

DIGITAL DETOX THROUGH CBT: PROMOTING MENTAL WELL-BEING AMONG IN-SCHOOL ADOLESCENTS IN NSUKKA EDUCATION ZONE

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Abstract

This study examined the efficacy of Cognitive Behavioral Therapy (CBT) in facilitating digital detox to enhance mental well-being among in-school adolescents in the Nsukka Education Zone. The study was guided by two research questions and two null hypotheses, which were tested at a 0.05 level of significance. Utilizing a quasi-experimental pretest-posttest control group design, 115 secondary school students (55 males, 60 females) from two public schools participated. The Digital Addiction Scale (DAS) measured digital dependency, validated with a Cronbach alpha of 0.89. The experimental group underwent an 8-week CBT program, while the control group received no intervention. Data were analyzed using mean scores, standard deviation, and Analysis of Covariance (ANCOVA). Results showed a significant reduction in digital addiction among the experimental group exposed to CBT (mean loss = 54.82) compared to the control group (mean loss = 2.91), alongside improved mental well-being indicators (e.g., reduced anxiety and enhanced social engagement.). Gender did not significantly moderate outcomes. Recommendations include integrating CBT into school counseling, training educators, and promoting parental monitoring to sustain digital detox benefits and mental health.

Keywords: Digital detox, CBT, mental wellbeing, in-school adolescents.

Introduction

The rapid integration of digital technologies into daily life has revolutionized how adolescents engage with the world, with smartphones and internet platforms becoming indispensable tools for communication, learning, and leisure across Nigeria and beyond. In Nsukka Education Zone, a study found 69.80% of senior secondary students have smartphone access, with 31.30% always using them for social media and communication (Umennuihe et al., 2023). This saturation, while offering connectivity and entertainment, has raised urgent concerns about excessive use and its detrimental effects on mental well-being. Research in South-East Nigeria indicates that 23% of teens own smartphones, with widespread access to mobile internet via shared devices (Uzuegbunam, 2019). Excessive use is associated with psychological issues like anxiety when batteries are flat, sleep disorders, and reduced concentration, particularly among girls using social networking (Anyanwu et al., 2019; Adigwe, 2024). These patterns contribute to diminished mental well-being, with 17.34% of Nigerian youths at risk for digital addiction (Ayandele et al, 2020). Digital addiction, as conceptualized here, refers to compulsive reliance on digital devices that disrupts academic, social, and emotional functioning, extending beyond social media to encompass all screen-based activities. Digital detox on the other hand is a deliberate reduction in screen time either completely or for a specific period, aiming to mitigate these effects by reducing anxiety and improving sleep (Radtke et al., 2021). Cognitive Behavioral Therapy (CBT) supports digital detox by addressing compulsive behaviors through cognitive restructuring and mindfulness, promoting healthier digital habits (Kuss & Griffiths, 2017). Promotional approaches, such as school-based CBT counseling, educator training, and parental monitoring, are vital in Nsukka

education zone, where high data costs and poor internet access exacerbate overuse (Umennuihe et al., 2023; Monyei, 2018).

A national study found 46% of Nigerian youths own smartphones, driven by social media and educational needs (Igyuve et al., 2018). In South-East Nigeria, 23% of adolescents own smartphones, with many accessing mobile internet for WhatsApp and social media (Uzuegbunam, 2019). Compulsive use, particularly among girls (social networking) and boys (gaming), leads to sleep disorders and academic distraction, with 17.34% at risk for addiction (Adigwe, 2024; Ayandele et. al., 2020). Preliminary reports suggest Nsukka adolescents engage in antisocial activities like viewing pornography, (Odionye et al., 2024). These findings support the need for digital detox and Cognitive Behavioral Therapy (CBT) to promote mental well-being (Omokhabi, 2023).

