Impact of Smartphone Addiction on Self-Control

A Study Exploring the Relationship between Smartphone Use and Self-Control

Abstract

This study explores the relationship between smartphone addiction and self-control. The research aims to investigate the hypothesis that higher levels of smartphone addiction are associated with lower levels of self-control Data were collected from a diverse sample of participants using validated scales such as the Smartphone Addiction Scale **(SAS-SV)** and the Brief Self-Control Scale **(BSCS)**. Participants also provided demographic information and details on their smartphone use.

The results of the study showed a significant negative correlation between smartphone addiction and self-control, indicating that higher levels of smartphone addiction are associated with lower levels of self-control.

These findings contribute to our understanding of the psychological impact of excessive smartphone use and underscore the importance of addressing smartphone addiction in efforts to improve self-control. Future research could explore potential interventions and strategies to mitigate the negative effects of smartphone addiction on psychological well-being.

1. Introduction

1.1 Background and Context

In recent years, the widespread adoption of smartphones has revolutionised the way people communicate, access information, and entertain themselves. While smartphones offer numerous benefits, their pervasive use has raised concerns about potential negative impacts on psychological well-being. Excessive smartphone use, often referred to as smartphone addiction, has been linked to various psychological issues, such as anxiety, depression, and impaired cognitive function.

1.2 Research Hypotheses

This study explores the relationship between smartphone addiction and self-control. The following research hypotheses are proposed:

- **Hypothesis**: Higher levels of smartphone addiction are associated with lower levels of self-control.

1.3 Study Objectives

The primary objective of this research is to investigate the impact of smartphone addiction on self-control. By examining these relationships, the study aims to:

- Understand how smartphone addiction may influence an individual's self-control.
- Provide insights into the psychological consequences of excessive smartphone use.
- Contribute to the broader literature on the impact of digital technologies on mental health.

The findings of this study may have practical implications for developing strategies to manage smartphone use and mitigate its potential negative effects on psychological well-being. In the following sections, The methodology section will outline the research design, data collection methods, and measures used in the study. Finally, the data analysis ,results and conclusion sections will present the findings and their implications for future research and practice.

3. Methodology

This section outlines the measures, data collection procedures, and data analysis methods used in the study.

3.1 Measures

The study used two main scales to assess smartphone addiction and self-control.:

- Smartphone Addiction Scale **(SAS-SV):** The **SAS-SV** is a short version of Smartphone Addiction Scale used to measure the level of smartphone addiction.The SAS-SV was significantly correlated with the **SAS[**1]. It shows

Cronbach's alpha correlation coefficient of 0.91[1] , which verifies its internal consistency.

The **SAS-SV** contains 10 items, each scores on a Likert scale of 1 (strongly disagree) to 6 (strongly agree). The sum of these items gives an overall **SAS-SV** score-range: 10–60[2].

- **Brief Self-Control Scale (BSCS):** The **BSCS** is a short, reliable measure of self-control. It includes items related to the ability to regulate behaviour, emotions, and thoughts.it has Cronbach's alpha correlation coefficient of 0.83[3]„ which verifies its internal consistency. and also shows correlation with the original Self-Control Scale[3].

  The BSCS contains 13 items, each scores on a Likert scale of 1 (not like me) to 5 (very much like me). The sum of these items gives an overall **SAS-SV** score-range: 13–65[4].

3.2 Data Collection

Data was collected through an online survey platform. Participants were asked to complete the survey, which included the two scales(**SAS-SV** and **BSCS**) and demographic questions. The survey took approximately 12-15 minutes to complete.

1. **demographic questions:**
   a. **Age:** Participants were asked to provide their age.
   b. **Gender:** Participants indicated their gender .
   c. **Education Level:** Participants reported their highest completed level of formal education.
   d. **languages spoken:** participants were asked to report all languages they can speak fluently.
   e. **Region:** Participants indicated the state from where they belong.
   f. **Hobby:** Participants were asked to fill in their hobbies.
   g. **Skill:** Participants were asked about skills they have developed over time and can apply in a professional setting.

