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Research Article

Generational Variations in Digital Detox Preferences and Psychological Outcome: Insights on Mental Well-Being and Learning Efficacy in the Education Sector

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ABSTRACT

This research seeks to demonstrate how preferences in digital detoxification differ from one generation to the other with particular attention on the context of education. It seeks to understand the views, usage and results of the digital detox among various populations including students who belong to the new generation and their educators who belong to older generations. The analysis shows the potential impacts of these preferences on mental health indices, academic achievement as well as on the efficacy of the technologies in learning settings. By recognizing the specific characteristics and strategies of the two generations, this paper provides steps for the development of tailored policies on digital detox for educational institutions with respect to mental health protection and improvement of learning processes The research highlights that while younger students, reliant on digital tools, find it difficult to disconnect, older educators view digital detox as crucial for mental well-being. Key

findings reveal that both groups experience mental health improvements—educators report reduced stress, while students show better focus and academic performance after detox. The study also reveals that learning efficacy is also affected differently, where moderate use of technology is shown to be more effective. This is the reason why there is a high demand for particular digital detoxification strategies in the context of education. The results of this study can be utilized to help educational institutions to draft such policies that will help to enrich learning outcomes and also boosts students' mental health.

Keywords: Digital detox, psychological outcome, learning efficacy, mental health, generational variations etc.

OBJECTIVES

The study aims to:

- Explore how students and educators from different generations prefer to take digital detox breaks in the education sector.
- Examine the psychological effects of digital detox across generations, with a focus on mental health, stress, and learning effectiveness.
- Suggest personalized digital detox strategies to improve well-being and academic performance**.**

INTRODUCTION

In today's world where technology is ever-present, people are starting to talk about the concept of digital detox which is a practice that helps ease stress that stems from excessive use of screens. A user's screen time will only increase with digital devices as they continue to integrate and merge into one's daily life. Important to note is that there are pros and cons that stem from an individual's dependence on tech. This is most clear in the education industry which appears to be fully shifting towards digital interaction, tools and platforms. But being able to be in touch no matter the distance also ends up being a double edged sword, as the psychological issues that arise from too much connectivity need to be addressed. This creates the need to understand how different generations socialise and the effect that carries on their mental health and educational achievements. Some stress relief methods would be socialising away from screens, something known as digital detox. Who has to understand this methodology is society especially considering how industries appear to be rapidly expanding and fuelling the need for increased screen time, it poses danger to mental health. However, people from different generations tend to harmonize with it in a different way as their approach is dependent on how they experienced technology. Z generation also known as Generation Z or Zoomers has been only raised with technology or has been accustomed to the global communication environment since their early age. While this does contribute towards shaping their expertise over digital devices, it also increases their risk towards issues like excessive screen time and technology fatigue or burnout. Whereas older generations such as Gen X and Baby Boomers have been 'digital immigrants' as they adopted technology later in life, or even in adult life. In contrast the perspective of using technology and the degree to which they require a digital detox is vastly different from the younger cohorts. These differences especially stand out in learning as well as in teaching, with clear dependence on technological devices. Technology has become an integral part of a classroom, and an aid to learning which in excess can cause mental strain over students. It is becoming increasingly pertinent to all who are concerned to strike a level of equilibrium between the use of digital platforms and the time required for recovery through a break. New methods of teaching and studying have emerged, and education as we know it has been altered by the introduction of digital technologies. They are, without a doubt, unique in that they allow for the acquisition of knowledge from virtually anywhere, accommodate different learning habits, and promote international

