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Artificial Education: Coping Mechanisms of the Modern-Day Digital Reader in Lower Middle-Income Countries: A Lebanese Case Study of Generation Z

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Abstract
The purpose of this research is to investigate the coping mechanisms of students when engaging in academic online reading material. The study is a qualitative study that examined data collected from semi-structured focus group interviews from a convenient, non-random sample of 14 students taking Advanced Academic English (202) in a private, English-speaking university in a lower middle-income country, Beirut, Lebanon, during the academic years of Spring 2023, Summer 2023 and Fall 2023. The findings seem to suggest that students likely engage in using digital technology tools and shortcuts as well as artificial intelligence applications as coping mechanisms due to "screen inattentiveness", pressure in the form of "grade fixation", information overload, distractions through dopamine deprivation as well as academic, extracurricular, and environmental stressors. With academic anxiety increasing among Generation Z in Lower Middle-Income Countries, this may likely suggest intervention programs that enhance mental and emotional well-being in addition to digital and artificial intelligence literacies programs to enhance students' critical thinking skills while using digital technologies. Further research on assisting students to overcome such emotional burdens to enhance their performance is required, while tapping into a larger, more comprehensive sample.

Keywords: digital media, artificial intelligence, information overload, text anxiety, grade inflation, distractions

Introduction

A renowned Greek philosopher by the name of Heraclitus in the 6th century B.C. was once quoted to have said, "You can never step into the same river twice" denoting that the only constant in life is continuous change. Fast forward time some 2,625 years to the modern-day world, the words of this ancient sage could not have been more pronounced. With the revolution of information communication technology (henceforth ICT), the world indeed has stepped into what is labeled as the "Digital Revolution" marked by pervasive use of digital technologies not only in the professional and economic spheres, but more so blurring the lines pervasively into people's social and personal lives impacting variegated sectors in society such as medicine, engineering, architecture, arts, and education.

Subsequently, the educational sector has likely been impacted significantly by digital technology as both teaching and learning modalities have been dramatically altered. In fact, a significant corpus of literature seems to suggest that digital technology coupled with artificial intelligence (henceforth AI) applications have

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supported student performance through enhanced engagement, motivation, and participative learning (Carlos, 2024; Furqan, 2024; Timotheou et al., 2023). In fact, adopting AI applications such as Technology Enhanced Learning (TEL) and Intelligent Tutoring Systems (ITS) have showcased many advantages and continue to hold promise in the educational sector (Wang et al., 2024). Moreover, Timotheou et al. (2023) equally posit that digital technologies have promoted and fostered creativity and a marked increase in critical thinking. And where the use of AI tools has been seen as pervasive and ubiquitous, at the global level, a vast number of curricula are now being adapted to accommodate the digital and AI revolutions that have invaded the academic arena (Kardaras, 2016).

To this effect, what sparked the almost immediate adoption of digital technology and later AI applications was the advent of the COVID 19 pandemic which sent the world into a state of lockdown (Di Pietro, 2023) and particularly the educational landscape as it necessitated the adoption of online learning (Unesco, 2023), Thus, with online education being the norm since then, a growing corpus of literature has emerged suggesting that detrimental effects of digital learning have surfaced, indeed impacting students' overall performance (Baron, 2021; Di Pietro, 2023; Wolf, 2018). In fact, current research seems to suggest that there is an overall plummet in students' test scores equivalent to one academic school year lag (Cabero-Almenara et al., 2022; Gorjon & Oses, 2022). Consequently, reasons for this are varied, ranging from distractions offered by hyperlinks, pop up messages, notifications, multi-tasking, mind wandering and gaming (Baron, 2021; Pérez-Juárez et al., 2023; Wang, 2022).

To this effect, research by Delgado et al. (2018) posits that the afore-mentioned factors may likely be the reason students tend to outperform on comprehension exams in print and underperform on their digital counterparts. Moreover, Loh and Kanai (2014) equally argue that continued use of digital tools and the respective multi-tasking prodded through their utility may likely be a precursor to declining grey matter volume in the prefrontal cortex, leading to atrophy in critical thinking and cognitive processing. Meanwhile, to further exacerbate matters, the development of AI has sent the educational landscape into further upheaval through variegated applications such as Chat GPT, Dalle-2, Quillbot, Gemini, Sora, and Assistant Poe that not only raised ethical concerns about institutional credibility and student integrity, but has likely released a Pandora's box where students are likely completing their graduation requirements with the support of AI-enhanced tools rather than their own individual skills and competence.

Thus, current research revolves around the impacts of digital technologies on learners, which seems contradictory. The reason is that while some studies cite and support the use of such tools, other research seems to underscore its detrimental impact on student performance. While a considerable amount of literature cites varied repercussions of digital technology on students academically, mentally, and emotionally, leaners' reliance on these tools is seemingly involuntary if not second nature. To this effect, the problem is both pronounced and exacerbated: what are the reasons that induce students to almost revert instinctively to using digital and AI tools which seem to harvest little more than lower scores and poorer critical thinking skillsets? To this effect, there seems to be a general paucity in research that addresses why students insist on reverting to such technologies beyond the cited reasons of speed and convenience (Baron, 2021; Wolf, 2018). Thus, the purpose of this research is to fill the said gap by investigating the hidden incentives and motivations students have prodding them to use digital tools and AI applications in their coursework beyond the facets of speed and convenience.

Having gone over the varied possibilities of varied technological, financial, extra-curricular and environmental stressors on students, the study aims to investigate the myriad reasons that induce students to almost revert instinctively to using digital and AI tools which have contributed to lowered performance scores and compromised critical thinking. And while students may likely be aware of the impact of digital technology and AI on their mental, emotional, and physical well-being, they continue to use these tools unthinkingly. Moreover, while established literature has attested that students do indeed revert to technologies for speed and convenience, there is a gap in the current corpus of research that fails to address why students insist on reverting to such tools. Thus, this research attempts to fill a gap in the literature by addressing the covert reasons that may incentivize students' use of digital devices and AI. To be more specific, the study aims to investigate the rationale behind the use of patterned reading, skimming, scanning, using digital shortcuts as well as reverting to AI for assignment completion. Thus, the established research question is: why do students revert to using digital and AI tools to complete coursework despite lowered grades and compromised critical thinking skillsets?

Literature Review and Theoretical Framework

One reason attesting to the popularity of digital technologies among young adults is that they are cost effective as the price of books can sometimes be overwhelming (Baron, 2021), while at the same time, digital technologies are chosen as an option for environmental considerations (Undp, 2024). In addition, youth tend to gravitate towards digital technology use as they provide ease of access to academic material, presenting yet another reason as to why a significant corpus of literature has attested to its benefits (Baron, 2021). Moreover, aside from their lightweight portability, digital tools permit the storage of copious amounts of

information (Halim et al., 2022). In addition, Baron (2021) argues that while students navigate hyperlinks, they can obtain information with unprecedented ease. As such, digital tools are not without their significant fortes making them indispensable to young adolescents' learning experiences.

