Assessment of Normality of Distribution: Mean, and 5 % Trimmed Mean, Skewness and Kurtosis (N=400)

Scale	<i>M</i>	5% Trimmed <i>M</i>	Skewness	Kurtosis
PVGT	54.02	52.78	0.43	-0.62
Motivation of Games				
intrinsic motivation to know	14.73(6.04)	14.59	0.03	-1.23
intrinsic motivation to accomplish	12.76(7.58)	12.43	0.40	-1.08
intrinsic motivation experience ssstimulation	15.27(4.91)	15.18	0.03	-1.26
extrinsic motivation identified	12.41(7.03)	12.04	0.39	-0.87
extrinsic motivation interjected	12.77(7.11)	12.46	0.03	-0.95
extrinsic motivation regulation regulation	12.73(7.19)	12.43	0.27	-1.11
Amotivation	13.22(7.35)	12.95	0.22	-1.08
Personality				
Temperament				
NS	9.33(3.61)	9.30	0.15	-0.58
HA	6.43(2.70)	6.53	-0.20	-0.96
RD	7.41(2.99)	7.44	0.23	-1.21
P	3.01(1.61)	3.06	-0.49	-0.95
Character				
SD	13.11(4.03)	13.13	-0.09	-0.53
ST	9.67(3.32)	9.84	-0.61	0.46
CO	16.22(4.24)	16.29	-0.23	-0.64

Novelty seeking was significantly related to video game playing for adolescents who had high level of intrinsic motivation to know.

Table 3. The correlation between variables of study (N=400)

Variables	1	2	3	4
1- PVGT	—			
2- IM- to know	.594**	—		
3- Novelty Seeking	.303**	.155**	—	
4- Adolescents' gender	-.049	.272**	-.083	—

Table 4. Hierarchical Multiple Regression Analyses for Predicting Adolescent's Video from

Predictor	F Test (p)	R ₂	ΔR ²	b
Step 1	.976 (.324)	.002	.002	
Gender				-.04
Step 2	20.21 (.000)	.092	.092	
Novelty seeking (NS)				.30***
Step 3	102.09 (.000)	.436	.344	
Intrinsic motivation to know				.62***
Step 4	78.87 (.000)	.444	.008	
Novelty seeking × intrinsic motivation to know				.089***

Note: b denotes standardized regression coefficient: * p ≤ 0.005; ** p ≤ 0.001; * p ≤ 0.001**

Discussion

The present study demonstrated that novelty seeking is as one of the dimensions of temperament that play an important role in addictive behavior. Cloninger et al. (1994) have also found that highly novelty seeking creates less attentions and addictive behaviors. As a result, individuals with highly scores of novelty seeking are at a higher risk to specific patterns of psychological malfunctions. Przybylski et al. (2012) have pointed out that video game mostly is intrinsic motivation with a great deal of influence on emotions especially when players gain approval between experiences of their ideal selves. Young Sung and Nam Choi (2009) have found that intrinsic motivation indicates a situation that it related to interest and explore new something. Therefore, intrinsic motivations are one of the driving energy which leads to high engagement rates of playing. However, personality traits can affect on engagement toward games but the players differ from each other and play video games based on their motivation. Sevin (2009) has investigated relationship between motivations and personality traits for autonomous virtual humans and supported this notion that there is a relationship between motivation intensity and personality traits.

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