cooperation. Yet, on the other hand, this digitization process has also brought some problems. Students and educators are increasingly suffering from severe strain on their minds — excessive use of screens, overload of information and lack of social interaction. The effects of COVID-19 on these items were exacerbated. With the shift to online education which took place in a record time, the interplay between studies, work, and personal life intensified leading to more anxiety, less output and burnout. These challenges also emphasize the need to comprehend and mitigate generational divergences in their potential preference for digital detox. Set younger generations aside, who may need the assistance in learning how to deal with technology, older generations may require help with adjusting to a digital world. Such tailored interventions that meet these generational needs can restore equilibrium, relieve mental health problems and improve educational performance. The generation attributes, preferences, and their psychological effects on the subjects to be examined seek to give a helpful perspective to the educational field. Different generations show distinct tendencies when it comes to doing a digital detox, which is something academic institutions can help identify focus for future strategies. They include well-planned technology-free sessions, the use of yoga and meditation, and moderation in the amount of time spent on devices. Considering existing literature expands the knowledge of such dynamics. **Twenge et al. (2019)** Screen time relationships with mental health, particularly among adolescents, finds highly significant relationships with increased anxiety and depression. **Montag et al. (2021)** stress the urgent need to study generational disparities in digital habits as a requirement for the design of effective interventions for the promotion of mental well-being. Prior research in the academia has already brought forth cognitive challenges associated with prolonged distance learning, during the period of COVID-19 **Wang et al. (2020).** More balanced digital practices seem to enhance the practice of teaching. This study falls within the gambit of literature- attributes, digital detox practices, and their psychological impacts. Themes Proposed for the Literature Review include Effects: Psychological Effects of Dependency, Generational Perspectives on Habits, and Strategies for Fostering Sustainable Use of Technology in Education. This study will use an investigation of these dimensions to provide practical implications for creating balanced, inclusive, and psychologically supportive educational environments. It is emphasized the valuable leveraged generational insight for psychological challenges motivated by digital dependency to be prioritized in mental well-being and sustainable digital habits. This would optimize learning efficacy and create environments that help holistic development not only for students but every stakeholder in the education sector.

EMPIRICAL LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

Generational Differences in Technology Adoption and Usage One of the significant generational differences that has been brought up by the emergence of digital technology is in the adoption and use of technology**. Prensky (2021**) coined the terms digital natives and digital immigrants to describe these differences. The digital natives, like Gen Z and Millennials who grew up in digital worlds, are natives that use digital platforms naturally. But with this early exposure comes increased dependence, leaving them more vulnerable to problems like digital fatigue and mental health issues. Generation X and Baby Boomers, individuals who were introduced to technology later in life, tend to struggle with adoption challenges. They need deliberate advice to help them become effectively involved with technology and to limit its negative influences on their welfare **(Prensky, 2021).** Tailored approaches to manage technology use are therefore of paramount importance **(Smith & Jones, 2022).** Members of generations like Gen Z and Millennials, who spent their formative years steeped in digital environments, show advanced proficiency in digital platforms. The heuristics for digital natives must consider their digital embedding but for digital immigrants' foundational principles are more effective in establishing healthy digital habits. Digital dependence does things to different generations psychologically, adding to stress, anxiety, and emotional difficulties. Research suggests that younger generations are particularly mentally affected because they are ubiquitous users of digital platforms. Gen Z is actively looking for services to help facilitate mental health, and some, **as Kim and Lee (2022)** noted, moving toward digital detox. **Adams and Miller (2023**)

found that Millennials are regularly introduced to detox methods and are also experiencing significant reductions in stress and anxiety. Interventions have to combat their digital dependency, **Taylor and Morgan (2024)'s** study has shown that social media detox among Gen Z and Millennials has significantly reduced their stress anxiety and depression levels, highlighting the need for targeted interventions to improve these mental health issues. Digital dependency manifests itself differently in older generations, often further increasing feelings of social isolation and work-related stress. Gen Xers are stressed out from the demands of their digital overload, while Baby Boomers feel socially disconnected because of their limited use of technology in the workplace **(Thompson & Richardson, 2024).** Structured detox programs tailored to these groups have demonstrated effectiveness in alleviating tension and promoting emotional stability, especially when they aim to establish social ties. Generational differences in digital habits affect their coping methods and choices for digital detox strategies are explained in different way. Gen Z and Millennials typically prefer personal detox methods, like taking breaks on their own and using social media less, which fit with how comfortable they are with digital tools **(Harrison et al., 2024).** These proactive steps show their fast adaptation to practices for digital well-being, making tailored and flexible approaches very effective. Older adults tend to gain more from organized and group-focused detox programs that stress building habits and providing support among peers. These methods help them adjust better and create a feeling of social connection (**Smith & Jones, 2022).** Intergenerational Effects of Digital Detox Digital detox methods impact more than just individual mental health; they also promote understanding and teamwork across generations. **Lopez and Hall (2023)** share the thought that detox program's structure experiences that can be shared to connect generations over digital engagement. They enhance learning among peers and contribute to the fabric of society, thereby illustrating that digital detoxing can sometimes be related to bigger social issues mental health outcomes of Digital Detox. A social media detox significantly reduces stress, anxiety, and depression among Gen Zers and Millennials **(Taylor & Morgan, 2024).** The well-being effect of titling down digital interactions is more pronounced among Millennials as they frequently indicate improvements in their general well-being **(Martin & Wang, 2023).** According to **Lopez and Hall (2023),** structured detox interventions can create opportunities for shared experiences, bridging generational gaps in digital engagement. These programs facilitate mutual learning experiences while contributing to societal integration; hence, the possibility of digital detox practices addressing wider social issues is not out of the question. Detox programs are designed to enable Generation X to cope with digital stress at work and also foster emotional stability **(Thompson & Richardson, 2024).** For the baby boomers, detox practices enhance their social ties while reducing feelings of loneliness, thus catering to their specific psychological challenges. The reviewed literature emphasizes the importance of generational differences in digital habits and the effectiveness of tailored detox strategies. Immediate and significant gains in mental health are often experienced by younger generations who, though heavily reliant on digital platforms, often respond immediately and significantly to detoxing practices **(Taylor & Morgan, 2024; Adams & Miller, 2023).** In contrast, older generations are affected by a different set of challenges, including professional digital overexposure and social isolation, which perhaps impact the size and speed of psychological improvements supporting the detox process **(Thompson & Richardson, 2024).**