Meanwhile, in tandem with digital technology, AI applications have invaded personal, academic and workplace spaces as well with their myriad benefits. Within the educational landscape, AI tools can be used in a plethora of ways, not limited to tutoring systems promoting personalized, self-paced learning. For example, cognitive tutors offer support to students through tutorials in STEM subjects; for example, biology, computer science and programming have varied AI applications in addition to non-STEM majors such as English, through ELSA Speak (Font de la Vall & González Araya, 2023; Wang et al., 2024). Moreover, there are administrative assistants allowing policy makers to have hands-on knowledge of trending problems common among students at the micro and macro levels (Font de la Vall & González Araya, 2023; Wang et al., 2024)

In addition, AI tools can aid instructors in schools and higher educational institutions through attendance checking, corrections as well as taking over routine tasks allowing instructors to focus on more creative teaching methodologies (Kardaras, 2016). Finally, AI tools can be used to train students living in remote areas and who lack timely access to medical intervention on nursing, first aid and paramedics Sun et al. (2023). In fact, digital technologies have not only served as an educational lifeline for a global 87% of visually impaired adults but have also reached more than one billion students who were at risk of discontinuing schooling, particularly during the Covid 19 Pandemic (Unesco, 2023).

Subsequently, digital technologies are not without their caveats. Initially, they promote distractions in myriad forms, be they through notifications and messages from peers on social media to multitasking or even the allure of gaming online during class. Moreover, these technologies continue to create a form of "inattention" to a given task at hand (Wang, 2022). And where multi-tasking is defined as the shifting of a limited resource (attention) across two or more tasks, current research seems to suggest that this may be exerting potential strain on students' cognitive abilities in the long run resulting in a gradual decrease in gray matter volume (Loh & Kanai, 2014). Moreover, there equally exists a general corpus of research suggesting that digital technologies promote mind wandering thus compromising focus and performance on the task at hand (Clinton, 2019; Delgado et al., 2018; Pérez-Juárez et al., 2023; Wang, 2022). In addition, performance through digital mediums has been associated with screen inferiority, whereby concentration, focus and memory recall are compromised when reading across digital screens (Clinton, 2019; Delgado et al., 2018; Lauterman & Ackerman, 2014)

In fact, screen inferiority more likely impacts lesser skilled readers and at-risk students, thus contributing to a widening disparity for disadvantaged students. Moreover, global level statistics attest to a burgeoning digital divide indicating that only 40% of primary schools, 50% of lower secondary schools and 65% of upper secondary schools are connected to the internet while 85% are still setting up policies to maintain proper connectivity (Unesco, 2023). As a result, with limited exposure to screens and minimal skills on how to navigate digital interfaces, students likely engage with their respective academic texts in the same manner as they would when scrolling through social media or reading for leisure, offering less focus and more shallow interaction (Lauterman & Ackerman, 2014). To this effect, by engaging superficially with digital texts through skimming or scanning snippets of information, they develop reading habits of a similar nature that spill over onto their academic reading texts. This phenomenon is referred to as the "Shallowing Hypothesis" and is best described as a general decline in students' cognitive, analytical, and reflective abilities while reading (Baron, 2021; Carr, 2010; Wolf, 2018).

Moreover, as concerns younger generations whose reliance on digital technology and AI at both schools and higher educational institutions have occurred at an unprecedented pace, there are growing concerns and not enough protective policies that neither promote ethical reliability for schools and higher educational institutions nor do they guarantee educational equity (Eke, 2023). Writing mills generated by Chat GPT, Dalle-2, Quillbot, Microsoft Cortana, Assistant Poe can generate essays at the mere click of a button, without assuring credibility or sourcing of the material at hand (Choi & Schwarcz, 2023; Sweeney, 2023). Moreover, Choi and Schwarcz (2023) equally argue that the more students engage with AI applications, they are less likely to engage in critical thinking and exercise their mental faculties for independent, analytical thought. To this effect, with the dynamic advancement of AI applications at a breathtaking pace such as SORA and Deepfakes, distinguishing factual content from misinformation and disinformation may become a matter of significant concern, specifically for students who have likely become less engaged with the practice of reading and more likely vulnerable to being exposed to misinformation and disinformation generated by digital media and AI applications.

Furthermore, another reason students seem inseparable from their digital devices can be attributed to their perceptions of academic success through grades and respective grade point averages (henceforth GPA's). In fact, research suggests that grades, indicators of academic success, comprise the most important aspect of schooling for students, teachers, and employers alike (Cachia et al., 2018; Griffen & Townsley, 2021; Schwager, 2012; Yang & Yip, 2002). The likely reason may be more attributed to the "rewards" that high

GPA's may bring such as awards, scholarships, and being accepted to competitive, high-end universities that enhance the probability of securing employment in prestigious, well-paying companies. To this effect, students seem to have developed what can be termed as "grade fixation", that is, the insistence that high marks such as "A's" or "B's" be granted, whether deservingly or not. The overall result? Grade inflation. Consequently, where schools and universities alike seem to be experiencing the phenomenon of grade inflation, defined as allotting high grades to mediocre students, it has indeed become a trend on the rise, problematic, and warranting significant concern due to the mismatch between the grades of graduates, the respective skills reflective of high marks and the jobs allocated. Initially, it was thought that this phenomenon started as early as the 1960's, during the Vietnam war, to avoid the drafting of male students (Yang & Yip, 2002).

To date, this trend has increased exponentially escalating pressures on both faculty and administration with students demanding higher grades, particularly in high-tuition universities. To illustrate, according to the Boston Globe, in October 2001, 91% of Harvard University students graduated with honors exemplifying an increasing wave of grade inflation (Yang & Yip, 2002). Moreover, it is thought that administrators, so as not to lose students, incentivize faculty into awarding grades through student evaluations. To this effect, Pressman (2007) equally argues that students likely see themselves as "customers" deserving "A's" and "B's" because of exorbitantly priced tuition fees. Thus, a "trade-off" transactional in nature likely occurs between expensive tuition fees and elevated grades. Consequently, if such transactions are unreciprocated, this may likely disturb educational institutions' financial landscape through low enrolment in classes, students choosing to go elsewhere, filing complaints against respective instructors during annual evaluations or cancelling registration and dropping out of college. Consequently, schools and universities alike seem to succumb to this mounting pressure of awarding grades that misrepresent both the learning outcomes provided by the courses as well as the accumulated skillsets.

