

Article

The Impact of Multitasking on Productivity and Time Management

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Abstract: In today's fast-paced world, people often try to deal with several tasks at the same time. It has become especially common among students and young people because of the widespread use of smartphones, social media, and digital technologies. Multitasking is generally understood as performing more than one activity simultaneously or frequently switching between different tasks. Many people believe that multitasking helps them save time and accomplish more during the day. However, it may not always lead to better productivity. When attention is divided between several activities, there is a higher possibility of making more mistakes, losing concentration, and spending more time completing their work. Based on a structured review of peer-reviewed studies in cognitive psychology, education and management, this article examines the impact of multitasking on productivity and time management. It also examines its possible advantages and disadvantages, its influence on attention and memory, and its role in students' daily lives. The discussion shows that multitasking can be useful in certain situations, but focusing on one important task at a time can often be more effective when a high level of concentration is required.

Keywords: multitasking, task-switching, productivity, time management, concentration, attention-demanding task, memory, attention.

1. Introduction

Life has become faster and more demanding than ever before. Therefore, people are expected to study, work, communicate with others, complete household responsibilities, and deal with many personal tasks within a limited amount of time to keep up with the fast-paced nature of modern life. For students in particular, managing time can be more challenging these days. They have to attend classes, prepare assignments, study for examinations, communicate with friends, participate in different activities, and still find time for themselves. Because of this, the ability to use time effectively has become an important skill. One common way to save time is doing several tasks at one time. The ability to perform parallel tasks is called multitasking [1]. In cognitive research a distinction is drawn between genuinely simultaneous performance and rapid switching between tasks, and most of what is called multitasking in everyday life belongs to the second category [2]. According to Lin et al., as cited in Halim and Halim, multitasking has become increasingly common in the modern work environment because of growing work pressure and the lack of time [3]. Therefore, people attempt to deal with several tasks at once rather than concentrating on one task. For example, a student may study while checking messages on a phone, listening to music, or browsing social media. Similarly, a person may watch a video while eating, or watch television and cook at the same time.

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Such behaviour has become a normal part of everyday life, and it has both positive and negative sides.

The prevalence of this behaviour among students is well documented. Observational research shows that students turn to social media and messaging within a few minutes of beginning to study [4], and that people who multitask heavily with media differ from light multitaskers in their ability to filter out irrelevant information [5]. Research on time management, in turn, treats the planning and protection of attention as a distinct skill that predicts both academic performance and the perceived control over one's own time [6], [7]. Despite this body of work, the findings are reported separately in cognitive psychology, education and management journals, and students are rarely presented with an integrated account of when multitasking helps and when it does not. The aim of this article is therefore to synthesise the available evidence on the effects of multitasking on productivity and time management and to identify the conditions under which multitasking is beneficial or harmful. Three questions guide the review: first, what benefits of multitasking are reported in the literature; second, what costs to productivity, accuracy and time use are reported; and third, how multitasking affects attention and memory in learning contexts.

2. Materials and Methods

Please This article is based on a structured narrative review of the published literature on multitasking, productivity and time management [8]. The review procedure follows the general reporting logic of systematic review guidance, adapted to the scope of a qualitative synthesis [9].

Sources were identified through searches of Google Scholar, PubMed, ScienceDirect and open-access journal repositories, using combinations of the keywords "multitasking", "task switching", "media multitasking", "interruption", "productivity", "time management", "attention" and "academic performance". Works were included if they reported empirical findings, a neuroimaging study or a review concerning the performance effects of multitasking; if they were published in peer-reviewed journals or conference proceedings; and if they were available in English. Anecdotal and non-peer-reviewed material was excluded. Both classical studies that established the underlying cognitive mechanisms and recent studies conducted in digital learning environments were retained, so that the mechanism and its contemporary form could be considered together.

The selected works were then analysed thematically. Findings were extracted and grouped into three categories corresponding to the research questions: reported benefits, reported costs to productivity and time use, and effects on attention and memory. Within each category the evidence was compared in terms of the type of task examined, the population studied and the outcome measured. Because the included studies use different designs — laboratory experiments, eye-tracking studies, field observation and self-report surveys — no statistical pooling was attempted. The synthesis is qualitative, and the results are presented as converging or diverging patterns of evidence rather than as a single quantitative estimate.

3. Results

It 1. Reported benefits of multitasking

Multitasking, or task switching, has been a topic of discussion for several years, as people try to keep pace with the high demands of life [3]. The reviewed literature indicates that it can provide several benefits when it is used appropriately.

Saving time. One of the main advantages of multitasking is that it can help individuals make better use of their available time. When two simple or routine activities can be performed together, people do not necessarily need to complete them separately.