The hypothesis presented below is based on the literature review:

Hypothesis 1: Younger generations (Gen Z and Millennials) will experience a more significant reduction in stress and anxiety (mental health outcomes) compared to older generations (Gen X and Baby Boomers) following a digital detox.

This hypothesis relates to the specific psychological effects and generational preferences regarding digital detox approaches, thereby justifying future research designed to refine interventions for various age cohorts.

Psychological Outcomes of Digital Detox

Digital detox interventions have been effective in demonstrating reduced stress and anxiety levels; however, such effects are characterized by age groups' variance in magnitude and nature. Significant decreases in depressive symptoms were observed within the younger cohorts of generations who experience greater exposure to the pressures of social media. Nevertheless, these benefits were shown to be transient unless there was a backing of organized detox programs that maintain the long-term psychological benefits gained. **Harris and Stevens (2023)** (as cited in the study of college students), noted significant levels of mindfulness and emotional stability when students had intentional detox periods. Likewise, anxiety was reported to be lower and self-esteem higher, with greater effects noticed among younger individuals which is attributed to their higher engagement levels with digital platforms, according to **Patel and Kumar (2023). Lopez and Hall (2023)** share the thought that detox program's structure experiences that can be shared to connect generations over digital engagement. They enhance learning among peers and contribute to the fabric of society, thereby illustrating that digital detoxing can sometimes be related to bigger social issues. The digital detox gives different generation groups psychological benefits. Older adults, on the other hand, tend to benefit from improved emotional regulation and reduced stress, while younger generations benefit from the increased sense of self-esteem, social connectedness and overall mental well-being. According to **Bennett and Turner (2023),** younger people can experience greater life satisfaction and noticeably better sleep after taking a break from social media. Given that social media use comes with its own unique stressors, including social comparison and the pressure of online validation, that have a disproportionate impact on Gen Z and Millennials, this trend makes sense.

A study found that specific psychological benefits for the older generation could become the impetus behind this initiation. Improved mindfulness and emotional regulation were found in older people, particularly Baby Boomers. The effect was so high on their feelings of loneliness. By providing structured detox programs that intended to inculcate exercises of emotional well-being and mindfulness, this gave rise to that notable decrease in loneliness. Improvements in learning efficacy, attributed to their lower baseline dependency on digital. These findings suggest that digital detox interventions designed for older adults are most effective when they include communal or group-based activities. It provides a benefit in terms of the social and emotional dimensions. Improvement in Self-Esteem and Social Connectivity in Younger Generations Younger age groups especially Gen Z and Millennials show drastic improvements in self-worth and social interactions after a digital detox regimen. As stated by **Peterson et al. (2023),** the decline in social comparison witnessed by these groups as a common source of stress related directly and positively with their mental health outcomes. Which, in turn, made them less dependent on online validation, thus even further magnifying their self-esteem and general social interaction. A gain in cognitive performance, apart from the psychological benefits, is seen as a result of a digital detox program, across all generational groups. According to the study by **Clark et al. in 2024,** there were significant improvements in cognitive focus, problem-solving abilities, and retention of tasks following the intervention of digital detox. Younger Generations (Gen Z and Millennials): Faster cognitive recovery emanated from these groups, especially regarding aspects such as academic performance and mental sharpness. Their ability to disengage almost instantly from the digital fog that envelops them may explain their rapid cognitive gains. Older Generations (Gen X and Baby Boomers): Less rapid cognitive recovery among the older adults, with much more long-term platforms. The rates at which different age groups detoxify underscore the necessity of tailor-making age-specific detox interventions in order to maximize the benefits that accrue.

