Contemporary Educational Technology, 2024, **16**(1), ep487
ISSN: 1309-517X (Online)

OPEN ACCESS

Research Article

Impacts of digital connectivity on Thailand's Generation Z undergraduates' social skills and emotional intelligence

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Citation: Imjai, N., Aujirapongpan, S., Jutidharabongse, J., & Usman, B. (2024). Impacts of digital connectivity on Thailand's Generation Z undergraduates' social skills and emotional intelligence. *Contemporary Educational Technology, 16*(1), ep487. https://doi.org/10.30935/cedtech/14043

ARTICLE INFO

Received: 6 Sep 2023
Accepted: 30 Nov 2023

ABSTRACT

Notwithstanding the pervasive utilization of digital technology in social and educational realms, an in-depth understanding and exploration of the interrelationships amongst digital connectivity, social skills, and emotional intelligence, particularly within Generation Z demographic–known for their heavy reliance on digital platforms–remains elusive. This study endeavors to address this gap. Applying structural equation modeling, it examined the interrelationships between digital connectivity, social skills, and emotional intelligence, surveying a sample of 518 Generation Z students (comprising 77.61% females, 20.64% males, and 1.74% non-binary) across various academic years and disciplines at a university located in Southern Thailand. PLS-SEM software was employed to evaluate the structural model and substantiate the research hypotheses. Our findings suggest that digital connectivity did not detrimentally impact social skills. However, it negatively influenced emotional intelligence among Generation Z students, observable both at the operational level and in terms of fostering the capacity to regulate one's own and others' emotional states. Despite this, social skills proved to significantly enhance emotional intelligence. The same consistent pattern of a positive and significant influence is observed when testing the indirect effect of digital connectivity on emotional intelligence through social skills. Furthermore, it was found that robust and effective digital connectivity could potentially bolster understanding and management of emotions in the digital age, much like well-developed social skills. Hence, this study provides substantial insights into the nuanced impacts of digital connectivity on the social and emotional development of Generation Z students.

Keywords: digital connectivity, social skills, emotional intelligence, Generation Z students

INTRODUCTION

In the modern era, characterized by pervasive digital technology, the fundamental nature of communication has undergone a dramatic metamorphosis. This digital interconnectivity, intensified by the ubiquity of platforms such as social media, messaging services, video conferencing, and various online forums, has revolutionized the way individuals transcend geographical constraints to establish contact with

one another (Mishra, 2016). As the sophistication of digital infrastructure–encompassing internet connectivity and smartphone technologies–escalates, so does the criticality of access and proficiency in utilizing these platforms. They have become instrumental in empowering individuals, institutions, and societies at large, fostering sustainable global knowledge access (Graham et al., 2017). Starlink, a pioneering advancement, epitomizes this evolution by augmenting internet network systems through high-speed, satellite-based services poised to offer worldwide coverage. This innovative solution outperforms existing digital technologies in terms of efficacy (Herath, 2021). It optimizes digital connectivity across all online platforms, exerting a substantial influence on the education sector, especially during the unprecedented COVID-19 crisis, which markedly accelerated the integration of digital technology within educational practices. The technological enhancements within the academic sphere have significantly streamlined student experiences, facilitating the expedient creation of presentations and project development through an array of software and tools (Haleem et al., 2022). For students in higher education, their digital acumen–consisting of analytical prowess and information literacy–forges their preparedness for online learning, with the internet and digital devices serving as their primary educational conduits (Khulwa & Luthfia, 2023).

The advent of these novel communicative modalities has instigated an unparalleled level of convenience and sociocultural engagement. The accelerated progress and pervasive adoption of digital technology have revolutionized the mechanisms through which individuals communicate and engage within contemporary society. Integral to our quotidian existence, this digital connectedness yields numerous benefits encompassing the sustainment of long-distance relationships, the bridging of geographical divides, and the facilitation of global collaborations (Holtzman et al., 2021). The proliferation of digital devices such as smartphones, alongside the advent of various social media platforms and digital communication tools, has fostered an intensely interconnected global community. This technology empowers individuals to partake in real-time dialogues, disseminate information, and foster vibrant online communities with ease. Furthermore, it provides a virtual platform for individuals to express personal narratives, share experiences, and engage in online communities that resonate with their interests and values (Wright, 2023). These digital platforms also serve as conduits for a pluralistic exchange of ideas, thereby encouraging individuals to contribute to discussions concerning pressing global sociocultural issues. In this manner, digital platforms not only connect people, but also function as a potent tool for intellectual stimulation, idea generation, and social innovation.

The demographic that heavily relies upon these digital platforms predominantly comprises Generation Z, an age group whose lifestyle is extensively shaped by the multifaceted impacts of digital technology, encompassing both psychological and social dimensions. These individuals leverage digital devices for an array of functions, spanning from communication and commerce to learning and entertainment (Hoque, 2018). The use of such technology notably influences their self-perceived competencies, social proficiencies, and emotional intelligence (Lee, 2021). The escalating dependency on digital connectivity provokes significant questions concerning its effects on social abilities and emotional intelligence. Here, social skills denote capacities that empower individuals to adeptly navigate social interactions, incorporating articulate communication, empathy, and conflict resolution. On the other hand, emotional intelligence refers to the faculty to discern, comprehend, and regulate one's own and others' emotional states (Arghode et al., 2022). Both these competencies are fundamental for establishing and preserving meaningful relationships, promoting collaboration, and fostering holistic wellbeing. Although digital connectivity proffers convenience and broader prospects for social engagement, apprehensions have surfaced about its potential implications on social aptitudes and emotional intelligence. Critics argue that an overreliance on digital communication may curtail in-person interactions and diminish critical non-verbal cues (Trigueros et al., 2020). Furthermore, the incessant cultivation of online relationships, combined with excessive exposure to others' lives, could engender negative effects on individuals' self-perception and their capacity to forge authentic relationships (Gupta & Sharma, 2021).

Moreover, scholars posit the possibility that virtual interactions might supplant face-to-face encounters, thereby potentially undermining the cultivation of social skills such as verbal communication, active listening, and empathy towards conversational counterparts. The quality of digital connectivity intimates that when utilized optimally, it could facilitate the development of social skills and enhance emotional intelligence. Conversely, the ramifications of excessive digital connectivity, such as constant connectivity, distractedness, diminished face-to-face encounters, and potential empathy deficits, all of which are correlated with excessive

digital usage, could present formidable impediments in the acquisition and application of emotional intelligence skills. These observations serve as the foundation for the research objectives, which are:

(1) to investigate the levels of digital connectivity, face-to-face social skills, and emotional intelligence among Generation Z students in Thailand, utilizing a sample group from students at Rajabhat Universities in the southern region and

(2) to probe the interrelationships among digital connectivity, face-to-face social skills, and emotional intelligence, as well as to examine the influence of social skills on emotional intelligence.

Such explorations could expand our understanding of the ramifications of digital connectivity on social skills and emotional intelligence, thereby elucidating the challenges and opportunities inherent in the digital age. This knowledge is essential for navigating and reaping optimal benefits from our increasingly digitized world.

LITERATURE REVIEW & HYPOTHESIS DEVELOPMENT

The overindulgence in digital connectivity, as exemplified by avid digital users, often spawns challenges in real-life social interactions, which subsequently results in a deterioration of social proficiencies and interpersonal skills (Odgers et al., 2018; Przybylski & Weinstein, 2017). Nevertheless, the implications of digital connectivity on social aptitudes and emotional intelligence are not exclusively deleterious. Several advantageous facets of digital connectivity have been recognized, encompassing social participation, emotional articulation, and the cultivation of empathy. As such, online interactions can potentially contribute to the enhancement of social skills and emotional intelligence (Manago et al., 2012; Valkenburg & Peter, 2013). As well, individuals who engage in constructive online behaviors and foster positive virtual relationships are often observed to demonstrate superior levels of social skills and emotional intelligence (Herrity, 2023). It is with this nuanced understanding that the researchers wish to introduce the following conceptual framework.

Digital Connectivity

Digital connectivity refers to the capacity of individuals or devices to interact and communicate via technological and digital networks, aiming to enhance quality of life, stimulate economic growth, and address issues arising from the digital divide. Simultaneously, this connectivity introduces challenges that necessitate a delicate equilibrium between economic growth and human sustainability (Fukushima, 2021). The concept of digital connectivity encompasses the integration of various digital devices and technologies to construct networks that facilitate access to information, communication, and online services (O'Connell et al., 2023). This state of connectivity allows for the seamless interchange of information, data, and communication through digital channels (Ahmed & Roche, 2021). It further enables efficient utilization of digital technology to foster communication, collaboration, and access to services, thereby facilitating smooth interaction across diverse platforms and devices (O'Connell et al., 2023). The realm of digital connectivity comprises the infrastructure, technology, and services that enable the seamless transmission of data and information across digital platforms and networks. This capacity for connection and communication via digital technology–including the internet, portable devices, and social media platforms–fosters a network environment that allows individuals, organizations, and devices to interact and exchange information in a digital format (Oladimeji et al., 2023). In the contemporary era, technological advancements significantly shape social structures and behaviors. Applying this perspective to the realm of digital connectivity allows us to explore how the proliferation of digital platforms and devices impacts social skills and emotional intelligence. This theoretical framework provides valuable insights into the wider social implications of digital connectivity, enabling a comprehensive understanding of its transformative potential (Vedechkina & Borgonovi, 2021). Additionally, the researchers have defined and outlined seven indicators for digital connectivity, as presented in **Table 1**. These indicators serve to operationalize digital connectivity and are based on previous studies referenced when constructing the proposed construct for the analysis (**Table 1**).