For example, a student can listen to an educational podcast while travelling to university. In this situation, the student spends travelling time effectively.

Managing several responsibilities. Multitasking can also be useful for people who have many responsibilities to manage. When people perform less demanding tasks at the same time, such as cooking while watching television or answering calls while doing household chores, the combination does not affect them negatively, because the level of concentration required is low [3]. This pattern is consistent with multiple-resource accounts of attention, which predict that two activities interfere far less when they draw on different perceptual and response channels, such as listening and manual work [10].

Increasing flexibility. Another positive aspect of multitasking is that it can make people more flexible when plans change unexpectedly. Individuals who are able to switch between tasks may respond more quickly to new demands or urgent situations. According to Robson, as cited in Halim and Halim, engaging in more than one activity can stimulate the mind and increase alertness [3]. This ability can be particularly useful in workplaces where employees frequently receive new requests or have to deal with several responsibilities at once. Experimental work also indicates that a very small minority of individuals show almost no measurable dual-task cost; however, this group represents only about two per cent of those tested, and the overwhelming majority do incur such costs [11].

2. Reported costs to productivity, accuracy and time use

The negative aspects of multitasking should not be overlooked. Despite the potential benefits described above, the reviewed studies report that multitasking can create substantial problems for productivity and time management, particularly when people attempt to carry out several attention-demanding tasks simultaneously.

Reduced productivity. One of the main disadvantages of multitasking is that it may reduce work efficiency. People often believe that doing several things at the same time allows them to finish more work. However, if tasks require concentration, constantly moving between them may make the process slower. For example, when workers are required to handle multiple tasks simultaneously, frequently switching between them negatively affects their productivity; this problem can be reduced by giving workers a new task only after they have completed the previous one [12]. Laboratory work on dual-task performance identifies the underlying reason: when two tasks both require a central decision stage, one of them must wait, so that total completion time increases rather than decreases [13].

Increased number of errors. Neuroimaging studies confirm that the brain cannot process multiple attention-demanding tasks at the same time; rather, it switches rapidly between them [14]. This can lead to more errors [3]. When attention is divided, people may overlook important details or misunderstand information. For example, a student who writes an academic assignment while constantly checking social media notifications may make more grammatical or logical mistakes than a student who works without interruption.

Poor time management. Although multitasking is often associated with saving time, it can have the opposite effect. Frequent interruptions and task switching may require additional time to recall where a person stopped and what needs to be done next. As a result, a task that could have been completed in a short period may take considerably longer. In one study, participants performed a single task faster than when they engaged in two or more activities [15]. Experimental work on interruptions explains part of this cost: the time needed to resume a suspended task increases with the duration and the cognitive demand of the interruption, because the interrupted goal has to be retrieved from memory again [16]. A related effect, termed attention residue, persists after the switch, since part of attention remains with the previous task and impairs performance on the new one even after the person has formally moved on [17].

Mental fatigue and increased stress. Another disadvantage is mental fatigue. Continuously switching between different tasks requires cognitive effort, especially when the tasks are complex. Over time, this can make individuals feel mentally exhausted and stressed. A study involving 40 professionals showed that, out of 16 variables, 14 supported the view that multitasking causes stress and affects participants' mood, health and social relationships [3]. Field research in office settings points in the same direction: interrupted work may be completed faster, but at the cost of higher stress, greater frustration and greater perceived effort [18]. Multitasking may therefore affect not only the quantity of work but also the individual's energy and motivation.

Lower quality of work. Multitasking may also affect the quality of the final result. Complex activities such as academic writing, problem-solving, reading and creative work require a high level of attention. If a person frequently interrupts these activities, they may have difficulty developing ideas deeply and producing high-quality work. It has been found that multitasking reduces the quality of work compared with carrying out the same tasks in sequential order [12]. The safety-critical version of the same finding comes from driving research, in which conversing on a telephone while driving produced slower reactions and a greater number of missed signals, even when the conversation itself was simple [19].

3. Effects on attention and memory

The effects of multitasking are particularly important when cognitive processes such as attention and memory are considered. Since attention is limited, dividing it among several demanding activities influences how information is processed and remembered. When people try to concentrate on several demanding activities, they may not give sufficient attention to any single task, which reduces their ability to understand information deeply. For example, a student who reads a textbook while responding to messages may read the words but fail to fully understand or remember the content. In many cases, multitasking does not in fact mean that the brain performs two complex tasks simultaneously; instead, attention switches rapidly from one task to another, and every switch requires the person to refocus on the new activity. As a result, the tasks take longer to complete.