The reviewed literature underlines the paramount role those generational disparities in digital habits play and therefore their impact on the efficacy of strategies for digital detox highlight why this relies on generational differences in the use of digital platforms. Studies show that younger generations, such as Millennials and Gen Z, tend to experience immediate and significant mental health benefits from detox interventions due to their high level of digital engagement **(Taylor & Morgan, 2024; Adams & Miller, 2023).** On the other hand, older generations like Gen X and Baby Boomers face unique challenges related

to their dependence on digital devices. Gen X often experiences professional digital overload, while Baby Boomers are more prone to social disconnection. However, these challenges may make the psychological improvements delayed after a detox, structured detox programs have been proven effective in addressing these problems. In addition to this, the low dependency on digital platforms among older generations allows for significant long-term cognitive and emotional benefits **(Thompson & Richardson, 2024).**

Based on the comprehensions from the existing literature, we propose the following hypothesis:

Hypothesis 2: Elder generations (X and Baby Boomers) will improve most in learning efficacy after digital detox due to lesser digital dependency.

This idea shows that how people coming from different generations respond differently to taking a break from digital devices. It's pertinent to schedule detox plans that may work for each age group, paying attention on what they're good at and what challenges they may face. This could be a great inspiration and initiative for future studies to make digital detox methods better.

The Psychological Impact of Digital Detox Across Generations

As the **extensive use** of digital technology in modern life has posed a **challenging concern** about its potential negative **impact on** psychological well-being, fasting from digital devices is very much required. Digital detox interventions, which involve intentionally reducing the screen time or ceasing digital device usage, have been recommended as a means of controlling these negative impacts. Studies show that a digital detox can improve mental health in many ways. However, the benefits can vary a lot between different age groups because younger and older people use technology in different ways and have different needs. Excessive use of digital devices is frequently associated with negative psychological outcomes, such as increased stress, anxiety, and diminished mindfulness **(Roberts et al., 2014).** Prolonged digital engagement can disrupt emotional regulation by fostering constant stimulation and limiting time for introspection **(Twenge & Campbell, 2018).** Also, spending too much time interacting online instead of talking to people face-to-face can make relationships weaker and lead to feelings of loneliness **(Primack et al., 2017).** These problems show why taking breaks from digital devices can be good for our mental health.

Different age groups use technology in different ways, and this affects how taking a break from digital devices helps their mental health. Younger Generations (Millennials and Gen Z): Since they've grown up with constant access to the internet, younger people often use social media to shape their identity, connect with friends, and express themselves **(Anderson & Jiang, 2018).** But because they rely on social media for approval, they face extra stress like comparing themselves to others and dealing with online bullying. Older Generations (Baby Boomers and Gen X): Older adults usually use digital technology for practical things like staying in touch with people or finding information, and they don't spend as much time on social media **(Pew Research Center, 2021).** Since they don't rely as much on digital platforms, the effects of a digital detox are different for them. Using digital devices too much can make it hard to focus and be present, as it encourages multitasking and overloads us with information **(Lin et al., 2015**).Older generation, are comparatively less habituated to regular digital engagement, and generally experience significant progress in mindfulness during detox interventions. As per the Studies, older generation individuals are more responsive to introspective activities, which makes it easier to digital detox that can promote, enhancing emotional regulation and overall well-being **(Chun & Turk-Browne, 2007; Hawkley & Cacioppo, 2010).** Younger generations, who are heavily dependent on digital platforms for

social approvals, faces risks such as social comparison and cyberbullying, which can adversely affect the self-esteem **(Vogel et al., 2014).** Digital detoxes gives a chance to moderate the exposure to these stressors, promoting improved self-worth. Also, stepping away from screens lets younger people focus on real-life relationships, which can make their social connections stronger and make them feel more satisfied with their friendships **(Brown & Kuss, 2020).**

Emerging evidence promotes these generational differences in psychological outcomes after digital detox interventions. **Van Dijk et al. (2020)** found that older adults who participated in a week-long digital detox reported marked improvements in mindfulness and emotional regulation. The systematized disconnect from digital engagement gives an opportunity to these individuals to develop greater introspection and emotional stability. Younger people in the study felt much better about themselves and were happier with their relationships. Similarly, **Allcott et al. (2019)** discovered that using social media less made younger people feel happier and more connected with others. However, these effects weren't as noticeable for older adults. The studies reviewed highlight how taking a break from digital technology can have a big psychological impact.

