

THE IMPACT OF SMARTPHONE ADDICTION ON ACADEMIC PERFORMANCE OF THE UNDERGRADUATES IN SRI LANKA (WITH SPECIAL REFERENCE TO THE SABARAGAMUWA UNIVERSITY OF SRI LANKA)

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Abstract

It is commonly known that smartphones are useful in the human life. But excessive use of smartphone usually makes students addicted to it. The study aimed at investigating the influence of smartphone addiction on the academic performance of the undergraduates. This survey was conducted using the quantitative research approach, and a structured questionnaire has been used to accumulate data. A total of 300 questionnaires were collected from the undergraduates at the Sabaragamuwa University of Sri Lanka using a Multistage sampling technique. The Structural Equation Model was constructed to test the hypothesis. Results revealed that the daily-life disturbance, positive anticipation, and tolerance exposed to smartphone addiction significantly affected their academic performance. Furthermore, the results showed that most of the students prioritize the use of smartphones than their academic performance and smartphone addiction causes disturbances of daily life activities. It can be concluded that smartphone addiction induces the effect on poor academic performance. This survey suggested that the students should reduce the heavy usage of smartphones to carry out their academic performance effectively.

Keywords: *Academic performance, Daily-life disturbance, Positive anticipation, Smartphone addiction, Tolerance,*

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Introduction

There was a technological advancement based on the internet with the beginning of the 21st Centenary. This changes the behavior and system of consumption of people around the world and in the modern world, information and communication technology influences human learning behavior and awareness acquisition systems (Shakoor, Fakhar, & Abbas, 2021).

An investigation by a group of Italian (Serra, Scalzo, Giuffrè, Ferrara, & Corsello, 2021) revealed that in the current global epidemic of the Covid 19, the smartphone addiction of the students has increased compared to the past. Due to the pandemic situation, our traditional classrooms were changed into the online remote classroom in which students are available through the online sessions from their smartphones, and the teachers or lecturers deliver lectures to students remotely from anywhere around the world. The use of smartphones has become popular among the younger generation as various applications can be accessed through the smartphone, but excessive smartphone use usually makes students addicted to it (Mukhdoomi, Farooqi, Khan, Ajmal, & Tooba, 2020). Therefore, it is important to explore the link between students' smartphone addiction and their academic performance. Thus, the present study focuses on identifying the impact of smartphone addiction on the academic performance of undergraduates in Sri Lanka.

Material & Methods

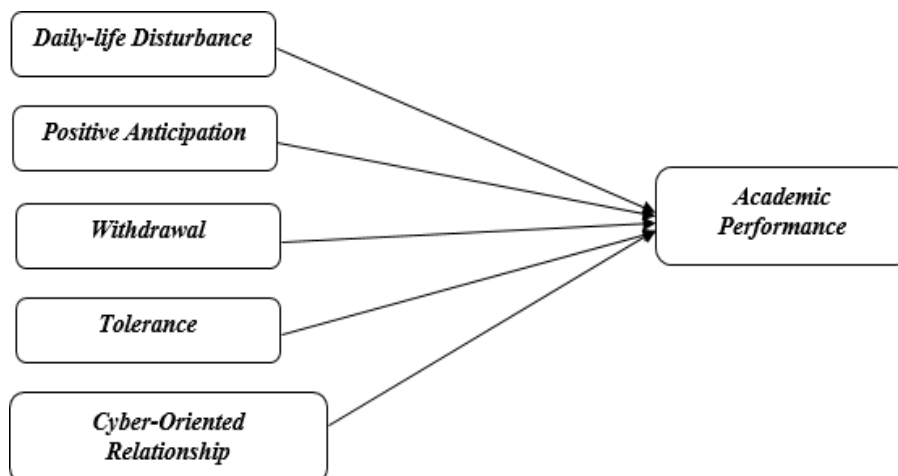
The dependent variable of this research was the academic performance of the undergraduates and independent variable was smartphone addiction. The smartphone addiction was measured using five latent constructs: daily-life disturbance, positive anticipation, withdrawal, cyber-oriented relationship, and tolerance, and those latent variables were measured under 27 indicator variables. The academic performance was also a latent variable and it was measured under 8 indicator variables.

