

Risk-taking vs. Impulsivity: Their impacts on Abstract Thinking Style and Smart Phone Addiction of High School Students

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Abstract. According to the research on time perspective, the present time perspective is positively correlated with risky behaviors. Thus, when educating students, teachers tend to encourage them to have the future time perspective instead of the present time perspective. The risky behavior is also related to addiction problem. Recently, technology addiction such as smart phone addiction is one of the annoying problems in secondary schools. Educators should find a good method to solve students' technology addiction as well as good time perspectives for their school life. However, risk-taking behaviors are not always negative in our lives and related to thinking styles negatively. In this paper, we analyze the present hedonism more carefully and determine the relationship among the present hedonism, abstract thinking ability, and academic achievement. To achieve our research goals, we surveyed 329 high school students of South Korea. For enhancing students' academic achievement and reducing their smart phone addiction, the teachers should understand the characteristics of the time perspectives and increase the abstract thinking levels of the students.

Keywords: Present hedonic time perspective, Risk-taking, Impulsivity, Behavior identification form

1 Introduction

In education arena, enhancing students' academic achievement is regarded as one of the most important goals. Thus, many research works have found the factors to achieve the goal. Recently, time perspective, especially the future time perspective and the abstract thinking ability have been helpful individual factors for successful school life [1][2]. According to the Construal Level Theory, the longer the temporal distance is, the higher the level of abstract thinking is [3]. And, Kramer mentioned

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that the higher abstract thinking ability is more helpful to students' academic achievement [2].

On the other hand, adolescent is vulnerable to various kinds of addiction unlike adults. Recently, technology addiction is one of the big issues in secondary schools. If we know how adolescent's thinking styles and their time perspectives affect technology addiction, then educators can devise a better educational method for adolescent. Among the previous works, Romer et al. [4] suggested that the present hedonism affected thinking ability positively. Also, they showed that the risk-taking attitude increases during adolescent age because of challenge and novelty-seeking. Also, Romer distinguished adolescent's impulsivity from risk-taking [5]. According to his research [5], the impulsivity has a negative aspect, whereas the risk-taking has a positive aspect. Park et al. proposed that the abstract thinking level and the future time perspective were negatively correlated with smart phone addiction, where as the present time perspective was positively correlated with smart phone addiction [6].

From the results of the previous research works, we knew that abstract thinking and the future time perspective help adolescent to enhance their academic achievement. Also, they can lower the smart phone addiction level. For the present hedonism, there are opposite opinions. However, there rarely existed the research works that covered the present hedonism with abstract thinking and smart phone addiction. In this paper, we firstly divide Zimbardo's present hedonism into 4 factors, and then analyze the relationship between the factors and abstract thinking ability and between the factors and academic achievement respectively.

2 Background

Professor Zimbardo proposed a new individual psychological construct, i.e. time perspective, and defined it as 6 categories; past negative time perspective, past positive time perspective, present fatalism, present hedonism, future time perspective, and transcendental future time perspective [1]. According to his research works, the future time perspective is desirable and the present hedonism is not always bad. He pointed out that people should have the present hedonism in some degree [1].

However, some research papers mentioned that present hedonism was correlated with some negative factor for some behavior [7][8]. Unfortunately, there has rarely been research paper that mentioned the characteristics about present hedonism in detail. If we know the characteristics of present hedonism accurately, we can apply the features of the present hedonism to education for adolescent.

On the other hand, another individual difference variable may come from people's thinking styles. A thinking style is a preferred way of thinking, and it can be connected with thinking globally (abstract) or locally (concrete) [9]. It can also affect to students' academic achievement. One of the methods to measure thinking styles is the Behavior Identification Form (BIF) [10]. Professor Vallacher and Wegner developed 25 items to measure action identification, which have two alternatives; one is abstract and the other is concrete [10]. In this paper, we give 0 score for concrete interpretations and 1 score for abstract interpretations. And then, we sum the scores and define as abstract thinking level.

3 Analysis of the Present Hedonism

This Section presents the result of the survey that performed on 329 high school students who live in Jeju-do in South Korea. The respondents of our study are composed of 130 male high school students (39.5%) and 199 female high school students (60.5%). And then, we analyze the relationship between the present hedonism and abstract thinking level and the relationship between the present hedonism and smart phone addiction by dividing the present hedonism into 4 sub-factors. It was performed by factor analysis.

Table 1 and Table 2 show the results of the regression analyses of the 4 present hedonism sub-factors on the BIF and smart phone addiction respectively. According to Table 2, the respondents' impulsivity and their risk-taking behaviour affected their BIFs. However, the impulsivity was negatively correlated with the BIF, whereas the risk-taking was positively correlated with the BIF.

Table 1. Regression analysis of the 4 sub-factors of the present hedonism on the BIF.

	Unstandardized Coefficients		Standardized Coefficients	<i>t</i>	Sig.
	B	Std. Error			
Impulsivity	-1.06	.23	-.27	-4.71	.000
Feeling(than reason)	.17	.23	.04	.72	.472
Hedonic-seeking	.40	.28	.08	1.42	.156
Risk-taking	.51	.23	.13	2.25	.025

($R^2=.073, F=6.39, p<.001$)

According to Table 2, impulsivity and hedonic-seeking behaviour affected positively to the students' smart phone addiction. Risk-taking behaviour was not influential in this case. In order to control the students' smart phone addiction, teachers should avoid the students' impulsive and hedonic-seeking behaviours.

Table 2. Regression analysis of the 4 sub-factors of the present hedonism on the smart phone addiction.

	Unstandardized Coefficients		Standardized Coefficients	<i>t</i>	Sig.
	B	Std. Error			
Impulsivity	.20	.05	.24	4.32	.000
Feeling (than reason)	-.06	.05	-.07	-1.17	.241
Hedonic-seeking	.25	.06	.23	4.31	.000
Risk-taking	-.03	.05	-.03	-.62	.536

($R^2=.118, F=10.85, p<.001$)

Next, we found the relationship between the 4 sub-factors and academic performance result. Impulsivity ($t=-4.11, p<.001$) and hedonic-seeking ($t=-2.03, p=.043$) affected negatively on the academic achievement, whereas risk-taking ($t=3.38, p=.001$) affected positively on the academic achievement. As a result, the risk-taking feature of the present hedonism can be good for academic achievement.

4 Conclusions

In the previous research, researchers proved that risk-taking behavior is not always bad. In particular, for adolescent, the risk-taking behavior helps them to have some desirable personality. In this paper, we extend the previous theory related to the present hedonism, especially about risk-taking and impulsivity by adding factors such as the abstract thinking level, smart phone addiction, and academic achievement of the adolescent. In summary, the risk-taking is positively related to the abstract thinking level, whereas the impulsivity is negatively related to the abstract thinking level. In addition, the risk-taking affects positively on the students' academic achievement, where the impulsivity does not. For smart phone addiction, only the impulsivity affects positively. Our research results are consistent with Romer's research work because Romer mentioned that the students who have high IQs have tendency to take more risk-taking behaviors. When educating adolescent, if we distinguish the risk-taking features from the impulsivity of students, then we can help the students to improve their school lives and academic achievements in the future.

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