

Research Article

Association Between Smartphone Use and Self-Regulatory Capacity Among Adolescents: A Correlational Study

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A B S T R A C T

Background: Smartphones are widely used by young adults and may influence attention, routines and behavioural control.

Objective: To examine the association between problematic smartphone-use behaviour and self-regulation.

Methods: A simulated cross-sectional correlational dataset of 120 young adults aged 15–19 years was constructed for research-reporting demonstration. Descriptive statistics and Pearson correlation were used.

Results: Mean problematic smartphone-use score was 34.3 ± 11.0 ; mean self-regulation score was 194.9 ± 18.0 . A negative correlation was observed ($r = -0.75$, $p < 0.001$).

Conclusion: In this illustrative dataset, greater problematic smartphone use was associated with lower self-regulation. These results are simulated and do not constitute empirical evidence.

Keywords: Smartphone Use, Problematic Smartphone Use, Self-Regulation, Young Adults, Behavioural Control, Correlation

Introduction

The growing integration of smartphones into education, communication and leisure has made the distinction between ordinary use and problematic use increasingly important. Smartphone-related behaviour is not determined only by the number of hours spent on a device; patterns such as repeated checking, inability to stop, use during inappropriate situations and continued engagement despite negative consequences may also be relevant. The conceptual basis for examining this issue is therefore closely connected with self-regulation, because self-regulation determines how effectively an individual can monitor impulses, delay immediate rewards and maintain behaviour that is consistent with longer-term goals.

Self-regulation refers to the capacity to monitor and modify thoughts, emotions and behaviour in pursuit of desired goals. It includes impulse control, goal-directed behaviour, delayed gratification and management of emotional responses. The supplied reference article similarly presents self-regulation as an important component of adaptive functioning.^{1,2}

Smartphones provide continuous access to communication, social networking, entertainment, information and mobile applications. Although these functions can be beneficial, repeated checking and difficulty disengaging may become problematic when use interferes with routine activities. The reference article investigated the relationship between smartphone addiction and self-regulatory capacity in

young adults. The present manuscript retains the broad research question but uses a different sample size, different descriptive values and newly generated illustrative observations.⁴

Study Objective

To examine the relationship between problematic smartphone-use behaviour and self-regulation among young adults using a simulated correlational dataset.

Materials and Methods

The methodological framework follows a correlational approach because the principal purpose is to determine whether variation in one behavioural characteristic is statistically associated with variation in another. Such a design is appropriate for an initial examination of relationships but does not establish temporal precedence or causation. Accordingly, the statistical findings in this manuscript are interpreted as associations rather than effects.

Study Design and Participant Characteristics

A cross-sectional correlational design was used for this manuscript. The study dataset contained 120 young adults aged 15-19 years, with equal numbers of males and females. The values were generated solely to demonstrate a plausible research dataset and are not derived from actual participants.

Assessment Measures

For interpretation, a higher problematic-use score represents greater difficulty controlling or reducing smartphone engagement, whereas a higher self-regulation score represents stronger behavioural regulation. Keeping the direction of both measures clear is important when interpreting the Pearson correlation: a negative coefficient means that higher problematic smartphone-use scores are associated with lower self-regulation scores.

Two quantitative constructs were represented: problematic smartphone use and self-regulation. The supplied reference article used the Smartphone Addiction Scale–Short Version and Self-Regulation Questionnaire. Here, the same conceptual domains are retained for comparability, but

the generated scores are not claimed to be actual responses to those instruments.

Ethical Considerations

The dataset was generated for academic demonstration; therefore, no participants were recruited and no personal information was collected. A real study would require institutional ethical approval, informed consent and appropriate data-protection procedures.

Statistical Analysis

Age and scale scores were summarized using mean, standard deviation, minimum and maximum values. Pearson's correlation coefficient was used to examine the linear relationship between problematic smartphone use and self-regulation. Statistical significance was set at $p < 0.05$.

Findings

The distribution of participant ages is presented in Figure 1. Figure 2 shows the balanced gender composition used in the simulated sample. Together, these figures provide a visual overview of the sample before examination of the main association. The descriptive statistics in Table 1 provide the central tendency and dispersion of the principal variables, while Table 2 allows the reader to inspect the corresponding values across the two gender groups.