As a result of continued transactional reciprocity between exorbitant tuition fees and elevated grades in schools and universities alike, students' general skillsets reflected by overall performance scores have marked a considerable drop on standardized tests. To this effect, Pressman (2007) contends that while SAT and GRE scores continue to plummet with more students taking remedial courses at university as they are ill-equipped educationally, learners' overall grades in private institutions have gone from a C to a B- from 1980's-1990's (Yang & Yip, 2002), as well as an overall GPA from 2.89 to 3.05 from 1998-2006 (Pressman, 2007). Thus, the reasoning behind this softening of grade schemes is thought to allow for enhanced employability, particularly for disadvantaged, under-represented or minority students and is considered a facet of support offered by the university (Schwager, 2012). Consequently, this leaves faculty and administrators to deal with mounting demands of inflated grades by learners who continue to put in less effort. Thus, it is likely that a permanent cultural paradigm shift is taking place in the educational arena where grades are awarded based on financial exclusivity instead of merit.

Ultimately, the system of inflated grades and students' fixation on insistently getting higher grades misrepresent their cognitive capacities. Consequently, this entails that inflated grades of "A's" seemingly assume that students possess "A" modalities of cognitive, analytical aptitudes and talents when they may in fact, be harboring a deficit in such strategies and skillsets required for higher education or even certain jobs. Thus, mismatching inflated grades with skills and job employability or even opportunities for higher education may serve no more than to ready students for possible academic and professional failure in the long run deepening the disparity between grades, skills, and job requirements intensifying already existing socio-economic divisions.

Similarly, data consumption, be it in the form of knowledge, entertainment or work continues to hijack attention spans of students and educators alike in forms ranging from massive statistical outputs and endless essays to smaller snippets of ideas. In fact, it is estimated that the amount of online information created every two days is approximately equivalent to written records produced from the beginning of human civilization until the early 2000's (Arnold et al., 2023). As such, this phenomenon is referred to as information overload and is defined as the state whereby a student receives an overwhelming amount of information thus hindering their ability to focus on other tasks (Aadland & Heinström, 2024). Thus, an overwhelming amount of information has become accessible at a mere touch of a button made possible through numerous social media platforms, AI tools such as Chat GPT and other large language models which can produce voluminous amounts of information with or without reliable sources. Subsequently, the quality and credibility of this data has become difficult to discern, particularly among students whose training in digital literacies is lacking, causing a great deal of mental strain and sometimes burnout. Thus, information overload seems to be regarded as a primary stressor among students (Arnold et al., 2023; Pham Thi & Duong, 2024).

Furthermore, frequent exposure to massive amounts of information is thought not only to reduce students' cognitive abilities in problem solving and focusing on assignments, but also to impair efficiency in task completion (Aadland & Heinström, 2024; Pham Thi & Duong, 2024). Consequently, students may respond to information overload in a series of mannerisms such as through diminished attention and ability to focus, feelings of irritability and fatigue, anxiety, procrastination, passivity in terms of learning and forgetfulness (Aadland & Heinström, 2024) which ultimately impacts performance negatively (Pham Thi & Duong, 2024). Thus, with attention being a limited resource hijacked by a voluminous amount of information

from various sources, students often revert to coping mechanisms such as speed reading (reading keywords or headings), skimming texts, using digital shortcuts like QR codes and "Control F" along with other AI related tools. Thus, where deep, slow, concentrated reading once promoted the synthesizing of new, learned information with previous knowledge to formulate a more comprehensive form of "knowing", these shallow modalities of fast-paced, modern-day "reading" are serviceable insofar as they allow students to amass a considerable repertoire of disconnected ideas. As such, these fragmented snippets of information and concepts from various sources of digital media and AI are collected, filtered, and copy-pasted together as finalized submissions in the form of essays, short answers, or even full-fledged papers and projects, often below par in terms of reflecting comprehensively learned content.

Yet another negative consequence that occurs due to the pervasive interaction of students with digital technology is through continued dopamine scrolling on social media. Learners and young adults alike find it pleasurable to scroll online due to the release of dopamine, a neurotransmitter that is associated with pleasure, as well as learning and motivation. The continuous act of scrolling for entertainment characterized by the consumption of short reels of 20 seconds or less, rapid platform switching, and a significant investment in time is known as dopamine scrolling (Sharpe & Spooner, 2025). While the reserves of dopamine are limited, excessive dopamine scrolling induces a condition known as dopamine deprivation which is a form of anhedonia (Salamone & Correa, 2012). To elaborate further, dopamine deprivation or anhedonia signifies that as the brain centers continue to "dump" a specific amount of dopamine into the blood stream given external stimuli that may induce pleasure, the stores of dopamine become depleted, requiring the brain centers more effort, time, and stimulation to produce the same amount of dopamine.

Salamone and Correa (2012) argue that since dopamine is responsible for motivation and learning, and if insufficient production of dopamine is present, this likely yields to a decline in drives and incentives, as well as depression, anxiety, and other disorders such as addiction. Furthermore, Kardaras (2016) argues that prolonged exposure to screen time may likely activate the brain's pleasure centers dumping a significant amount of dopamine into the user's systems, thus making screen use highly addictive. As such, and with students being predominantly "connected", they are "forced" to engage in multi-tasking where their attention is fragmented between the online world and the real world. Consequently, the more social media websites capitalize on their ability to hijack users' attention spans through entertainment videos, reels, and music to obtain the maximum user interaction and engagement, the greater the tendency that students are likely kept in a perpetual, addictive, dopamine scrolling loop.

Subsequently, if no intervention is made, and as the brain undergoes overstimulation through messages, videos, reels, notifications, and other digital rewards such as "likes" or "shares", the brain's pleasure receptors become desensitized, thus requiring more stimulation to arrive at the same level of pleasure leading to compulsive digital media consumption. This, in turn, prods the brain to produce less dopamine as a form of homeostasis or attempt at maintaining balance. This homeostatic function likely results in a dopamine deficit marked by a depletion in the stores of dopamine and bears withdrawal symptoms very similar to those of addiction such as low motivation, low energy, disinterest, and depression (Sepah, 2021). Thus, the overstimulation of the brain's pleasure centers through dopamine scrolling can lead to an eventual dopamine deficit among students manifesting itself through low energy, disinterest and general low drive, disintegrating motivation to learn an overall fatigue.

As such, in the long term, this form of "pleasure" scrolling cannot but conceive a dopamine deprived generation that oscillates between pleasure seeking addictions and mental distractions coupled with significantly diminished motivation to learn. Moreover, the likely social interactions predominantly take place behind digital interfaces illustrative of blatant self-expression to the other polarity manifested through youth exhibiting behaviorisms such as isolation, anxiety and depression (Sharpe & Spooner, 2025).