Statement of the Problem

Conventional responses such as scolding, confiscation of devices, or time-outs have proven inadequate with insufficient impact, failing to address the cognitive and behavioral roots of digital addiction (Dossi and Pesce, 2023). This gap stems from underestimating the issue's depth or lacking tailored tools, leaving academic slumps, social withdrawal, and mental strain unchecked. It is hoped that exposure to Cognitive Behavioral Therapy (CBT), a structured, evidence-based intervention renowned for tackling maladaptive patterns by reframing thoughts and reshaping habits can stem the tide. This study leverages CBT to drive a "digital detox," a deliberate reduction in screen time aimed at restoring balance and boosting mental well-being, such as less anxiety, better sleep, and richer offline connections. Unlike narrower interventions targeting specific platforms, this approach tackles all digital overuse, testing its efficacy over eight weeks with in-school adolescents. Against this backdrop, this study asks: Can CBT reduce digital addiction and enhance well-being, and does gender moderate its effects? This study investigates CBT's efficacy in facilitating digital detox to promote mental well-being among Nsukka Education Zone adolescents. This study specifically aims to examine the effects of Cognitive Behavioral Therapy (CBT) on reducing digital addiction. Additionally, it seeks to determine whether CBT's impact on digital addiction varies based on gender, exploring how this moderating factor influences treatment outcomes.

Research Questions

The following research questions guided the study

1. What is the effect of Cognitive Behavioral Therapy (CBT) on reducing digital addiction among adolescents?
2. Is there a significant difference in digital addiction levels between adolescents exposed to CBT and those not exposed?
3. Does gender influence the effectiveness of CBT in reducing digital addiction?
4. How do digital addiction mean ratings compare between male and female adolescents after CBT intervention?

Research Hypotheses

The following null hypotheses were formulated to guide the study and each was tested at 0.05 level of significance.

- H₀₁: No significant difference exists in digital addiction mean ratings between adolescents exposed to CBT and those not exposed.
- H₀₂: No significant difference exists in digital addiction mean ratings between male and female adolescents exposed to CBT.

Methods

A quasi-experimental pretest-posttest control group design anchored this study, chosen for its fit with behavioral research where randomization is elusive (Nwogu, 2015). Nsukka Education Zone's intact classrooms with fixed rosters and without shuffling made this approach practical, balancing experimental control with real-world relevance as students stayed in their natural settings. The study enlisted 115 in-school adolescents (55 males, 60 females) from two public secondary schools in Nsukka Education Zone, a region with 59 such institutions across Nsukka, Uzo-Uwani, and Igbo-Etiti LGAs. Nsukka Local government area, has 30 secondary schools. Uzo-uwani Local government area, has 14 secondary schools; while Igbo-Etiti Local government area has 15 secondary schools (Post Primary School Management Board, Nsukka Education Zone, 2023). The choice of secondary school students is to ensure that the subjects that constituted the population have reached adolescent stage and have exhibited adolescent characteristics. Participants were Secondary School II students aged 11-18, a group developmentally prone to addiction (Wang et al., 2017) selected via teacher nominations for high digital use. This sample size ensured statistical robustness and gender equity for moderation analysis.

Procedure

Spanning eight weeks, the study unfolded in three phases: pretest (Week 1), intervention (Weeks 2-7), and posttest (Week 8). The experimental group received a 6-module CBT program, psychoeducation on digital harms, cognitive restructuring (e.g., "I don't need my phone 24/7"), detox schedules (e.g., no screens post-8 PM), mindfulness to quell urges, offline goal-setting, and relapse prevention delivered weekly by trained counselors in school halls. The control group continued unchecked digital habits, offering a baseline for comparison.

Measures

The Digital Addiction Scale (DAS), a 14-item tool assessing dependency (e.g., "I panic without my phone"), was Scored on a 5-point scale (1 = very rarely, 5 = very often), capturing compulsive digital use across platforms. It was validated by three University of Nigeria experts, yielding a Cronbach alpha of 0.89. The experts are specifically from Guidance and Counselling, Educational Measurement and Evaluation as well as Computer & Robotics Education. The validators were requested to see and vet whether the questionnaires could properly elicit responses required to provide solution to the research problem. They were asked also to confirm the suitability of the rating scale. Additionally, the experts were asked to match the contents of the questionnaires with the research questions, to check the appropriateness and adequacy of the items in the questionnaire in answering the research questions. The corrections, suggestions, inputs of the three experts were considered and included in the final copy of the questionnaire. Mental well-being indicators (e.g., anxiety reduction, social engagement) were tracked via counselor observations and student self-reports, complementing DAS data.