Social Skills

Social skills encompass a range of competencies facilitating efficacious interaction and fostering positive rapport with others. They comprise both verbal and non-verbal communication, the capacity to interpret

Table 1. Component variables & indicators of digital connectivity, social skills, & emotional intelligence

Variables	Component variables	Indicators	References
Digital connectivity		- The sense of contentment and comfort derived from using digital technology.	Twenge (2019)
		- Using digital technology for expressing opinions and identity in social contexts.	Lüders et al. (2022)
		- Collaborating and conducting meetings through digital technology.	Vuchkovski et al. (2023)
		- The feeling of being disturbed and losing focus due to digital device notifications.	Nakshine et al. (2022)
		- The discomfort and worry experienced when unable to access or use digital devices.	Al Salman et al. (2020)
		- Using digital technology to compare one's life and lifestyle with others.	Taskin and Ok (2022)
		- Using digital technology to seek feedback or advice.	Beardsley et al. (2021)
Social skills	Communication skills	- The ability to articulate thoughts and ideas effectively, ensuring that the message is understood easily by the audience.	Sibiya (2018)
		- The willingness and confidence to express oneself in real-world settings, such as meetings, classrooms, or public spaces.	Tridinanti (2018)
	Problem-solving skills	- The capability to scrutinize issues, identify their root causes, and clearly pinpoint the factors contributing to the problem.	Morrison-Smith and Ruiz (2020)
		- The skill to devise, contemplate, and implement feasible strategies and actions for problem-solving.	Lim and Han (2020)
	Teamwork skills	- A genuine readiness to work cooperatively with others towards achieving common goals, without any sense of reluctance or obligation.	Michael et al. (2016)
		- The ease and readiness to assume leadership roles and make decisive choices in team settings, free from self-doubt or evasion of responsibility.	Rosing et al. (2022)
Emotional intelligence	Self-control	- The ability to effectively manage and control emotions in stressful situations, utilizing mindfulness to resolve issues.	Zandi et al. (2021)
		- The capacity to accurately identify and acknowledge one's own emotions, such as recognizing feelings of disappointment, sadness, or jealousy.	Rowe and Fitness (2018)
	Situational understanding	- The ability to understand and share the feelings of others, perceiving and accurately interpreting the emotional expressions of conversational partners.	Flykt et al. (2021)
		- The skill to adjust and align one's emotions with the current situation, despite the presence of other conflicting feelings.	Serrat (2017)
	Failure management	- The willingness to accept advice and constructive criticism from others without resistance or defensiveness.	Kuang et al. (2019)
		- The strength and stability to cope with mistakes, disappointments, and sadness, without allowing these experiences to negatively impact one's life.	Duchek (2020)

social cues, and the ability to respond appropriately across diverse social contexts. In professional environments, these skills are instrumental for effective communication, teamwork, and leadership (Matsumoto et al., 2008).

The escalating dependence on digital connectivity instigates critical discourse on its repercussions on social skills and interpersonal interactions. One significant apprehension pertains to the impact on face-to-face social skills. Empirical research conducted among university students elucidated that heavy users of social media exhibited diminished face-to-face communication skills compared to less frequent users. This finding implies that an overreliance on digital connectivity may impede the cultivation and exercise of essential face-to-face social skills (Wang et al., 2012). Exploration into the influence of digital technology on the quality and nature of social relationships reveals that the expansion of digital communication platforms has culminated in a reduction of face-to-face interactions. Those heavily reliant on digital connectivity may develop an apprehension towards participating in real-world social interactions. This indicates that an excessive usage of digital connectivity could erect barriers to the acquisition of social skills requisite for efficacious interpersonal communication (Hunter et al., 2022).

Moreover, the influence of digital connectivity on social skills permeates beyond face-to-face interactions and extends to online communication. The advent of digital platforms has introduced new modes of communication, including messaging apps and social media platforms. While these innovations offer convenience and accessibility, they may impact an individual's aptitude to interpret non-verbal cues, engage in active listening, and establish relationships–key facets of effective social skills (Krasnova et al., 2013). However, it is vital to underscore that the impact of digital connectivity on social skills does not invariably yield adverse effects. The ensuing effects may be attributed to individual motivations and digital usage patterns. For instance, the use of social media to sustain existing relationships correlates with positive outcomes in nurturing face-to-face social relationships. This suggests that the impact of digital connectivity on social skills are variable and potentially modulated by individual characteristics and specific usage patterns (Verduyn et al., 2015). The literature review offers the following delineation of social skills:

1. **Communication skills:** As a cornerstone of social interactions, communication skills have evolved with the proliferation of digital communication channels. The manifold nature of digital connectivity and messaging has implications for social skills, particularly in face-to-face communication (Przybylski & Weinstein, 2017). Messaging may engender heightened anxiety and depression, stemming from the lack of non-verbal cues and context (Dragomir et al., 2021). Nevertheless, potential complications arising from digital connectivity, such as misinterpretation of messages and challenges in accurately conveying emotions through digital channels, must be acknowledged, as these could impede effective communication (Derks et al., 2008; Rakangthong et al., 2023).
2. **Problem-solving skills:** Problem-solving skills are an integral element of social skills, enabling individuals to adeptly navigate social situations. A significant theoretical model concerning the development of social skills is the social information processing model proposed by Crick and Dodge (1994). The model suggests that individuals engaged in online social interactions have access to a wide spectrum of social meanings and information, which may inform their problem-solving capabilities across various social contexts. However, it is essential to consider potential challenges arising from digital connectivity, such as device overuse and online platform dependence leading to reduced focus, shortened attention spans, and problem-solving difficulties (Rosen et al., 2014). Thus, balancing digital connectivity and face-to-face interaction is vital for the appropriate development of problem-solving skills within a social context.
3. **Teamwork skills:** The onset of digital connectivity significantly shapes how individuals engage in teamwork. An expert survey involving professionals working in virtual teams found that digital connectivity positively influences teamwork skills, including communication, coordination, and task management. Proficiency in leveraging online collaborative tools and platforms enhances team efficacy and bolsters overall team performance (Paul et al., 2016). Yet, the absence of face-to-face interactions and non-verbal cues in a virtual environment can pose hurdles to teamwork, such as trust-building and relationship development among team members (Kirkman et al., 2004). Additionally, challenges related to time zone differences, language barriers, and technological deficiencies can disrupt effective teamwork within a digital milieu (Abuarqoub, 2019).

The three dimensions of social skills–communication, problem-solving, and teamwork–are chosen to provide a holistic view of social interactions in the digital age. Communication skills are essential for understanding the evolution of social interactions through digital channels. Problem-solving skills highlight the ability to navigate complex social situations, influenced by online interactions. Teamwork skills address the challenges and opportunities of virtual collaboration. Together, these dimensions encapsulate the multifaceted nature of social skills in today's digitally connected world (**Table 1**).

Emotional Intelligence

Emotional intelligence pertains to the capacity to discern, comprehend, and manage one's emotions and those of others. It encompasses self-awareness, empathy, and emotional regulation, which are integral to fostering healthy relationships, effective communication, teamwork, and leadership within organizational settings (Mayer et al., 2008). Individuals possessing developed social skills and an awareness of emotional intelligence are generally more efficient at work and enjoy a higher quality of life (Joseph & Newman, 2010).

Digital connectivity significantly impacts emotional intelligence, as seen in the transformation of emotional expression and interpretation. Online social media and text messaging have given rise to communication patterns that primarily depend on textual content. The transition from face-to-face exchanges to text-based communication could limit the non-verbal language crucial for accurate emotional perception and understanding (Vorderer et al., 2004). Challenges arise when expressing emotions accurately and interpreting others' emotional states in digital interactions. An increased reliance on digital connectivity may also erode empathy and emotional perception, as evidenced by the correlation between social media use and empathy towards conversation partners. Thus, excessive usage of digital platforms might impair individuals' abilities to understand and share others' emotions, thereby affecting the development of empathetic skills–a critical component of emotional intelligence (Przybylski et al., 2017). Conversely, digital connectivity can also enhance emotional intelligence. Digital communities offer spaces for individuals to share experiences, seek advice, and receive emotional support (Shaw et al., 2016). Participating in these digital communities can encourage self-reflection, empathy, and the development of emotional regulation skills. Moreover, digital skill enhancements, such as online training programs aimed at fostering emotional intelligence, have demonstrated efficacy in honing emotional intelligence competencies (Sánchez-Álvarez et al., 2016). However, potential pitfalls from digital connectivity that could hinder emotional intelligence development must also be acknowledged. For instance, exposure to carefully curated and filtered content on social media platforms can lead to social comparisons and feelings of inadequacy, adversely affecting individuals' self-esteem and emotional well-being (Vogel et al., 2014). The synthesis literature review suggests the understanding of emotional intelligence can be distilled into the following dimensions:

1. **Self-control:** Self-control, an essential facet of emotional intelligence, relates to comprehending and effectively managing one's emotions. Emotional intelligence theory elucidates the role of self-control in emotional intelligence and its implications in the digital era (Petrides, 2001). Emotional intelligence augments self-awareness, empathy, and adaptability, leading to improved emotional control and decision-making (Yeke, 2023). The ease of online communication could engender impulsive and thoughtless responses, thereby posing challenges in developing effective emotional control and interpersonal skills (Vorderer et al., 2004). Furthermore, studies on adolescent social media usage patterns indicate that excessive engagement with social media platforms negatively correlates with self-control. Constant exposure to social media content and the potential for attentional drift and impulsive behaviors in the digital environment can undermine an individual's capacity to effectively control emotions (Throuvala et al., 2019).
2. **Situational understanding:** Situational understanding pertains to an individual's ability to perceive and comprehend shifts in situations. The influence of digital communication on situational understanding reveals that reliance on digital communication channels, such as text messaging or online chats, can impede an individual's ability to correctly interpret non-verbal cues and context. Faceless interactions on digital communication platforms may result in inadequate understanding of the conversational partner's context, thereby affecting situational understanding (Matsumoto et al., 2008). The absence of non-verbal cues and the lack of context information in digital communication channels can cause difficulties in perceiving and interpreting emotions accurately, thus affecting emotional intelligence (Vorderer et al., 2004). Moreover, studies examining children and adolescents' usage of online social media indicate that excessive engagement with social media platforms contributes to a decline in situational understanding. Continuously ingesting disparate information on social media can limit individuals' in-depth understanding and their ability to discern differences in social situations (Bozzola et al., 2022).
3. **Failure management:** Failure management is a significant characteristic of emotional intelligence, associated with the ability to handle errors, disappointments, regrets effectively, and accept the reality of occurrences. Excessive use of social media platforms, characterized by continuous comparisons with the seemingly perfect lives of others, can elevate feelings of failure in effectively dealing with problems (Pedalino & Camerini, 2022). Participation in online communities, where individuals can share experiences and learn from others' failure stories can foster resilience and improve the capability to confront failures effectively (Schou et al., 2022). A correlation exists between online social media use and increased levels of anxiety, depressive conditions, and fear of missing out, which may affect

emotional intelligence (Lin et al., 2016). Examination of the impact of social media scrutiny reveals that intensive use of online social media is linked with heightened sorrow, deteriorating mental health, and low self-esteem. Social media comparisons can lead young individuals to rely on others' approval for self-validation and goal-verification, thereby triggering self-doubt (Onifade, 2022).