Students go through what is termed academic stress; namely the psychological state of anxiety associated with varied academic burdens related to projects, assignments, and grade expectations (Ma, 2023; Stearns, 2023). It should be distinguished from mental stress which is the feeling of being overwhelmed due to information overload. Academic stress is thought to be subjective and in fact necessary as a precursor of motivational learning (Ma, 2023). However, recent literature seems to suggest that student anxiety has become a flagrant phenomenon likely due to build up of academic pressure and students' lack of knowledge in stress coping mechanisms (Stearns, 2023). Moreover, where test-taking is often timed, De Paola and Gioia (2016) equally argue that while exams in and of themselves are likely to induce stress, when set under time constraints, this increases anxiety specifically among females to a greater degree compared to their male counterparts and likely compromises student performance on timed assessments. Subsequently, there is a noteworthy correlation between performance- related anxiety and timed test-taking, rendering anxiety as a global challenge to mental well-being among students. Consequently, poor performance has become associated with timed test-taking conditions. As such, a significant corpus of research has suggested that with growing emphasis placed on academic performance as a marker of academic success, performance related anxiety may continue to weigh heavily on students' psyches, cognitive abilities, performance, attentional goals, and career ambitions (De Paola & Gioia, 2016; Ma, 2023; Stearns, 2023).

Moreover, Roshanisefat et al. (2021) posit yet another consequence of academic stress is student

procrastination described as a coping mechanism in dealing with academic stress-tying them into a cyclical loop. To illustrate, the more students procrastinate, the less they get done within a set deadline, the more stressed they become- the more they procrastinate. In fact, both Roshanisefat et al. (2021) and Ma (2023) equally argue that these behaviorisms likely compromise students' overall well-being. Thus, while procrastination seemingly appears as a sign of waning commitment and interest on the part of the student, it may indeed be a symptom of academic anxiety and a precursor to downward spiraling mental health issues.

Another source of added pressure that students may experience is linked to extra-curricular activities. Defined as activities that go beyond the academic curriculum, extra-curricular activities often involve student engagement in enhancing their skills such as music band, varied sports activities, art projects and volunteer work. There is a general rise in student engagement in extra-curricular activities, particularly in middle and upper socio-economic echelons, as this offers students a competitive edge when seeking high paying jobs or allows them entry to reputable, high-profile universities (Luthar et al., 2006; Stearns, 2023). While engaging in extra-curricular activities supports the development and growth of students mentally, socially, and physically, a tendency to engage in multiple activities simultaneously may eventually be detrimental to students' overall well-being, particularly if an emphasis is laid on achievement (in the case of sports teams, for example). To this effect, students once again may likely be entrapped in a cycle of pressure particularly as these activities may exert strain on student's academic performance (Luthar et al., 2006). Consequential effects of extra-curricular activity involvement among students include insomnia, stomachaches, anxiety, and depression.

Yet another source of stress may stem from environmental factors. In fact, research seems to suggest that global crises likely trigger mental issues and anxiety (Al-Khalil et al., 2025; Merhy et al., 2021; Stearns, 2023). Subsequently, based on international health reports, approximately 970 million people worldwide are afflicted by mental health conditions with as much as 28.9% of the world population affected by depression while 31% of the global population struggles with anxiety (Akbar et al., 2024). Moreover, Al-Al-Khalil et al. (2025) further argue that dynamic change variables in a population's socioeconomic status can negatively impact the overall wellbeing of a society during times of recession or stagflation. Consequently, conditions that cause stigmas like wars, natural disasters, or pandemics, or lacking infrastructural development, in the case of developing countries, may exert a taxing effect on the mental health of their residents, particularly younger generations such as the Zoomers.

Generation Z for Zoomers are young adults born roughly between 1997 and 2012. For example, research by Akbar et al. (2024) cites that in Africa, youth experience anxiety due to poor socio-economic conditions, while in Europe, approximately 60% of Generation Z likely experienced anxiety during the Ukraine/Russia war. Meanwhile, young adults in America struggle with social media dependency leaving their Asian and Australian counterparts oscillating between extremes of technology dependency and loneliness. Other countries, such as Lebanon, a lower middle-income country, seem to be experiencing a consecutive array of events, moving from political stressors marked by the imminent recurring specter of a 20-year civil war to sporadic bloody skirmishes of the July/Israel war in 2006, Fatah al Islam of 2007, the May clashes of 2008, and the ongoing Hezbollah-Israel conflict of 2023.

Subsequently, the country's calamities continued, witnessing the 2019 financial collapse of the banking sector and its refusal to allow depositors to withdraw their money from banks coupled with the Covid 19 pandemic, fast forwarded unto the August 4 explosion of 2020 which was an equivalent of a nuclear-like explosion (Al-Khalil et al., 2025; Merhy et al., 2021). In fact, a study by Al-Khalil et al. (2025) revealed that out of 240 Generation Z young adults, 81.6% experienced burnout and anxiety. As such, with ubiquitous existence of environmental stressors surrounding Generation Z, locally and globally, it is highly likely that the correlated anxiety is carried into the academic classroom impacting not only performance, but also overall well-being.

Methodology

Research Design

The research at hand was qualitative research that relied on semi-structured focus group interviews. The setting was in a lower middle-income country, Beirut, Lebanon during the academic year of Spring, Summer, and Fall 2023. Interviews were conducted on a voluntary basis where students themselves stepped up to participate in the interviews. Their identities were anonymous and were in fact replaced by code names for privacy purposes. Participants were reminded several times before, during and throughout the interviews that they could decide to terminate their participation if and whenever they chose.

Sampling

The sample was convenient and non-random comprising of 14 participants registered for a course of Advanced Academic English, or English 202, from a private, English-speaking university. Taken from the researcher's workplace, the interviewees were indeed students registered with the researcher at the time the

study was conducted. The total number of students that were registered with the researcher at the given time frames were a total of 105, (approximately 25 students in four sections), where only 14 students expressed voluntary interest in participating in being interviewed.

Data collection Procedures

The researcher invited students to participate voluntarily in exchange for extra credit bonus points. As such, the researcher divided the 14 participants into three groups. Three groups were set based on three common time slots according to students' availability to sit for the interviews. Moreover, to compensate students for their time and feedback, participants were allotted five bonus points that would be added to any previous graded assessment of their choice. The semi-structured focus group interviews took place on the university campus at the cafeteria which was both casual and convenient for students. Finally, the researcher had the permission to record the interviews of the respondents.

Data Analysis Techniques

Subsequently, recorded interviews were transcribed by hand verbatim and coded thematic content analysis throughout a time duration of two months took place. Thematic analysis was used to analyze the interview findings and identify patterns in thinking and behavior through repeated phrases uttered by the respondents. In turn, the most frequently repeated phrases were coded into seven themes. The seven themes were, respectively: "Reading Shortcuts such as Find/Search/Control F", "Stress during timed/graded assignments", "Reading behaviors without laptops", "AI, ChaptGpt, Quilbot use for assignments", "Loss of focus with digital tools", "Audiobooks", and "Technology for Educational Learning". Moreover, frequency responses out of 14 were taken for each theme; to illustrate, students who agreed had their responses out of 14 recorded along with their respective reasons. Moreover, those who disagreed also had their responses taken out of 14 with their respective reasons noted down. Respondents' identities remained anonymous with abbreviations used instead of their names. Subsequently, the research questions around which the semi-structured interviews revolved were respectively:

1. How likely are you to engage in actual reading versus reading using digital tools such as the "Find"/'Search" option, AI or other short cuts such as patterned reading, skimming and scanning?
2. How do you go about completing assignments that disallow usage of digital tools?
3. Do you make use of audiobooks to complement your learning?
4. How often do you revert to using AI tools to complete assignments and do you find them reliable?
5. Describe the degree to which you find yourself focused around digital tools?

