Determinants of Teen Users' Problematic Online Behavior in Korea: A Random Effects Model Using Panel Data

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The purpose of this study is to examine factors associated with teen Internet users' unauthorized software downloads, unauthorized ID use, falsifying/disguising age or gender while chatting online, and cursing/insulting someone in a chat room or on a bulletin board. No research has been undertaken to investigate the determinants of various types of problematic online behavior with longitudinal data. This study will contribute to identifying the factors regarding each type of problematic online behavior among mid-teens in South Korea.

The data used in this study was the first and the third wave data taken from the Korea Youth Panel Survey. Second-year middle school students, the equivalent of 8th graders, residing in Seoul and other provinces in South Korea were selected as subjects when the program started in 2003. The sample size for the current study was 6,248 (3,124 in each wave). Problematic online behavior was defined in this study as the illegal or immoral behavior which occurs when an individual is online. Four types of problematic online behavior aforementioned were analyzed as dependent variables. Based on theories in criminology such as self-control theory and social learning theory and past studies, self-control, deviant peer association, and parent-related variables (parent-child relationship and parental monitoring) were selected as independent variables. Other individual-level characteristics, such as gender, rank in class, health condition (physical and psychological), time spent on the Internet/computers, household income, and father's education were included as control variables. The current study undertook the analysis using panel logistic regression (a random effects model) with STATA 12.0, and findings were as follows:

Respondents' experience of problematic online behaviors decreased over the two periods in general. Approximately 3-30% of respondents showed changes, and the majority of them evolved to 'not-doing' problematic behaviors (63-89%), while others (11-37%) became delinquent. As for results from panel logistic regressions, a panel model was found to be preferable. Overall, self-control, respondents' experience of problematic offline behavior, percentile rank in class, time spent using computers, gender and year dummy variable turned out to be significant in every type of problematic online behavior, while peer problem behavior and psychological health problem were significant in two types of problematic online behavior respectively. The results of this study supported self-control theory while social learning theory was partially supported. In particular, for parent-related variables, parent-child relationship was not significant, yet parental monitoring was significant in several types of problematic online behavior, albeit marginally. Respondents' experience of problematic offline behavior was consistently significant. A significant gender gap was found in every model except for 'disguising one's age or sex while chatting online with others.' This could be because this practice has been used as a method of self-protection for girls. Socioeconomic status ('father's education' and 'household income' in this study) was not significant in most cases. This could result from the high level of IT development in South Korea. Academic rank in school was found to be significant, but with negative association, which was contrary to the expectation (percentile rank means the lower one's percentile, the higher one's academic performance). The result makes sense in that those who showed higher academic performance also had greater proficiency in the Internet according to the Programme for International Student Assessment [PISA] report by the Organisation for Economic Co-operation and Development [OECD]. This study examined determinants of problematic online behavior, and significant variables in accordance with past studies and theories were identified. Yet it seems that other variables which have yet to be explored still exist, and online behavior may not be fully explained through research or theories on offline behavior. Future research needs to be undertaken to discover additional significant variables on teens' problematic online behavior.

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