Multitasking also influences memory, because information needs sufficient attention to be encoded effectively. If a person is distracted while receiving new information, that information may not be processed deeply enough to be stored and recalled later. For students this is especially problematic, because learning requires concentration, understanding and the ability to recall information afterwards. The problem becomes more noticeable when the information is complicated or unfamiliar: learning a new concept, reading an academic article or memorising vocabulary requires focused mental processing.

Experimental studies in learning settings support this account. Students who exchanged instant messages while reading a passage needed significantly more time to complete the reading, even where their comprehension scores were not always lower [20]. Students who used laptops for unrelated activities during a lecture scored lower on a subsequent test, and so did peers seated within view of those screens [21]. Survey research links the frequency of in-class technology use and social media use to a lower grade point average [22], [23], and to higher anxiety and lower satisfaction with life among university students [24]. In line with these findings, analysis reported in the reviewed literature states that when students perform multiple tasks during class, this may lower their college grade point average [3]. Where such activities are accompanied by frequent phone checking, conversations or unrelated tasks, the individual remembers less information and requires more time to learn it. Repeated multitasking of this kind may create an inefficient working pattern in which individuals become accustomed to constant interruptions, and this can make sustained concentration more difficult.

4. Discussion

The results indicate that the effects of multitasking are not uniform but depend systematically on the characteristics of the tasks that are combined. Where the reviewed studies report benefits, the activities involved are routine, well practised and draw on different channels, such as listening while walking or manual work accompanied by auditory information. Where they report costs, the activities compete for the same limited central resource, so that one of them must wait [10], [13]. The apparent contradiction in the literature largely dissolves once this distinction is made: multitasking is not a single behaviour with a single effect, but a family of behaviours whose consequences depend on how much central attention each component demands.

A second pattern concerns the mechanism through which time is lost. The evidence suggests that the cost of switching lies not only in the switch itself but in what remains afterwards. Resumption of an interrupted task takes longer as the interruption becomes longer or more demanding [16], and part of attention stays with the previous task even after the person has moved on [17]. This helps to explain why subjective estimates of multitasking efficiency are usually higher than measured performance: individuals perceive the time spent on each task, but not the reconstruction time between them.

A third pattern is the discrepancy between speed and cost. Interrupted work in office settings is not always slower in absolute terms, but it is completed under higher stress and with greater effort [18]. Similarly, students who multitask while reading may eventually reach comparable comprehension, but only after spending substantially more time [20]. Productivity measured only as output therefore underestimates the true cost of multitasking, which appears in the form of fatigue, stress and additional time.

For students, the practical implications are relatively specific. Routine and low-demand activities may reasonably be combined, and grouping them together frees time for work that requires concentration. Tasks that demand learning, analysis, creativity or problem-solving are better protected in uninterrupted blocks, with notification sources removed for the duration of the block rather than resisted during it. Because the cost of an interruption grows with its length and demand, a short deferral of an incoming request is generally less damaging than an immediate switch. These practices correspond to established findings in the time-management literature, in which control over time is exercised through planning and the protection of attention rather than through the speed of execution [6], [7].

The study is subject to limitations. It is a qualitative synthesis rather than a meta-analysis; no statistical pooling was performed, and the included studies differ in design, population and outcome measure, so that the findings should be read as converging evidence rather than as a precise estimate of effect size. Much of the evidence concerning student multitasking is self-reported and correlational, which does not establish the direction of causation: students with weaker concentration may be more inclined to multitask, rather than the reverse [22], [23]. Finally, the reviewed studies were conducted predominantly in North American and European settings, and evidence from Central Asian educational contexts remains scarce. Future research could usefully test these relationships among students in Uzbekistan, combining self-report measures with objective records of task-switching behaviour.

5. Conclusion

In this fast-paced life, people often try to complete several tasks simultaneously. Although there is a common view that multitasking is an effective way to save time by managing several different tasks at once, its costs in terms of memory and attention should be taken into consideration. Its effectiveness depends mainly on the type and complexity of the tasks being performed. Combining simple activities that require little attention may save time, whereas performing several cognitively demanding tasks simultaneously can reduce attention, memory, productivity and the quality of work. Tasks

that require deep concentration are therefore generally better completed separately. In short, multitasking should be viewed as a tool rather than as a universal solution to time-management problems.