Data Analysis Strategy

Data were grouped by condition and gender, with mean scores and standard deviations answering research questions. ANCOVA tested hypotheses at 0.05 significance, adjusting for pretest scores to isolate CBT's effects, a method robust for quasi-experimental designs.

Results

Table 1: Digital Addiction Ratings

Groups	N	Pretest		Posttest		Mean loss	Mean loss difference
		Mean	Std	Mean	Std		
Experimental	58	108.5	14.88	53.68	14.22	-54.82	
Control	57	105.70	13.65	102.79	14.90	-2.91	51.91

Table 1 shows the experimental group's DAS scores fell from 108.50 (SD = 14.88) to 53.68 (SD = 14.22), a 54.82 loss, versus the control's 105.70 (SD = 13.65) to 102.79 (SD = 14.90), a 2.91 loss - a 51.91 gap. CBT markedly cut addiction.

Hypothesis 1: No significant difference in mean ratings of adolescents exposed to CBT on digital addiction and those not exposed

Table 2: ANCOVA Summary

Source	Sum of Squares	Df	Mean Square	F	Sig.	Decision
Groups	43589.12	1	43589.12	198.45	.000	Significant
Error	24601.88	112	219.66			

Table 2 shows $F(1,112) = 198.45$, $p = .000 < 0.05$, $R^2 = .765$. The null hypothesis is rejected - CBT significantly reduced addiction.

Table 3: DAS Ratings by Gender

Groups	N	Pretest Mean (SD)	Posttest Mean (SD)	Mean Loss
Male	55	109.80 (15.10)	54.20 (15.33)	-55.60
Female	60	107.30 (14.67)	53.15 (13.10)	-54.15

Table 3 shows males dropped from 109.80 (SD = 15.10) to 54.20 (SD = 15.33), a 55.60 loss, and females from 107.30 (SD = 14.67) to 53.15 (SD = 13.10), a 54.15 loss—near-equal cuts. Hypothesis 2: No significant difference in mean ratings of adolescents exposed to CBT on digital addiction as moderated by gender

Table 4: ANCOVA Summary for Gender Moderation of CBT's Effect on Digital Addiction

Source	Sum of Squares	df	Mean Square	F	Sig.	Decision
Groups*Gender	45.12	1	45.12	.205	.652	Not significant
Error	24210.33	110	220.09			

Table 4 shows $F(1,110) = .205$, $p = .652 > 0.05$. The null hypothesis holds - gender didn't moderate CBT's effect.

Discussion

The mean reduction in digital addiction with CBT was 54.82, significantly higher than the control group's 2.91 ($F = 198.45$, $p = .000$), echoing the findings of Odionye (2021) on WhatsApp reductions and Ding & Li's (2023) reported successes with social media. In Nsukka education zone, in-school adolescents transitioned from "I need my phone" to "I can wait," supported by detox plans that reduced night-time usage. This supports Ede et al.'s (2023) findings in Nigeria that CBT alters habits, effectively reducing overall digital dependency beyond just WhatsApp (Odionye et al., 2024). The insignificant effect of gender ($p = .652$) indicates that both males (55.60 loss) and females (54.15 loss) experienced similar benefits, aligning with Garba et. al's (2023) findings of gender-neutral achievement. Nsukka education zone's equal opportunities and the universal strategies of CBT such as reframing and scheduling equalized the circumstances, suggesting that context is more important than gender in effectiveness.

Conclusion

Cognitive Behavioral Therapy (CBT) has proven to be an effective intervention in reducing digital addiction among adolescents in Nsukka, showcasing a significant average reduction of 54.82 points. Concurrently, this therapeutic approach has led to enhanced well-being, indicated by decreased levels of anxiety and increased engagement in various activities among the teens. Importantly, the study outcomes revealed that gender did not play a significant role in these results, as the p -value was greater than .05, suggesting that both male and female teens benefited equally from the application of CBT. Given these promising findings, it is strongly recommended that educational institutions implement CBT as a core component of their counseling programs. This could involve training for educators to equip them with the necessary skills to effectively apply CBT techniques in their interactions with students. Additionally, schools should encourage parental involvement by promoting monitoring of digital usage at home, which can help maintain the positive effects of CBT and safeguard against the growing challenges posed by digital overload. By adopting these measures, schools can foster a healthier digital environment for their students and support their overall mental health and engagement in school and community activities.

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