Results

Findings from the semi structured group interviews are tabulated in Table 1 and includes both the coded themes and the respective responses.

Table 1: Students' Coping Mechanisms and Technology Use

Theme	Frequency: Agree	Frequency: Disagree
Reading shortcuts: the frequency in which students revert to shortcuts such as "Find"/ "Search" option	11/14	3/14 out of which 1/14: replied" "I didn't even know there was such a thing we could use"
Feelings of stress during timed assessments	13/14	1/14 "In my school is Saudi, we are used to timed exams where we must read long texts. So it's not a problem for me because I learned skim while I underline key points as I read. Sometimes I annotate. It depends.
Reading behaviors when no laptops available	11/14 use short cuts: read headings and engage in keyword searches	3/14 students read everything from the beginning till the end
AI/ChatGPT/Quilbot uses for assignments	12/14	2/14
Loss of Focus with digital tools	12/14	2/14
Audiobooks instead of reading	4/14 have tried audiobooks and report that listening to audiobooks can sometimes be helpful.	10/14 have either not tried audiobooks and not found it beneficial or have not shown interest in using audiobooks to cover a certain lesson.
Technology as a tool for educational learning	14/14	

Discussion

Digital shortcuts for Enhanced Performance, Scholarships, and Financial Aid

As such, the purpose of this qualitative research was to investigate the reasons why students employ digital tools and AI despite compromised performance scores and critical thinking. Wholistically, the findings of the semi-structured interviews suggest that Generation Z seems to be using digital devices and AI as coping mechanisms to navigate their way through varied stressors as well as their course requirements. The findings of the semi-structured focus group interviews of 14 students through thematic coding analysis were in line with the existing research. Primarily, a significant amount of emphasis was laid on students' insistent "fixation" on grades that rendered economic advantages in the form of scholarships enabling the financing of their tuition. This goes in line with the research of Pressman (2007) and Luthar et al. (2006) who argue that as education costs begin to rise, students likely engage in various finance-supporting modalities allowing students to continue their education. This can be in the form of work or scholarship, yet the results are the same: increased fixation on overall marks were grades act as "gatekeepers" for students' continued education, ultimately providing a guarantee for better life prospects through future employability. To this effect, students admitted reverting to various tools and facilitations made possible by technology, whether through the "Search"/"Find" option during reading quizzes or through using AI applications to maintain satisfactory achievement scores.

Moreover, in line with research for Schwager (2012) as well as Griffen and Townsley (2021), other findings from the semi-structured interviews exhibited the grade-related pressures students experienced relevant to financing their tuition, such as playing on sports teams allowing them educational continuity believed to enhance their lives. From one aspect, getting higher marks allowed the continuation of sports scholarships required for tuition funding

Some interview findings that stressed on grade-related reasons for using digital shortcuts were as follows:

"I am on financial aid and so I need to ensure that my overall GPA is high. For this, when I write an essay or need to summarize articles, I use Quillbot as it gives me what I need. I then take the results, and I paraphrase the work in my words so that I don't get "caught" for plagiarism."

"I use AI to get new perspectives about a text, like in literature, if we are given an analysis assignment, sometimes it's really a good idea to look at a certain idea or analysis of a novel from a different angle. I feel more at ease in writing up my report afterwards."

"Ok, so for me, I use AI tools with courses like design when I want to get fresh ideas about how to do something. And I read about how to go about doing it. That's it."

In addition, other students answered that using digital shortcuts and AI allowed students the "luxury of time" to be able to participate in tournaments and training. In fact, students revealed that digital tools allowed for convenience as regards TIME in assignment completion. In turn, the added time allowed students who relied on athletic scholarships to continue training, thus keeping their scholarships. Moreover, students who held jobs and were responsible for paying their own tuitions reported being able to balance their educational and work lives with more ease with additional time available. Some of the reported findings were:

"For me, when I must do a graded assignment, I think in terms of "TIME", so I will use whatever tool available to me so that I can complete it. Don't forget that I am a pre-med student and I depend on my basketball scholarship to cover my tuition to help my parents".

"Yes sure. I will skip lines, look for keywords and sometimes I even just read the headings to get the main ideas especially when there is a time limit. When time isn't a problem, like when I am reading a chapter during work, I still read headings sub-headings to get the main points and then I move to something else. Usually, I take such assignments with me to work because when I get home, I am too tired to do anything."

" Of course, I will use the "Search" option to find the answers. It is a reliable tool, accurate and saves me time. Look, doctor, we lost our house during the August explosion, and my family cannot afford to pay for my education. So, to be here, I play on the university soccer team and the Lebanese national team because they pay my pocket money and I need every extra point I can get because they give me an athletic scholarship."

"I am on the swimming team and usually our practice sessions are long and tiring. So, when I get home, all I think of doing is collapsing and I often don't wake up until the next day. So, to deal with this issue, I often download audio lessons or books, and I listen to them when I am on my way to uni or home. On weekends, sure, I put in the effort to read, but audio and Youtube lessons and sometimes AI make my life easier, to be honest. It grants me time, and for me this is a luxury".

"Honestly, doctor, the university should give us a break. I mean we attend classes, we do our homework, some of us are committed to our sports teams, others community service and work. I don't understand what the big deal is if we use help from technology. I mean, isn't the purpose of uni to prepare us for the working

world? I mean people DO use computers and AI in the working world, so what's the problem?"

"No I never read the whole thing. Ever since grade 10. I tend to skip lines and skim through. Like I read the introduction and the conclusion. There they have a repetition of the main points anyway. Then I go back to the body paragraphs and read the topic sentences to get a feel of what they are talking about. Once I finish the answers, I go back and check my work by seeing what I can read in the remaining time. And if I can use the "Search" it is even better for me. This way, it works for me."

Time/Stress Factor

In addition, the respondents equally expressed feelings of stress and anxiety related to time-bound exams and graded assignments. Subsequently, this goes in line with the existing corpus of research underscoring compromised performance due to anxiety-related, time-bound exams (De Paola & Gioia, 2016; Ma, 2023; Roshanisefat et al., 2021). To this effect, students were likely to cope by reverting to tools that provided them what was though to be a "reliable and fast" source of information, be it through the form of AI applications, "Search"/ "Find" or even patterned reading (Baron, 2021; Wolf, 2018). While time was a relevant factor in the accumulation of grades, students likely found digital shortcuts, patterned reading and skimming as "strategies" that would ensure fuller marks through timely task completion. Some of the interviewees responded as follows:

"Again, the issue is time for me. I will read the questions first, so I know what to look for and answer the main questions. Then if I have time, I go back and I try to read a little more than the headings and key concepts using the "Search" option. For me, it's make it or break. The more I answer the more points I make. The more points I make, the higher my gpa."