The selection of these three dimensions of emotional intelligence–self-control, situational understanding, and failure management–has been deliberately and rationally made to address the context of digital connectivity and its impact on emotional intelligence. Although Goleman's (1996) model of emotional intelligence is widely recognized and esteemed, the dimensions he proposes are relatively broad and may not directly tackle the subtleties of digital connectivity. Opting for these three specific dimensions allows for a thorough and targeted analysis of the various aspects of emotional intelligence influenced by digital interactions. The academic evidence and theoretical references cited throughout provide strong support for the selection of these dimensions, emphasizing their significance in understanding emotional intelligence in the digital age (**Table 1**).

Digital Connectivity & Social Skills

Research into emotional intelligence and effective communication reveals that individuals with higher emotional intelligence demonstrate better online communication skills, such as understanding, empathy, and conflict resolution (Sinha & Sinha, 2007). Moderate use of digital communication tools such as messaging applications and video conferencing correlates with elevated social skills scores, whereas overuse can be detrimental to social skills (Büchi et al., 2019). A longitudinal assessment of technology-assisted communication and emotional intelligence shows that individuals engaging in high-quality online interactions over time exhibit higher levels of emotional intelligence (Tyagi & Meena, 2022). However, alongside the benefits of digital connectivity, concerns exist about its potential adverse impact on face-to-face social skills. Longitudinal studies conducted among adolescents indicate that continuous social media usage correlates with a decline in face-to-face social skills over time (Marciano et al., 2022). Likewise, a study among students discovered a negative relationship between the duration spent texting and face-to-face social skills (Chen & Xiao, 2022). These findings indicate that excessive dependence on digital connectivity could obstruct the development and practice of crucial social skills needed for effective face-to-face interactions.

Growing digital connectivity could potentially decrease face-to-face interactions, thereby hampering the development and practice of necessary social skills. Individuals primarily dependent on digital communication might struggle with face-to-face interactions, finding it challenging to interpret non-verbal cues and engage in active listening. Studies also underscore potential harm excessive digital connectivity could cause to social skills, such as internet overuse being linked to social distress and diminished social integration (Kraut et al., 2003). A comparative study examining the relationship between the use of social networking sites and young people's social capital found that frequent use of such sites correlates with reduced offline social interactions and weakened face-to-face social relationships, suggesting that increased digital connectivity might be associated with a decline in face-to-face social skills (Lee et al., 2016). Increasing digital connectivity has a negative relationship with face-to-face social skills. An increasing reliance on digital communication could hinder the essential development and practice of face-to-face social skills. However, it is vital to consider the nuanced nature of this relationship. Consequently, this research has proposed the following hypothesis:

Hypothesis 1: Digital connectivity negatively impacts social skills.

Should this hypothesis be validated, it would call for a balanced approach towards digital connectivity–leveraging its benefits while mitigating its potential downsides. Further, it would emphasize the need for education and training interventions that promote the development of robust face-to-face social skills alongside digital communication competencies.

Digital Connectivity & Emotional Intelligence

Digital connectivity has indeed become a fundamental element in contemporary society, with people regularly interacting via numerous digital platforms and devices. However, the excessive use of digital technology could have potential implications on emotional intelligence, which encompasses the ability to perceive, understand, and manage one's own and others' emotions. Research exploring emotional intelligence, self-control, smartphone addiction, and students' well-being has uncovered a correlation, where

a higher level of smartphone addiction is associated with lower emotional intelligence scores (Mascia et al., 2020). Continuous connectivity through smartphones may lead to immersion in digital interactions, diverting attention and reducing the ability to perceive, understand, and effectively manage emotions. Moreover, an overreliance on digital connectivity may result in a decrease in face-to-face interaction and emotional signals, potentially affecting emotional intelligence adversely. An examination of the relationship between online social media use and adolescents' emotional intelligence has demonstrated a negative association, suggesting that excessive participation in online activities may lead to a reduction in emotion recognition during face-to-face interactions (McDaniel & Coyne, 2016).

Another factor contributing to the negative relationship between excessive digital connectivity and emotional intelligence is the potential impact on empathy towards conversation partners. Empathy, an essential component of emotional intelligence, involves the understanding and sharing of others' emotions. Overuse of digital connectivity, particularly via social media platforms, has been linked with a tendency towards diminished empathy (Beauvais et al., 2017). Moreover, the constant influx and information overload from digital connectivity could hinder the development of emotional intelligence. Individuals who are persistently using communication devices may face challenges in directing attention, self-reflection, and emotional control (Rosen et al., 2013). Alerts, messages, and online stimuli may lead to divided attention, resulting in decreased self-awareness and deficits in emotion management. Therefore, excessive digital connectivity could pose problems to emotional intelligence by reducing face-to-face interactions and potentially leading to a decline in empathy, making it more difficult to develop and apply emotional intelligence skills. Based on the above exposition, the following hypothesis is proposed:

Hypothesis 2: Digital connectivity negatively impacts emotional intelligence.

Should this hypothesis hold true, it would underline the need for a balanced and mindful approach to digital connectivity. It would emphasize the importance of creating spaces and opportunities for face-to-face interactions and the nurturing of empathy and emotional intelligence, alongside the leveraging of digital technologies. Further research could also explore interventions and strategies to mitigate the potential negative impacts of digital connectivity on emotional intelligence.

Social Skills & Emotional Intelligence

The research examining the connection between social skills and emotional intelligence consistently indicates a positive correlation between these two constructs. For instance, studies conducted among student populations have determined that those with high social skills frequently display elevated levels of emotional intelligence (Trigueros et al., 2020). Correspondingly, individuals boasting well-developed social skills tend to demonstrate improved emotional understanding and superior emotional regulation (Peixoto & Muniz, 2022). One potential explanation for the positive correlation between social skills and emotional intelligence could be that effective interpersonal relationships provide opportunities for emotional learning and growth (Goleman, 1996). Engaging with others allows individuals to develop enhanced self-awareness, empathy, and the ability to manage intricate emotional situations. Furthermore, social skills also encourage the expression and understanding of emotions, contributing to the cultivation of emotional intelligence (Harris et al., 2022). Moreover, social skills and emotional intelligence are interconnected and mutually reinforcing. Well-developed social skills assist individuals in creating and maintaining better relationships, which in turn positively impacts emotional intelligence (Hernez-Broome, 2012). For example, those with excellent social skills are more adept at empathizing with others, effectively managing conflicts, and providing emotional support–all crucial components of emotional intelligence (Babatunde et al., 2023). Therefore, the following research hypothesis is proposed:

Hypothesis 3: Social skills positively impact emotional intelligence.

Hypothesis 4: Digital connectivity positively impacts emotional intelligence through social skills.

The literature review on the impact of digital connectivity on social skills and emotional intelligence presents this hypothesis and the relationships between these variables as part of the research's conceptual framework (**Figure 1**). This framework illustrates the hypothesized relationships and will guide the empirical investigation of these relationships, thereby contributing to a more profound understanding of how digital connectivity influences social skills and emotional intelligence.

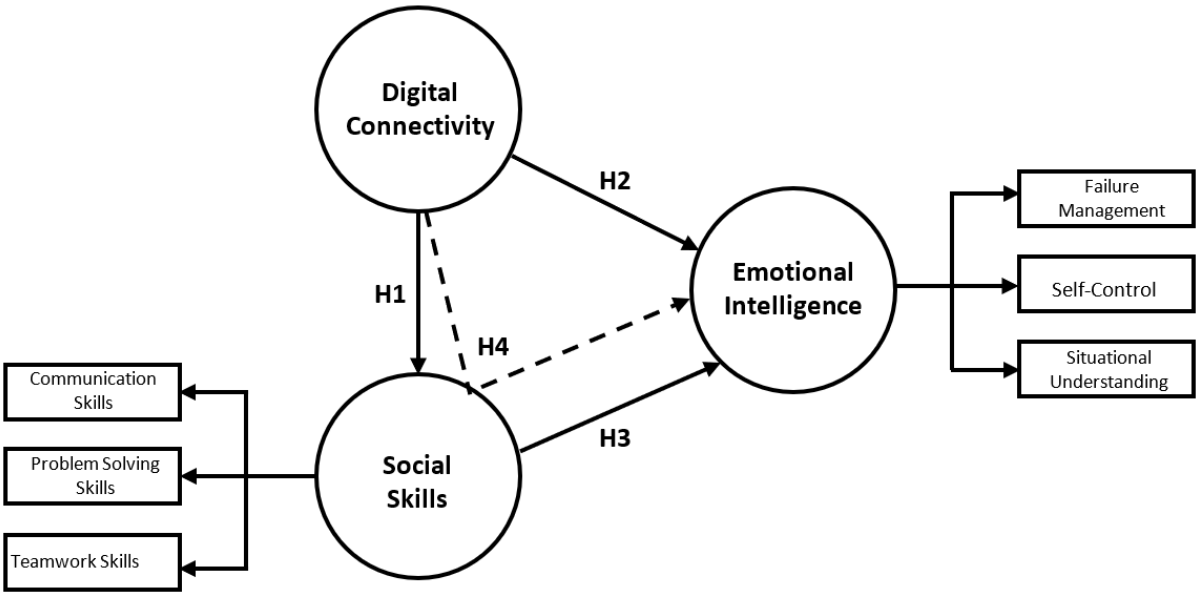

Figure 1. Research conceptual framework (Source: Authors)