3.4 Data Analysis

3.4.1 Descriptive Statistics

A total of 107 data was collected for 33 questions included in assessment form and addiction score and self control score was calculated accordingly. here question_0 to question_7 are demographic variables. question_8 to question_17 are questions for SAS-SV and from question_18 to question_30 are questions for BSCS question_31 represent a variable called mental health and question_32 is no. of hours using a smartphone in a day.

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Data columns (total 35 columns):
 #   Column               Non-Null Count  Dtype
---  ------               --------------  -----
 0   question_0           107 non-null    int64
 1   question_1           107 non-null    object
 2   question_2           107 non-null    object
 3   question_3           107 non-null    object
 4   question_4           107 non-null    object
 5   question_5           107 non-null    object
 6   question_6           107 non-null    object
 7   question_7           107 non-null    float64
 8   question_8           107 non-null    float64
 9   question_9           107 non-null    float64
 10  question_10          107 non-null    float64
 11  question_11          107 non-null    float64
 12  question_12          107 non-null    float64
 13  question_13          107 non-null    float64
 14  question_14          107 non-null    float64
 15  question_15          107 non-null    float64
 16  question_16          107 non-null    float64
 17  question_17          107 non-null    float64
 18  question_18          107 non-null    float64
 19  question_19          107 non-null    float64
 20  question_20          107 non-null    float64
 21  question_21          107 non-null    float64
 22  question_22          107 non-null    float64
 23  question_23          107 non-null    float64
 24  question_24          107 non-null    float64
 25  question_25          107 non-null    float64
 26  question_26          107 non-null    float64
 27  question_27          107 non-null    float64
 28  question_28          107 non-null    float64
 29  question_29          107 non-null    float64
 30  question_30          107 non-null    float64
 31  question_31          107 non-null    object
 32  question_32          107 non-null    float64
 33  addiction score      107 non-null    float64
 34  self control score   107 non-null    float64
```

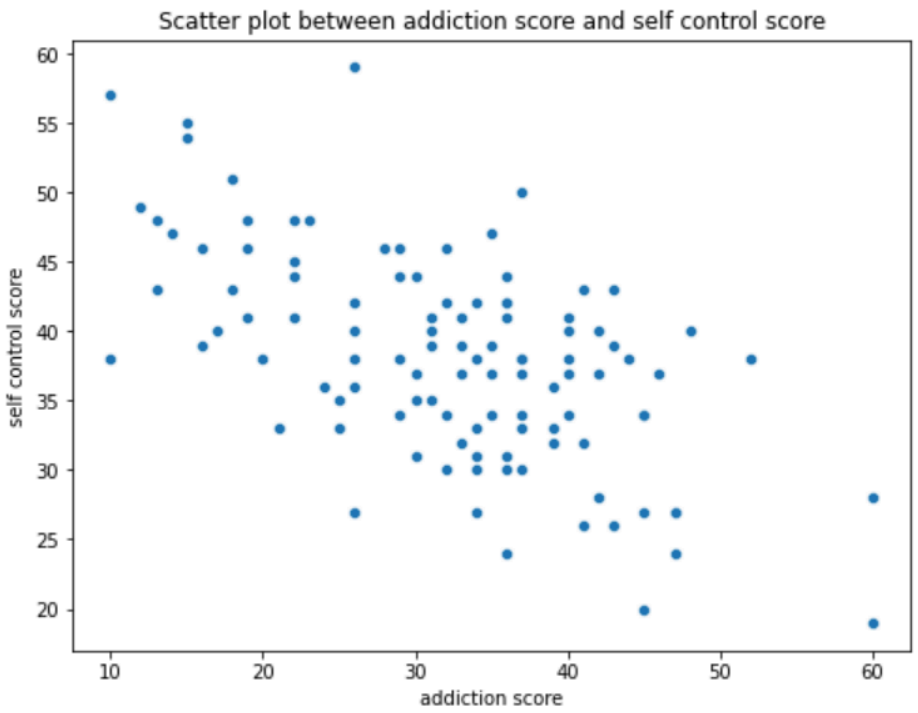
summary of data is as followed:

	question_0	question_7	question_32	addiction score	self control score
count	107.000000	107.000000	107.000000	107.000000	107.000000
mean	20.084112	3.214953	5.535047	32.289720	38.028037
std	1.091316	1.407715	3.063296	10.395036	7.575355
min	18.000000	0.000000	1.000000	10.000000	19.000000
25%	20.000000	2.000000	3.000000	26.000000	33.000000
50%	20.000000	3.000000	5.000000	34.000000	38.000000
75%	21.000000	4.000000	7.000000	39.500000	42.500000
max	23.000000	5.000000	17.000000	60.000000	59.000000

here question_0 is age and question_7 is life satisfaction.

3.4.2 Correlation Analysis

- **Significant results :**
    a. Pearson Correlation Test - addiction score vs self control score: Significant negative correlation **(r = -0.599834 , p = 0.0).**



3.4.3 Regression Analysis