"I tend to feel a lot of stress during the exam. So, I will use headings, "Search" and sometimes I will memorize the main ideas from ChatGPT before the exam if I think the questions are coming on the test. Like when we have to write a synthesis or prepare a paragraph for a text that we took in class. You know, like the claim and the main points. It helps to prepare the answers ahead of time because sometimes during an exam I am too stressed. And I forget."

"Yes, I often face stress on timed exams. I think it's because I spend so much time trying to understand what I am reading and what is expected of me. And then when I start answering it feels like I just don't have enough time to finish and I panic. I guess I am a slow reader."

"I agree. I mean we have issues with time. Teachers and professors all give us assignments in the last minute. It's like they think we have nothing to do in our life but study for their subject. Tools like ChatGPT and the "Search" help us to find what we want, complete the assignments, get decent grades and then we can move onto something else. Everyone is happy, so why not?"

"Ok. So I know that in your classes, you don't allow AI. But it really does make life easier, and you get so much more done faster. Especially when other doctors start assigning everything all at once like midterms and projects. It's like you wake up one morning and have three deadlines for three different assignments. I mean it can be stressful. So, I personally get a little help from AI whenever I can. It helps me stay in control of things, you know?"

"ChatGPT is quick, fast and reliable. Instead of researching for hours and not getting anywhere, because sometimes this happens, I ask ChatGPT and it gives me what I need to know directly."

"Yes, sometimes I will use it instead of reading. When like I am interested in a book and I can read it because it is too big and I must study for exams, I will buy the audio version of it, it's like nothing, cheap, if I want to learn about something". Other times, when I don't understand the lesson in class and I don't have notes, I go to Youtube and see if there are any lessons there to help me understand. Other times, I ask ChatGPT for main ideas."

"It is stressful for me when we cannot use our laptops, and we must do a reading quiz. I have difficulty finding the main points and often find myself jumping from page to page-to find the answers. Usually, I will read the headings or just look for the keywords".

Digital Technology Shortcuts/AI During Environmental Instability

Moreover, in a significant number of responses, students exhibited feelings of coping mechanisms in response to unpredictable living environments, particularly in lower middle-income countries, such as Lebanon, by attempting to maintain control and "mastery" over their grades through technological facilitated assistance. In line with Al-Khalil et al. (2025) and Merhy et al. (2021) whose research underscored the volatility of socio-economic and political factors taking place in Lebanon, students seem to have developed an "entitled Machiavellian approach"; that is, if they were expected to survive in such volatile circumstances, then they would use technology to justify maintaining their grades to keep their scholarships. The findings were underscored in students' readiness to employ AI tools readily to maintain their grades, despite having technology thwart their focus through distractions. Students voiced their viewpoints as:

"Of course, I will use the "Search" option to find the answers. It is a reliable tool, accurate and saves me time. Look, doctor, we lost our house during the August explosion, and my family cannot afford to pay for my education. So, to be here, I play on the university soccer team and the Lebanese national team because they pay my pocket money and I need every extra point I can get because they give me an athletic scholarship."

"I mean, the world is evolving, and we can't run away from technological advancements. We need to have the skills to use these technologies if we want to decent jobs, right? Especially if we want to work abroad. Schools and universities need to start letting us use these tools comfortably and not feel like we are stealing something or doing something wrong".

"Yes, I want to say that it's time to let us use technologies and applications to make our university work easier. I mean it is already tough dealing with unemployment and the pressure of grades, and now that there is AI, if we want to find good jobs, future employers will ask us what skills we have. So, it is necessary to use digital tools and AI."

Digital Technology as a Source of "Stress". "Inattention" and "Diminished Focus"

Furthermore, findings seem to go in line with the research of Carr (2010) as well as Baron (2021) who cautioned from the continuous, extensive use of technology likely resulting in "inattention" and lack of focus as neural circuitries of the brain get rewired through shallow modalities of engaging with reading texts. To this effect, a marked inability to focus deeply and utilize cognitive faculties has been reported. Subsequently, the findings are equally in line with the works of (Arnold et al., 2023) as well as (Pham Thi & Duong, 2024), who posit that with lesser engagement of cognitive capacities through shallow reading modalities such as patterned reading, students were likely to experience information overload and find themselves caught in a continued cycle of jumping from one snippet of information to the next due to compromised or discontinued, fragmented focus (Delgado et al., 2018). Consequently, respondents seemed to show very little inclination or motivation to read the entire text, navigating it instead through mannerisms similar to hyperlinks, scanning, and jumping across sections; thus, this seems to go in line with the current corpus of research where students have very little incentive to read and may very well be dopamine deprived as dopamine is the neurotransmitter associated with motivation and learning (Baron, 2021; Salamone & Correa, 2012; Sharpe & Spooner, 2025). As such, responses varied as follows:

"Yes, to be honest, having the phone next to you, where I often do most of my reading if the laptop is at home or with my brother can be very distracting. It gets very difficult to focus when you are reading something like macro-economics and those messages start coming in. And like sometimes you give in and tell yourself you'll take a break and scroll for only five minutes and like two hours later it hits you that you've just wasted time. Then the stress is on!"

"When I sit down to study, the phone is on silent in another room so that I don't hear it and can focus a little. If it rings, I don't hear it. I will usually tell my parents to call me on the landline if they need anything. Because if the phone stays with me, I will not get anything done."

"To be honest, lately, I seem not to be able to focus when I have the phone near me. I keep telling myself that I will answer this message or that for five minutes and then I lose track of time and my five minutes become five hours". When it really gets bad, like I don't have notes, I ask my friends in class what we will be tested on and I go to ChatGPT for notes and even memorize ideas."

"I cannot focus if my phone is not next to me. I mean, I can put it on silent no problem. But it must be next to me otherwise I cannot focus on all. I take it everywhere I go. I even put it under my pillow when I sleep."

"No I cannot focus with audiobooks. I tried. My mind always wanders".

"If I cannot use a laptop, then I have no choice but to read everything. Sometimes, it gets hard because in most of my subjects we are allowed to use laptops, so arriving at the answer is easy and takes less time. When I have to read on paper, it feels strange and yes there is more pressure. Sometimes, I must read the same thing twice to focus because I zone out."

"It is stressful for me when we cannot use our laptops, and we must do a reading quiz. I have difficulty finding the main points and often find myself jumping from page to page-to find the answers. Usually, I will read the headings or just look for the keywords".

