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Procedia - Social and Behavioral Sciences 191 (2015) 1426 – 1430

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**Procedia**  
Social and Behavioral Sciences

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WCES 2014

# Investigation On Structural Relationship Among Adolescents' Media Use, Self-Directed Learning, And Ego-Resilience

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## Abstract

This research was carried out to investigate a causal relationship between self-directed learning and the purpose of media use in accordance with students' ego-resilience adjustment effect at the spot of education. The first year's data of Korea children and youth panel survey from National Youth Policy Institute is used to investigate. According to the result of the study, it turned out that there is statistically significant difference between a group with high ego-resiliency and a group with low ego-resiliency from 'information sharing' and 'personal life' out of media use subordinate factors. The result of the study can be used as a base line data for teachers and researchers to understand learners' use of media and the learning.

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Selection and peer-review under responsibility of the Organizing Committee of WCES 2014

*Keywords:* adolescents, media usage, self-directed learning, ego-resilience ;

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## 1. Introduction

According to Korea Annual Report about National Information, 2013, it turned out that 78.4% of people aged over three, approx. 3.812 million, use internet, and especially over 99% of the young generation, 10s-30s, use it (July, 2012). And in recent years, along with increase of smartphone users, infrastructures that allow anyone to enjoy the internet anywhere have been established. Due to this rapid spread of internet and smart media use, and development of fusion/complex technologies, life styles and communication modes of individuals are drastically changing.

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According to Prensky (2001), adolescents who have grown having computers, video games, and the internet around them since their youths are ‘digital natives’ that are accustomed to using digital language. They watch TV, play games, listen to music, read books, and enjoy surfing the internet in their daily lives. These various media use experiences are reflected in their learning activities both directly and indirectly. Adolescents’ purposes of using computers include ‘searching studying/learning information’, ‘sharing information/data not for leaning’, ‘chatting/messenger’, ‘e-mail’, ‘club/cafe/community activities’, ‘personal homepage activities’, ‘posting comments’, ‘game/entertainment’, ‘trading online’, ‘using websites for adults’, etc. (Sung, Hwang, & Lee, 2012). Basically, media such as TV, the internet, etc. provide positive functions, delivering useful information to children and adolescents quickly and enriching their leisure times. However, adolescents exposed to unhealthy messages may bring about physically, mentally, and socially very negative results (Kim, 2011; Park, 2001; Ha et al., 2000). Presently, smart education is being introduced and expanded at the spot of education, and frontline teachers are making efforts to understand students in the microscopic viewpoint and seek appropriate educational measures. Especially, self-directed learning that emphasizes self-directed selection and decision rights of learners is being significantly considered. This self-directed learning includes also an active meaning that learners improve their abilities while they learn things with teachers and other learners, and enjoy pleasure and joy, the self-learning elements, through meeting with other people (Lee, 2012). In the past, the cognitive aspect was emphasized for education, but presently, as educational environments are changing based on various media, interests in the affective aspect of learners are increasing (Sung, Hwang, & Lee, 2012). Especially, for an ability of learners to keep harmony and balance by adjusting themselves to environments they are facing, ego-resilience can be considered important (Lee, 2010; Lee et al., 2006). Block & Block (1980) related it to a meta-ability that individuals enhance or relieve their ego-control level for successful adjustment in demanding or stressful environments. According to Garmezy (1983), children with high ego-resilience have characteristics that they make high intellectual achievements, use cognitive abilities well, and draw positive responses from their families or other people in their homes or schools.

Thus, the purpose of this study is to determine how media use, self-directed learning, and ego-resilience of adolescents are related one another in the multimedia environment.

## 2. Method

For this study, first-year data from Korean Children and Youth Panel Survey of the National Youth Policy Institute was used. The longitudinal research model of Korean Children and Youth Panel Survey 2010 investigates the state and change of growth and development of adolescents and children from 2010 to 2016, for seven years repeatedly, targeting three panels, first-year and fourth-year students in elementary school and first-year students in middle school. This study targeted fourth-year students in elementary school of the whole country (April, 2009), and the survey subjects were 2,378 adolescents selected as final samples through Stratified Multi-Stage Cluster Sampling, male 1,242 (52.2%) and female 1,136 (47.8%). This study conducted the two-stage cluster analysis setting up clusters by inserting the continuous variables, media use and self-directed learning at the same time, and correlations of the inserted variables were examined by analysing four media use factors and four self-directed learning factors drawn through the exploratory factor analysis. And the structure equation model analysis was conducted by using AMOS 21.0.

## 3. Results

### 3.1. Research Problem 1. Is there any relationship between media use and self-directed learning of early adolescents?

