



# Rekindle: Sustainable Digital Detox Model Based On Sensory Stimulation Approach

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## Abstract

The use of digital device and screens is omnipresent and incessant. This is impacting human wellbeing in various ways. There is a dire need to find ways to balance digital device usage. The traditional digital detox approach focuses only on digital fasting. Digital fasting is difficult as humans depend on these devices for work, education, safety, travel etc. This paper proposes innovative approach to digital detox. Instead of digital fasting, adding sensory and non-screen activities to daily schedule would restore and maintain well-being. This paper explores a new model - “Rekindle” for sustainable digital detox. The model is based on the rationale that continuous use of digital devices and screens leads to activation of sympathetic nervous system whereas sensory activities stimulate parasympathetic nervous system. In the model, there are three sensory activity levels which create respective mental states. First level is isolated sensory stimulation activity which leads to mental state of “Grounding”. Second level is multiple sensory stimulation activity that results to the mental state of “Engagement”. Third level is sensory stimulation and creation activity that leads to mental state of “Flow”. To validate the model and provide empirical support, thorough data gathering that includes both qualitative and quantitative elements is essential.

**Key words**

Digital detox, technostress, sensory stimulation, grounding, engagement, flow.

**Highlights**

- Specific sensory stimulation activities to restore wellness.
- Activities in the model create awareness and reduce screen dependency.
- Through this model, digital detox can be a part of a routine.
- Innovative approach to digital detox: Instead of digital fast, gain balance.

**Introduction**

Technology has evolved at a phenomenal pace in recent years, which has prompted the widespread use of digital devices and screens. Our daily lives have embraced technology, which is used for a variety of things like employment, education, hobbies, entertainment, and keeping up with news and information etc. All sectors, including professionals, independent contractors, home makers, students and even retirees can attest to the prevalence of digital gadgets. People of all ages today actively engage in using these digital tools, from infants to centenarians. Mirbabaie, M., et al. (2022) A recent study revealed that 33.1 million Germans use the Internet “multiple times a day”, and 11 million even state to use it “constantly, almost the whole time” (Statista 2020). Research clearly suggests that this excessive screen time hampers the wellbeing of individuals. Mirbabaie, M., et al. (2022), La Torre et al. (2019)

Various screen activities like binge-watching, mindless scrolling, gaming, online shopping and social media have significantly increased in recent years. Dragano and Lunau (2020) These pursuits keep us preoccupied all the time. In some ways, this extended interaction with technology has resulted in a dependency on them, which can be harmful. (Rosen, Whaling, Rab, Carrier, & Cheever, 2013) As many people seem to be fascinated with the virtual world, it is

affecting our capacity to fully engage in real-life experiences. (Berman, Jonides, & Kaplan, 2008). (Uhls et al., 2014). As a result, more and more individuals are working on auto pilot mode, which is impacting their quality of life. Numerous studies have shown that overuse of digital devices has negative impacts on users' health, highlighting a variety of physical and psychological problems. La Torre et al. (2019) Studies have reported numerous negative consequences of screens on both physical and psychological health. The term "technostress," which was coined by Craig Broad to describe the effect of technology use on wellbeing. Technostress, according to him, is a " modern disease of adaption caused by an inability to cope with the new computer technologies in a healthy manner." (Brod C. Technostress: The Human Cost of the Computer Revolution, Addison Wesley Publishing Company)1984.

The excessive use of digital devices has wide-ranging effects on various aspects of health and well-being. Plethora of research has established that overuse of devices impacts sleep patterns (Hale & Guan, 2015; Chang et al., 2015), metabolism, and weight management (Falbe et al., 2015), also other physiological factors like heart rate and blood pressure (Andreassen et al., 2016). This continuous use of technology and devices affects mental state, leads to increased stress (Tarafdar, D'Arcy, Turel, & Gupta, 2015), anxiety and irritation (Andreassen, Pallesen, & Griffiths, 2017), problem-solving abilities (Rosen et al., 2013).

## **1. New approach to digital detox**

The evolving use of technology, screens and its impact on wellbeing has created dire need to build activities and tools to reduce technostress. This need has led to the concept of digital detox. Digital detox means intentionally taking breaks for extended duration from screen, devices, and technology in general. Digital detox has become increasingly popular both as a concept and a practice over time. (Mirbabaie, Stieglitz, & Marx, 2022), Tarafdar et al. (2015)

There are several digital detox programs available today, including retreats, courses, and workshops. However, most of these programs place a strong emphasis on absolute digital device abstinence, which can be difficult given how necessary devices are for employment, school, and daily activities (Means et al., 2013).

