

Balancing Act: Navigating Media Multitasking's Effects on Mental Fatigue and Wellbeing in University Students

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ABSTRACT

This study delves into the impact of media multitasking on university students' mental fatigue and psychological wellbeing. It examines how multitasking across technological platforms affects cognitive load and emotional states, using a self-regulated learning perspective. By analyzing empirical data and theoretical frameworks, the study uncovers the consequences of excessive multitasking on students' learning regulation and psychological health. The findings provide insights for educators, policymakers, and students to promote a balanced approach to technology use, fostering improved learning outcomes and overall wellness amidst digital immersion. In today's digital age, where students often navigate a multitude of tasks across various technological platforms simultaneously, concerns have arisen regarding the potential repercussions on their mental and emotional health. This study delves into this phenomenon, investigating how media multitasking impacts university students' levels of mental fatigue and psychological wellbeing. Through the lens of self-regulated learning, the study explores the intricate relationship between multitasking behaviors and cognitive load, as well as their effects on emotional states. Drawing on empirical evidence and theoretical frameworks, the study sheds light on the implications of excessive media multitasking for students' ability to effectively regulate their learning processes and maintain optimal psychological health. The findings of this study offer valuable insights for educators, policymakers, and students themselves. They highlight the need for a balanced approach to technology use, emphasizing strategies that promote enhanced learning outcomes and overall wellness in the digital age.

Key Words: Media multitasking, Self-regulated learning, University students, Psychological wellbeing, Digital distractions.

Background of the Research:

Expanding admittance to media in the 21st century has prompted a quick ascent in the

pervasiveness of Media Performing various tasks (synchronous utilization of numerous media streams). Media Performing multiple tasks is consuming different media at the same time — for instance, having an errand behind the scenes while utilizing a Cell phone (Rideout et al., 2010). Such way of behaving is related with different mental contrasts, for example, trouble filtering through diverting data, and in this manner represents an expanded gamble of Mental Weakness.

Mental or Cognitive Fatigue (CF) can be characterized as a reduction in mental assets creating over the long haul on supported mental requests, freely of drowsiness (Foehr, 2017). Long haul mental exercises normally cause Mental Fatigue, chiefly sleepiness, trouble concentrating, diminished sharpness, confused thinking, slow response, laziness, and decreased work proficiency, mistake inclined, etc. Mental exhaustion has turned into a boundless sub-medical issue and seriously affects the mental capability of the mind (Li et al., 2020). Individuals who are routinely besieged with a few floods of electronic data don't focus, control their memory, or change starting with one work then onto the next as well as the people who normally like to finish each job in turn, a gathering of Stanford scientists has found (Gorlick et al., 2009).

Problem Statement:

The purpose of the present study is to determine whether using multiple Media devices, such as laptops and mobile phones, among university students leads to Mental Fatigue and how Self-Regulated Learning can act as a mediating variable in the modification of Mental Fatigue. With the inability to self-regulate, students can face Mental Fatigue, which may adversely affect their emotional relations and daily functions (TF Heatherton, 2011). The human mind can focus on one stimulus at a time, and other tasks run in the background. Over time, Media Multitasking may lead to a lesser span of attention. Focusing on one issue at a time is significant as the students born in this era are exposed to various external stimuli. In a digital world that has made work faster, slower memory processing leads to erroneous results and affects their overall mental capacity to perform efficiently (Rideout et al., 2010).

Research Questions:

1. Is there a significant relationship between Media Multitasking and Self-Regulated Learning?
2. Does Media Multitasking lead to an increase in Mental Fatigue?
3. What effect does Self-Regulated Learning have on Mental Fatigue?

Research Objectives:

1. To explore the relationship between Media Multitasking and Self-Regulated Learning of University Students.
2. To find out whether Media Multitasking leads to an increase in Mental Fatigue of University Students.
3. Find the effect between Mental Fatigue and Self-Regulated Learning.
4. To learn about the impact of Mental Fatigue and Psychological Well-Being on University Students.