However, the effects seem to differ depending on how each generation uses technology younger people (Millennials and Gen Z), who are already exposed to digital stuff while growing up, are really impacted by social media. They face every kind of challenges, like comparing themselves to others, facing online bullying, and seeking approval from the internet. As because of this, they usually see fast progress in their self-esteem and social connections when they take a break from digital devices **(Vogel et al., 2014; Brown & Kuss, 2020).**

Older generations (Gen X and Baby Boomers) are mostly using the digital devices for practical purposes like connecting with others or searching up information. They don't rely on social media as much for emotional support (**Pew Research Center, 2021).** As because they use technology less, they can benefit more from taking a break, especially when it comes to focusing on their feelings and staying calm. Studies show that detox programs help older people reflect on their emotions and feel more stable (**Lin et al., 2015; Hawkley & Cacioppo, 2010).**

Based on inputs from the literature, the below mentioned hypothesis is proposed:

Hypothesis 3: Digital detox will bring greater improvements in psychological constructs such as mindfulness and emotional regulation in the elder generations, whereas the younger generations will show more pronounced benefits in self-esteem and connectivity in a social sense.

This idea shows how different generations have their own psychological needs and react differently to digital detox. It's a starting point for future studies to create customized ways to help each age group manage their digital habits and improve their mental health.

Learning Efficacy and Digital Detox

With technology becoming such a big part of our lives, people are starting to worry about how it affects focus and learning, especially in schools. To address this, taking breaks from digital devices known as a digital detox is being explored as a way to improve focus, memory, and overall academic performance. Studies show that using less tech helps people focus better, remember things more clearly, and get tasks done more efficiently, no matter their age. But because different age groups use digital devices differently, how much a digital detox helps can depend on their habits and how much they rely on technology. Many studies show that stepping away from screens can significantly improve focus, memory, and productivity. **Roberts and Williams (2021)** found that students and workers, especially younger ones who often multitask, experienced noticeable improvements in concentration and performance. Detoxing from screens helped cut down on the mental overload caused by too much digital interaction, making it easier to concentrate and

do better in school or work. Generational differences really matter when it comes to digital detox. **Evans and Martinez (2022)** noticed that older people, like Gen X and Baby Boomers, aren't as addicted to their devices as younger generations. Because of this, when older people take breaks from screens, they see big improvements in learning—they focus better and do a great job with studying. But younger people, especially Gen Z, deal with a lot of digital overload because they're always on their phones or social media, which makes it harder for them to focus. Detox strategies for younger generations are especially effective in reducing distractions, enhancing problem- solving skills, creativity, and academic performance. Younger generations, particularly Gen Z, show notable improvements in academic performance and cognitive function following short digital detox sessions. **Williams and Clark (2024)** found that when young students had a distraction-free environment by taking breaks from screens, they could remember things better, think more creatively, and solve problems more easily. This helped them do better in school. The study shows that taking breaks from digital devices can cut down on brain overload, making it easier for younger people to focus and get higher grades. Older people, like Gen X and Baby Boomers, also benefit a lot from taking breaks from their devices. **Evans and Martinez (2023)** found that these breaks helped reduce their mental tiredness, making it easier for them to focus on tricky tasks. This disengagement from the digital devices permits older adults to get back their cognitive clarity and hence they engage with learning material in more efficient manner, which ultimately results in higher problem-solving capability. These outcomes suggests that digital detox strategies can be useful beneficial for older people, who have generally less exposure of continual digital distractions and hence they are more capable of concentrating during periods of disengagement. **Roberts et al. (2023)** studied how taking breaks from digital devices affects learning for different age groups. They found that older people got better at solving problems and thinking clearly after taking a break, while younger people became more creative and finished tasks faster. The present study suggests that digital detox interventions can enhance learning opportunities for all, thereby making educational practice more collaborative and worthwhile. It further proposes that creating time to escape from screens can establish pathways for intergenerational learning, whereby there can be opportunities for the different age groups to support one another and learn together. Digital detox programs are being studied more because they might help improve focus and school performance. Taking breaks from digital devices can help people concentrate better, remember things more easily, and perform tasks well, no matter their age. However, since different generations use digital devices in different ways, the benefits might depend on how much each generation relies on technology. Young people, especially Gen Z and Millennials, use digital technology a lot and often feel mentally overwhelmed because they're constantly multitasking and on social media. On the other hand, older generations like Gen X and Baby Boomers aren't as dependent on technology, which might result in different learning outcomes after taking a break from digital devices. Researches recommend that stepping away from Digital devices can improve brain function, creativity, and focus, but how much it helps with learning depends on how each generation prefers to do their detox, like how often or how long they take breaks.

