

**Personal Technology Use on Student Social-Emotional Development in
High School Curricula**

Bo Qiao (Richard) Li

School of Education, Thompson Rivers University

Kamloops, BC

Author Note

A capstone project submitted to Thompson Rivers University in partial fulfilment of the requirements of the degree of Master of Education.

Presented August 1st, 2024.

Abstract

The rapid advancement of technology use in North America has significantly impacted the development of young people. Educators are only beginning to understand the effects of digital technologies on young people's holistic well-being. My interest in this topic stems from firsthand experience as a high school teacher. Comparing my teaching experiences now to those of the COVID-19 pandemic, I have noticed a significant delay in student's social-emotional development. Today's students exhibit higher anxiety, poorer stress management skills, and are less comfortable with social interactions with peers. Despite the marked impact that hand-held technology and social media has on students, there is a lack of emphasis on Social Emotional Learning (SEL) in high school curricula. The current digital climate could have long-lasting effects on students worldwide, influencing their worldviews, well-being, and holistic resiliency into adulthood. In this paper, I argue that technology has detrimental social emotional effects on students and provide teaching suggestions to directly mitigate these effects. This paper will focus specifically on the effects of students' daily use of personal cellphones and social media on their SEL, which argues based off corroborative literature review, that a negative correlation between social media use and social-emotional development exists. The findings of this paper have broad implications for educators, policymakers, researchers, parents, and students themselves. A deeper understanding of the digital climate will help integrate SEL more effectively into the high school experience. The anticipated outcome is that this paper will offer actionable insights to mitigate the negative impacts of digital technology on social-emotional development and promote a more balanced approach to technology use among students.

Keywords: Cellphone, Technology, Social Media, Social-Emotional Learning, Development, Emotional-Intelligence, Digital Citizenship.

Table of Contents

Chapter One: Introduction	5
The Current Digital Climate of the Modern World	5
Developing my Interest in SEL Development and Digital Technology	6
Significance of This Topic.....	7
Presenting the Argument.....	8
Summary of Introduction.....	9
Chapter Two: Literature Review	10
Digital Technology's Effect on SEL	11
<i>Poor emotional intelligence and problematic cell phone use.....</i>	<i>12</i>
<i>Cyberbullying and Cybervictimization</i>	<i>13</i>
<i>Technology's potential to foster and regulate SEL.....</i>	<i>15</i>
Gaps in Current Research	17
Summary of Literature Review.....	18
Chapter Three: Applications	20
Integrating Emotional Intelligence (EI) into Classroom Practices	20
<i>Daily Reflections and Emotional Journals</i>	<i>21</i>
<i>Peer Support Groups</i>	<i>22</i>

Addressing Cyberbullying and Promoting Digital Citizenship	23
<i>Implementing Digital Citizenship Curriculum</i>	23
<i>Anonymous Reporting Systems</i>	24
<i>Engaging Parents and Guardians</i>	25
Leveraging Technology for Positive SEL Outcomes	26
<i>Educational Apps</i>	26
<i>Digital Storytelling</i>	27
<i>Moderated Online Platforms</i>	28
Summary of Applications Chapter.....	28
Chapter Four: Conclusions	31
Summary	31
Implications	33
Apendix A	37
References	38

Chapter One: Introduction

In this chapter I introduce the topic of my capstone project. It begins with an overview of the current digital climate with elementary and secondary school students in North America. I then discuss the significance of understanding the impact of digital technologies on student's social emotional development from both my own lived experiences, as well as from results gathered from literature review. Finally, I discuss the impact of this paper in terms of how it will affect stake holders and present the argument of this capstone project.

The Current Digital Climate of the Modern World

The COVID-19 pandemic has brought unprecedented challenges to the education system, particularly in the high school setting. Students have had to adapt to remote learning and increased use of technology during formative years of their lives. At the same time, the widespread access and use of technology among young people has had an unprecedented impact on the way they interact and develop social and emotional skills, both amongst their peers, as well as with adults. Results of a national survey on Student and Teacher Views of Social-Emotional Learning show that “of the 1,022 students surveyed, 44 percent reported that their level of social anxiety had increased since the pandemic. Forty-three percent reported a higher level of loneliness, and 37 percent said they felt less comfortable with physical contact like hugs from others their age.” (Kurtz et al., 2021, p. 2) This research aims to investigate the relationship between the use of personal technology such as smartphones in the educational setting, and its effect on students' social and emotional well-being. This literature will explore the challenges and opportunities presented by technology in fostering Social Emotional Learning (SEL) in high school students, as well as effective strategies for incorporating SEL into the high school setting in the context of technology amongst the wake of the pandemic.