The Role of Media-Multitasking:

The ability of the human brain system to manage and complete several concurrent tasks is one of its most outstanding features (Salvucci & Taatgen, 2008). For example, in 2009, 60 percent of TV viewers used the Internet and watched TV simultaneously (Nielsen, 2009). In 2010, a similar analysis was carried out where Nielsen also showed in his analysis that Americans were using TV and the Internet together 35 percent more than the year before (Nielsen, 2010).

Literature shows that when using computers, people increasingly engage in more than one type of media activity at a time, which might influence how they respond to what they encounter in these media. Furthermore, an American Life Project (2001) study reflected that approximately 61% of young IM users multitasked with different levels of involvement (Voorvield, 2011).

Recent research on multitasking, however, indicates that certain people may possess greater multitasking skills and can do so at a low cost (Medeiros-Ward et al., 2015; Watson & Strayer, 2010). As they are by definition those who regularly multitask, some heavy media multitaskers may also develop superior multitasking skills via practise.

Media Multitasking has increased among teenagers, with the average American aged 8 to 18 spending 29% of that time doing it, up from only 16% a decade ago (Rideout et al, 2010). Specifically, ninety-nine percent of adults spend an average of 2 hours per day conducting two or more media activities simultaneously; text communication is another likely activity to be conducted simultaneously with another media or communication activity. Conversely, listening to the radio is the least likely activity to be carried out simultaneously since this activity is usually conducted while traveling (Ofcom, 2015).

In recent years, social media has become one of the most popular media choices for multitasking. Several early researches found links between extensive media consumption and mental health issues, which is in line with these worries. Psychological Well-Being includes both psychopathologies, including depression and anxiety. In addition, the hedonic and eudemonic aspects include positive and negative emotions, happiness, purpose, and meaningfulness. (Ruini, C., & Cesetti, G. (2019).

There are at least two distinct types of Media Multitasking: (1) using several media at once, and (2) using media while performing non-media-related tasks (Baumgartner et al., 2014; Jeong & Hwang, 2012; Wallis, 2010). The first sort of Media Multitasking involves utilizing two separate media simultaneously (for example, watching TV and using a phone at the same time) or performing multiple tasks on a single device (for example, using a laptop to watch movies and buy online at the same time) (Yeykelis et al., 2014). The second sort of Media Multitasking involves using media while preoccupied with non-media responsibilities, such completing homework assignments and interacting with people in person. Multimedia is frequently employed during academic activities, especially among teenagers and emerging adults (Wallis, 2010).

The underlying premise of the existing research is that kids who frequently engage in Media Multitasking eventually lose the ability to focus on a single activity because they become accustomed to constantly switching between activities (Wallis, 2006, 2010).

High Media-Multitaskers may have a better propensity for bottom-up attention management and focus their attention more broadly, at the sacrifice of detail, according to (Ophir et al., 2009). They contrast with their LMM counterparts, who tend to manage attention top-down and have a narrower focus of attention. A research by Cain and Mitroff (2011) that employed an attention-grabbing task to demonstrate similar disparities between people scoring low and high on the MMI corroborated this point of view. The Media- Multitasking Index (MMI) was created by Ophir, Nass, and Wagner (2009) to assess self- reported Media-Multitasking habits across a range of media (e.g., print media, texting, music, and social sites).

Media-Multitasking in Students:

An exploratory study on Students' Multiple Media Uses and Behaviors in Karachi found that the majority of the respondents used PCs to access the internet, whereas those who did not multitask were more likely to use smart phones and other devices. This study also reveals the effects of gender, income, and ethnicity on the Media Multitasking behaviors of youth (Ahmed, et al., 2016).

Laptops and mobile phones mainly cause distraction among students doing coursework because they make it simple for students to access alternative media sources like e-mail, Facebook, or Instant Messaging (IM). 1839 students participated in a survey-based study that found that accessing Facebook while performing academics had a detrimental impact on overall semester GPA. It was hypothesized that using Facebook or texting while doing schoolwork could stress pupils' cognitive processing abilities and prevent them from learning more deeply (Junco & Cotton, 2012).