Conclusion, Limitations, and Implications

As such, the given research at hand has served to investigate the reasons behind Gen Z's continued use of digital and AI tools despite waning performance and eroded critical thinking skills. Consequently, as students continue to experience inattention, grade fixation, information overload, distractions, and dopamine deprivation in addition to other stressors such as academic, extra-curricular as well as environmental

pressures, learners seemingly revert to digital and AI tools as coping mechanisms. Subsequently, students engage in the use of varied digital shorts as well as AI as coping or "control" mechanisms for the purpose of maintaining higher scores or to aid them in completing their course requirements which gives them a sense of "power" to obtain more "secure", "controllable" results on which their future likely depends. This is especially true when learners find themselves in volatile, unstable environments where the constant norm is unpredictability through financial crises, wars and socio-political instability, as is the case in Lebanon, a lower middle-income country. Moreover, the findings of the study revealed that "coping strategies" employed by students included reverting to AI applications, patterned reading, skimming, and resorting to digital shortcuts such as "Search"/ "Find". Results also revealed that such "strategies" helped students to navigate their way around exams and facilitated completion of tests and tasks within time-bound, anxiety-inducing environments. To this effect, one can only question and reflect upon the long-term consequences of having a stress driven generation bound by an extrinsic achievement addiction.

Moreover, the research at hand is not without its limitations. One shortcoming in the research at hand was that it was non-representative involving a sample of 14 respondents specific to one university. In addition, with the semi-structured focus group interviews being conducted in exposed groups of three, there may have been a possibility of social desirability bias. Thus, to have more comprehensive findings, not only is a larger sample size for semi-structured interviews required to avoid social desirability bias, but it would be more conclusive to have multiple samples from different universities in Beirut, Lebanon, for different courses, to cement the findings or at least allow for more generalized conclusions. Furthermore, having a random sample instead of a convenient, non-random pool of participants would have likely revealed more generalizable and representative attitudes for students' coping mechanisms rendering deeper and further insight into the study. Finally, quantitative findings of student GPA's and grades would have illustrated stronger conclusions, coupled with the interview findings. Future research engaging both qualitative and quantitative findings from a larger sample of students from STEM subjects in addition to the Humanities can be conducted to compare students' tendencies concerning digital shortcuts and AI use and why these technologies might be used. If students continue to feel pressured to perform without a robust education being the outcome, this may indeed create deeper rifts in skillsets in graduating generations. As such, it is up to educators to try and incentivize students as much as possible to learn, become more knowledgeable, and have the necessary skills required to navigate a changing world. In addition, more emotional support in the form of counseling services, student support groups, mental health support systems and awareness campaigns to enable students to understand how to navigate and deal with stress during their educational journey are strongly urged.

Education is broken, and generations of young learners, leaning on the crutch of superficial, fragmented knowledge, barely able to hold its weight, are in the making. Educational institutions have introduced overstimulation and information overload through technological novelty into their teaching modalities and curricula as a trade-off for exorbitantly priced tuition fees. And as students continue to navigate their way through the challenges of digital addictions, information overload, hijacked attention as well as a plethora of stressors, from environmental to academic and extracurricular, coping modalities for Generation Zs continue to surface in myriad forms. From anxiety to procrastination, to patterned reading, skimming, using digital shortcuts, collecting snippets of information from AI applications, and copying/pasting them as assignments and projects, the fruit of students' labor is marked by declining performance. Thus, with a paradigm shift marking the end of the Enlightenment era and its quest for fundamental knowledge, a new "transactional" era - where grades are a means to an end degree, job, post, or status, has begun. As such, the quest for learning and acquiring knowledge seems to have become compromised, or yet, even artificial in nature, yielding a generation boasting of accolades of an artificial education.

Conflict of Interest

The author declares no conflict of interest.

Ethical Consideration

Informed consent was obtained from all participants of the study.

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Data availability request

The data used in this study is available from the corresponding author upon reasonable request.

Declaration of interests

The author declares that there are no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper nor is there any conflict of interest.

Ethics Statement and AI

The author declares that this study is original and is not under consideration anywhere else. Moreover, the author equally declares that the enclosed manuscript in no way, shape or form utilized any form of AI tools.

References

Aadland, M. G., & Heinström, J. (2024). 'It never seems to stop': Six high school students' experiences of information overload. *Information Research*, *29*(2), 159-172. https://doi.org/10.47989/ir292830

Akbar, B. M. B., Prawesti, D. R. D., & Perbani, W. S. A. (2024). Big picture mental health of generation Z in the world. *Jurnal Kesehatan Komunitas Indonesia*, *4*(1), 1-20. https://doi.org/10.58545/jkki.v4i1.223

Al-Khalil, Z. M., El Sheikh, W. G., Lababidi, G. H., Shehayeb, E. O., Ghanime, P. M., Talih, F. R., Tamim, H., & Kafarani, B. (2025). Impact of socioeconomic and political stressors on mental health: A cross-sectional study on university students in Lebanon. *BMC Medical Education*, *25*(91). https://doi.org/10.1186/s12909-025-06701-1

Arnold, M., Goldschmidtt, M., & Rigotti, T. (2023). Dealing with information overload: A comprehensive review. *Frontiers in Psychology*, *14*. https://www.frontiersin.org/journals/psychology/articles/10.3389/fpsyg.2023.1122200/full

Baron, N. S. (2021). *How We Read Now: Strategic Choices for Print, Screen and Audio*. Oxford University Press. https://eric.ed.gov/?id=ED612573

Cabero-Almenara, J., Gutiérrez-Castillo, J. J., Guillén-Gámez, F. D., & Gaete-Bravo, A. F. (2022). Digital competence of Higher Education students as a predictor of academic success. *Technology, Knowledge and Learning*, *28*(2), 683-702. https://pmc.ncbi.nlm.nih.gov/articles/PMC9589815/

Cachia, M., Lynam, S., & Stock, R. (2018). Academic success: Is it just about the grades? *Higher Education Pedagogies*, *3*(1), 434-439. https://www.tandfonline.com/doi/full/10.1080/23752696.2018.1462096

Carlos, J. (2024). Impact of digital learning tools on student engagement in high school classrooms in Peru. *American Journal of Education and Practice*, *8*(4), 25-35. https://ajpojournals.org/journals/index.php/AJEP/article/view/2246

Carr, N. (2010). The juggler's brain. *Phi Delta Kappan*, *92*(4), 8-14. https://www.jstor.org/stable/27922479

Choi, J. H., & Schwarcz, D. (2023). AI Assistance in legal analysis: An empirical study. *Journal of Legal Education*, *73*, 384-419. https://doi.org/10.2139/ssrn.4539836

Clinton, V. (2019). Reading from paper compared to screens. *Journal of Research in Reading*, *42*(2), 288-325. https://doi.org/10.1111/1467-9817.12269

De Paola, M., & Gioia, F. (2016). Who performs better under time pressure? Results from a field experiment. *Journal of Economic Psychology*, *53*, 37-53. https://doi.org/10.1016/j.joep.2015.12.002

Delgado, P., Vargas, C., Ackerman, R., & Salmeron, L. (2018). Don't throw away your printed books: A meta-analysis on the effects of reading media on reading comprehension. *Educational Research Review*, *25*, 23-38. https://www.sciencedirect.com/science/article/pii/S1747938X18300101