Today's students have access to a tremendous amount of information and technology in the palm of their hands. "The rapid growth in development, accessibility and use of mobile phones and the internet" (Livingstone & Smith, 2014, p. 1) has evolved the newest generation of our society through a fundamentally different landscape into a new breed of "digital natives" (Prensky, 2001, Kivunja, 2014). Online communication, social networking and instant access to information are already seen as typical to adolescents and are becoming integral "characteristic of ever younger children" (Livingstone & Smith, 2014, p. 1). Though this integral aspect of the lives of our new generation has brought forth numerous advantages and pleasures, they also bring forth unprecedented, largely unmitigated risks to our youth, including cyberbullying, unregulated pornography, and contact with strangers. (Livingstone & Smith). Studies have shown that due to this ubiquitous environment and the sheer volume of their interaction with it, our youths today "think and process information fundamentally differently from their predecessors" (Prensky, 2001, p. 1). With a shift to our everyday environment so monumental, there is an alarming lack of research on the effects of smartphones on the developmental changes to our secondary school student's SEL.

Developing my Interest in SEL Development and Digital Technology

As a high school teacher, I have noticed firsthand this lack of SEL understanding in the fast-changing environment, as well as a lack of support within my classrooms. Despite the increased importance of SEL during the COVID-19 pandemic and the changing ways that technology is affecting the development of social and emotional skills in young people, there is a lack of emphasis on SEL in high school curricula. Through my firsthand experiences as a teacher, I have come to recognize that there is a need to understand the barriers and facilitators to the implementation of SEL in high schools and provide recommendations for how to integrate

SEL more effectively into the high school experience during and post pandemic, while considering the impact of technology.

From my lived experiences, I have come to realize that the effect of digital technology on SEL development is an important one to address in our modern classrooms. Despite the increased importance of SEL during the COVID-19 pandemic and the changing ways that technology is affecting the development of social and emotional skills in young people, there is a lack of emphasis on SEL in high school curricula. The goal is to understand the barriers and facilitators to the implementation of SEL in high schools and provide recommendations for how to integrate SEL more effectively into my student's high school experience during and post pandemic, while considering the impact of technology.

Significance of This Topic

From Statistics Canada, roughly 1 in 4 young people aged 12-24 years are affected by mental health and substance use (MHSU) disorders (Kidger et al., 2021). Given that only 25% of children and teens affected with a diagnosable condition can access Child and Adolescent Mental Health Service (Grimm et al., 2022), SEL development amongst teens will be pivotal to their success and wellbeing. Understanding the barrier towards SEL development in high schools and the relationship between technology use and interpersonal development is crucial to effectively support the social and emotional well-being of high school students.

While SEL has been incorporated into the modern epistemological approach to educational practices, the relatively new prevalence of the emergence of personal cellphone devices amongst high school students is not well researched. Especially with the immense popularity of social media apps such as Instagram, TikTok and SentIt that focus on short bursts of instant gratification is very poorly researched in educational ontology. This creates a

deficiency in our current understanding of this research topic. Despite the recognized importance of SEL, there is limited research on the specific ways that technology and the pandemic have affected the implementation and emphasis of SEL in high school curricula. While the effects of the isolation teens experienced due to the pandemic is still developing, research on this topic has just begun to surface. Because of this, more research is needed to address the deficiencies in our existing knowledge of barriers towards SEL development.

The results of this research will benefit a wide range of stakeholders. The findings of this examination will benefit educators, policy makers, and researchers in the field of education. It will also benefit students and parents by providing recommendations for how to integrate SEL effectively into the high school experience in the context of emergent technology.

Presenting the Argument

I argue that the use of personal technology and social media among high school students has a detrimental effect on their social-emotional development. This claim is supported by several key reasons: evidence which shows that students are experiencing higher level of anxiety and have diminished stress management skills, which are correlated with extensive social media use (Hill, 2022; Livingstone, 2014; Prensky, 2001); Empirical studies which have shown a significant relationship between heavy social media use and increased anxiety and depression among teenagers (Amendola et al., 2019; Lee et al., 2014; Livingstone, 2014; Seo et al., 2016); Furthermore, my firsthand observations as a high school teacher that reveals students struggle more with social and emotional issues compared to pre-COVID times. This claim underscores the urgency of integrating social emotional learning (SEL) into highschool education to address the negative effects of pervasive digital technology on students' well-being.