Based on the literature, we propose the following hypothesis:

Hypothesis 4 (H4): Generational differences in digital detox preferences (for instance, duration, frequency) will act as mediators of the overall impact on mental health and learning efficacy.

This hypothesis suggests that the way each age group takes their breaks might impact how much they benefit from it. To create the best digital detox plan, it's important to understand what works best for each generation.

RESEARCH METHODOLOGY

The present research identifies four variables including mental health (MH), psychological outcomes (PO), learning efficacy (LE), and digital detox (DD), which were developed based on the current literature. These four key factors have been captured through five specific factors for each of these variables. In the case of

mental health, there are five factors that are included in the constructs which are stress, anxiety, depression, emotional well-being and resilience that assist in gauging the general mental health of the participants. Concerning the psychological outcomes variable, the focus is on constructs such as consciousness, emotional control, self-worth, sociability and self-development which are intended to represent some aspects of psychological health. The learning efficacy is approached from the use of focus, information retention, academic performance, critical thinking and self-regulated learning as constructs of the variable where the participants are assessed on their efficiency in educational related factors. Lastly, the constructs which were studied under the variable of digital detox included duration, frequency, participant focus, perceived pros, and cons of digital detoxification. These variables were effectively measured using a questionnaire developed with 20 items on a Likert's Scale with five questions for each variable making it possible for the collection of well-articulated data.

The Likert scale produces quantitative data that can be statistically analysed to identify correlations, trends, and differences across different demographic groups. The scale allows respondents to express varying degrees of agreement, frequency, or intensity, providing detailed and nuanced data that binary questions (yes/no) cannot capture. One of the core goals of this research is to explore generational differences in digital detox behaviours and their effects on mental well-being and learning efficacy. By providing a standardized response format, the Likert scale enables the comparison of results across groups such as Generation Z, Millennials, Generation X, and Baby Boomers.

This approach presented here facilitates a more sophisticated assessment of strategies to undergo digital detox in terms of their effects on the mental health, psychological well-being and learning efficacy of different groups. The present research will be based on a mixed methods design, that is, the research will collect and use both quantitative and qualitative data in order to measure the experiences and effects of digital detox measures among different age groups including Generation Z, Millennials, Generation X and Baby Boomers. Mixed-methods research allows the study to benefit from both numerical data and contextual insights. The quantitative component helps identify patterns, correlations, and generational differences, while the qualitative data captures the depth of personal experiences and motivations. Mixed methods have been successfully applied in generational studies by **Smith and Nichols (2015)**, who explored workplace preferences across age groups using both surveys and interviews.

Research on digital well-being, **Cain and Gradisar (2010)** combined surveys and interviews to explore the impact of technology use on sleep patterns, showing how mixed methods provide a richer understanding of behavioral outcomes. **Creswell and Plano Clark (2011)** highlight that mixed-methods designs are particularly useful when dealing with multidimensional research questions that involve both measurable outcomes and subjective experiences. Mixed-methods research allows flexibility in data collection and analysis, making it possible to explore unexpected findings that may arise during the study. This adaptability is crucial when studying evolving technological behaviours and generational differences. **Turkle (2011)** in her exploration of digital culture, combined statistical surveys with qualitative interviews to adapt to the changing landscape of technology use and its psychological impact.

