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The relationship between digital detox, emotional regulation, and productivity among young adults

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Abstract

This research examines the links between digital detox, emotional regulation, and productivity in young adults aged 18-25 years. As digital connectivity becomes ubiquitous, it is crucial to be aware of potential psychological and behavioral ramifications of extended screen time. This study is based on a quantitative design that explores how intentional breaks from digital devices, i.e., digital detox, can impact emotional regulation and productivity levels in young adults. Through the use of previously validated psychological scales, as well as a purposive sample, the study explores the relationship between a decreased screen time and improved emotional well-being and task performance. Study results suggest that intentional breaks from digital devices can foster health emotional responses and potential productivity levels in young adults, that mindful digital engagement could yield better emotional and productivity outcomes, and research in this area is warranted.

Keywords: Digital Detox; Emotional Regulation; Productivity; Young Adults; Technology

1. Introduction

Digital technology is now pervasive in the world we live in. It has changed the way we interact with others, how we access information and how we execute everyday tasks. Digital platforms also allow for the opportunity to engage meaningfully for young adults, especially in terms of social interaction, learning, and recreation. [1] Moreover, while this constant connectivity presents lower barriers of entry to finding information and making connections, it also raises some critical reflections on how this technology interacts with our mental health, such as our emotional regulation and productivity. Traditionally, people engaged with people face-to-face in a physical space and developed emotional connections and awareness. What happens to this dynamic, now that most interactions are being traded for a digital substitute. Is there a change to our ability to regulate emotions or in our productivity now that we are communicating differently.

Young adults are some of the most avid users of digital technology, and often spend hours each day online or linked in some way. When we are online 24/7, it is not uncommon to experience something called digital overload; when your mind cannot handle or process the information from the unending sources of interactions, and so it disconnects and deteriorates our ability to be present with ourselves. Digital overload can fragment our sense of emotional stability and impact our productivity. Part of having resilience is being able to manage our emotional responses to challenges in life. Emotional regulation is a vital component of resilience. We tend to make better decisions when we are emotionally regulated. When we are constantly engaged and online, emotional regulation sometimes becomes difficult, especially for young adults managing: academic performance; peer relationship channels; and fears and uncertainty about the future. Research has indicated that poor emotional regulation can lead to burnout, and worse, can impact academic performance.

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One possible solution to this issue is to engage in a "digital detox." By simply stepping away from screens, focus and emotional balance can be restored. In fact, Deshbhratar [2] found that individuals who took a digital detox had improved subjective stability and better attention spans overall. This finding is interesting given that Ramadhan et al. [3] conducted a systematic review and meta-analysis, which established that digital social media detox interventions had a statistically significant positive effect on mental health outcomes, indicating that they likely have great value in enhancing emotional and cognitive recuperation. Notably, Alanzi et al. [4] also reported that digital detox interventions were effective in reducing anxiety and depression in young adults, demonstrating the psychological benefit of making intentional breaks from the technology. Setia et al. [5] presented a broad scoping review which explored why, where and how digital detox strategies are used to hopefully extend the applicability of these studies and recommendations even further. All of which in their own way contribute to the growing evidence for the mental health benefits of digital detoxing. Furthermore, Schmuck [6] examined the use of digital detox applications to assist with problematic smartphone use and improve young adult well being with some success. Finally, Jefferson [7] mentions that mental well-being is important for success across many domains, including in business, and that emotional regulation can support productivity and being able to better cope with challenges.

