Effects of supervision of parents on learning activity of adolescents mediated by type of cellular phone use

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Abstract. Scholastic achievement in adolescence is a major parameter in predicting the life as adults. That’s because failure in adoption to school has negative influence on vocational and economic achievements in adults in a long term. In this study, we tried to find the influence of supervision of parents on learning activity of adolescents in the parameter as type of cellular phone use. We analyzed the 4th year data of the Korea Child and Youth Panel Investigation – Middle school Freshmen– in the structural equation model. As a result, the supervision of parents had significant influence on the type of cellular phone use of adolescents. The more stronger the discipline of parents, the more frequently they used the cellular phones in contacting their parents and less frequently in playing the games. Also, those who use their cellular phones in contacting their parents more frequently showed positive learning activities while those who use in playing the games more frequently showed negative learning activities. The direct effect of supervision of parents on the learning activity of parents was significant. Based on these results, we suggested a method to improve the learning activities of adolescents.

Keywords: Supervision of parents, Learning activity, Type of cellular phone use

1 Introduction

Scholastic achievement in adolescence is a major parameter in predicting the life as adults. That’s because failure in adoption to school has negative influence on vocational and economic achievements in adults in a long term (Kim & Cha, 2007). The use of cellular phones in adolescents has been rapidly increased due to widespread use of smart phones which can cause various problems. Excessive use of cellular phones which is also called ‘cellular phone dependency’ causes health, learning, and mental problems in adolescents (Sung & Jin, 2012).

There have been other studies on the effects cellular phone dependency of adolescents on learning achievements or school adoptions. However, there is no study on the difference of effects on the type of cellular phone use specifically. Of course the effects of cellular phone use in either talking to or texting to their family, contacting their friends, or playing the games can be totally different. Also, the supervision of parents can bring about different results. In the study of Jang(2002),
the learning achievement came out to be relevant to the cellular phone dependency. Also, Gwag and Lee (2009) said that the cellular phone dependency in adolescents has negative effects on the class. Lee and Myung (2007) said that addictive use of cellular phone of adolescents is related to the school adoption failures. Also, Chang, Song, and Cho (2011) said that higher use and dependency on cellular phones have more negative influence on the school life.

Lee, Lee, Lee, and Chung (2012) showed the difference in the influence on the school adoption failures by different type of cellular phone use. The more frequently they have contacts with their family, they showed reduced rate in school adoption failures. Otherwise, the more frequently they contact their friends or play games, more school adoption failures were observed.

Like this, the use of cellular phone of adolescents have been reported to have influences on the school life in preceding studies while little has been known about the influence of supervision of parents.

In this study, we will see the different effects of supervision of parents on learning activity of adolescents in the parameter as type of cellular phone use.

2 Methods

In this study, we used the 4th year data of the Korea Child and Youth Panel Investigation in 2010 – Middle school Freshmen. The influence of supervision of parents on the learning activity of adolescents was analyzed in the structural equation model with the parameter as type of cellular phone use.

The independent variable was the supervision of parents with the dependent variable of learning activity and parameter of type of cellular phone use. Latent variables were composed for all the variables by numerous measuring variables which compose each item followed by measuring modeling analysis and structural modeling analysis. Structural equation model was used in data analysis to understand the influence of supervision of parents on the learning activity of adolescents in the parameter as type of cellular phone use using SPSS 18.0 and Amos 18.0.

3 Results

1) Descriptive statistics about key variables
The key variables in this study are supervision of parents, type of cellular phone use, and learning activity. Supervision of parents was measured by 3 questions of ‘They know where I go after school’, ‘They know how I spend the time’, and ‘They know when I’ll be back when I go out’. The type of cellular phone use was classified into ‘talking to family’, ‘texting to family’, ‘talking to a friend’, ‘texting to a friend’, ‘game and playing’, and ‘watching video’. Learning activity was classified into ‘School classes are fun’, ‘I don’t miss homework’, ‘I’m aware of what I learned during the class’, ‘I ask questions to others(parents, teachers, or friends)’, and ‘I do not concentrate on classes’.
Before analyzing the study model, we had descriptive analysis on each variable for their average, standard deviation, skewness, kurtosis, and etc. The results are shown in <Table 1>.