Summary of Introduction

In summary, the impact of digital technology on the social-emotional development of high school students is a critical issue in today's educational landscape. The COVID-19 pandemic has intensified the reliance on technology, significantly affecting students' social interactions and emotional well-being. National surveys and empirical studies indicate a troubling increase in social anxiety, loneliness, and discomfort with physical contact among students, with correlation to the detrimental effects of extensive social media use. As a high school teacher, I have observed firsthand the lack of support and understanding in addressing these issues within the classroom. Despite the recognized importance of SEL, there is a significant gap in integrating SEL effectively into high school curricula, particularly in the context of increased technology use. This research aims to fill this gap by exploring the barriers and facilitators to SEL implementation and providing actionable recommendations to support students' well-being. The findings will be valuable to educators, policymakers, researchers, students, and parents, emphasizing the need for a holistic approach to education that incorporates SEL to mitigate the adverse effects of digital technology. Chapter Two presents a comprehensive literature review to better understand the existing research on technology's impact on student SEL development.

Chapter Two: Literature Review

The integration of digital technology into the daily lives of adolescents has revolutionized the educational landscape, posing both opportunities and challenges for social-emotional learning (SEL). This chapter provides a comprehensive literature review to understand the multifaceted impact of digital technology, particularly smartphones and social media, on the social and emotional well-being of high school students. This literature review is organized into three sub sections, each addressing critical aspects of this complex issue.

Firstly, the chapter examines the concept of emotional intelligence (EI) and its relevance in the context of adolescent development. Emotional intelligence, encompassing skills such as emotional awareness, self-regulation, and empathy, is foundational to effective SEL (Amendola et al., 2019, Lee et al., 2014, Seo et al., 2016). The review explores how digital technology influences these skills, with a particular focus on the correlation between poor EI and problematic cellphone use. Next, the chapter investigates the phenomenon of cyberbullying and cybervictimization, which are pervasive issues in the digital age. The review synthesizes research findings on how these online behaviors impact students' emotional health, contributing to increased levels of anxiety, depression, and social isolation (Méndez et al., 2019). It also considers the role of digital platforms in both perpetuating and mitigating these harmful interactions (Beltrán-Catalán et al., 2018).

Following this, the chapter explores the potential positive impacts of digital technology on SEL. Despite the risks, there is growing evidence that personalized technology, such as educational apps and online SEL programs, can foster emotional awareness and social skills. The review evaluates studies that demonstrate how structured digital interventions can promote

resilience, empathy, and other SEL competencies, offering promising avenues for enhancing students' well-being.

Additionally, the literature review addresses gender differences in technology use and its effects on SEL. Research consistently shows that females are more likely to experience problematic cellphone use, and this section explores the implications of these findings. Understanding these gender-specific trends is crucial for developing targeted interventions that support all students.

Finally, the chapter synthesizes the overarching themes and identifies gaps in the current research. Despite the extensive examination of digital technology's effects on SEL, there remains a significant need for more nuanced, longitudinal studies that can capture the evolving nature of this relationship. The review concludes by outlining the critical areas for future research and the practical implications for educators, policymakers, and other stakeholders.

Digital Technology's Effect on SEL

Social and emotional skills are an ever more crucial aspect of student learning as they prepare for the workforce of the future. In order for students to be successful members of society, they must develop skills transcending traditional academic learning, such as “responsible decision-making, complex communication, and positive peer collaboration” (Hill, 2022, para. 10) which are developed through SEL. Access to technology has undoubtedly transformed the way SEL is developed amongst classrooms and beyond, but the exact mechanism of the influences that cellphones have on SEL development in teens remains nebulous in educational literature to date. A preliminary review of existing literature on this topic revealed predominantly statistical and quantitative analysis that positively correlates low emotional intelligence (EI) and problematic phone use. Gender differences, with more females showing frequent problematic use

of cell phone also appear as a common finding in these articles (Carbonell et. al., 2012, Lee et. al., 2014,). Overall, the synthesis of findings highlights a complex, dual-edged influence of digital technology on SEL. As we transition to the next section, it is crucial to explore the specific issue of poor emotional intelligence and its correlation with problematic cellphone use. Understanding this relationship will provide deeper insights into how pervasive technology affects students' ability to manage their emotions, interact socially, and develop essential life skills. This focus will lay the groundwork for examining the broader implications of technology on students' social and emotional well-being.