In this study, students of Sabaragamuwa University (SUSL) have been considered the population including five faculties representing the Faculty of Agricultural Sciences, Faculty of Applied Sciences, Faculty of Geomatics, Faculty of Management Studies, and Faculty of Social Sciences & Languages. The population of SUSL was about 5254. The structural equation modeling sample calculation method was utilized to calculate the sample size. To select the sample a two-stage sampling procedure was used. As the first stage, using stratified sampling above mentioned five faculties were considered as strata and the sample size of 300 was selected to represent the students from each faculty proportion to the population of each stratum

(faculty). In the second stage, the 4th Year students were selected to the sample using cluster sampling.

Figure 1:

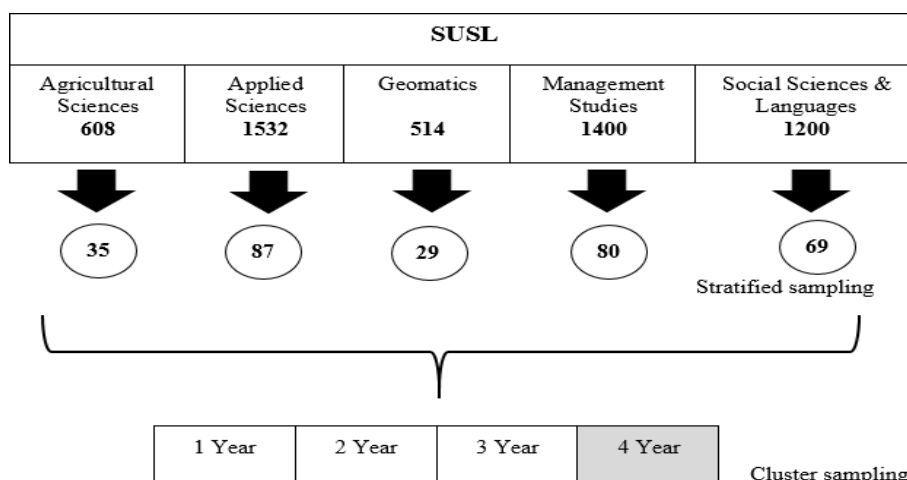
Conceptual Framework



Source: Sample survey (2022)

Figure 1:

Sampling Procedure



Source: Sample survey (2022)

The mailed questionnaire was provided to all 4th year students in five faculties and the data of the first answered questionnaires were collected for Faculty of Social Sciences and Languages

analysis based on the faculties cutoff sample size. The questionnaire contained 35 Nine-point Likert scale questions for the main six latent constructs in the conceptual framework. The scale was from 1 (Strong disagree) to 9 (Strongly agree), and the middle point scale of 5 represented the average opinion of the responders (either agree or disagree). Covariance based Structural Equation Model performed by using SPSS AMOS software to test the hypothesized relationship between independents and dependent variables.

Results and Discussion

In this study, a total of 35 items were used to derive CFA. The results of the first run of the CFA model showed that further space for the improvement the indices to indicate the model fit of the data as any of the fit indices are not in the acceptable level. Therefore based on the lower factor loading (Standardized regression weight) of the indicator variables and higher modification indices, several items were removed from the model. The process was to remove one variable at a time and re-estimate the model. Table 1 represents the acceptable fit indices after the improvement of the model.

Table 1:

