

TITLE: Smartphone Usage Pattern and Addiction Probability: A Comparative Analysis between U.S. and Korea

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Introduction:

As cell phones evolve into mobile computers, smartphones have become necessities (and sometimes problems) in people's lives. This study was conducted to demonstrate the severity of smartphone addiction in two countries. Korea is a leading country in the mobile broadband market in terms of market penetration ratio (total # of smartphones sold ÷ country population) and the U.S. is the number one country in the global smartphone market. Comparing smartphone addiction levels of these two countries gives insight to smartphone addiction trends and characteristics, for they are the most affected by smartphone addiction. This paper investigates usage patterns as determinants for smartphone addiction.

Method:

15 yes/no questions were used to determine the level of smartphone addiction. The *Smartphone Addiction Index* was a measurement to estimate the level of smartphone addiction. Each participant's SAI was determined by adding the total number of 'yes' responses the of 15 yes/no questions. At least 12 yes responses meant the participant had smartphone addiction.

- H_1 A Korean smartphone user shows stronger signs of smartphone addiction than an American smartphone user does.
- H_2 A user with higher usage hours shows stronger signs of smartphone addiction than a user with lower usage hours does.
- H_3 A user with more smartphone access time shows stronger signs of smartphone addiction than a user with less smartphone access time does.

The author divided the SAI scores into the smartphone addiction group ($SAI \geq 12$) and the non-addiction group ($SAI < 12$). Based on the usage patterns of access times and usage hours, an equation was devised to predict the likelihood of a person being diagnosed with smartphone addiction.

Results:

All three null hypotheses were rejected at a significance level of 1%. Smartphone users in Korea, the longer usage group, and the more access time group had significantly higher SAI mean values.

The following table represents the probability of a user being a smartphone addict, given the following conditions of access frequency and usage length.

Usage Length

	< 1 hr	< 2 hr	< 3 hr	≥ 3 hr
0-10 times	0.063	0.087	0.119	0.161
11-20 times	0.082	0.112	0.152	0.203
21-30 times	0.106	0.144	0.193	0.253
≥ 30 time	0.136	0.183	0.241	0.311

Frequency

Conclusion:

Korean users are more susceptible to smartphone addiction compared to American users. The more frequent and the longer smartphone use, the higher the probability of smartphone addiction becomes.