# EXAMINATION OF EFFECTIVE FACTORS ON INTERNET ADDICTIONS OF UNIVERSITY STUDENTS: AFYON KOCATEPE UNIVERSITY SAMPLE

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**Abstract** - The aim of this study is by investigating the internet addictions of University Students via statistical techniques. By the internet, which entered our daily life snappily, information and technology era has been started and it gave new point of view by changing our lifestyle in many areas as electronic commerce, education and government.
Internet addiction is new disorder first described by Kimberly Young in 1996. Since then, there have been many studies examining the multiple facets of this disorder. Similar to other addictions, those suffering from internet addiction use the virtual fantasy world to connect with real people through the Internet, as a substitution for real-life human connection, which they are unable to achieve normally. However, internet addiction is only a subset of technology addiction in general.
In this study the internet addiction levels of students and important factors on internet addiction is tried to find out. With this purpose, to measure the internet addiction levels of students of Afyon Kocatepe University, by using "Young's Internet Addiction Scale", which has developed previously and data set is be obtained via a questionnaire and is analyzed via SPSS and LISREL software. The results of the Analysis are given in related tables and figures.

**Keywords** - Information Security, Security Awareness, Structural Equation Modeling.

## I. INTRODUCTION

The use of the internet has expanded incredibly across the world over the last few years. The internet provides remote access to others and abundant information in all areas of interest. However, maladaptive use of the internet has resulted in impairment of the individual's psychological well-being, academic failure and reduced work performance. While not yet officially codified within a psychopathological framework, internet addiction is growing in prevalence and has attracted the attention of psychiatrists, educators, and the public. The relatively immature cognitive control of the adolescents puts them at a high risk of contracting internet addictions. Some adolescents cannot control their impulsive use of the internet for novelty seeking and finally become addicted to the internet (Yuan et al., 2011). Internet addiction is new disorder first described by Kimberly Young in 1996. Since then, there have been many studies examining the multiple facets of this disorder. Currently there are at least 5 scales which are being used most frequently in studies for diagnosing Internet addiction or problematic Internet use. The most frequently cited are: Chen Internet Addiction Scale, Young's Internet Addiction Questionnaires and Ko's Internet Addiction Scale (Frangos et al, 2012).

## II. METHOD

### Structural Equation Model (SEM)

SEM is a comprehensive statistical method used in testing hypotheses about causal relationships among observed and unobserved (latent) variables and has proved useful in solving the problems in formulating theoretical constructions (Reisinger and Turner, 1999). Its function has found to be better than other multivariate statistics techniques which include multiple regression, path analysis and factor analysis. Other statistics techniques could not take them into consideration due to the interaction effects among depend and independent variables. Therefore, a method that can examine a series of dependence relationships simultaneously helps to address complicated managerial and behavioural issues. SEM also can expand the explanatory ability and statistical efficiency for model testing with a single comprehensive method (Pang, 1996; Yilmaz, 2004).

### Sample and Scale

In terms of sampling theory, since the general proportion of the attitudes and behaviors of the population within the frame of research was not obvious, the contingent sampling technique could not be applicable. As we consider all the students of Afyon Kocatepe University at the Campus of ANS and at different departments, at 0.95 confidence level, the size of the sample is calculated as 383. After determining sampling, to measure the addiction levels of these students, Young's (1998) Internet Addiction Scale is used and a 5-point Likert-type questionnaire ranging from 1 (Newer) to 5 (Always) is applied to randomly 500 students in the campus of Afyon Kocatepe University at the beginning of 2017-2018 education term. Because of some unfilled and wrong replied questionnaires, analyzes are concluded over 467 questionnaires via SPSS and LISREL software.

## III. FINDINGS

The detailed results for EFA, and SEM are given in Table 1., Table 2. and Figure 1.

| Factors/Items | Factor Loading | Eigen value | Explained Variance (%) |
|---|---|---|---|
| IA (Internet Addiction) | | 1.105 | 12.43 |
| IA1. How often do you form new relationships with fellow on-line users? | .672 | | |
| IA2. How often do others in your life complain to you about the amount of time you spend on-line? | .646 | | |
| IA3. How often do you find that you stay on-line longer than you intended? | .627 | | |
| IA4. How often do you neglect household chores to spend more time on-line? | .566 | | |
| IIA (Internal Internet Addiction) | | 5.47 | 22.79 |
| IIA1. How often does your job performance or productivity suffer because of the Internet? | .730 | | |
| IIA2. How often do you find yourself saying "just a few more minutes" when online? | .673 | | |
| IIA3. How often do your grades or school work suffers because of the amount of time you spend on-line? | .667 | | |
| IIA4. How often do you try to cut down the amount of time you spend on-lineand fail? | .647 | | |
| IIA5. How often do you lose sleep due to late-night log-ins? | .629 | | |
| IIA6. How often do you block out disturbing thoughts about your life with soothing thoughts of the Internet? | .587 | | |
| EIA (External Internet Addiction) | | 1.203 | 16.64 |
| EIA1. How often do you feel depressed, moody or nervous when you are off-line, which goes away once you are back on-line? | .673 | | |
| EIA2. How often do you find yourself anticipating when you will go on-line again? | .662 | | |
| EIA3. How often do you feel preoccupied with the Internet when off-line, or fantasize about being on-line? | .573 | | |
| EIA4. How often do you become defensive or secretive when anyone asks you what you do on-line?<br>EIA5. How often do you snap, yell, or act annoyed if someone bothers you while you are on-line? | .556<br>.551 | | |

**Table 1. EFA Results for the factors IA, IIA and EIA.**

As it can be seen from Table 1, according to the results of explanatory factor analysis, the items of the scale formed in three factors which we renamed them as Internet Addiction (IA, genaral addiction items), Internal Internet Addiction (IIA), and External Internet Addiction (EIA). The eigen values, variance explanation ratios of factors and the factor loadings of each item is also given in Table 1.