Poor Emotional Intelligence and Problematic cell phone use

While considering the relationship between social emotional development and cell phone use, many research articles in this space suggest a positive correlation between poor emotional intelligence (EI) and problematic cell phone use. In general, the findings demonstrate that individuals with poor EI tend to use mobile phones in a more problematic manner, leading to reduced academic achievement and social and emotional problems. The study conducted by Amendola et al. (2019) found that emotional dysregulation is associated with the problematic use of new technologies such as mobile phones. Similarly, the study by Lee et al. (2014) found a positive correlation between smartphone usage and technostress with psychological traits including locus of control, social interaction anxiety, materialism, and the need for touch. The study conducted by Seo et al. (2016) in South Korea revealed that mobile phone dependency leads to attention and depression problems that negatively impact academic achievement, especially in mathematics. Moreover, there is a strong relationship between mobile phone dependency and social relationships, with female students showing a stronger connection between mobile phone dependency and social relationships with friends.

On the other hand, studies suggest that individuals with better EI tend to use mobile phones responsibly. Méndez et al. (2020) found that non-problematic mobile phone users had better social-emotional learning (SEL) skills and less involvement in cyberbullying. They also found that the problematic use group had poor SEL skills and high involvement in cyberbullying. Mulawarman et al. (2019) demonstrated a negative and significant correlation between emotional intelligence and social media use, as well as a negative and significant correlation between academic achievement and social media use. The authors noted that the higher the students' emotional intelligence and academic achievement, the lower their social media use.

Taken together, these studies suggest that there is a positive correlation between poor EI and problematic cellphone use. The literature shows that adolescents with problematic mobile phone use exhibit poor SEL skills, limited access to effective emotion regulation strategies, and negative psychological traits, including locus of control, social interaction anxiety, materialism, and the need for touch. Additionally, overdependence on smartphones leads to user stress, depression, and compulsive usage, negatively impacting academic achievement and social relationships with friends and teachers. These findings also highlight a correlation between mobile phone use and cyberbullying, with adolescents who have problematic mobile phone use showing higher involvement in cyberbullying situations. This will be explored in detail in the next sub section.

Cyberbullying and Cybervictimization

While there exists a large body of research on the correlation between cyberbullying and emotional intelligence, the influence of technology on cyberbullying is less clear. Beltrán-Catalán et al. (2018) found that most victims of cyberbullying are also face-to-face victims, suggesting that cyberbullying may be an extension of bullying that occurs in schools. Méndez et

al. (2019) found that certain dimensions of emotional intelligence, such as adaptability, stress management, and interpersonal skills, predicted an increased risk of experiencing school violence. On the other hand, Tao et al. (2022) found that digital technology use was positively correlated with cyberbullying experiences among primary school-aged children in Hong Kong, particularly among children with low levels of digital literacy and highly restrictive parents.

While the studies suggest different findings regarding the influence of technology on cyberbullying, they highlight the need for a holistic approach to addressing bullying and cyberbullying behaviors. Beltrán-Catalán et al. (2018) suggest that a holistic approach is necessary to tackle these behaviors. Méndez et al. (2019) recommend preventive actions to improve school life and alleviate difficulties in managing stress, adaptability, and interpersonal relationships. Tao et al. (2022) suggested the importance of digital citizenship education and parental intervention to address cyberbullying among primary school-aged children. This shows that the influence of technology on cyberbullying is a complex issue that requires a comprehensive approach to prevention and intervention. While emotional intelligence plays a role in predicting the likelihood of experiencing school violence, digital literacy and parental mediation also play important moderating roles. It is crucial to address both the emotional and technological aspects of cyberbullying to effectively prevent and address these harmful behaviors.