MATERIALS & METHODS

Research Design, Context, & Participants

This research utilized a quantitative methodology, concentrating on Generation Z students registered in Rajabhat Universities situated in Southern Thailand. Its objective encompassed an exhaustive exploration of the impacts engendered by digital interconnectedness on the social competence and emotional acuity of this demographic, contingent upon their distinctive milieu. Renowned as a prestigious academic institution in Thailand, Rajabhat University proffers an assortment of educational curricula. The inquiry into this demographic cohort is rendered paramount for a multiplicity of reasons:

1. **Relevance:** Rajabhat University students symbolize a considerable population of young adults in Southern Thailand. Exploring this demographic allows for an assessment of digital connectivity patterns and their influence on social skills and emotional intelligence within a representative sample.
2. **Cultural context:** Southern Thailand exhibits distinct cultural, social, and economic traits. Research carried out in this context can provide rich information on how digital connectivity interacts with local culture and social dynamics, affecting the region's students' social skills and emotional intelligence.
3. **Educational setting:** As an educational institution, Rajabhat University involves students in various academic activities, both online and offline. Analyzing digital connectivity's impact on social skills and emotional intelligence within this context can enhance our comprehension of technology usage within educational settings and its effects on these critical psychological aspects.
4. **Practical significance:** Identifying the challenges connected to the Rajabhat University students' digital connectivity can help shape targeted strategies promoting effective digital communication practices, enhancing social skills, and fostering emotional intelligence within this demographic.

This investigation into the students of Rajabhat University's southern branch fostered a wealth of knowledge pertinent and advantageous to this group. It paved the way for an amplified comprehension of digital connectivity's role in shaping social competencies and emotional astuteness within a specific demographic, thereby providing illuminating research for subsequent scholarly reference while bolstering the students' welfare and growth.

To encapsulate, the target population of this study was Generation Z students enrolled in Rajabhat Universities in the southern region. The execution of data collection was conducted virtually, with questionnaires disseminated directly to faculty members or administrative staff who had been apprised of this research telephonically. The questionnaire offered succinct elucidations of each variable to ensure

unambiguous comprehension. The investigators applied a simple random sampling technique to amass and determine the sample size, adhering to Yamane's (1967) method for scenarios in which the exact population size remains nebulous, while maintaining a 95% confidence interval and a margin of error of ±5.00%. This methodology dictated a minimal sample size of 400 participants for the study. During this research, a cumulative total of 518 comprehensive data samples were aggregated and validated.

Research Instrument

The questionnaire, designed based on a comprehensive literature review and content validity analysis by three experts with in-depth understanding of technology management and human behavior, aimed to validate each question's index of item objective congruence. The questionnaire includes four sections: personal characteristics of the students, and questions associated with digital connectivity (seven items), social skills (six items), and emotional intelligence (six items). A 5-point Likert scale, ranging from 1 (lowest) to 5 (highest), was implemented to measure the model structure.

A pilot test with a sample group of 30 individuals was conducted to ensure accuracy by verifying reliability through Cronbach's alpha coefficient. Each item scored above 0.9, signifying the questionnaire is both valid and reliable for data collection. Potential bias was tested by comparing the initial 30 datasets with the last 30, and no significant statistical difference was detected, indicating no nonresponse bias in the data. The questionnaire was disseminated electronically to facilitate easy data collection and ensure confidentiality.

Data Analysis

Data analysis started with examining the levels of indicators for each variable and presenting descriptive statistics from the sample group. Average data scores were classified into five levels: lowest (0.00-1.00), low (1.01-2.00), medium (2.01-3.00), high (3.01-4.00), and highest (4.01-5.00). The conceptual model was analyzed through partial least squares structural equation modelling (PLS-SEM). Reflective measurement model considerations included indicator loading, internal consistency reliability, convergent validity, and discriminant validity. The structural model, on the other hand, considered collinearity, predictive relevance, and PLSpredict (Hair et al., 2019). Finally, the influence of the three structures was examined to confirm the research hypotheses.

RESULTS

The research data underwent a three-step analysis. Initially, data accuracy was confirmed after obtaining complete information. Then, statistical data were displayed to examine the various related variables of the sample group. Lastly, the measurement model was tested through confirmatory factor analysis (CFA), and the structural equation modelling (SEM) was examined by testing different hypotheses.

Sample Characteristics

This general information forms part of a research study analyzing and examining various characteristics and frequencies of 518 Generation Z students in a statistical context. The research findings provide insights into the characteristics and relationships between multiple crucial variables within this group. The data indicated that the sample group had a larger proportion of females (77.61%) compared to males (20.66%). Regarding the level of study, the group was composed of first year (27.18%), second year (16.22%), third year (13.70%), and fourth year (42.90%) students, with the fourth year representing the largest proportion. The field of study with the highest student representation was management science (36.06%), followed by law (18.19%), and industrial science and technology (15.83%), as demonstrated in **Table 2**.

Comparison of Digital Connectivity, Social Skills, & Emotional Intelligence of Students

Based on the data presented in **Table 3**, which compares differences in digital connectivity, social skills, and emotional intelligence categorized by student characteristics, several findings emerge. In terms of gender, the analysis revealed that the digital connectivity construct displayed an insignificant statistical difference ($p=0.257>0.05$). Conversely, the construct of social skills exhibited a statistically significant difference ($p=0.038<0.05$). A similar pattern was observed with emotional intelligence, where a significant statistical

Table 2. Characteristic of sample

Characteristics	Frequency (n)	Percentage (%)
Gender		
Male	107	20.66
Female	402	77.61
Non-binary	9	1.74
Level of study		
1st year	141	27.18
2nd year	84	16.22
3rd year	71	13.70
4th year	222	42.90
Field of study		
Education	79	15.25
Humanities & social sciences	76	14.67
Science & industrial technology	82	15.83
Management science	187	36.06
Law	94	18.19
Total	518	100

Table 3. Statistical comparison of overall differences in digital connectivity, social skills, & emotional intelligence, categorized by characteristics of students

Characteristics	n	F-test for equality of means											
		Digital connectivity				Social skills				Emotional intelligence			
		M	SD	F	Sig.	M	SD	F	Sig.	M	SD	F	Sig.
Gender													
Male	107	3.33	0.46	1.362	0.257	3.40	0.68	3.293	0.038	4.03	0.77	3.293	0.021
Female	402	3.29	0.42			3.78	0.68			4.08	0.64		
Non-binary	9	3.48	0.43			4.19	0.53			4.19	0.48		
Level of study													
1st year	141	3.28	0.42	0.608	0.610	3.72	0.69	3.101	0.026	4.07	0.67	0.479	0.697
2nd year	84	3.34	0.43			3.81	0.65			4.14	0.67		
3rd year	71	3.26	0.40			3.69	0.72			4.02	0.75		
4th year	222	3.31	0.46			3.90	0.66			4.08	0.64		
Field of study													
Education	79	3.19	0.45	2.575	0.037	3.69	0.67	2.343	0.054	3.96	0.67	1.700	0.148
Humanities & social sciences	76	3.27	0.55			3.53	0.85			4.14	0.68		
Science & industrial technology	82	3.37	0.41			4.02	0.63			4.28	0.60		
Management science	187	3.34	0.41			3.83	0.69			4.10	0.67		
Law	94	3.24	0.46			3.81	0.63			4.01	0.67		

Note. M: Mean & SD: Standard deviation

difference was noted ($p=0.021<0.05$). When examining the level of study, it was found that digital connectivity showed an insignificant statistical difference ($p=0.610>0.05$). In contrast, social skills displayed a significant statistical difference ($p=0.026<0.05$), while emotional intelligence did not exhibit any significant statistical difference ($p=0.697>0.05$). Regarding the field of study, digital connectivity indicated a significant statistical difference ($p=0.037<0.05$). In contrast, social skills ($p=0.054>0.05$) and emotional intelligence ($p=0.148>0.05$) showed insignificant statistical differences.

In summary, the analysis suggests significant statistical differences in social skills and emotional intelligence based on gender, indicating potential variations in how emotions and social skills are perceived and managed among male and female students. Furthermore, a significant difference in social skills was found across different study levels, highlighting the role of education in developing these skills. Additionally, a significant difference in digital connectivity was observed across various fields of study, emphasizing the diversity in technology use and social skills development within each field. However, there were no significant differences in emotional intelligence across educational levels and fields of study, suggesting that emotional intelligence may not be constrained by these factors. This analysis enhances our understanding of the relationships and variances in digital connectivity, social skills, and emotional intelligence among students with diverse backgrounds, potentially informing future educational and social support enhancements.