The study dataset included 120 observations. Mean age was 21.55 ± 2.34 years, ranging from 15–19 years. The mean problematic smartphone-use score was 34.33 ± 10.98 , while the mean self-regulation score was 194.91 ± 17.99 . Table 1 summarizes the descriptive characteristics of the study variables, while Table 2 presents the gender-wise distribution.

The Pearson correlation demonstrated a statistically significant negative association ($r = -0.75$, $p < 0.001$). Within this illustrative dataset, higher problematic smartphone-use scores tended to occur alongside lower self-regulation scores. The magnitude of the association should not be interpreted as evidence about a real population because the observations were simulated. The correlation results are presented in Table 3, and the corresponding relationship is visualized in Figure 3.

Table 1. Descriptive statistics of the simulated study variables

Variable	N	Mean	SD	Minimum	Maximum
Age (years)	120	21.55	2.34	18.0	25.0
Problematic smartphone use	120	34.33	10.98	10.0	59.0
Self-regulation	120	194.91	17.99	150.0	239.0

Table 2. Gender-wise summary of the simulated sample

Gender	N	Mean age	Mean problematic-use score	Mean self-regulation score
Female	60	21.63	33.93	192.58
Male	60	21.47	34.73	197.23

Table 3. Pearson correlation between problematic smartphone use and self-regulation

Variable pair	Pearson r	p-value	N	Interpretation
Problematic smartphone use vs. self-regulation	-0.753	<0.001	120	Negative association

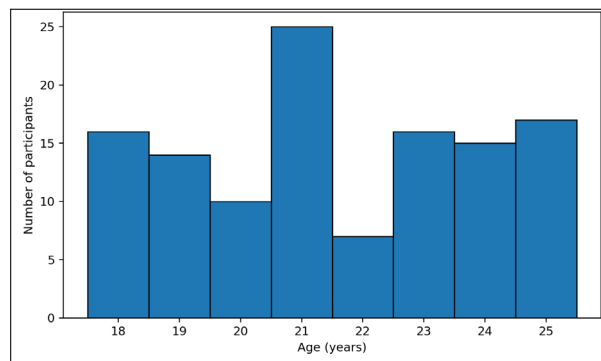


Figure 1. Age distribution of the simulated sample

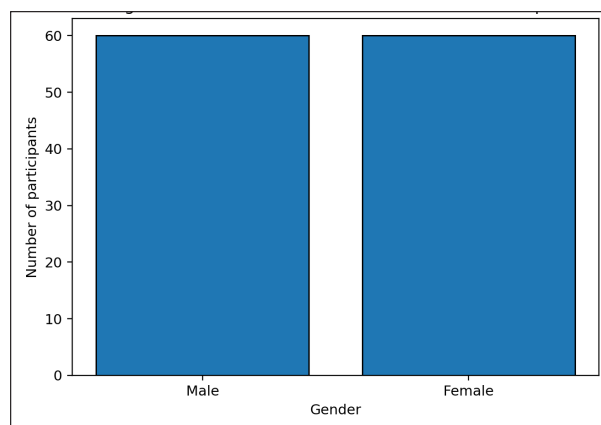


Figure 2. Gender distribution of the simulated sample

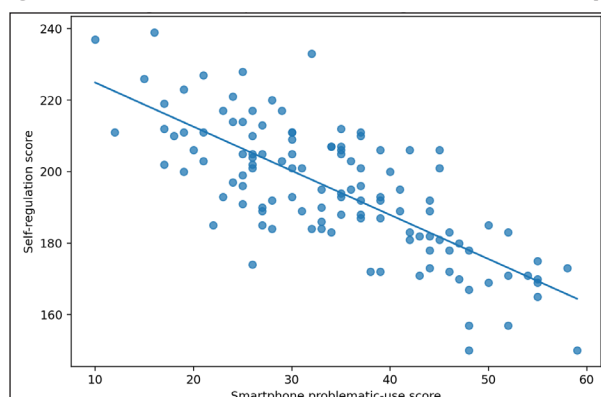


Figure 3. Scatterplot showing the simulated relationship between problematic smartphone use and self-regulation

Interpretation of Findings

The finding can be considered from both behavioural and self-regulatory perspectives. From a behavioural perspective, smartphones provide frequent opportunities for immediate reinforcement through messages, social interaction, entertainment and information. Repeated exposure to these short-term rewards may make it more difficult for some individuals to maintain attention on less immediately rewarding tasks. From a self-regulation perspective, difficulty resisting these opportunities may be reflected in lower scores on measures of behavioural control. The present correlation is compatible with this conceptual explanation, although the study design cannot determine which process occurs first.