Furthermore, the interplay between emotional intelligence and technology use underscores the importance of fostering digital resilience among students. Digital resilience involves equipping students with the skills to navigate online environments safely and responsibly, as well as the emotional capacity to cope with online challenges (Sun et al., 2022). This concept integrates the development of emotional intelligence with digital literacy,

promoting a dual-focus approach that enhances students' ability to manage both online and offline interactions. By implementing comprehensive educational programs that emphasize digital resilience, schools can create a more supportive environment that mitigates the risks of cyberbullying and empowers students to use technology in a positive and productive manner. Transitioning to the next section, it is essential to explore how technology can be harnessed to foster and regulate social-emotional learning (SEL), thereby offering a balanced perspective on the potential benefits of digital tools in supporting students' overall development.

Technology's Potential to Foster and Regulate SEL

With the rising interest in preventing and addressing harmful behaviors that arise from technology use, there is also a growing interest in the potential of technology use to foster and regulate SEL. While some researchers have expressed concern about the impact of virtual environments on children's SEL, others have found that technology, when mediated by humans, can have a positive impact on the development of empathy and emotional regulation. For instance, Walker and Venker Weidenbenner (2019) argued that children can develop empathy through virtual play and various uses of technology, but only if a human mediates the understanding and applicability of the game process and game results. The authors also suggest that virtual environments are scaffolds that support the development of SEL and empathy, but that they require careful balance.

Hill (2022) discussed the potential of educational technology to foster SEL, but identifies five barriers to its adoption, including limited awareness of SEL and its benefits, insufficient prioritization of social and emotional skills, and low levels of funding and resources for SEL. However, the author remains optimistic that with the right approaches, stakeholders can increase the adoption of SEL programs and related technologies.

Finally, Hoffner and Lee (2015) explored the use of mobile phones to regulate negative emotions, finding that mobile phones can yield psychological benefits, depending on how they are used. The authors suggest that using the phone for social support is most likely to lead to effective remediation of negative emotions, adding to our knowledge of the emotional uses of mobile phones. Their study highlights that the way mobile phones are utilized—whether for social interaction, entertainment, or seeking support—significantly influences their impact on users' emotional well-being. This insight underscores the importance of intentional and mindful use of technology to maximize its benefits for emotional regulation.

Expanding on this, other studies have demonstrated that virtual environments and educational technology can play a crucial role in developing empathy and emotional regulation skills among students. For instance, virtual reality (VR) experiences designed to simulate real-life social situations can help students practice and enhance their empathy by allowing them to experience different perspectives. A systematic literature search was conducted by Maples-Keller et al (2017) for the Harvard Review of Psychiatry which articulates empirical evidence for, and benefits of VR-based treatment for anxiety or other social developments. Educational apps that incorporate SEL principles can also offer interactive and engaging ways for students to learn about and practice emotional regulation and social skills (Medina, N. J., 2023). However, as Medina, N. J. (2023) highlights, the effectiveness of these technologies is heavily dependent on their design and implementation. Programs that include human guidance, such as teacher or counselor involvement, tend to be more successful in fostering positive SEL outcomes (Medina, N. J.).

Taken together, these articles suggest that technology has positive potential to foster and regulate SEL, but its impact depends on how it is mediated and used. Virtual environments,

educational technology, and mobile phones can all support the development of empathy and emotional regulation, but only when used in the right ways and with human guidance. Therefore, it is important to develop further research to continue exploring how technology can be integrated into SEL programs in a positive way, while also exploring, examining, and addressing the many barriers to its adoption. Transitioning to the next section, it becomes evident that while existing studies provide valuable insights into the benefits of technology for SEL, significant gaps remain in the research. Further investigation is required to understand the barriers to effective integration of technology in SEL programs and to identify strategies to overcome these challenges. The next section will delve into these research gaps, providing a roadmap for future studies aimed at optimizing the use of technology in fostering SEL.

Gaps in Current Research

The current literature on the effects of cellphone uses on the social emotional development of high school students, while abundant, is lacking in several aspects. Firstly, while studies have shown a positive correlation between problematic cellphone use and low emotional intelligence, there is a lack of understanding of how or why this correlation exists. Although correlation is well established, it is unclear if poor EI leads to problematic cellphone use, or if the causation is reversed.