Di Pietro, G. (2023). The impact of Covid-19 on student achievement: Evidence from a recent meta-analysis. *Educational Research Review*, *39*. https://doi.org/10.1016/j.edurev.2023.100530

Eke, O. D. (2023). ChatGPT and the rise of generative AI: A threat to academic integrity? *Journal of Responsible Technology*, *13*. http://www.sciencedirect.com/science/article/pii/S2666659623000033

Font de la Vall, R., & González Araya, F. (2023). Exploring the benefits and challenges of AI-language learning tools. *International Journal of Social Sciences and Humanities Invention*, *10*, 7569-7576. https://doi.org/10.18535/ijsshi/v10i01.02

Furqan, N. M. (2024). Impact of digital learning tools on student engagement in elementary schools. *Proceeding of International Conference on Education, Science and Humanity*, *3*(1). http://ejournal.unuja.ac.id/index.php/icesh

Gorjon, L., & Oses, A. (2022). The negative impact of ICT overuse on student performance: Evidence from OECD countries. https://iseak.eu/en/documents/the-negative-impact-of-ict-overuse-on-student-performance-evidence-from-oecd-countries

Griffen, R., & Townsley, M. (2021). Points, points and more points: High school grade inflation and deflation when homework and employability scores are included. *Journal of School Administration Research and Development*, *6*(1), 1-11. https://www.semanticscholar.org/paper/249b2fbdebafba3128d77aacec74161e19d3b660

Halim, A., Javaid, Q., Qadri, M. A., & Suman, R. (2022). Understanding the role of digital technologies in

education: A review. *Sustainable Operations and Computers*, *3*, 275-285. https://www.sciencedirect.com/science/article/pii/S2666412722000137

Kardaras, N. (2016). *Glow Kids: How Screen Addiction Is Hijacking Our Kids—and How to Break the Trance*. St. Martin's Press. https://dl.acm.org/doi/abs/10.5555/3002866

Lauterman, T., & Ackerman, R. (2014). Overcoming screen inferiority in learning and calibration. *Computers in Human Behavior*, *35*, 455-463. https://doi.org/10.1016/j.chb.2014.02.046

Loh, K. K., & Kanai, R. (2014). Higher media multi-tasking activity is associated with smaller gray-matter density in the anterior cingulate cortex. *PLOS ONE*, *9*(9). https://www.researchgate.net/publication/266086002

Luthar, S. S., Shoum, K. A., & Brown, P. J. (2006). Extracurricular involvement among affluent youth: A scapegoat for "ubiquitous achievement pressures"? *Developmental Psychology*, *42*(3), 583-597. https://doi.org/10.1037/0012-1649.42.3.583

Ma, Z. (2023). The study on the influence of academic pressure on academic performance. *Journal of Education and Educational Research*, *3*, 106-109. https://www.researchgate.net/publication/371578871

Merhy, G., Azzi, V., Salameh, P., Obeid, S., & Hallit, S. (2021). Anxiety among Lebanese adolescents: Scale validation and correlates. *BMC Pediatrics*, *21*(288). https://doi.org/10.1186/s12887-021-02763-4

Pérez-Juárez, M. Á., González-Ortega, D., & Aguiar-Pérez, J. M. (2023). Digital distractions from the point of view of higher education students. *Sustainability*, *15*(7), 6044. https://doi.org/10.3390/su15076044

Pham Thi, T., & Duong, N. (2024). Investigating learning burnout and academic performance among management students: A longitudinal study in English courses. *BMC Psychology*, *12*(219). https://doi.org/10.1186/s40359-024-01725-6

Pressman, S. (2007). The economics of grade inflation. *Challenge*, *50*(5), 93-102. https://doi.org/10.2753/0577-5132500506

Roshanisefat, S., Azizi, S. M., & Khatony, A. (2021). Investigating the relationship of test anxiety and time management with academic procrastination in students of health professions. *Education Research International*. https://doi.org/10.1155/2021/1378774

Salamone, J. D., & Correa, M. (2012). The mysterious motivational functions of mesolimbic dopamine. *Neuron*, *76*(3), 470-485. https://pubmed.ncbi.nlm.nih.gov/23141060/

Schwager, R. (2012). Grade inflation, social background, and labor market matching. *Journal of Economic Behavior & Organization*, *82*, 56-66. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1268244

Sepah, C. S. (2021). The definitive guide to dopamine fasting 2.0: The hot Silicon Valley trend. https://www.linkedin.com/pulse/dopamine-fasting-new-silicon-valley-trend-dr-cameron-sepah

Sharpe, B. T., & Spooner, R. A. (2025). Dopamine-scrolling: A modern public health challenge requiring urgent attention. *Perspectives in Public Health*, *145*(4). https://doi.org/10.1177/17579139251331914

Stearns, P. N. (2023). Student anxiety and its impact: A recent American history. *History of Education Quarterly*, *63*(2), 271-297. https://www.cambridge.org/core/journals/history-of-education-quarterly/article/abs/student-anxiety-and-its-impact-a-recent-american-history

Sun, L., Yin, C., Xu, Q., & Zhao, W. (2023). Artificial intelligence for healthcare and medical education: A systematic review. *American Journal of Translational Research*, *15*(7), 4820-4828. https://pmc.ncbi.nlm.nih.gov/articles/PMC10408516/

Sweeney, S. (2023). Who wrote this? Essay mills and assessment: Considerations regarding contract cheating and AI in higher education. *The International Journal of Management Education*, *21*(2). https://www.sciencedirect.com/science/article/pii/S1472811723000563

Timotheou, S., Miliou, O., Dimitriadis, Y., Sobrino, S. V., Giannoutsou, N., Cachia, R., Monés, A. M., & Ioannou, A. (2023). Impacts of digital technologies on education and factors influencing schools' digital capacity and transformation: A literature review. *Education and Information Technologies*, *28*(6). https://pmc.ncbi.nlm.nih.gov/articles/PMC9684747/

Undp. (2024). Digital Guides. https://digitalguides.undp.org/guide/climate

Unesco. (2023). Global Education Monitoring Report 2023: Technology in Education—A Tool on Whose Terms? https://unesdoc.unesco.org/ark:/48223/pf0000385723

Wang, C. (2022). Comprehensively summarizing what distracts students from online learning: A literature review. *Human Behavior and Emerging Technologies*. https://onlinelibrary.wiley.com/doi/10.1155/2022/1483531

Wang, S., Wang, F., Wang, J., & Du, T. (2024). Artificial intelligence in education: A systematic literature review. *Expert Systems with Applications*, *252*. https://www.sciencedirect.com/science/article/pii/S0957417424010339

Wolf, M. (2018). *Reader, Come Home: The Reading Brain in a Digital World*. Harper. https://katalog.ub.uni-heidelberg.de/cgi-bin/titel.cgi?katkey=68389843

Yang, H., & Yip, C. S. (2002). An economic theory of grade inflation. https://www.researchgate.net/publication/242244547