The premise of this study and the influences of self-regulation and technology use are interrelated. Digital detox is premised on the idea that stepping away from digital engagement can reset attention and optimize well-being [9]. Emotional regulation refers to the ability to modify the span and quality of emotional experiences, in Gross's Process Model [10] through cognitive reappraisal and controlling attention. The term productivity covers various theories such as Self-Determination Theory (SDT, being centered on intrinsic motivation)[11] and Time Management Theory (related to planning and prioritizing).[12] With improvement to emotional regulation, it can be argued that limitations to cognitive distractions can be mitigated to effect more productivity .A renewed focus upon self-regulation in the domain of technology is pertinent to an increase of mental health issues associated with a growing population of young adults. An on-going cycle of digital engagement can lead to increased stress, anxiety and emotional burnout among individuals, therefore it is important to understand how withdrawal from technology, if facilitated, supports emotional well-being and productivity. The purpose of this study is to evaluate and examine the influence of digital detox upon emotional regulation, and productivity. Ultimately, the findings will be significant in providing an understanding of how young adults can better navigate their lives amid a technology-driven world. In addition to the value of the survey results, the implications of the findings will also benefit mental health initiatives and innovations in educational programs, and workplace legislation, ultimately supporting more favorable technology use.

Therefore, this study aims to evaluate, and contribute to a fuller understanding of how digital detox may enhance how young adults regulate their emotions and manage their productivity. In examining the balance between regulating technology use in order to enhance mental health, the hope is that this study will also shed light on practical solutions to developing better digital habits, improve the well-being of individuals, and apply advice more broadly in a technologically infused world.

2. Methods

2.1. Participants

The present study sought to examine the potential connection between digital detox, emotional regulation, and productivity in young adults in India.273 participants (N = 273) between the ages of 18–25 years, who have been living in India for the past five years and either worked or studied were included in the sample. Participants were recruited through social media sites, university bulletin boards, and community platforms. The participants were excluded if they had a diagnosed psychological disorder, were currently receiving psychiatric treatment, or had a physical or mental health condition that would severely affect their emotional regulation or their digital engagement patterns.

2.2. Measures

The Digital Detox Scale (DDS) is a self-report measure of the frequency and intentionality of digital detox or unplugged activities, with higher scores signifying more engagement. The Emotion Regulation Questionnaire encompasses 10 items, and measures cognitive reappraisal and expressive suppression, along with higher scores indicating more use of each strategy. The Work Productivity and Activity Impairment Questionnaire (WPAI) was also used to assess productivity loss, with the higher the score, marked the more impairment. All questionnaires indicated acceptable reliability, while the ERQ indicated Cronbach's alpha of 0.79 - 0.89 and WPAI had been validated with young adults.

2.3. Research Design

This research utilizes a quantitative design, interested in analyzing statistical data to examine relationships amongst digital detox, emotion regulation and productivity. A quantitative design, which follows a structured approach and objective measure gives the time to explore hypothesis testing, identify patterns and generalize the data due to the use of standardized, inferential statistics.

2.4. Sample

This study utilized a convenience sampling method. Participants were selected based on their willingness or availability to engage with the study. Data was gathered from an online survey sent via social media, emails, or personal networks. In some instances, snowball sampling was utilized. Participants were young adults 18–25 years old, who currently live in India, and are working or studying while engaged in work or education. Participants who were not engaged with work or were studying, or participants who had not been living in India within the last five years were not included to maintain general cultural and contextual relevance. Convenience sampling, while a good and appropriate strategy, may constrain further understanding due to reduced generalizability and potential bias.

2.5. Hypotheses

- H_{01}: There is no significant relationship between digital detox, emotional regulation, and productivity among young adults.
- H_{02}: Emotional regulation and productivity do not significantly predict the likelihood of engaging in a digital detox.
- H_{03}: There are no significant gender differences in digital detox, emotional regulation, and productivity among young adults.

3. Results

Table 1 Correlations Between Digital detox, Work Productivity and Emotional regulation

	Variable	N	Mean	SD	1	2	3	4
1.	Digital Detox	241	106.05	40.02				
2.	Work Productivity	241	52.13	21.83	0.291**			
3.	Cognitive Reappraisal	241	26.39	5.68	0.189**	0.019		
4.	Expressive Suppression	241	18.00	3.99	0.244**	0.067	0.789**	—