Secondly, there is a lack of research on the positive influence of technology on social emotional development, especially on the many barriers to positive technology adaptation on SEL. Finally, there is limited research on the overarching effect of cellphone use on social emotional learning, with much of the existing research focusing on quantitative, statistical research on measurable metrics such as depression, academic achievements, cyberbullying and cybervictimization. A qualitative, holistic examination of the influence of personal technology

use on social emotional development of adolescents in high school settings, of which this research paper is proposing, can address the gaps highlighted above. Qualitative examination allows for deeper exploration of individual experiences and perspectives. A deeper, more humanized perspective could better shed light on the specific mechanisms through which cellphone use influences social emotional development and exploring the positive influence of technology on social emotional learning. There is a need for more comprehensive studies that explore the long-term effects of technology on SEL, the specific mechanisms through which different types of technology influence emotional and social skills, and the contextual factors that affect these outcomes. Additionally, further investigation is required to understand the barriers to effective integration of technology in SEL programs and to identify strategies to overcome these challenges.

Summary of Literature Review

The Literature Review provides an examination of some of the current research on the impact of digital technology on social-emotional learning (SEL) among high school students. The chapter begins by exploring the concept of emotional intelligence (EI) and its significance in adolescent development, emphasizing how technology, particularly mobile phones and social media, can influence these skills. Research shows a positive correlation between low EI and problematic cellphone use, highlighting the risks associated with excessive screen time and social media consumption, including increased anxiety, depression, and social isolation. The review then delves into the specific issues of cyberbullying and cybervictimization, noting that these behaviors significantly impair students' emotional health. The importance of digital citizenship education and parental intervention is emphasized as key strategies to combat cyberbullying. Finally, the chapter explores the potential positive impacts of technology on SEL,

such as the use of educational apps, virtual environments, and structured digital interventions to enhance emotional awareness, resilience, and empathy. The concept of digital resilience is introduced, highlighting the need to equip students with the skills to navigate online environments safely and responsibly. Gender differences in technology use and its effects on SEL are also discussed, underscoring the importance of targeted interventions.

Finally, the chapter identifies significant gaps in the current research, calling for more comprehensive studies on the long-term effects of technology on SEL and the specific mechanisms at play. The need for a holistic approach that addresses both emotional and technological aspects of how “digital natives learn and thrive in the digital age” (Tran et al., 2020, p. 1) and SEL integration is underscored. This sets the stage for the next chapter, which will explore practical applications and strategies for integrating technology effectively into SEL programs. By addressing these gaps, Chapter Three: Application aims to provide actionable insights for educators and policymakers to enhance students' social-emotional development in the digital age.

Chapter Three: Applications

In the modern educational landscape of North American high schools, students in grades 8 to 12 are increasingly immersed in digital technology, primarily through social media, which significantly impacts their social-emotional learning (SEL). As outlined in the previous chapter, the prevalence of digital technology presents both opportunities and challenges for fostering emotional intelligence, managing cyberbullying, and promoting positive social interactions. This chapter aims to translate these research findings into actionable strategies for educators to be implemented into North American highschool classrooms. This chapter will start by providing practical classroom suggestions for developing students' emotional intelligence through reflective practices, peer support groups, and interactive learning activities. Next, this chapter will address the need for digital citizenship education and the importance of parental and community involvement in combating cyberbullying. The goal for this chapter is to provide teachers with tools and strategies of which they can implement into their classrooms straight away to foster a holistic approach to SEL. The strategies and interventions proposed in this chapter directly address the argument by providing actionable solutions for educators to mitigate the negative effects of technology use identified in this paper. This will ensure that North American students are not only academically prepared but also emotionally resilient and socially competent as 21st century digital citizens.

Integrating Emotional Intelligence (EI) into Classroom Practices

In today's digital age, emotional intelligence (EI) is a crucial skill for students, as it directly impacts their academic performance, social interactions, and overall well-being. The literature review has highlighted the significant influence of digital technology, particularly mobile phones and social media, on adolescents' emotional development. Research shows a

positive correlation between low EI and problematic cellphone use, which is associated with increased anxiety, depression, and social isolation. To address the central argument of diminished EI linked to excessive social media use, educators can implement the following strategies to counteract the detrimental effects of digital technology and incorporate SEL into classroom practices effectively.

Daily Reflections and Emotional Journals

One effective method to foster EI in students is through regular journaling or reflective writing exercises. As noted in the literature review, mobile phones can be used to regulate negative emotions when utilized for social support. Implementing daily reflections allows students to recognize and manage their emotions, promoting emotional awareness and regulation (Gill et al., 2015). Apps like Calm and Headspace can facilitate this process by providing guided journaling prompts and mindfulness exercises. For instance, teachers can assign a daily reflection prompt that encourages students to write about their feelings, challenges, and positive experiences. This practice can help students develop self-awareness and emotional literacy, both key components of EI (Gill et al.).