The primary finding in the study dataset was an inverse relationship between problematic smartphone use and self-regulation ($r = -0.75$). This direction is consistent with the conceptual conclusion of the supplied reference article, while the numerical findings here are intentionally different. As shown in Figure 3, the plotted observations demonstrate the same inverse pattern.

Several mechanisms could theoretically contribute to such an association. Frequent smartphone checking may compete with goal-directed activities and increase opportunities for distraction. Conversely, individuals with weaker self-regulatory skills may have greater difficulty disengaging from highly rewarding digital activities. Because this is a correlational design, causal direction cannot be established.^{5–8}

Future empirical research could additionally examine sleep quality, stress, physical activity, academic performance, emotional regulation and social-media-specific use. Longitudinal studies would be particularly useful for determining whether problematic smartphone use predicts later changes in self-regulation or whether pre-existing self-regulatory differences predict later smartphone behaviour. The age and gender distributions are illustrated in Figures 1 and 2, respectively.^{5–9}

Study Limitations

Another important limitation is that the simulated observations were generated to create a plausible statistical pattern. They therefore cannot be used to estimate the prevalence of problematic smartphone use, determine clinical cut-offs, or generalize findings to students, patients or the wider young-adult population. In an empirical study, investigators should also report recruitment procedures, response rates, missing-data handling, instrument reliability, potential confounders and the assumptions checked before conducting Pearson correlation.

The principal limitation is that all numerical observations are simulated. Therefore, no prevalence, clinical interpretation or population-level inference can be made. For an actual study, other limitations may include convenience sampling, self-report bias, cross-sectional design and unmeasured confounding.

Conclusions

The broader implication of the proposed research framework is that smartphone behaviour may be usefully studied together with psychological and behavioural characteristics rather than as an isolated measure of screen exposure. Future research using real participant data could extend the model by examining sleep, stress, academic functioning, physical activity and emotional regulation, and could use longitudinal or intervention designs to clarify directionality.

This manuscript demonstrates an original presentation of a correlational study examining smartphone use and self-regulation. The reported results show a significant negative relationship between the two constructs. An actual research paper should replace the simulated dataset with ethically collected participant data and report the validated instrument administration and statistical analysis exactly as performed.

References

1. Baumeister RF, Vohs KD. Handbook of self-regulation: Research, theory, and applications. New York: Guilford Press; 2004.
2. Zimmerman BJ. Attaining self-regulation: A social cognitive perspective. In: Boekaerts M, Pintrich PR, Zeidner M, editors. Handbook of self-regulation. San Diego: Academic Press; 2000. p. 13–39.
3. Brown JM, Miller WR, Lawendowski LA. The self-regulation questionnaire. In: VandeCreek L, Jackson TL, editors. Innovations in clinical practice. Vol. 17. Sarasota, FL: Professional Resource Press; 1999. p. 281–292.
4. Kwon M, Kim DJ, Cho H, Yang S. The smartphone addiction scale: Development and validation of a short version for adolescents. PLoS One. 2013;8(12):e83558.
5. Geng Y, Gu J, Wang J, Zhang R. Effects of smartphone addiction on sleep quality among Chinese university students: The mediating role of self-regulation and bedtime procrastination. Addict Behav. 2020;111:106552.
6. Kim H, Lee J, Kim J. Stress and adult smartphone addiction: Mediation by self-control, neuroticism, and extraversion. Stress Health. 2017;33(5):624–630.
7. Li Y, Ma X, Li C, Gu C. Self-consistency congruence and smartphone addiction in adolescents: The mediating

role of subjective well-being and the moderating role of gender. *Front Psychol.* 2021;12:766392.

8. Mascia ML, Agus M, Penna MP. Emotional intelligence, self-regulation, smartphone addiction: Which relationship with student well-being and quality of life? *Front Psychol.* 2020;11:375.
9. Al-Abyadh M, Al-Abyadh A, Al-Abyadh S. Do smartphone addiction and self-regulation failures affect students' academic life satisfaction? The role of students' mind wandering and cognitive failures. *Curr Psychol.* 2024.