Table 4. Construct reliability & convergent validity

Constructs	Observable variables	FL	Cronbach's alpha	CR (rho_A)	CR (rho_C)	AVE
Digital connectivity	Digital connectivity	1.000				
Social skills	Communication skills	0.704	0.783	0.786	0.783	0.546
	Problem-solving skills	0.714				
	Teamwork skills	0.795				
Emotional intelligence	Self-control	0.850	0.863	0.864	0.863	0.677
	Situational understanding	0.838				
	Failure management	0.779				

Note. FL: Factor loading & CR: Composite reliability

Table 5. Discriminant validity

Constructs	Fornell-Larcker criterion			Heterotrait-Monotrait ratio		
	Digital connectivity	Emotional intelligence	Social skills	Digital connectivity	Emotional intelligence	Social skills
Digital connectivity	1.000					
Emotional intelligence	0.381	0.823		0.381		
Social skills	0.485	0.807	0.739	0.487	0.803	

Measurement Model

The analysis was performed using PLS-SEM method, resulting in the following insights:

CFA was executed using PLS-SEM method. The results, illustrated in **Table 4**, reveal that the factor loading values for all observable variables are not below 0.707, a standard established by Carmines and Zeller (1979). This key criterion verifies that each observable variable significantly correlates with other variables under the same construct value.

In terms of the measurement model's reliability, all constructs present Cronbach's alpha values not less than 0.600, as set by Hair et al. (2017), all rho_A values are not below 0.700, as outlined by Dijkstra and Henseler (2015), and all composite reliability values exceed 0.800, as suggested by Hair et al. (2010). This implies that our measurement model exhibits excellent reliability for all constructs except for 'social skills', where certain values do not fulfill the predetermined criteria. Concerning validity or convergent validity, the average variance extracted (AVE) for all constructs is not below 0.500, as established by Hair et al. (2010). This indicates that our measurement model demonstrates good convergent validity.

To ensure that different constructs in our model were indeed measuring unique characteristics, we evaluated their discriminant validity using the criteria by Fornell and Larcker (1981). As per **Table 5**, the diagonal values represent the square root of AVE, which should be higher than the correlation value in the same row or column. This indicates that the constructs are more dissimilar than alike, which was confirmed by our results for all constructs. Additionally, we used the Heterotrait-Monotrait criterion, which requires a value not exceeding 0.900 (Henseler et al., 2015). Our results for all constructs met this criterion as well. Thus, it can be inferred that each construct in our model measures unique characteristics, affirming the discriminant validity of our constructs.

Structural Model

The relationship between digital connectivity, emotional intelligence, and social skills within our sample group was investigated using PLS-SEM, as illustrated in **Figure 2**. The results of the structural model, as illustrated in **Figure 2**, reveal a significant positive correlation between digital connectivity and social skills (β=0.485, t=11.776, p=0.000). This outcome indicates the rejection of hypothesis 1. Conversely, a significant negative correlation is evident between digital connectivity and emotional intelligence (β=-0.013, t=8.662, p=0.000), supporting hypothesis 2. Furthermore, there is a significant positive relationship between social skills and emotional intelligence (β=0.813, t=19.541, p=0.000), which confirms hypothesis 3. Lastly, the indirect analysis, using social skills as a mediating variable in the relationship between digital connectivity and emotional intelligence, indicates a significant positive relationship (β=0.394, t=8.692, p=0.000), thus validating hypothesis 4. In summary, digital connectivity accounts for 23.50% of the variance in social skills, while digital connectivity and social skills combined explain 65.10% of the variance in emotional intelligence. These findings are summarized in **Table 6**.

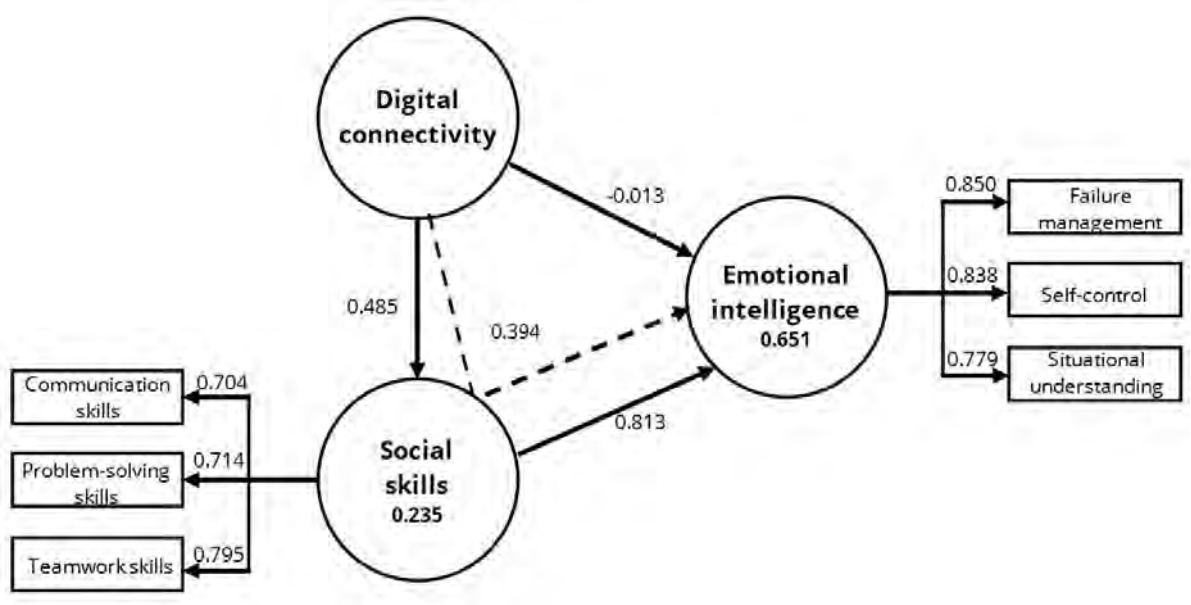

Figure 2. Structural model (Source: Authors)

Table 6. Direct relationship

Hypotheses	Effect	Path coefficients	t-statistic	p-value	Results
H1	Digital connectivity->social skills	0.485**	11.776	0.000	Not supported
H2	Digital connectivity->emotional intelligence	-0.013**	8.662	0.000	Supported
H3	Social skills->emotional intelligence	0.813**	19.541	0.000	Supported

Note. **Significant at 0.01

Table 7. Indirect relationship

Hypothesis	Effect	Path coefficient	t-statistic	p-value	Result
H4	Digital connectivity->social skills->emotional intelligence	0.394**	8.692	0.000	Supported

Note. **Significant at 0.01

Mediating Role of Social Skills

Upon analysis of the indirect relationship, wherein digital connectivity influences emotional intelligence through social skills (hypothesis 4), statistically significant results emerged. The path coefficient (β) stood at 0.394 with a t-statistic of 8.692 and a p-value below 0.01. These findings suggest that digital connectivity significantly impacts emotional intelligence through the mediation of social skills, as detailed in **Table 7**.

DISCUSSION

This research examined the interplay between digital connectivity, social skills, and emotional intelligence among Generation Z students in Thailand. These youthful individuals display elevated levels of digital connectivity and social dexterity, contributing to an amplification in positive emotional experiences. It is discernible that potent digital connectivity profoundly influences social prowess and amplifies emotional intelligence by fostering the development and utilization of digital technology for communication and scholastic engagement. Alterations or enhancements in communication and learning methodologies via technology augment efficacy in professional and academic contexts (Hoque, 2018). Constant encouragement for technological learning to boost social capabilities and emotional intelligence is of paramount importance. Nonetheless, while digital connectivity augments social competencies and emotional intelligence, excessive technology usage or unwarranted digital connectivity could engender adverse psychological repercussions. Thus, maintaining an equilibrium in digital technology usage is critical, and adolescents should be more erudite and cognizant about this fact (Haleem et al., 2022). Moreover, drawing from the data analysis, this research postulated that digital connectivity might detrimentally impact social skills and emotional

intelligence, while social skills exert a positive influence on emotional intelligence. More specifically, the empirical findings warrant further discussions.

First, concerning the relationship between digital connectivity and social skills, hypothesis 1 (H1) proposed a negative influence of digital connectivity on social skills. However, the analysis of data from Generation Z students at a Rajabhat University in the Southern region of Thailand indicated a contrary result. The statistical analysis revealed a significant positive correlation between digital connectivity and social skills, with substantial statistical implications (β=0.485, t=11.776, p=0.000). This outcome suggests that digital connectivity significantly contributes to the development of social skills among undergraduate students in Thailand. In contrast to some previous studies (e.g., Chen & Xiao, 2022; Lee et al., 2016; Marciano et al., 2022), which suggested that increased digital connectivity might be associated with diminished face-to-face social skills, this research underscores the importance of digital connectivity in fostering the social skills of undergraduate students in Thailand. These findings have implications for refining pedagogical approaches aimed at enhancing students' social skills, benefiting both educational institutions and organizations.

Second, in relation to the connection between digital connectivity and emotional intelligence, hypothesis two (H2) posited a negative impact of digital connectivity on emotional intelligence. The statistical results, however, revealed a significant negative correlation between digital connectivity and the emotional intelligence of undergraduate students in Thailand (β=-0.013, t=8.662, p=0.000), aligning with the findings of studies by Mascia et al. (2020) and McDaniel and Coyne (2016). These results suggest that digital connectivity significantly influences the emotional intelligence of undergraduate students in Thailand. The outcomes underscore the potential consequences of excessive online engagement on emotional perception in face-to-face interactions. These research findings can be leveraged to refine pedagogical methodologies aimed at enhancing students' emotional intelligence, with implications for educational institutions and organizations looking to support the development of emotional intelligence among undergraduate students.

Third, regarding the relationship between social skills and emotional intelligence, hypothesis three (H3) suggested a positive influence of social skills on emotional intelligence, which was substantiated by the statistical results. The analysis showed a significant positive correlation between the social skills and emotional intelligence of undergraduate students in Thailand (β=0.813, t=19.541, p=0.001). This finding implies that social skills significantly impact the emotional intelligence of undergraduate students in Thailand. Students with strong social skills are more likely to possess superior emotional intelligence, contributing to their ability to manage emotions effectively. This aligns with previous research, such as a study by Trigueros et al. (2020), which found a positive relationship between social skills and emotional intelligence. Furthermore, studies have indicated that individuals with well-developed social skills tend to exhibit improved emotional understanding and control (Peixoto & Muniz, 2022). Additionally, individuals with competent social skills are better equipped to empathize with others, manage conflicts effectively, and provide emotional support, essential components of emotional intelligence. These findings enhance our understanding of the significance of social skills and emotional intelligence among undergraduate students in Thailand and can inform the development of pedagogical methods to enhance these skills, benefiting educational institutions and organizations.