Different impacts were noted in an experimental paradigm assessing the impact of laptop multitasking on reading comprehension and task performance. Students' academic performance is significantly impacted by the deeply entrenched media-multitasking mental habits of dividing attention, switching focus, and maintaining numerous trains of thought. According to the research, Media Multitasking impairs working memory and attention, which has an adverse effect on efficiency, self-control, recall, test performance, reading comprehension, and note-taking. These effects have been proven in both student study sessions and in-class activities mainly lectures.

Although earlier research mostly focused on the usefulness of media, more recent research has connected media use with feelings of boredom, melancholy, and poor academic performance (Rideout et al., 2010). More recently, exploration in the scientific field has begun to focus on understanding how the concurrent expending of multiple forms of media influences cognition and behavior.

Undue Media Multitasking, such as using laptops and smart phones, has been associated with poorer performance in adults on a variety of cognitive laboratory tests. When

comparing individual variations among a group of teenagers, it was discovered that Media Multitasking in daily life was linked to poorer grades on extensive standardized achievement exams in Math and English. The laboratory test subject performed the worst on behavioral assessments of executive processes, specifically working memory capacity (Matthew et al., 2016).

In a 30-minute video recorded lecture, students were asked to respond to messages delivered by researchers at regular intervals, and previous researchers looked at the effects of this on test performance. On an information post-test, students in the high text messaging group scored 10.6% lower than those in the text messaging group, which was a performance decline of one letter grade. The majority of participants—nearly three-fourths—felt that texting while in class was disruptive to learning. Despite this, 40% of students believed texting in class was acceptable (Carrier & Cheever, 2011).

Additionally, research showed that one of the most frequently combined media tasks was listening to music; 91% of the sample combined music with web surfing, 87% with offline computer tasks, and 90% with e-mailing (American Life Project, 2001).

Similar to the studies discussed above, Media Multitaskers revealed markedly reduced efficiency. When participants received their sources on a computer without internet access as opposed to a computer with internet access, report quality was, however, noticeably higher. Additionally, actively using paper for note-taking greatly lessened the detrimental effects of Internet access (Subrahmanyam et al., 2013).

People are definite that multitasking is a great way to work. They believe that two or three tasks can be done together, and they assert that it will not bargain the quality of their produced work. Thus, nearly everyone performs multitasking on mutual grounds; lawyers have deadlines to fulfill, so they multitask; people want to get more things done in a shorter time, so they multitask. Technology bridges us to the office and clients around the clock, so we tend to multitask. There are cases when we even receive a call or a text message from our friends at the time we are walking on the road or crossing the street. Multitaskers lose the desire to concentrate, and the more plugged in we are in this world of technology, the less time we have to sit and ponder (Holmes, 2008).

Indeed, there has been an upward trend in multitasking through the years, and there is increasing research evidence proving its effects on task performance. Multitasking has been shown to puts the brain in a complex situation. Switching between the various tasks leads to much time lost as the brain has to choose and determine which task to perform. It means that when it comes to handling two things at once, the brain, while fast, is not that fast. For example, in research, it was revealed that while multitasking has the effect of lowering task performance, it does so by increasing the levels of emotional strain (Paridon & Kaufmann, 2010).

Media-Multitasking and Mental Fatigue:

The effects of multitasking are shown not only in task performance but also in cognitive fatigue. The research concluded that students chatting via text while reading a passage

from a textbook took 21% more time than those who did not multitask (Wang & Tchernev, 2012). Additionally, multitasking is likely to distract and impair comprehension (Jeong & Hwang, 2012).

Similar studies analyzing the relationship between Mental Fatigue and academic performance discovered that social media use intensity was the best indicator of Mental Fatigue. Self-disclosure and online social comparison were important view predictors as well. The results further demonstrate categorically that Mental Fatigue causes academic performance to decline (Malik et al., 2021).