- Result of linear regression: shows significant relation with constant 52.54 and slope -0.4317 both values are significant as p value is 0.000

OLS Regression Results

Dep. Variable:	self control score	**R-squared:**	0.360
Model:	OLS	**Adj. R-squared:**	0.354
Method:	Least Squares	**F-statistic:**	59.01
Date:	Tue, 23 Apr 2024	**Prob (F-statistic):**	8.65e-12
Time:	11:40:17	**Log-Likelihood:**	-344.13
No. Observations:	107	**AIC:**	692.3
Df Residuals:	105	**BIC:**	697.6
Df Model:	1		
Covariance Type:	nonrobust		

	coef	**std err**	**t**	**P>|t|**	**[0.025**	**0.975]**
const	52.1428	1.929	27.025	0.000	48.317	55.968
addiction score	-0.4371	0.057	-7.682	0.000	-0.550	-0.324

Omnibus:	0.358	**Durbin-Watson:**	1.715
Prob(Omnibus):	0.836	**Jarque-Bera (JB):**	0.493
Skew:	0.120	**Prob(JB):**	0.782
Kurtosis:	2.769	**Cond. No.**	111.

4. Conclusion

This study explored the relationships between smartphone addiction and self-control. The results demonstrated a significant negative correlation between smartphone addiction and self-control. These findings support the research hypotheses and suggest that excessive smartphone use may have a detrimental impact on individuals' ability to regulate their behaviour and impulses.

The study's findings highlight the importance of addressing smartphone addiction as a potential factor influencing self-control. Individuals with higher levels of smartphone addiction may benefit from interventions aimed at managing their smartphone use to improve their psychological well-being and overall quality of life.

4.1 Summary of Main Findings

- Higher levels of smartphone addiction were associated with lower levels of self-control.

4.2 Implications of the Study

The study's results have several important implications:

- **Mental Health:** Understanding the link between smartphone addiction and psychological factors can inform mental health practitioners when addressing issues related to self-control and impulsivity.
- **Intervention Strategies**: The findings suggest a need for developing strategies to mitigate the impact of smartphone addiction on self-control and impulsivity.
- **Future Research:** Further studies could investigate potential causal relationships between these variables and explore interventions for reducing smartphone addiction.

4.3 Concluding Remarks

Overall, this study contributes to the growing body of research on the psychological impact of smartphone addiction. By providing insights into the relationships between smartphone addiction, self-control, and impulsivity, the study lays the groundwork for future research and practical applications in the field of psychological data science.

Future research could build on these findings by exploring additional factors that may mediate or moderate the relationships studied. Such work would deepen our

understanding of the psychological effects of smartphone use and inform interventions to promote healthier smartphone habits.

References:

1.https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3877074/
2.https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6376375/
3.https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7261631/
4.https://www.rand.org/education-and-labor/projects/assessments/tool/2004/brief-self-control-scale-bscs.html