Fourth, hypothesis four (H4) explores the mediating role of social skills in the relationship between digital connectivity and emotional intelligence. The analysis of the indirect relationship presented in hypothesis 4 demonstrates a significant influence of digital connectivity on emotional intelligence, mediated by social skills. The results, with a path coefficient (β) of 0.394, a t-statistic of 8.692, and a p-value below 0.01, confirm a robust relationship. This suggests that individuals who engage more with digital platforms, thereby enhancing their social skills, are likely to see an improvement in their emotional intelligence. In practical terms, this indicates that individuals who effectively utilize digital tools for communication and social interaction may develop better emotional awareness and regulation. For instance, active participation in online communities may enable individuals to navigate complex social cues and express empathy, crucial components of emotional intelligence. However, it is important to consider the quality of digital interactions and the context in which they occur, as these factors also play critical roles in this developmental process.

This study reveals that digital connectivity does not negatively impact social skills but does have a detrimental effect on emotional intelligence among Generation Z. This has implications for both the

workplace and the promotion of the ability to manage one's own and others' emotional intelligence. While social skills play a critical role in enhancing emotional intelligence, effective digital connectivity, akin to proficient social skills, can promote the understanding and management of emotional intelligence in the digital age.

Implication

This research offers pivotal insights for both theoretical knowledge and practical applications, particularly in the context of our rapidly digitalizing epoch. The swift proliferation of digital connectivity and ease of access to information undeniably impacts social skills and emotional intelligence. However, this does not necessitate a complete severance from digital connectivity. From a theoretical perspective, this study counteracts the traditional perception that digital connectivity bears exclusively beneficial implications. It instead highlights a nuanced perspective, shedding light on the balance of benefits and detriments incurred through digital connectivity. For individuals adversely affected by digital connectivity, it is essential to foster their development of social skills and emotional intelligence within real-life contexts.

In terms of practical implications, this research could significantly influence the decisions of parents, educators, and institutional administrators within the educational sector. It's crucial to advocate for and sustain the balanced and innovative usage of technology and digital connections, concurrently promoting non-technological modes of learning. Moreover, this research paves the way for further exploration into the interrelationship between digital connectivity, social skills, and emotional intelligence in future studies. Concurrently, it accentuates the need to devise optimal strategies to seamlessly integrate and supplement digital technology in education and societal cohabitation without undermining the development of social skills and emotional intelligence–both integral facets of human existence.

Limitations & Future Research

The constraints of this study primarily revolve around the specificity of its sample population: Thai Generation Z undergraduate students. This population might not encapsulate the holistic impact of digital connectivity when juxtaposed with more diverse age brackets or other data sources. Consequently, the hypotheses and conclusions of this investigation could be delimited to the demographic under scrutiny. This investigation does not delve into potential factors other than digital connectivity that could exert influence on social skills and emotional intelligence. These factors could encompass domestic environments, educational institutions, and the wider societal milieu. The cumulative impact of digital connectivity as observed in this study may not necessarily epitomize the full range of effects elicited by an assortment of diverse and variable digital interactions.

As a directive for future research, scholars might wish to expand the definition and particulars of digital connectivity from both theoretical and practical standpoints. Investigating domestic, educational, and social environments might offer more comprehensive insights into how digital connectivity shapes social skills and emotional intelligence. An amplification of research into this domain is imperative, given that digital connectivity forms an integral component of our current and future lives. A profound understanding of its implications will facilitate the utilization of digital technology in ways that are not only beneficial but also sustainable.

CONCLUSIONS

This research provides valuable insights into the effects of digital connectivity on the social skills and emotional intelligence of Generation Z undergraduate students in Thailand. The empirical findings reveal that digital connectivity significantly influences the social abilities and emotional awareness of this demographic, particularly within a highly digitized environment. Educational institutions can leverage these research outcomes to refine and advance pedagogical methodologies that align with the digital era, thereby enhancing students' social competencies and emotional intelligence.

In conclusion, this study has successfully addressed the two primary objectives set at the outset. Firstly, we aimed to investigate the levels of digital connectivity, face-to-face social skills, and emotional intelligence among Generation Z students in Thailand, focusing on students from Rajabhat Universities in the southern

region. Our comprehensive analysis has delineated prevalent patterns and levels of these variables within our target demographic. The findings highlight the substantial engagement with digital platforms among Generation Z students, reflecting their strong connection to the digital world. Additionally, the study provides insights into the proficiency of face-to-face social skills and the state of emotional intelligence within this group, shedding light on their interpersonal and intrapersonal competencies.

Secondly, we explored the intricate interrelationships among digital connectivity, face-to-face social skills, and emotional intelligence. Our investigation revealed significant correlations, demonstrating how these variables intricately influence each other. Moreover, the study unveiled the crucial role of social skills as a mediator in the relationship between digital connectivity and emotional intelligence. The statistical significance of this mediation underscores the transformative impact of digital connectivity on emotional intelligence, facilitated through the enhancement of social skills. This insight emphasizes the dual role of digital connectivity, serving as both a platform for social interaction and a catalyst for emotional and social development.

In summary, this study not only maps out the landscape of digital connectivity, social skills, and emotional intelligence among Generation Z students in Southern Thailand but also highlights the synergistic interplay between these domains. The findings underscore the importance of nurturing balanced digital engagement and face-to-face interactions to cultivate a generation that is both digitally savvy and emotionally intelligent.

Author contributions: NI, SA, & JJ: validation, formal analysis, & writing–original draft preparation; **NI, SA, & BU**: writing–review & editing; **NI, JJ, & BU:** visualization; **NI & SA:** conceptualization & methodology; **NI & JJ:** software; **SA & BU:** investigation; & **SA:** supervision & project management. All authors approved the final version of the article.

Funding: The authors received no financial support for the research and/or authorship of this article.

Acknowledgements: The authors would like to thank all individuals who participated in this study for their voluntary participation and valuable contributions.

Ethics declaration: The authors declared that the study was approved by the Institutional Review Board of the human research ethics committee of Nakhon Ratchasima College (NMCEC-0002/2566), Thailand. Written informed consents were obtained from the participants.

Declaration of interest: The authors declare no competing interest.

Data availability: Data generated or analyzed during this study are available from the authors on request.

REFERENCES

Abuarqoub, I. A. S. (2019). Language barriers to effective communication. *Utopía Y Praxis Latinoamericana, 24*(1), 64-77. https://produccioncientificaluz.org/index.php/utopia/article/view/30060

Ahmed, S. T., & Roche, T. (2021). Making the connection: Examining the relationship between undergraduate students' digital literacy and academic success in an English medium instruction (EMI) university. *Education and Information Technologies, 26*(4), 4601-4620. https://doi.org/10.1007/s10639-021-10443-0

Al Salman, Z. H., Al Debel, F. A., Al Zakaria, F. M., Shafey, M. M., & Darwish, M. A. (2020). Anxiety and depression and their relation to the use of electronic devices among secondary school students in Al-Khobar, Saudi Arabia, 2018-2019. *Journal of Family & Community Medicine*, *27*(1), 53. https://doi.org/10.4103/jfcm.JFCM_140_19

Arghode, V., Lakshmanan, G., & Nafukho, F. M. (2022). Emotional intelligence, intercultural competence and online instruction: Review and reflection. *European Journal of Training and Development, 47*(5/6), 437-455. https://doi.org/10.1108/EJTD-05-2021-0064

Babatunde, F., Sunday, H., & Adeshina, O. (2023). Emotional intelligence in conflict management and leadership effectiveness in organizations. *International Journal of Research, 10*(3), 146-165. https://ijrjournal.com/index.php/ijr/article/view/843/733

Beardsley, M., Albó, L., Aragón, P., & Hernández-Leo, D. (2021). Emergency education effects on teacher abilities and motivation to use digital technologies. *British Journal of Educational Technology, 52*(4), 1455-1477. https://doi.org/10.1111/bjet.13101

Beauvais, A., Andreychik, M., & Henkel, L. A. (2017). The role of emotional intelligence and empathy in compassionate nursing care. *Mindfulness & Compassion, 2*(2), 92-100. https://doi.org/10.1016/j.mincom.2017.09.001

Bozzola, E., Spina, G., Agostiniani, R., Barni, S., Russo, R., Scarpato, E., Di Mauro, A., Di Stefano, A. V., Caruso, C., Corsello, G., & Staiano, A. (2022). The use of social media in children and adolescents: Scoping review on the potential risks. *International Journal of Environmental Research and Public Health, 19*(16), 9960. https://doi.org/10.3390/ijerph19169960

Büchi, M., Festic, N., & Latzer, M. (2019). Digital overuse and subjective well-being in a digitized society. *Social Media + Society, 5*(4), 2056305119886031. https://doi.org/10.1177/2056305119886031

Carmines, E. G., & Zeller, R. A. (1979). *Reliability and validity assessment*. SAGE. https://doi.org/10.4135/9781412985642

Chen, M., & Xiao, X. (2022). The effect of social media on the development of students' affective variables. *Frontiers in Psychology, 13*, 1010766. https://doi.org/10.3389/fpsyg.2022.1010766

Crick, N. R., & Dodge, K. A. (1994). A review and reformulation of social information-processing mechanisms in children's social adjustment. *Psychological Bulletin, 115*(1), 74-101. https://doi.org/10.1037/0033-2909.115.1.74