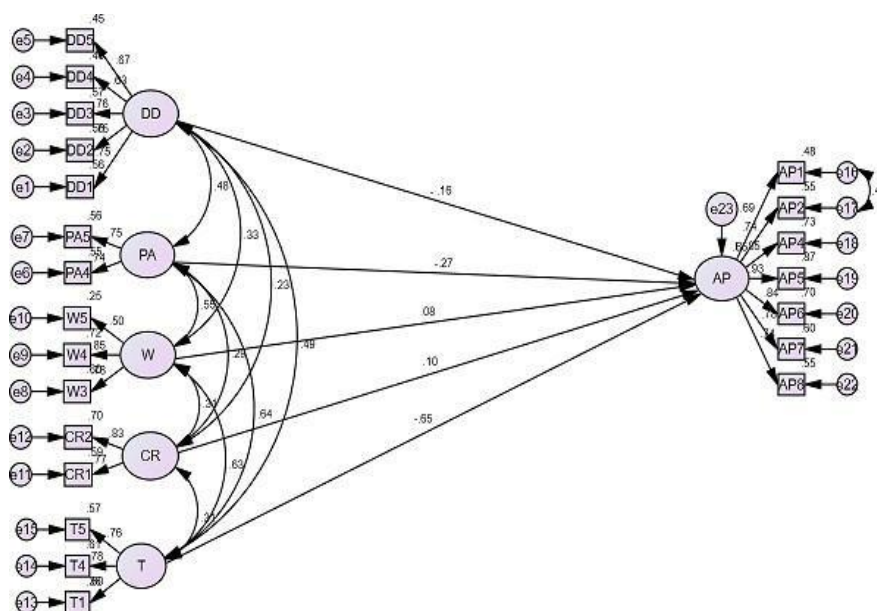
Fit indices of model

| Fit Indices | Recommended Value | Coefficient |
|---|-------------------|-------------|
| CMIN/DF | <5 Preferable <3 | 1.521 |
| Goodness of fit index (GIF) | >0.9 | 0.918 |
| Comparative fit index (CFI) | >0.9 | 0.969 |
| Tucker-Lewis Index (TLI) | >0.9 | 0.963 |
| Root mean square error of approximation (RMSEA) | <0.06 | 0.042 |

Source: Sample Survey (2022)

Figure 2:

Path Coefficients



Source: Sample Survey (2022)

The results of the path analysis about hypothesized direct relationship among independents and dependent variables are presented here.

Table 2:

Summary Results of the Direct Hypothesized Relationship

| Hypothesis | Proposed Relationship | Path Coefficient | P-value | Study Result |
|----------------|-----------------------|------------------|---------|---------------|
| H ₁ | DD → AP | -.162 | .039 | Supported |
| H ₂ | PA → AP | -.266 | .006 | Supported |
| H ₃ | T → AP | -.654 | *** | Supported |
| H ₄ | W → AP | .084 | .333 | Not Supported |
| H ₅ | CR → AP | .099 | .100 | Not supported |

Source: Sample Survey (2022)

The finding concludes that the daily-life disturbance and tolerance significantly affect academic performance. The results were similar to the

study of Arefin, Islam, Mustafi, Afrin, & Islam (2017) and conclude that the daily-life disturbance and tolerance were associated with academic performance. This study found that the positive anticipation of the use of smartphones by the university students significantly affects the academic performance which contradicts the results of the survey conducted by Arefin, Islam, Mustafi, Afrin, & Islam (2017), and concludes that the positive anticipation does not affect academic performance. The researchers concludes that the cyber-oriented relationships are not a significant factor that affects the academic performance of undergraduates. This finding was related to the research finding of Arefin, Islam, Mustafi, Afrin, & Islam (2017). But it contradicts the finding of the research conducted by Raza, Yousu, Rafi, & Javaid (2020) and concludes that cyber loading of students was related to academic performance. There was no relationship between withdrawal exposure by smartphone addiction and those results are equal to the research finding of Arefin, Islam, Mustafi, Afrin, & Islam (2017)

Conclusion & Recommendations

This study was conducted to identify the relationship between smartphone addiction and the academic performance of the undergraduates. The smartphone addiction is considered in daily-life disturbance, positive anticipation, tolerance, withdrawal, and cyber-oriented relationship. The finding concludes that the daily-life disturbance, positive anticipation, and tolerance negatively affect the academic performance. Moreover, it found that the focus on work during the study, proper revision of notes, and schedule proper time for study are reduced due to the excessive smartphone usage. The majority of the undergraduates has experienced lightheadedness or blurred vision, feeling tired and lacking adequate sleep, and pain in the wrists or at the back of the neck while using a smartphone due to the excessive use of it. That indicated the smartphone addiction also affects the physical health of the students. This study finally concludes that the smartphone addiction influences the poor academic performance of undergraduates.

The students should reduce the usage of smartphone addiction and increase the learning hours per day. It is commonly known that the smartphones are useful for education. Therefore, guidance should be provided to develop the ability to use smartphones to improve learning efficiency. This study will help university students to gain an understanding on how smartphone addiction affects their academic performance and how to use smartphones more effectively in their studies.

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