A thorough assessment of the literature revealed that there is a lack of research on digital detoxification techniques, emphasizing the necessity of a sustainable transition (Mirbabaie, Stieglitz, & Marx, 2022). This study intends to close this gap by introducing an innovative digital detox model. This paper's main goal is to thoroughly examine and comprehend this novel model. Primary goal of the study is to focus on raising awareness and implementing sustainable changes in lifestyles (Berg-Beckhoff, Nielsen, and Larsen (2018).

The new model of digital detox takes a unique approach and recommends combining certain sensory activities with routine activities. These pursuits are meant to minimize the adverse impacts of excessive digital device usage and enhance overall well-being. Our article places a strong emphasis on incorporating detox techniques into daily routines as opposed to merely depending on short term digital fasts.

Our research proposes that digital detox to be considered as an essential lifestyle change rather than an interim fix. In the current digital age, individuals can achieve a healthier balance between their use of technology and their well-being through the adoption of this long-lasting and effective strategy.

## **2. Sensory stimulation and well-being**

In the proposed model, sensory activities play a crucial role in addressing how technology affects our sensory experiences. Using technology excessively can lead to two opposite effects: sensory overload and sensory deprivation. Sensory overload happens when we encounter an overwhelming amount of sensory information that is challenging to handle (Schmidt et al. (2008)), while sensory

deprivation refers to a lack of sufficient sensory input and reduced external stimuli (Sahoo et al. (2022).

In today's digital world, we often excessively use our sense of sight and hearing, while neglecting or numbing other senses. This heavy reliance on screens and devices can disconnect us from our surroundings, leading to sensory deprivation (Spence, 2015). As a result, we may experience stress, fatigue, and desensitization due to the imbalance in sensory stimulation (Carrier et al. (2015)) (Bartholow, Sestir, & Davis, 2005).

To reduce technostress, it's crucial to maintain a balanced sensory experience (Uhls et al., 2014). In this model, we strategically include sensory activities at various points to improve grounding, engagement, and eventually reach a state of flow. By incorporating these sensory activities, our aim is to establish a healthier relationship with technology and enhance overall well-being.

### **3. Rationale for the proposed model**

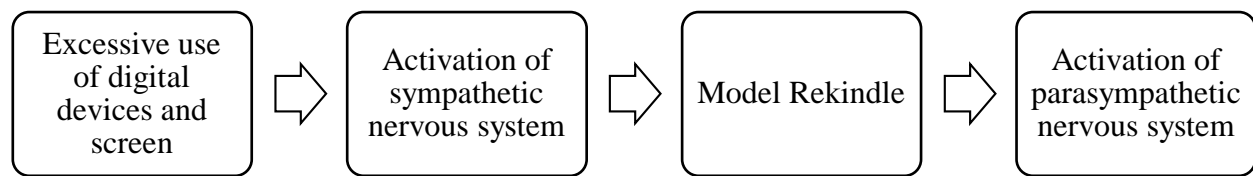
The autonomic nervous system is made up of sympathetic nervous system and parasympathetic nervous system. While dealing with stressful conditions, the sympathetic nervous system is activated. Once sympathetic nervous system is stimulated heart rate increases, pupils get dilated and digestion takes back seat etc. (Ciccarelli, 2021)

Excessive screen time and device leads to stress and anxiety, that results in activation of sympathetic nervous system. Continuous activation of sympathetic nervous system hampers physical and psychological well-being. (Smith et al., 2018; (Liu et al., 2018) Lissak, G. (2018). Parent, Sanders, and Forehand (2016); Zhou et al., 2015; Nyland et al., 2020). (Khalili-Mahani, Smyrnova, & Kakinami, 2019)

The parasympathetic nervous system, on the other hand, is crucial in helping our bodies recover from stress and restore regular function. It controls vital functions like assisting digestion, sustaining a steady heartbeat, and facilitating regular breathing. Low amounts of stress cause the parasympathetic nervous system to activate, which initiates relaxation (Ciccarelli, 2021). In

accordance with studies (Kornilova et al., 2020; Hanley et al., 2017; Jakubowski et al., 2017),

sensory interactions and grounding exercises are helpful at inducing relaxation and activating the parasympathetic nervous system.