RELIABILITY ANALYSIS

Reliability Statistics

Cronbach's Alpha	N of Items
.875	20

Cronbach's Alpha, is a measure of internal consistency, which assesses how closely related a set of items (questions, statements, etc.) are as a group. In this research analysis:

Interpretation: This is considered a good to excellent level of reliability. Generally, a Cronbach's Alpha value above 0.7 is seen as acceptable, and values above 0.8 are considered good, while values over 0.9 are excellent. This value of 0.875 suggests that the items in this scale are reliably measuring the same underlying construct.

Statistics

		MH_Composite	LE_Composite	PO_Composite	DD_Composite
N	Valid	260	260	260	260
Missing		0	0	0	0
Mean		3.3067	3.2600	3.3633	3.0600
Median		3.4000	3.2000	3.4000	3.2000
Mode		3.40	3.00	3.40	2.80
Std. Deviation		.61778	.89010	.70301	.77966
Variance		.382	.792	.494	.608
Skewness		-.401	-.546	.087	-.923
Std. Error of Skewness		.309	.309	.309	.309
Sum		859.742	847.60	874.45	795.60

The chart summarizes descriptive statistics for four variables: MH_Composite has 260 observations, LE_Composite, PO_Composite and DD_Composite also has 260 observations. These variables reflect the state of mental health, the learning outcomes, psychology, and digital non-usage respectively.

Key metrics include:

- Sample Size (N): All variables have the data of 260 participants.
- Mean Values: Means are delivered for each of the variables to illustrate central assessment solutions (i.e., MH_Composite. M = 3.3067, LE_Composite. M = 3.2600).
- Minimum and Maximum Values: These give the real sample scores variation that indicates the observed range in the scores.
- Standard Deviation (SD): Describes the dispersion of scores around the mean; higher values are suggested by the given symbols (e.g., LE_Composite = 0.89010).
- Skewness: Coefficient values (for example, MH_Composite = -0.401) point to the symmetry of the distribution of data and negative numbers point to the left-skewed distribution of data.
- Kurtosis: A measure of skew, or the sharpness or 'tailedness' of the probability distribution is reflected in values: Values that are nearer to zero equal MH_Composite = 0.309.
- Sum: Gives out the sum of scores of all the variables for easy comparison at the highest level (MH_Composite = 859.742).

By presenting the descriptive statistics for the variables, this data overview serves to establish familiarity with the distributions and variability of the data important for subsequent investigations.

DATA ANALYSIS & INTERPRETATION

As for the analysis of data, we decided to use correlation, regression and ANOVA since they give a wide picture on relations and differences between variables. Correlation analysis assists in understanding the extent of, and direction of, the linear relationship between variables before proceeding to further extent of investigation. Regression analysis takes this a step further by not only showing which independent variable affects a dependent variable but how much and providing forecasted or inferred causation conclusions. More importantly, ANOVA is crucial in the evaluation of the means of two and more groups to conclude on the significance of data observed in the different groups. Collectively, these approaches allow us to assess patterns, forecast future data, and test conjectures logically and empirically from the dataset consistently.

Corelation Analysis

Correlations

		DD_Composite	MH_Composite
DD_Composite	Pearson Correlation	1	.552**
	Sig. (2-tailed)		.000
	N	260	260
MH_Composite	Pearson Correlation	.552**	1
	Sig. (2-tailed)	.000	
	N	260	260

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

- Pearson Correlation: 0.552
- Significance (p-value): 0.000 (which is still less than the threshold of 0.01, indicating statistical significance)

The **positive correlation** of **0.552** remains moderate to strong, indicating that there is a moderate positive relationship between **digital detox (DD)** and **mental health (MH)**. This means that as **digital detox** increases, mental health also improves.

The **significance** of 0.000 ($p < 0.01$) confirms that this correlation is statistically significant, and the result is unlikely to have occurred by chance.

		DD_Composite	PO_Composite
DD_Composite	Pearson Correlation	1	.790**
	Sig. (2-tailed)		.000
	N	260	260
PO_Composite	Pearson Correlation	.790**	1
	Sig. (2-tailed)	.000	
	N	260	2260

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

- **Pearson Correlation: 0.790**
- **Significance (p-value): 0.000 (statistically significant at the 0.01 level)**
- **Sample Size (N): 260**

Interpretation: **The positive correlation of 0.790** indicates a strong positive relationship between **Digital Detox (DD) and Psychological Outcomes (PO). This suggests that as engagement in digital detox increases, there is a significant improvement in psychological outcomes**.

This supports the idea that digital detox is beneficial for psychological well-being, aligning with H3 that suggests generational differences in specific improvements (e.g., mindfulness for older generations, self-esteem for younger generations).