### Table 1. Descriptive statistics of key variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Standard deviation</th>
<th>Skewness</th>
<th>Kurtosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parental supervision</td>
<td>3.09</td>
<td>.58</td>
<td>-.43</td>
<td>.57</td>
</tr>
<tr>
<td>Type of cellular Phone use</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>talking to family</td>
<td>3.38</td>
<td>.66</td>
<td>-.79</td>
<td>.47</td>
</tr>
<tr>
<td>texting to family</td>
<td>3.19</td>
<td>.74</td>
<td>-.70</td>
<td>.28</td>
</tr>
<tr>
<td>talking to a friend</td>
<td>3.46</td>
<td>.68</td>
<td>-1.10</td>
<td>.87</td>
</tr>
<tr>
<td>texting to a friend</td>
<td>3.64</td>
<td>.59</td>
<td>-1.63</td>
<td>2.61</td>
</tr>
<tr>
<td>game and playing</td>
<td>2.84</td>
<td>1.08</td>
<td>-.46</td>
<td>-1.09</td>
</tr>
<tr>
<td>watching video</td>
<td>2.96</td>
<td>.94</td>
<td>-.57</td>
<td>-.58</td>
</tr>
<tr>
<td>Learning activity</td>
<td>2.78</td>
<td>.49</td>
<td>-2.21</td>
<td>.80</td>
</tr>
</tbody>
</table>

The average of parental supervision was measured in 4 point scales from ‘Strongly agree’ to ‘do not agree at all’. In this study, it was converted to show higher scores as more parental supervision. As a result, the average of the 3 questions was 3.09(SD=.58). The type of cellular phone use was classified into contacts with family, contacts with friends, and playing. The average of ‘talking to family’ was 3.38(SD=.66) and ‘texting to family’ was 3.19(SD=.74) which are both contacts with family. The average of ‘talking to a friend’ was 3.46(SD=.68) and ‘texting to a friend’ was 3.64(SD=.59) which were both contacts with friends. The average of ‘game and playing’ was 2.84(SD=1.08) and ‘watching video’ was 2.96(SD=.94) which were both playing. The average of learning activity was 2.78(SD=.49).

The distribution of all the variables was within the normal distribution upon the analysis of skewness and kurtosis of all the variables.

### 2) Structural modeling analysis

The structural modeling analysis was performed to understand the relationship among the parental supervision, type of cellular phone use, and learning activity. The results are shown in <Figure 1>.

The goodness of fit index of this structure model was Chi-square=362.903(df=68, p=.000), NFI=.950, TLI=.937, CFI=.959, RMSEA=.043 to implicate that it is adequate for the population.

The path coefficient of each factor was also reviewed. The parental supervision had positively (+) significant relationship to the influence on contacts with parents(.338). Otherwise, the parental supervision had no statistically significant relationship to the influence on on contacts with friends(.036). The influence of parental supervision on the use of cellular phones for playing(-.080) was negatively (-) significant. In other words, the more parents supervise their children, the more frequently the children contacts to their parents and less frequently play games with cellular phones. But lots of parental supervision didn’t reduce the frequency of contacts with friends of their adolescent children.

For the next, the impact of each parameter was reviewed. Frequent use of cellular phone to contact their family had positively (+) significant influence on learning
activity at school while contacts with friends having no significant influence on learning activity. The use of cellular phone for games and playing had negatively (-) significant influence on learning activity at school (-.131). In other words, adolescents who use their cellular phones in contacting their parents often are maintaining school learning activities well while those who use for playing and games are not. On the other hand, frequent use of cellular phone to contact friends had no influence on the learning activity.

Also, more parental supervision had positive influence on learning activity at school (.371) with statistical significance.

4 Conclusion

Learning activity at school in adolescence is one of the major factors which influence the scholastic achievement which is very important in determining the quality of life as adults afterwards. Therefore, it is the major task in adolescence to actively participate in learning activity at school. Recently, most adolescent children are using smart phones while excessive use of cellular phone is becoming one of the factors affecting the scholastic achievement. Therefore, it is needed for the parents to reduce the cellular phone dependency of adolescents and provide guidance for its appropriate use. In this study, we tried to find the influence of supervision of parents on learning activity of adolescents in the parameter as type of cellular phone use. The summary of the results is as follows;

First, the more parents supervise their adolescent children, they use their cellular phones more frequently in contacting their family and less in playing the games.
However, parental supervision had no significant relationship to the frequency of the use of cellular phones in contacting their friends.

Second, the more they use their cellular phones in contacting their family, the better learning activity they showed. On the other hand, the more frequently they use them in playing the games, they showed worse learning activity. Use of cellular phones to contact their friends had no relationship to the learning activity.

Finally, parental supervision had direct influence on the learning activity of adolescents. The more parents supervise their adolescent children, the better their learning activity becomes.

Based on these results, we suggest following methods to improve the learning activity of adolescents;

First of all, wide-spread use of cellular phone by adolescents is causing various side effects. Parental supervision is the most important to support adolescents use their cellular phones as appropriate. The more parents supervise their adolescent children, they use their cellular phones more frequently in contacting their family and less in playing the games. Therefore, parental guidance is required to allow adolescents to use their cellular phones as appropriate. Trainings to parents are required to enable them provide an appropriate guidance on the use of cellular phones of their children.

Second, the different use of cellular phones showed different effects on learning activity. Therefore, trainings on the use of cellular phone on adolescents can reduce the side effects coming from the use of cellular phones.

References