Examining the correlation between media use and self-directed learning (Tabel 1), it turned out that there exist statistically significant negative (-) correlations among behavior control, achievement value, academic time management, and mastery goal orientation. And it turned out that there exist statistically significant positive (+) correlations among the other variables.

Table 1. The correlation between media use and self-directed learning

	Information Sharing	Multimedia Use	Private Life	Friend Relationship	Achievement Value	Academic Time Management	Mastery Goal Orientation	Behavior Control
Information Sharing	1							
Multimedia Use	.342***	1						
Private Life	.198***	.263***	1					
Friend Relationship	.282***	.266***	.347***	1				
Achievement Value	.082***	.014	.113***	-.036	1			
Academic Time Management	.128***	.051*	.088***	-.013	.524***	1		
Mastery Goal Orientation	.086***	.004	.073**	-.030	.625***	.570***	1	
Behavior Control	.040	.172***	.037	.084***	-.272***	-.282***	-.317***	1

\*\*\*p < .001, \*\*p < .01, \*p < .05

3.2. Research Problem 2. Is there any difference between media use and self-directed learning depending on ego-resilience of early adolescents?

According to the result of the study, it turned out that there is statistically significant difference between a group with high ego-resiliency and a group with low ego-resiliency from ‘information sharing’ (t=-5.532, p<.001) and ‘personal life’ (t=-3.642, p<.001) out of media use subordinate factors (Table 2).

Table 2. Examining self-directed learning factor differences according to the ego-resilience cluster analysis

	Case Cluster Number	N	Mean	SD	t
Information Sharing	Low Group	1112	2.9353	.79402	-5.532***
	High Group	1178	3.1095	.70786	
Multimedia Use	Low Group	794	2.5600	.80463	-1.641
	High Group	810	2.6230	.73076	
Private Life	Low Group	794	1.4211	.47318	-3.642***
	High Group	810	1.5111	.51640	
Friend Relationship	Low Group	794	1.8256	.78373	-1.901
	High Group	810	1.9000	.78411	

\*\*\*p < .001

Examining self-directed learning factor differences according to the ego-resilience cluster analysis (Table 3), it turned out that the group with high ego-resilience and the group with low ego-resilience have statistically significant differences on ‘achievement value’(t=-22.022, p<.001), ‘academic time management’(t=-20.566, p<.001), ‘mastery goal orientation’(t=-24.052, p<.001), and ‘behavior control’(t=7.723, p<.001). That is, it turned out that the group with high ego-resilience has a higher directed learning ability than the group with low ego-resilience.

Table 3. Examining self-directed learning factor differences according to the ego-resilience cluster analysis

	Case Cluster Number	N	Mean	SD	t
Achievement Value	Low Group	1150	1.4854	.46761	-22.022***
	High Group	1223	1.9565	.57207	
Academic Time Management	Low Group	1150	1.9933	.66713	-20.566***
	High Group	1223	2.5505	.65229	
Mastery Goal Orientation	Low Group	1150	1.7588	.55646	-24.052***
	High Group	1223	2.3235	.58540	
Behavior Control	Low Group	1150	2.8883	.82149	7.723***
	High Group	1223	2.6455	.70018	

\*\*\*p < .001

And it also turned out that while on the group with high ego-resilience, the media use purpose significantly influences self-directed learning, on the group with low ego-resilience; the media use purpose has no significant effect on self-directed learning. Thus, given that the influence of the media use purpose changed depending on highs and lows of ego-resilience, it could be found that there exists a moderating effect,  $\beta=.125$ . Fig. 1 shows the structural model of media use and self-directed learning of the group with high ego-resilience.

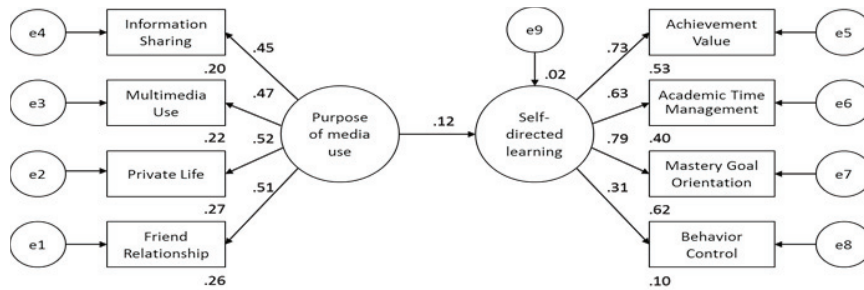


Fig. 1. The structural model of media use and self-directed learning of the group with high ego-resilience