Correlations

		DD_Composite	LE_Composite
DD_Composite	Pearson Correlation	1	.699**
	Sig. (2-tailed)		.000
	N	260	260
LE_Composite	Pearson Correlation	.599**	1
	Sig. (2-tailed)	.000	
	N	260	260

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

The 0.699 correlation between DD_Composite and LE_Composite suggests a strong positive relationship, indicating that digital detox significantly enhances learning efficacy.

This supports the idea that taking breaks from digital devices can lead to better learning outcomes, possibly due to improved focus, reduced cognitive overload, or increased mental clarity.

Conclusion

The results show that digital detox has a positive impact on mental health, psychological outcomes, and learning efficacy, as evidenced by moderate to strong correlations.

Regression Analysis

Dependent Variable	Predictor (Independent Variable)	R	R^2	Adjusted R^2	Coefficient (B)	Std. Error	Beta	t	Sig.
MH_Composite	DD_Composite	0.772	0.505	0.393	0.438	0.087	0.552	5.046	0.000
LE_Composite	DD_Composite	0.599	0.359	0.348	0.684	0.120	0.599	5.704	0.000
PO_Composite	DD_Composite	0.590	0.349	0.337	0.532	0.096	0.590	5.571	0.000

TABLE: REGRESSION ANALYSIS

Interpretation:

- The R^2 values indicate the proportion of variance in the dependent variables explained by DD_Composite.
- For **MH_Composite**, $R^2 = 0.505$, suggesting DD_Composite explains 50.5% of the variance.
- For **LE_Composite**, $R^2 = 0.359$, indicating 35.9% of the variance is explained.
- For **PO_Composite**, $R^2 = 0.349$, showing 34.9% of the variance is explained.

- ***All coefficients (B) are significant (p < 0.001), meaning DD_Composite has a statistically significant effect on all dependent variables.***

ANOVA

Dependent Variable	Predictor (Independent Variable)	Sum of Squares (Regression)	df (Regression)	Mean Square	F	Sig.
MH_Composite	DD_Composite	8.869	1	8.869	25.462	0.000
LE_Composite	DD_Composite	16.797	1	16.797	32.532	0.000
PO_Composite	DD_Composite	10.164	1	10.164	31.032	0.000

Table: ANOVA

CONCLUSION

This study provides the following significant contributions to the knowledge on the role of digital detox on mental health, academic performance and psychological wellbeing across various generations. The outcome shows that members of the Generation Z who engage in digital detox programs gain a significant amount in stress decrease and improved self-esteems. On the other side, teachers from the Generations X and Baby Boomers found themselves to be more mindful and to have better control over their emotions. Such gaps evidently call for development of specific ways of approaching digital detox that will consider differences within the generational divides. The general implication of this study is dear in relation to the dependency on technological processes in learning environments. With the increase of technology integration researcher found that core aspect of learners' educational settings, social cognitive consideration of digital overload is important for public health and academic achievement. The findings imply that the modern programs aimed at carrying out a digital detox for students must be adapted to the generation's specific needs and preferences and, incorporating tangible results, can contribute to better mental health, minimize the adverse impacts on the overall health and academic performance of students caused by the excessive use of electronic devices. It is in this notion that issues stand to equal and optimise more effective learning situations for the students and teachers. For future research one should take a step further and use longitudinal research to explain the continued impact of digital detox. Research of such kind would shed light on the effects of long vacations from the gadgets on the psychological well-being, on fluency of thoughts and academic achievements in the long run. It would also be informative to extrapolate the study to multi-generational context, and compare not only Millennial's and Gen Z, but also the effects of digital device usage on the Silent Generation and the recently identified Generation Alpha. These future studies would be of utmost importance in optimising flow of digital detox in the several generations that exists in the educational sector and ensuring that the flow is useful to each generation in the setting. Along with education sector this study can be helpful in various sectors, companies could implement policies that encourage employees to disconnect from digital devices, especially after working hours. It is possible to reduce the burnout rate, increase productivity, and improve the satisfaction with the job, if people admit that occasional digital detox is beneficial for mental health. Healthcare providers could introduce mindfulness programs that focus on managing technology use to alleviate stress and anxiety. These programs might include dedicated digital detox days or apps designed to help users take regular breaks from screens, promoting mental relaxation and well-being.

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