**Correlation is significant at the 0.01 level (2-tailed).

3.1. Statistical Findings

Pearson correlation analysis was conducted to determine if there is a relationship between Digital Detox, Work Productivity Impairment, Cognitive Reappraisal, and Expressive Suppression. There was a significant positive correlation established between Digital Detox, Work Productivity Impairment ($r = 0.291$, $p < .01$), Cognitive Reappraisal, ($r = 0.189$, $p < .01$), and Expressive Suppression ($r = 0.244$, $p < .01$). No relationship was established between Work Productivity Impairment and either Cognitive Reappraisal ($r = 0.019$) or Expressive Suppression ($r = 0.067$). There was a strong positive correlation between Cognitive Reappraisal and Expressive Suppression ($r = 0.789$, $p < .01$). With this knowledge, we rejected the Null Hypothesis and the results determined that there were relationships between the variables.

Table 2 Regression model summary for digital detox predicting work productivity and emotional regulation Model Summary

Model	R R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1 df2 Sig. F change
1	0.368 .135	0.124	37.45499	0.135	12.371	3 237 .000

Predictors: (Constant), Work Productivity and Emotional regulation

Table 3 Regression coefficient for digital detox predicting work productivity and emotional regulation

Model	Unstandardized Coefficients	Std. Error	Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
	B		Beta			Upper Bound	Lower Bound
1 (Constant)	38.272	13.080		2.926	0.004	12.504	64.039
Work Productivity	.506	0.111	0.276	4.557	0.000	0.288	.725
Cognitive Reappraisal	.106	0.694	0.015	0.153	0.878	-1.260	1.473
Expressive Suppression 2.143		0.989	0.214	2.166	0.031	0.194	4.092

Dependent Variable: Digital Detox

3.2. Statistical Findings

A multiple regression analysis was performed to investigate if Work Productivity Impairment, Cognitive Reappraisal, and Expressive Suppression significantly predicts Digital Detox. The model was statistically significant ($F = 12.371$, $p < 0.001$), $R^2 = .135$ indicated that the predictors explained 13.5% variation in Digital Detox. Work Productivity Impairment ($\beta = 0.276$, $p < .001$) and Expressive Suppression ($\beta = 0.214$, $p = 0.031$) significantly predicted Digital Detox, while Cognitive Reappraisal ($\beta = 0.015$, $p = 0.878$) did not. The results led us to reject the null hypothesis and concluded that selected psychological processes significantly affect an individual's engagement with digital detox.

Table 4 Sample t-test examines the gender difference among digital detox, work productivity and emotional regulation

Variable	Gender	n	M	SD	SE	t	df	p	95% CI Lower	95% CI Upper
Digital Detox	Male	125	101.86	37.46	3.35	-1.66	238	0.098	-18.73	1.60
	Female	115	110.42	42.48	3.96					
Work Productivity	Male	125	49.75	21.98	1.97	-1.64	238	0.103	-10.06	0.93
	Female	115	54.31	21.15	1.97					
Cognitive Reappraisal	Male	125	26.50	5.94	0.53	0.18	238	0.859	-1.31	1.58
	Female	115	26.37	5.38	0.50					
Expressive Suppression	Male	125	18.24	4.16	0.37	1.04	238	0.300	-0.48	1.55
	Female	115	17.70	3.80	0.35					

Note. n = sample size; M = mean; SD = standard deviation; SE = standard error; CI = confidence interval.

3.3. Statistical Findings

An independent samples t-test was performed to measure differences between gender on Digital Detox, Work Productivity, Cognitive Reappraisal, and Expressive Suppression. The results indicated that there were no significant gender differences for Digital Detox ($t = -1.66$, $p = 0.098$), Work Productivity ($t = -1.64$, $p = 0.103$), Cognitive Reappraisal ($t = 0.18$, $p = 0.859$), and Expressive Suppression ($t = 1.04$, $p = 0.300$). Because all p-values were greater than 0.05, the null hypothesis (H_{03}) which states that gender does not significantly predict Digital Detox, Work Productivity, Cognitive reappraisal and Expressive suppressions was retained.