Derks, D., Fischer, A. H., & Bos, A. E. (2008). The role of emotion in computer-mediated communication: A review. *Computers in Human Behavior, 24*(3), 766-785. https://doi.org/10.1016/j.chb.2007.04.004

Dijkstra, T. K., & Henseler, J. (2015). Consistent partial least squares path modeling. *MIS Quarterly, 39*, 297-316. https://doi.org/10.25300/MISQ/2015/39.2.02

Dragomir, G. M., Fărcașiu, M. A., & Șimon, S. (2021). Students' perceptions of verbal and non-verbal communication behaviors during and after the COVID-19 pandemic. *Applied Sciences, 11*(18), 8282. https://doi.org/10.3390/app11188282

Duchek, S. (2020). Organizational resilience: A capability-based conceptualization. *Business Research*, *13*(1), 215-246. https://doi.org/10.1007/s40685-019-0085-7

Flykt, A., Hörlin, T., Linder, F., Wennstig, A. K., Sayeler, G., Hess, U., & Bänziger, T. (2021). Exploring emotion recognition and the understanding of others' unspoken thoughts and feelings when narrating self-experienced emotional events. *Journal of Nonverbal Behavior, 45*, 67-81. https://doi.org/10.1007/s10919-020-00340-4

Fornell, C., & Larcker, D. F. (1981). Structural equation models with unobservable variables and measurement error: Algebra and statistics. *Journal of Marketing Research, 18*, 382-388. https://doi.org/10.2307/3150980

Fukushima, A. (2021). *Promises and challenges of digital connectivity.* https://cadmus.eui.eu/handle/1814/71620

Goleman, D. (1996). Emotional intelligence. Why it can matter more than IQ. *Learning, 24*(6), 49-50. https://www.academia.edu/37329006/Emotional_Intelligence_Why_it_Can_Matter_More_Than_IQ_by_Daniel_Goleman

Graham, M., Ojanperä, S., Anwar, M. A., & Friederici, N. (2017). Digital connectivity and African knowledge economies. *Questions de Communication* [*Communication Issues*]*, 32*, 345-360. https://doi.org/10.4000/questionsdecommunication.11579

Gupta, M., & Sharma, A. (2021). Fear of missing out: A brief overview of origin, theoretical underpinnings and relationship with mental health. *World Journal of Clinical Cases, 9*(19), 4881. https://doi.org/10.12998/wjcc.v9.i19.4881

Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). *Multivariate data analysis*. Pearson.

Hair, J., Hult, G., Ringle, C., & Sarstedt, M. (2017). *A primer on partial least squares structural equation modeling (PLS-SEM)*. SAGE. https://doi.org/10.1080/1743727X.2015.1005806

Hair, J., Risher, J., Sarstedt, M., & Ringle, C. (2019). When to use and how to report the results of PLS-SEM. *European Business Review, 31*(1), 2-24. https://doi.org/10.1108/EBR-11-2018-0203

Haleem, A., Javaid, M., Qadri, M. A., & Suman, R. (2022). Understanding the role of digital technologies in education: A review. *Sustainable Operations and Computers, 3*, 275-285. https://doi.org/10.1016/j.susoc.2022.05.004

Harris, V. W., Anderson, J., & Visconti, B. (2022). Social emotional ability development (SEAD): An integrated model of practical emotion-based competencies. *Motivation and Emotion, 46*, 226-253. https://doi.org/10.1007/s11031-021-09922-1

Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the Academy of Marketing Science, 43*, 115-135. https://doi.org/10.1007/s11747-014-0403-8

Herath, H. M. V. R. (2021). Starlink: A solution to the digital connectivity divide in education in the global South. *arXiv*. https://doi.org/10.48550/arXiv.2110.09225

Hernez-Broome, G. (2012). Social intelligence: The new science of human relationships. *Journal of Psychological Issues in Organizational Culture, 3*(2), 75-78. https://doi.org/10.1002/jpoc.20099

Herrity, J. (2023). *Interpersonal skills: Definitions, examples and how to improve.* https://www.indeed.com/career-advice/resumes-cover-letters/interpersonal-skills

Holtzman, S., Kushlev, K., Wozny, A., & Godard, R. (2021). Long-distance texting: Text messaging is linked with higher relationship satisfaction in long-distance relationships. *Journal of Social and Personal Relationships, 38*(12), 3543-3565. https://doi.org/10.1177/02654075211043296

Hoque, A. S. M. M. (2018). Digital device addiction effect on lifestyle of Generation Z in Bangladesh. *Asian People Journal, 1*(2), 21-44. https://journal.unisza.edu.my/apj/index.php/apj/article/view/68

Hunter, J. F., Jones, N. M., Delgadillo, D., & Kaveladze, B. (2022). The influence of technology on the assessment and conceptualization of social support. In K. Wac, & S. Wulfovich (Eds.), *Quantifying quality of life: Incorporating daily life into medicine* (pp. 373-394). Springer. https://doi.org/10.1007/978-3-030-94212-0_15

Joseph, D. L., & Newman, D. A. (2010). Emotional intelligence: An integrative meta-analysis and cascading model. *Journal of Applied Psychology, 95*(1), 54-78. https://doi.org/10.1037/a0017286

Khulwa, C. A., & Luthfia, A. (2023). Generation Z students' digital literacy on online learning readiness. In *Proceedings of the 11th International Conference on Information and Education Technology* (pp. 360-364). IEEE. https://doi.org/10.1109/ICIET56899.2023.10111186

Kirkman, B. L., Rosen, B., Tesluk, P. E., & Gibson, C. B. (2004). The impact of team empowerment on virtual team performance: The moderating role of face-to-face interaction. *Academy of Management Journal, 47*(2), 175-192. https://doi.org/10.5465/20159571

Krasnova, H., Wenninger, H., Widjaja, T., & Buxmann, P. (2013). Envy on Facebook: A hidden threat to users' life satisfaction? *Wirtschaftsinformatik Proceedings 2013*, 92. https://aisel.aisnet.org/wi2013/92

Kraut, R., Kiesler, S., Boneva, B., Cummings, J., Helgeson, V., & Crawford, A. (2003). Internet paradox revisited. *Journal of Social Issues, 58*, 49-74. https://doi.org/10.1111/1540-4560.00248

Kuang, S. Y., Kamel-ElSayed, S., & Pitts, D. (2019). How to receive criticism: Theory and practice from cognitive and cultural approaches. *Medical Science Educator, 29*, 1109-1115. https://doi.org/10.1007/s40670-019-00808-z

Lee, J. Y., Park, S., Na, E. Y., & Kim, E. M. (2016). A comparative study on the relationship between social networking site use and social capital among Australian and Korean youth. *Journal of Youth Studies, 19*(9), 1164-1183. https://doi.org/10.1080/13676261.2016.1145637

Lee, Y. K. (2021). Impacts of digital technostress and digital technology self-efficacy on Fintech usage intention of Chinese Generation Z consumers. *Sustainability, 13*(9), 5077. https://doi.org/10.3390/su13095077

Lim, C., & Han, H. (2020). Development of instructional design strategies for integrating an online support system for creative problem-solving into a university course. *Asia Pacific Education Review, 21*, 539-552. https://doi.org/10.1007/s12564-020-09638-w

Lin, L. Y., Sidani, J. E., Shensa, A., Radovic, A., Miller, E., Colditz, J. B., Hoffman, B. L., Giles, L. M., & Primack, B. A. (2016). Association between social media use and depression among US young adults. *Depression and Anxiety, 33*(4), 323-331. https://doi.org/10.1002/da.22466

Lüders, A., Dinkelberg, A., & Quayle, M. (2022). Becoming "us" in digital spaces: How online users creatively and strategically exploit social media affordances to build up social identity. *Acta Psychologica, 228*, 103643. https://doi.org/10.1016/j.actpsy.2022.103643

Manago, A. M., Taylor, T., & Greenfield, P. M. (2012). Me and my 400 friends: The anatomy of college students' Facebook networks, their communication patterns, and well-being. *Developmental Psychology, 48*(2), 369-380. https://doi.org/10.1037/a0026338

Marciano, L., Ostroumova, M., Schulz, P. J., & Camerini, A. L. (2022). Digital media use and adolescents' mental health during the COVID-19 pandemic: A systematic review and meta-analysis. *Frontiers in Public Health, 9*, 793868. https://doi.org/10.3389/fpubh.2021.793868

Mascia, M. L., Agus, M., & Penna, M. P. (2020). Emotional intelligence, self-regulation, smartphone addiction: Which relationship with student well-being and quality of life? *Frontiers in Psychology, 11*, 375. https://doi.org/10.3389/fpsyg.2020.00375

Matsumoto, D., Yoo, S. H., & Fontaine, J. (2008). Mapping expressive differences around the world: The relationship between emotional display rules and individualism versus collectivism. *Journal of Cross-Cultural Psychology, 39*(1), 55-74. https://doi.org/10.1177/0022022107311854

Matsumoto, D., Yoo, S. H., & Nakagawa, S. (2008). Culture, emotion regulation, and adjustment. *Journal of Personality and Social Psychology, 94*(6), 925. https://doi.org/10.1037/0022-3514.94.6.925

Mayer, J. D., Salovey, P., & Caruso, D. R. (2008). Emotional intelligence: New ability or eclectic traits? *American Psychologist, 63*(6), 503. https://doi.org/10.1037/0003-066X.63.6.503

McDaniel, B. T., & Coyne, S. M. (2016). "Technoference": The interference of technology in couple relationships and implications for women's personal and relational well-being. *Psychology of Popular Media Culture, 5*(1), 85-98. https://doi.org/10.1037/ppm0000065

Michael, J., Sebanz, N., & Knoblich, G. (2016). The sense of commitment: A minimal approach. *Frontiers in Psychology, 6*, 1968. https://doi.org/10.3389/fpsyg.2015.01968

Mishra, D. (2016). *World development report 2016: Digital dividends.* https://www.worldbank.org/en/publication/wdr2016