The structural model which shows the effects of each item on these there factors is given in Figure 1.

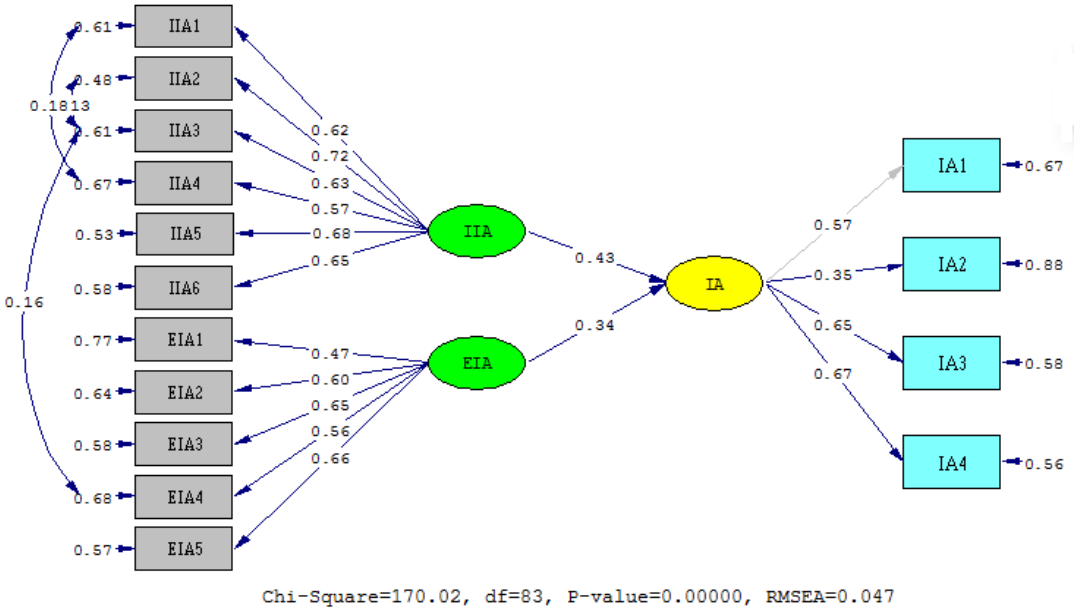



**Figure 1. Structural Model For the Internet Addiction**

Goodness of fit statistics and the limits for the structural model given in Figure 1 is given in Table 2.

| Fitness Criterion | Perfect Fitness | Acceptable Fitness | Model |
|---|---|---|---|
| RMSEA | 0 < RMSEA <0.05 | 0.05 ≤ RMSEA ≤ 0.10 | 0.047 |
| NFI | 0.95 ≤ NFI ≤ 1 | 0.90 < NFI ≤ 0.95 | 0.97 |
| NNFI | 0.97 ≤ NNFI ≤ 1 | 0.95 ≤ NNFI ≤ 0.97 | 0.98 |
| CFI | 0.97 ≤ CFI ≤ 1 | 0.95 ≤ CFI ≤ 0.97 | 0.98 |
| SRMR | 0 ≤ SRMR <0.05 | 0.05 ≤ SRMR ≤ 0.10 | 0.038 |
| GFI | 0.95 ≤ GFI ≤ 1 | 0.90 ≤GFI ≤ 0.95 | 0.95 |
| AGFI | 0.90 ≤ AGFI ≤ 1 | 0.85 ≤ AGFI ≤ 0.90 | 0.93 |

**Table 2. Limits and the results of the structural model.**

(Source: Schermelleh-Engel and Moosbrugger, 2003).(RMSEA: Root Mean Square Error of Approximation, NFI: Normed Fit Index, NNFI: Non-Normed Fit Index, CFI: Comparative Fit Index, SRMR: Standardized Root Mean Square Residual, GFI: Goodness of Fit Index, AGFI: Adjusted Goodness of Fit Index)

Table 2, shows that the Structural Model given in Figure 1 is statistically significant and shows a good fitness according to all goodness of fit statistics.

Besides these Fitness Criterions if the value of {$\chi$2 /df} is less than 3 it means that there is an acceptable fit. For this model $\chi$2 /df is obtained as 170.02/83 = 2.04 that means the model is statistically significant.
It can also be seen from Figure 1 that the most effective item on Internet Addiction is IA4. "How often do you neglect household chores to spend more time on-line?" with the coefficient of 0.67. Internal Internet Addiction effects the general internet addictions of the students more than External Internet Addiction with the coefficients of 0.43 and 0.34 respectively.

When we examine the most important factor on Internal Internet Addiction, with the coefficient of 0.72, the item; "How often do you find yourself saying “just a few more minutes” when online?" is found out.

On External Internet Addiction's of these students the item "How often do you snap, yell, or act annoyed if someone bothers you while you are on-line?" is found the most important with the coefficient of 0.66.

## RESULTS

The results of this study indicates internet addictions of the students can be separated as internal and external addictions which have a significant effects on general internet addictions of the students. To decrease the internet addictions of the university students, importance of the household chores that cannot be neglected, must be accepted by all individuals, it must be known that the sentence "just a few more minutes" takes much and much than excepted, and it does not worth to snap, yell, or act to sincere friends or family members for a virtual world.

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