4. Discussion

The present study sought to evaluate the relationships between digital detox, emotional regulation (measured through cognitive reappraisal and expressive suppression), and work productivity impairment among young adults, and how these psychological factors predict engagement in digital detox behaviors. The results are consistent with the existing literature demonstrating a complex relationship between the use of digital technology, emotional well-being, and productivity.

Correlation analysis showed that digital detox was positively and significantly correlated with work productivity impairment, cognitive reappraisal, and expressive suppression. This implies that as individuals become more impaired

in their productivity or attempt to regulate their emotions using (to varying degrees) adaptive solutions (like reappraisal) and less adaptive strategies (like expressive suppression), they are more likely to engage in digital detox. This is consistent with the findings of Deshbhratar [2], Ramadhan et al. [3], and Alanzi et al. [4], who found that digital detox strategies were often reported to be optimal or preferred strategies to cope with issues of mental clarity, emotional stability, and attentional discipline (Such that the digital detox they tried was a useful aspect of their reappraisal or suppression of emotive action). Notably, a strong positive correlation between cognitive reappraisal and expressive suppression indicates the tendency for young adults to use emotional regulation via more than one manner of construal simultaneously, based upon the requirements of the given premises. However, there were no significant associations between work productivity impairment and either type of emotional regulation. The lack of association may imply that although emotional regulation strategies help produce digital detox behavior, they may not serve as a buffer to the effects of digital engagement on productivity. One explanation could be that cognitive intrusions, resulting from perpetual connectivity, consistently occur regardless of emotional regulation.

The multiple regression analysis reinforces these findings by showing that both work productivity impairment and expressive suppression serve as statistically significant predictors of engagement in digital detox. On interesting point to reinforce is that cognitive reappraisal did not make a statistically significant contribution to the predictive model. This suggests that people may be more inclined to disengage from digital engagement not specifically and not entirely because of adaptive or well-constructed emotional reframing, but because they may have experienced debilitating disruptions in productivity, or tiring emotional depletion from suppression strategies. This idea aligns with the theoretical underpinnings of Gross's Process Model of Emotional Regulation [10], whereby suppression, although necessary in time, overtime can have large cognitive resource reductions. The findings are consistent with the findings of Schmuck [6], and Jefferson [7] that suggest that the positive prospective of well-being and work effectiveness are improved by digital detox interventions simply by relieving emotional strain.

Moreover, the independent samples t-test results indicated that there are no significant differences between genders in digital detox engagement, productivity impairment, or emotional regulation. Therefore, there is some indication that the effects of what we call digital engagement, and ways to deal with it, are common across genders. The null hypothesis regarding gender differences should be retained, indicating that detox processes are more likely a function of psychological processes, rather than a demographic variable such as gender.

Theoretically, these findings support Self-Determination Theory (SDT)[11], which indicates individuals perform best and protect their emotional balance when they act intrinsically motivated and self-regulated. Time Management Theory[12] distinguishes disengagement, including digital detoxing, used with intent which maintains cognitive resources and task engagement, and emotional regulation - which is the most valuable consideration for balance. The implications of emotional regulation become valuable when cognitive behavior from digital overuse reaches capacity, and young adults either suppress the experience, or follow productivity cues as signals to disengage.

This study provides layers of possible practice implications. First, it highlights the need to develop digital literacy and emotional regulation skills among younger generational adult populations for successful navigation of an increasingly connected world. Second, the interplay of digital detox as an intentional self-regulation behavior, provides avenues for implementation into mental health education, organizational policy, or university programs to promote well-being. This is timely given the growing mental health challenges in younger generations and their relationship to anxiety, emotional exhaustion, and academic disengagement . The organized adoption of digital detox strategies whether by digital detox applications, campaign awareness, and policies to guide organizations, as it improves emotional well-being and related productivity outcomes would be advantageous.

In summary, this research offers evidence of support for the notion that the action of digital detox is driven by psychological processes, including emotional regulation and challenges with productivity. As we continue to venture into a technology-rich landscape, it is critical that we are continuously updating our understandings of how young adults are to cope with their mental health within it. Addressing these intersections enables us to develop better-informed, practical, and psychologically relevant pathways to enhance well-being in a world dominated by technology.