The Nature of Media-Multitaskers:

Although it is generally accepted that Media Multitasking can cause intrusion, there is a persistent disagreement on the exact nature of such interference (Baddeley, 1986; Cowan, 2005; Hazeltine et al., 2006).

Some investigators debate that the non-specific or domain-general cognitive abilities are distinctive to the human mind (Samuels, 1998; Fodor, 2000). For the domain-general school, the claim is that the serial nature of a central stage of response assortment is why there is intercession in multiple-task performance (Han & Marois, 2013). When we aim to do two sensory-motor tasks simultaneously, the reaction to the second task is usually delayed (Welford, 1952). Since only a single response selection operation can proceed at a time, a central bottleneck would happen when there is the competitiveness of two or more tasks (Meyer & Kieras, 1997; Pashler, 1994; Smith, 1967; Welford, 1967).

Students still multitask with media even if they are aware of the possible drawbacks. Students minimize the long-term impact of media on learning, according to a poll that looked at responses to questions about the frequency and length of media use in a psychology introductory course. Students show low awareness of how Media Multitasking affects their academic performance (Ravizza et al., 2014). In a different study, 88 college students' responses to a questionnaire concerning their attitudes toward using technology in class and their impartial perceptions of whether multitasking affects study time were considered (Elder, 2013).

However, people engross in Media-Multitasking to gratify their professional goals and—if not chiefly—meet their social and emotional needs. Studies demonstrate that one of the main reasons people use their mobile devices is to establish strong communication with others which is the most prevalent reasons for in-class smart phone usage are texting, using social media, or emailing (Burns & Lohenry, 2010; Junco, 2012; Junco & Cotten, 2012).

It was shown that the need for connection with family and friends via social media consumes about 28% of a worker's day, which further leads to inefficacy in task performance and creates difficulty in mentally reverting to the main task (Brooks, 2015). Also, Media-Multitasking serves vital emotional goals. Research shows that people engage in additional media tasks to modulate their affect and obtain emotional satisfaction. For instance, the characteristic of Multitasking is positively correlated with sensation seeking (Jeong & Fishbein, 2007; Sanbonmatsuetal., 2013) and enjoyment (Chinchanachokchai et al., 2015; Xu & David,

2018).

On the other hand, research has shown that boredom, fatigue, or anxiety evoked by demanding activities all instigate Multitasking (Lin, 2013). Further, the results from one of the studies also suggest that Media-Multitasking might be used to cope with uncertainty about the future (Judd & Kennedy, 2011). A unique emotion often discussed in the Media-Multitasking context is the fear of missing out (FOMO). Characterization of a widespread worry that others might be having rewarding experiences that the other person is missing, and it is characterized by the urge to continuously stay connected with what others are up to (Przybylski et al., 2013).

Conclusion:

There were numerous researches that have been investigated the role of Media Multitasking and Mental Fatigue and several researches have established its link with the Psychological Well-Being of the students. However, there is a lack of researches specifically on the role of Self-Regulated Learning acting as a moderator especially in the context of University Students. Therefore, this research highlighted the relationship between Media Multitasking and Mental Fatigue with the role of Self-Regulated Learning. The resulting Psychological Well-Being is also taken into account. Thus, the findings of the literature review will aid in making the research commendable. There is also a lack of guidance in Self-Regulation techniques used by the students keeping in view the system of education in Pakistan. There should be opportunities in working on those soft skills. Despite these limitations, the current findings significantly advance our knowledge of the research's future course that universities should plan some interventions like training for the students for exploring their learning methods for bringing an overall positive change in society. The students should be given logical exercises as well as social skills practice to analyze their thinking abilities and expand their vision for curiosity in learning. Thus the present findings may be a stepping stone for the successful conduction of counseling sessions in universities for students to explore themselves to know their strengths.

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