#### 4. Discussion and Conclusion

This study was conducted to determine a causal relationship between media use and self-directed learning depending on a moderating effect of early adolescents’ ego-resilience. The study results can be summarized as below. First, it turned out that the group with high ego-resilience has statistically significant difference on ‘information sharing’ and ‘private life’ among sub-factors of media use. People with high ego-resilience can respond to unexpected incidents flexibly and have a proper ability to analyse characteristics of the incidents and individual behaviors. This indicates that because ego-resilience includes the motivation control ability, cognitive ability, etc., as it was higher, the level of information sharing and private life turned out to be higher. Second, as a result of testing the difference of self-directed learning between the group with high ego-resilience and the groups with low ego-resilience, the group with high ego-resilience appeared high on achievement value, academic time management, and mastery goal orientation, and the groups with low ego-resilience turned out to be high on behavior control. The result coincides with those of preceding researches that the group with high ego-resilience tries to solve problems comprehensively (Block & Block, 1980), has a high level of self-conviction and acceptance, being creative, can express their emotions properly, and has an excellent cognitive ability (Lee et al., 2006). That behavior control appeared low on the group with high ego-resilience indicates that ego-resilient people are not sensitive to anxiety, are opened to new experiences, and have positive emotions. This is because they can control their ego-control level flexibly according to situation-contextual requirements and cope with behavior control smoothly. Third, examining the structural model result between media use and self-directed learning of the groups with low and high ego-resilience, on the group with high ego-resilience, media use had a significant effect on self-directed learning. This means that the influence of media use changed depending on highs and lows of ego-resilience, which indicates that there exists a moderating effect. Thus, it can be thought that as ego-resilience of adolescents gets higher, it influences self-directed learning of adolescents more positively by being connected with self-confidence and self-competence through media use. It is needed to develop alternate programs in advance to enhance self-directed learning through improving ego-resilience of adolescents.

#### 5. Suggestions

Proposals can be suggested through the study results as below. First, although this study learned a causal relationship between self-directed learning and ego-resilience according to early adolescents’ media use, follow-up studies that consider the affective aspect in detail including ego-resilience need to be further conducted. This means

that the cognitive aspect was emphasized for education in the past, but it is needed to keep up learning motivations by developing the affective aspect of learners depending on changes of educational environments. Second, based on the results of this study, it is needed to develop customized ego-resilience improvement programs considering self-directed learning and ego-resilience according to early adolescents' media use. Given the results indicating that early adolescents with high ego-resilience through media use showed a high level of self-directed learning, it can be found that ego-resilience in the aspect of learners' abilities is a very important factor in the recent smart education environment to promote their learning constantly through motivation and interest improvement.

## References

- Block, J. (1982). Assimilation, accommodation, and the dynamics of personality development. *Child Development*, 53(1), 281-291.
- Block, J. H., & Block, J. (1980). The role of ego-control and ego-resilience in the organization of behavior. In W. A. Collins (Ed.), *Minnesota symposia on child psychology* (pp.39-101). Hillsdale, NJ; Erlbaum.
- Garmezy, N. (1983). Stressor in childhood. In N. Garmezy, N., & Rutter, M. (Eds.), *Stress, coping, and development in children* (pp. 170-198). New York; Macgraw-Hill.
- Ha, J. H., Cho, D. Y., Lee, H. J., Yang, E. J., Woo, J. I., & Ryu, I. G. (2000). Patterns of Internet Addiction in Korea. *The Korean Journal of Psychopathology*, 9(1), 59-68.
- Kim, W. J. (2011). A Study on Effects of Media about Violence upon Juvenile Violence: Focusing on the Mediating Effects of Narcissistic Personality Tendency. Unpublished Dissertation. Dongguk University.
- Lee, H. N., Jung, H. J., Lee, G. H., & Lee, H. J. (2006). The Relationship among Stress Perception, Stress Coping, Ego-resilience and Happiness of University Students. *The Korean Journal of Counseling*, 7(3), 701-713.
- Lee, H. R. (2009). The Relationships among Mother's Nurturing Attitude perceived by Elementary School Students, their Achievement Motive and Self-directed Learning Ability. Unpublished Thesis. The Chungbuk University.
- Lee, J. H. (2012). Analysis of the development and utilization of digital textbooks for special education teacher's awareness : focusing on visual impairment. Unpublished Thesis. Seoul National University.
- Lee, Y. E. (2012). The effects of the multiple intelligence theory-based instruction on the metacognition ability and self-directed learning attitudes. Unpublished Thesis. Busan University.
- Park, C. H. (2001). (A) study on the different ways to accept television programs. Unpublished Dissertation. Chungang University.
- Prensky, Marc. (2001). Digital natives, digital immigrants part 1. *On the horizon*, 9(5), 1-6.
- Sung, E. M., Hwang K. A., & Lee, J. Y. (2012). The effect of new media use of adolescents, second-year students in middle school, on cognition, emotion, and social development. Search Report, Korea Institute for Youth Development, 2012(12), 1-200.