To ensure consistency, digital platforms such as Google Classroom or Microsoft Teams can be utilized for maintaining and tracking emotional reflections over time. These platforms allow students to keep a digital journal, where they can reflect on their emotional states and identify patterns or triggers. These journals can be private or shared with the teacher, allowing for personalized feedback and support. Teachers can review these entries to provide personalized feedback and support, fostering a more empathetic and supportive classroom environment. Online discussion forums provide an additional avenue for promoting empathy and emotional literacy. Teachers can create moderated forums on the same digital platforms where students

discuss emotional topics, share their experiences, and provide support to one another. These forums foster a sense of community and encourage students to practice empathy and active listening. By facilitating these discussions, teachers can address the detrimental effect of digital technology argued in this paper and guide students in developing constructive and respectful communication skills.

Peer Support Groups

Another strategy to enhance EI is establishing peer support groups within the classroom. The literature review emphasizes the importance of empathy and interpersonal skills in adolescent development (Amendola et al., 2019, Lee et al., 2014, Seo et al., 2016). To that end, I have seen from first-hand experience the power of building a supportive community within a classroom through established peer support groups. Peer support groups create a safe space for students to discuss their emotional experiences and practice empathy. Weekly routines where students share their experiences through guided discussions are instrumental to promoting SEL. For example, teachers can organize weekly or bi-weekly sessions where students share their experiences and provide support to one another. These sessions can be guided by specific themes each week, such as managing stress, dealing with peer pressure, or coping with academic challenges. By engaging in these discussions, students develop empathy and learn to provide constructive feedback and support, enhancing their interpersonal skills. Platforms like ClassDojo can facilitate these groups by allowing students to connect and communicate in a structured and moderated environment.

From my experience, this required some scaffolding from teachers in terms of demonstrating good therapeutic techniques. Skills such as how to actively listen, refraining from judgement, prompting elaboration during discussions, and summarizing or paraphrasing are all

skills that should be taught, demonstrated, and practiced for new peer support groups. However, once the routine is set in place and we have a strong sense of classroom support, these weekly or bi-weekly sessions evolve into a natural, healthy part of student interactions within the classroom. This application directly addresses the argument I make in this paper by providing a strategy to mitigate the social isolation and increased anxiety observed among students due to heavy social media use, as argued in this paper. From my experience, having strong collaborative peer groups within a classroom community also promotes classroom discussions and collaboration during academic learning situations as well. Students are more willing to participate in classroom discussions, problem solve amongst peers, and have a general stronger buy-in during lessons within the classroom learning environment.

Addressing Cyberbullying and Promoting Digital Citizenship

Cyberbullying is a persistent issue in the digital age, significantly impacting students' social-emotional well-being. The literature review from the previous chapter highlighted the detrimental effects of cyberbullying, including increased anxiety, depression, and social isolation among high school students. It also emphasized the need for digital citizenship education and parental intervention to combat these behaviors. This section will outline practical strategies for addressing cyberbullying and promoting digital citizenship in high school classrooms, directly addressing the social and emotional issues caused by pervasive digital technology as argued by this paper.

Implementing Digital Citizenship Curriculum

A comprehensive digital citizenship curriculum is essential to equip students with the knowledge and skills to navigate the online world safely and responsibly. Many north American high schools already have an annual digital citizenship seminar in place for students. To

supplement the resources already provided within schools, online resources from Common Sense Education provide a robust framework for teaching digital citizenship. This curriculum covers key topics such as online safety, digital footprints, cyberbullying prevention, and responsible social media use. Teachers can integrate these digital citizenship lessons into their regular curriculum by dedicating specific periods, or sections of a class to these topics. For example, I personally found it to be a great fit as discussion topics amongst my weekly peer support group sessions, where my students could focus on different aspects of digital citizenship, such as understanding privacy settings, recognizing, and reporting cyberbullying, and developing respectful online communication skills. By incorporating these practices into the classroom routine, students can continuously develop their digital literacy and ethical online behavior as they develop their EI, which directly addresses the argument I am making.