Morrison-Smith, S., & Ruiz, J. (2020). Challenges and barriers in virtual teams: A literature review. *SN Applied Sciences, 2*, 1096. https://doi.org/10.1007/s42452-020-2801-5

Nakshine, V. S., Thute, P., Khatib, M. N., & Sarkar, B. (2022). Increased screen time as a cause of declining physical, psychological health, and sleep patterns: A literary review. *Cureus, 14*(10), e30051. https://doi.org/10.7759/cureus.30051

O'Connell, E., O'Brien, W., Bhattacharya, M., Moore, D., & Penica, M. (2023). Digital twins: Enabling interoperability in smart manufacturing networks. *Telecom, 4*(2), 265-278. https://doi.org/10.3390/telecom4020016

Odgers, C. L., Jensen, M. R., & Siyahhan Julnes, P. (2018). Annual research review: Adolescent mental health in the digital age: Facts, fears, and future directions. *Journal of Child Psychology and Psychiatry, 59*(4), 446-474. https://doi.org/10.1111/jcpp.13190

Oladimeji, D., Gupta, K., Kose, N. A., Gundogan, K., Ge, L., & Liang, F. (2023). Smart transportation: An overview of technologies and applications. *Sensors, 23*(8), 3880. https://doi.org/10.3390/s23083880

Onifade, T. (2022). *Effects of social media validation*. https://www.researchgate.net/publication/357606313_Effects_of_Social_Media_Validation

Paul, R., Drake, J. R., & Liang, H. (2016). Global virtual team performance: The effect of coordination effectiveness, trust, and team cohesion. *IEEE Transactions on Professional Communication, 59*(3), 186-202. https://doi.org/10.1109/TPC.2016.2583319

Pedalino, F., & Camerini, A. L. (2022). Instagram use and body dissatisfaction: The mediating role of upward social comparison with peers and influencers among young females. *International Journal of Environmental Research and Public Health, 19*(3), 1543. https://doi.org/10.3390/ijerph19031543

Peixoto, I., & Muniz, M. (2022). Emotional intelligence, intelligence and social skills in different areas of work and leadership. *Psico-USF, 27*, 237-250. https://doi.org/10.1590/1413-82712022270203

Petrides, K. V. (2001). Trait emotional intelligence: Psychometric investigation with reference to established trait taxonomies. *European Journal of Personality, 15*(6), 425-448. https://doi.org/10.1002/per.416

Przybylski, A. K., & Weinstein, N. (2017). A large-scale test of the goldilocks hypothesis: Quantifying the relations between digital-screen use and the mental well-being of adolescents. *Psychological Science, 28*(2), 204-215. https://doi.org/10.1177/0956797616678438

Rakangthong, N.K., Hareebin, Y., Dowpiset, K., Jutidharabongse, J., & Aujirapongpan, S. (2023). Exploring managers' skills affecting dynamic-innovative capabilities and performance in new normal era. *HighTech and Innovation Journal, 4*(1), 37-54. https://doi.org/10.28991/HIJ-2023-04-01-03

Rosen, L. D., Carrier, L. M., & Cheever, N. A. (2014). Facebook and texting made me do it: Media-induced task-switching while studying. *Computers in Human Behavior, 29*(3), 948-958. https://doi.org/10.1016/j.chb.2012.12.001

Rosen, L. D., Whaling, K., Rab, S., Carrier, L. M., & Cheever, N. A. (2013). Is Facebook creating "iDisorders"? The link between clinical symptoms of psychiatric disorders and technology use, attitudes and anxiety. *Computers in Human Behavior, 29*(3), 1243-1254. https://doi.org/10.1016/j.chb.2012.11.012

Rosing, F., Boer, D., & Buengeler, C. (2022). When timing is key: How autocratic and democratic leadership relate to follower trust in emergency contexts. *Frontiers in Psychology, 13*, 904605. https://doi.org/10.3389/fpsyg.2022.904605

Rowe, A. D., & Fitness, J. (2018). Understanding the role of negative emotions in adult learning and achievement: A social functional perspective. *Behavioral Sciences, 8*(2), 27. https://doi.org/10.3390/bs8020027

Sánchez-Álvarez, N., Extremera, N., & Fernández-Berrocal, P. (2016). The relation between emotional intelligence and subjective well-being: A meta-analytic investigation. *The Journal of Positive Psychology, 11*(3), 276-285. https://doi.org/10.1080/17439760.2015.1058968

Schou, P. K., Bucher, E., & Waldkirch, M. (2022). Entrepreneurial learning in online communities. *Small Business Economics, 58*, 2087-2108. https://doi.org/10.1007/s11187-021-00502-8

Serrat, O. (2017). Understanding and developing emotional intelligence. In *Knowledge solutions: Tools, methods, and approaches to drive organizational performance* (pp. 329-339). https://doi.org/10.1007/978-981-10-0983-9_37

Shaw, H., Ellis, D. A., Kendrick, L. R., Ziegler, F., & Wiseman, R. (2016). Predicting smartphone operating system from personality and individual differences. *Cyberpsychology, Behavior, and Social Networking, 19*(12), 727-732. https://doi.org/10.1089/cyber.2016.0324

Sibiya, M. N. (2018). Effective communication in nursing. *Nursing, 19*, 20-34. https://doi.org/10.5772/intechopen.74995

Sinha, S., & Sinha, D. (2007). Emotional intelligence and effective communication. *Management Communication: Trends & Strategies, 1*(1), 450-460. https://www.researchgate.net/publication/315516240_EMOTIONAL_INTELLIGENCE_AND_EFFECTIVE_COMMUNICATION

Taskin, B., & Ok, C. (2022). Impact of digital literacy and problematic smartphone use on life satisfaction: Comparing pre-and post-COVID-19 pandemic. *European Journal of Investigation in Health, Psychology and Education, 12*(9), 1311-1322. https://doi.org/10.3390/ejihpe12090091

Throuvala, M. A., Griffiths, M. D., Rennoldson, M., & Kuss, D. J. (2019). A 'control model' of social media engagement in adolescence: A grounded theory analysis. *International Journal of Environmental Research and Public Health, 16*(23), 4696. https://doi.org/10.3390/ijerph16234696

Tridinanti, G. (2018). The correlation between speaking anxiety, self-confidence, and speaking achievement of Undergraduate EFL students of private university in Palembang. *International Journal of Education and Literacy Studies, 6*(4), 35-39. https://doi.org/10.7575/aiac.ijels.v.6n.4p.35

Trigueros, R., Sanchez-Sanchez, E., Mercader, I., Aguilar-Parra, J. M., López-Liria, R., Morales-Gázquez, M. J., Fernandez-Campoy, J. M., & Rocamora, P. (2020). Relationship between emotional intelligence, social skills and peer harassment. A study with high school students. *International Journal of Environmental Research and Public Health, 17*(12), 4208. https://doi.org/10.3390/ijerph17124208

Twenge, J. M. (2019). More time on technology, less happiness? Associations between digital-media use and psychological well-being. *Current Directions in Psychological Science, 28*(4), 372-379. https://doi.org/10.1177/0963721419838244

Tyagi, T., & Meena, S. (2022). Online social networking and its relationship with mental health and emotional intelligence among female students. *Clinical Epidemiology and Global Health, 17*, 101131. https://doi.org/10.1016/j.cegh.2022.101131

Valkenburg, P. M., & Peter, J. (2013). Online communication and adolescent well-being: Testing the stimulation versus the displacement hypothesis. *Journal of Computer-Mediated Communication, 18*(4), 407-425. https://doi.org/10.1111/j.1083-6101.2007.00368.x

Vedechkina, M., & Borgonovi, F. (2021). A review of evidence on the role of digital technology in shaping attention and cognitive control in children. *Frontiers in Psychology, 12*, 611155. https://doi.org/10.3389/fpsyg.2021.611155

Verduyn, P., Lee, D. S., Park, J., Shablack, H., Orvell, A., Bayer, J., Ybarra, O., Jonides, J., & Kross, E. (2015). Passive Facebook usage undermines affective well-being: Experimental and longitudinal evidence. *Journal of Experimental Psychology: General, 144*(2), 480-488. https://doi.org/10.1037/xge0000057

Vogel, E. A., Rose, J. P., Roberts, L. R., & Eckles, K. (2014). Social comparison, social media, and self-esteem. *Psychology of Popular Media* Culture, 3(4), 206-222. https://doi.org/10.1037/ppm0000047

Vorderer, P., Klimmt, C., & Ritterfeld, U. (2004). Enjoyment: At the heart of media entertainment. *Communication Theory, 14*(4), 388-408. https://doi.org/10.1111/j.1468-2885.2004.tb00321.x

Vuchkovski, D., Zalaznik, M., Mitręga, M., & Pfajfar, G. (2023). A look at the future of work: The digital transformation of teams from conventional to virtual. *Journal of Business Research, 163*, 113912. https://doi.org/10.1016/j.jbusres.2023.113912

Wang, Z., Tchernev, J. M., & Solloway, T. (2012). A dynamic longitudinal examination of social media use, needs, and gratifications among college students. *Computers in Human Behavior, 28*(5), 1829-1839. https://doi.org/10.1016/j.chb.2012.05.001

Wright, G. (2023). *Social networking*. https://www.techtarget.com/whatis/definition/social-networking

Yeke, S. (2023). Digital intelligence as a partner of emotional intelligence in business administration. *Asia Pacific Management Review, 28*(4), 390-400. https://doi.org/10.1016/j.apmrv.2023.01.001

Zandi, H., Amirinejhad, A., Azizifar, A., Aibod, S., Veisani, Y., & Mohamadian, F. (2021). The effectiveness of mindfulness training on coping with stress, exam anxiety, and happiness to promote health. *Journal of Education and Health Promotion, 10*(1), 177. https://doi.org/10.4103%2Fjehp.jehp_616_20