5. Implications

- Theoretical Implications: This thesis affirms significant models of psychology, such as Gross's Emotion Regulation Model, Cognitive Load Theory and the Transactional Model of Stress and Coping. The evidence suggests that digital detox is often a reaction to emotional suppression and workplace stress, and demonstrates that self-regulation is one method of limiting digital engagement.

- Workplace and Academic Opportunities: Organizations and academic institutions will be able to implement structured digital detoxes (e.g. scheduled breaks, time-blocking programs) to address cognitive fatigue and ultimately improve productivity without interrupting workflows.
- Mental Health Opportunities: Therapists and wellness programs are encouraged to implement digital detoxes for clients that are demonstrating emotional suppression, while still validating their experience. Teachers and instructors can encourage adaptive strategies like mindfulness and cognitive reappraisal to facilitate more optimal emotional regulation.
- Policy and Future Research: Policymakers promoting balanced digital wellness initiatives are likely more preferable than total digital withdrawal. As with every avenue of research, investigations directed to both long-term effects and the development of individualized detox treatments, which is sensitive to their individual coping styles, and their work demands, would advance and enhance our knowledge and contribution to the field.

Limitations

This study was conducted using self-reports as the main source of data, which may carry with it some biases such as social desirability bias or recall errors. Participants may have unintentionally overestimated or underestimated their engagement in terms of digital detox, emotional regulation strategies, or productivity, which equates to measurement error and potentially reduces the reliability of the interpretation of results. The cross-sectional design of the study also limits causal inference, and as the data was comprised at a single point in time, it does not capture how the relations between digital detox, emotional regulation, and productivity may develop or change over time. This is important because the sample was young adults aged 18–25, the study takes an understanding of digital behaviors, emotional coping styles, and productivity patterns, but these behaviors could be different within older populations, careers, or cultures that are not represented in the current sample. Another limitation of the study is the lack of experimental control compared to research in the literature. The study utilized correlational and regression analysis which do not control for external sources of influence such as workload, lifestyle habits, personality, and mental health problems that already existed prior to digital detox engagement. Lastly, the study had a limitation of not including objective measures of digital behaviour (e.g. screen-time monitoring)

6. Conclusion

This study provides valuable insights into the relationships between digital detox, emotional regulation, and productivity and provides an essential entry point into understanding the various ways people engage in digital disengagement. The data illustrate that the engagement in digital detox will often correlate with emotional suppression and inefficiency, rather than act proactively as a self-regulation practice. To be clear, while digital detox can ultimately help with emotional regulation, excessive or unstructured disengagement is likely to harm productivity - emphasizing the difference between proactive and reactive stages of engagement with a digital detox.

Test results show a significant relationship between impairment of work productivity and expressive suppression, which predict engagement in digital detox. However, cognitive reappraisal shows no significant predictive relationship. This result suggests that individuals who employ emotion regulation strategies like cognitive reappraisal, perhaps because of an enhanced awareness of taxes on productivity, feel less need to disconnect from the digital in times of distress. While we did test methods for engagement with digital detox as a moderator, it does not seem that gender significantly shapes digital detox. This reconciles nicely with our earlier discussion on demographics as weak predictors of digital detox behaviors as it leads us to believe other individual traits and coping mechanisms are dominant factors over wider demographic details.

Overall the findings of this study suggest we further develop the existing idea of digital detox as a structured event, typically out of need, and view it as a strategy for optimizing emotional, wellbeing and productivity at work. Future studies need to try and determine ways we can adhere people to healthy digital detox behaviours, as we underline the need for something like digital detox to be a proactive, self care activity, rather than a disengaged coping activity.

Compliance with ethical standards

Disclosure of conflict of interest

No conflict of interest to be disclosed.

Statement of informed consent

Informed consent was obtained from all individual participants included in the study.

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