REFERENCES

- [1] M. Marchewka, J. Nesterak, M. Sołtysik, W. Szymła, and M. Wojnarowska, "Multitasking effects on individual performance: An experimental eye-tracking study," *European Research Studies Journal*, vol. XXIII, no. 1, pp. 107–116, 2020, doi: 10.35808/ersj/1539.
- [2] J. S. Rubinstein, D. E. Meyer, and J. E. Evans, "Executive control of cognitive processes in task switching," *Journal of Experimental Psychology: Human Perception and Performance*, vol. 27, no. 4, pp. 763–797, 2001.
- [3] T. Halim and S. Halim, "Multitasking and its impact on 21st century professionals," *Journal of Jilin University (Engineering and Technology Edition)*, doi: 10.17605/OSF.IO/AZDRW.
- [4] L. D. Rosen, L. M. Carrier, and N. A. Cheever, "Facebook and texting made me do it: Media-induced task-switching while studying," *Computers in Human Behavior*, vol. 29, no. 3, pp. 948–958, 2013.
- [5] E. Ophir, C. Nass, and A. D. Wagner, "Cognitive control in media multitaskers," *Proceedings of the National Academy of Sciences*, vol. 106, no. 37, pp. 15583–15587, 2009.
- [6] B. J. C. Claessens, W. van Eerde, C. G. Rutte, and R. A. Roe, "A review of the time management literature," *Personnel Review*, vol. 36, no. 2, pp. 255–276, 2007.
- [7] T. H. Macan, "Time management: Test of a process model," *Journal of Applied Psychology*, vol. 79, no. 3, pp. 381–391, 1994.
- [8] H. Snyder, "Literature review as a research methodology: An overview and guidelines," *Journal of Business Research*, vol. 104, pp. 333–339, 2019.
- [9] M. J. Page et al., "The PRISMA 2020 statement: An updated guideline for reporting systematic reviews," *BMJ*, vol. 372, art. no. n71, 2021.
- [10] C. D. Wickens, "Multiple resources and performance prediction," *Theoretical Issues in Ergonomics Science*, vol. 3, no. 2, pp. 159–177, 2002.
- [11] J. M. Watson and D. L. Strayer, "Supertaskers: Profiles in extraordinary multitasking ability," *Psychonomic Bulletin & Review*, vol. 17, no. 4, pp. 479–485, 2010.
- [12] T. Buser and N. Peter, "Multitasking," *Experimental Economics*, vol. 15, no. 4, pp. 641–655, 2012, doi: 10.1007/s10683-012-9318-8.
- [13] H. Pashler, "Dual-task interference in simple tasks: Data and theory," *Psychological Bulletin*, vol. 116, no. 2, pp. 220–244, 1994.
- [14] E. Y. Momoh, M. Adamu, and A. A. Isa, "The effects of multitasking on cognitive performance and productivity: A comparative analysis," *Journal of Management Science and Entrepreneurship*, vol. 9, no. 7, 2025, doi: 10.70382/bejmse.v9i7.042.
- [15] K. P. Madore and A. D. Wagner, "Multicosts of multitasking," *Cerebrum*, vol. 2019, art. no. cer-04-19, Apr. 2019.
- [16] C. A. Monk, J. G. Trafton, and D. A. Boehm-Davis, "The effect of interruption duration and demand on resuming suspended goals," *Journal of Experimental Psychology: Applied*, vol. 14, no. 4, pp. 299–313, 2008.

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- [17] S. Leroy, "Why is it so hard to do my work? The challenge of attention residue when switching between work tasks," *Organizational Behavior and Human Decision Processes*, vol. 109, no. 2, pp. 168–181, 2009.
 - [18] G. Mark, D. Gudith, and U. Klocke, "The cost of interrupted work: More speed and stress," in *Proc. SIGCHI Conf. Human Factors in Computing Systems (CHI '08)*, Florence, Italy, 2008, pp. 107–110.
 - [19] D. L. Strayer and W. A. Johnston, "Driven to distraction: Dual-task studies of simulated driving and conversing on a cellular telephone," *Psychological Science*, vol. 12, no. 6, pp. 462–466, 2001.
 - [20] L. L. Bowman, L. E. Levine, B. M. Waite, and M. Gendron, "Can students really multitask? An experimental study of instant messaging while reading," *Computers & Education*, vol. 54, no. 4, pp. 927–931, 2010.
 - [21] F. Sana, T. Weston, and N. J. Cepeda, "Laptop multitasking hinders classroom learning for both users and nearby peers," *Computers & Education*, vol. 62, pp. 24–31, 2013.
 - [22] R. Junco and S. R. Cotten, "No A 4 U: The relationship between multitasking and academic performance," *Computers & Education*, vol. 59, no. 2, pp. 505–514, 2012.
 - [23] P. A. Kirschner and A. C. Karpinski, "Facebook® and academic performance," *Computers in Human Behavior*, vol. 26, no. 6, pp. 1237–1245, 2010.
 - [24] A. Lepp, J. E. Barkley, and A. C. Karpinski, "The relationship between cell phone use, academic performance, anxiety, and satisfaction with life in college students," *Computers in Human Behavior*