#### 4. Proposed model: Model Rekindle

##### 4.1 Level 1: Grounding: Isolated Sensory Stimulation Activity

During this stage, individuals focus on grounding, relaxation, and isolated sensory stimulation to connect with their senses and surroundings. When using digital devices, we often rely heavily on sight and hearing, neglecting other senses. This lack of sensory engagement can lead to numbing or ignoring of other senses. Another possible outcome is sensory overload, where our senses experience excessive stimulation, like being stuck in a traffic jam or scrolling on a social media for a long time. This overload can negatively impact our well-being, leading to increased heart rate and fatigue. However, working on a single sense at a time can promote relaxation, lower heart rate, and enhance grounding. In the isolated stimulation stage, we focus on one sense at a time with subtle stimulation. These activities will eventually encourage mental state of grounding. Grounding expresses the nature of the psycho-physical presence in the “here and now” (Hilton, 2000; Meekums, 2002; Lowen, 2004; Guest et al., 2019)

Excessive use of devices leads to disconnect with self and environment. These isolated sensory stimulation activities will help individual to restore that connection to self, environment, and real life. This will not only reduce technostress but also lead to relaxation and awareness. Primary requirement of this stage is while doing activities no digital device or screen can be used.

**Example activities:**

1. Sit comfortably with closed eyes, take a deep breath, and focus on the sounds around you. Start with closer sounds and gradually notice farther ones, even trying to listen to the farthest sound possible.
2. Take a bowl of water, add few leaves, and soak your hands in it. Pay attention to the sensation of water and leaves.

These activities are very simple and require time around 10 minutes.

These activities should be conducted on daily basis.

**4.2 Level 2: Engagement: Multiple Sensory stimulation activity**

During this stage, individuals focus on engagement with multiple senses, self and surrounding. For example, individual can be engaged in sense touch and smell simultaneously. This stage aims to improve engagement, involvement in real life experiences.

Engagement refers to a deep psychological connection (e.g., being interested, engaged, and absorbed) to a particular activity, organization, or cause. ( Khaw and Kern 2015)

With excessive use of devices and screens it leads to poor engagement in real life experiences. That impacts general well-being. Activities in this stage aim to improve engagement in real life experiences.

Primary requirement of this stage is while doing activities no digital device or screen can be used.

**Example activities:**

1. Close your eyes, take a deep breath, and focus on sounds around you. Start with closer sounds and gradually notice farther ones, even trying to listen to the farthest sound possible. Do this while enjoying the smell of a scented candle.

2. Take a bowl of water, add a few leaves, and soak your hands in it. While feeling the water and leaves, try to smell the leaves or listen to the music. Other routine activities like folding clothes, walking barefoot on grass, or watering plants also promote engagement. The key is to paying attention to various sensory stimulations.

These activities are simple and can be part of a routine. These activities require around 15/20 minutes.

These activities should be conducted at least twice a week.

**4.3 Level 3: Flow: Sensory stimulation and Creation**

During this stage, participants use multiple senses to create something. Individuals in this state of flow can create objects, things, memories, experiences, music etc. characterized by deep psychological connection and absorption in the task.

Csikszentmihalyi (1990, 1997) defines the flow state as a single-minded immersion, an optimal state of concentration on an intrinsically motivating task. In this state individuals may also lose sense of time. Csikszentmihalyi (1990, 1997)

Primary requirement of this stage is while doing activities no digital device or screen can be used.



**Example activities:**

1. Building a house of cards, creating a stone tower, playing with Legos (building blocks), painting, or engaging in any form of art or DIY (Do It Yourself) project.
  
2. Activities like creating music, playing sports, hiking, dancing, crafting, model-making, perfume-making, cooking, pottery, doodling etc.

These activities require around 50/60 minutes.

These activities should be conducted at least once a week.

**Model Rekindle:**

Sensory Activity Level	Leading Mental State Level
Isolated sensory stimulation activity →	Grounding
Multiple Sensory stimulation activity →	Engagement
Sensory stimulation and Creation →	Flow



**5. Limitations**

To fully understand the diverse effects of various screen activities and technological interactions on human wellbeing, more research is necessary. It is crucial to develop a range of workshops and courses to increase the usefulness and efficacy of the model. To validate the model and provide empirical support, thorough data gathering that includes both qualitative and quantitative elements is essential. Additionally, to test the model's applicability in multiple contexts, data collection from a variety of age groups and occupations is also important.

## 6. Implications

In summary, this model provides sustainable digital detox model to reduce techno stress and to restore well-being. This model makes digital detox enjoyable and impactful, allowing you to take care of yourself and utilize your time more effectively. This model does not require complete abstinence from screens but promote healthy balance between device usage and non-screen/ non-device activities. If one can add these sensory activities to their routine, that will create a balance between device usage and restoration, relaxation. This model also aims to create awareness and reduce screen dependency. Through this model digital detox can be a lifestyle change.

“We must learn to reawaken and keep ourselves awake, not by mechanical aids, but by an infinite expectation of the dawn, which does not forsake us even in our soundest sleep. I know of no more encouraging fact than the unquestionable ability of man to elevate his life by a conscious endeavor.” — Henry David Thoreau, Walden

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