Anonymous Reporting Systems

Creating an anonymous reporting system is another crucial step in addressing cyberbullying. Platforms like Safe2Tell offer students a confidential way to report bullying incidents without fear of retaliation. These systems empower students to speak up and seek help, which can lead to timely interventions and support.

Schools can promote the use of anonymous reporting systems by integrating them into their digital platforms and regularly reminding students about their availability. Teachers can also create a supportive environment by discussing the importance of reporting bullying and ensuring students know that their concerns will be taken seriously and addressed promptly. At the beginning of the semester each year, I always introduce the website Safe2Tell to my students, and have them access it on their phones together as a class. By giving them an opportunity to access the website and use it together as a classroom community, I am normalizing students

advocating for their own digital safety, raising awareness of healthy digital citizenship, and deterring any initial signs of cyberbullying through action.

Engaging Parents and Guardians

Parental involvement is critical in addressing cyberbullying and promoting digital citizenship. Schools can engage parents by providing resources and workshops that educate them about the risks of cyberbullying and the importance of digital citizenship. Websites like ConnectSafely and NetSmartz offer valuable information and tools for parents to guide their children in navigating the digital world safely. Regular communication between schools and parents can also enhance the effectiveness of cyberbullying prevention efforts. The school should work together with teachers to send newsletters, hold parent-teacher meetings, and organize workshops to keep parents informed and involved. I would recommend sending a start of semester email to parents, informing them about the weekly peer support group practices, digital literacy information, cyberbullying prevention resources and directing their attention to online safety education programs. By fostering a collaborative relationship with parents, schools can create a unified front against cyberbullying and support students' overall well-being.

Leveraging technology to monitor and prevent cyberbullying is another effective strategy. Software solutions like Gaggle and Bark can monitor students' online activities and flag potential bullying behavior. These tools use advanced algorithms to detect harmful language, threats, and other concerning activities, allowing school administrators to intervene early and provide the necessary support. Teachers and administrators can collaborate to implement these monitoring tools while ensuring students' privacy rights are respected. Finally, I would emphasize training and professional development events to train teachers within our school to use these tools effectively and respond to flagged incidents. Since technology is rapidly

advancing, it is essential to maintain a mentality of active continuous learning in order to promote and maintain a safe online environment for our students.

Leveraging Technology for Positive SEL Outcomes

The literature review highlighted both the risks and potential benefits of digital technology on SEL, where technology can have both negative effects as well as the potential to enhance SEL amongst students when used appropriately. This section will focus on leveraging the positive impacts of technology to foster empathy, resilience, and emotional regulation in high school students. Research indicates that technology, when used appropriately, can significantly enhance students' empathy and resilience. Hoffner and Lee (2015) found that mobile phones could provide psychological benefits when used for social support. This highlights the potential of technology to foster emotional connections and provide a platform for students to express and manage their emotions effectively. Moreover, structured digital interventions, such as educational apps and virtual environments, have been shown to support the development of emotional awareness and resilience (Tran, T. et al., 2020). To translate these findings into actionable classroom practices, educators can utilize the technological tools and strategies listed below to enhance SEL to mitigate detrimental effects of technology use as claimed by this paper.

Educational Apps

Incorporating SEL-focused educational apps into the classroom can provide interactive exercises and assessments to strengthen students' emotional awareness and regulation skills. Apps like Second Step and PBS LearningMedia offer comprehensive SEL programs that include activities, games, and reflection exercises tailored to different grade levels. I have found success in developing SEL content for my classroom using both Apps.

- **Second Step:** This app provides a range of SEL activities that focus on skills such as empathy, problem-solving, and emotional management. Teachers can integrate these activities into their daily lesson plans, using the app to facilitate discussions, role-plays, and group exercises that reinforce SEL concepts. In my classroom in 2023, I followed their “Agency & Opportunity” pathway activities with my grade 9 and 10 classes and received positive results from student and admin feedback. Introducing short brain breaks within my science classroom, I was able to routinely incorporate SEL activities that build on social emotional skills as a break for students in between heavy academic tasks. This is a great way to promote a collaborative and positive classroom community, while mitigating student burnout from course content heavy classes.
- **PBS LearningMedia:** This platform offers a wealth of resources, including videos, interactive lessons, and articles that promote SEL. Teachers can curate content related to topics such as empathy, diversity, and emotional well-being, and use it to complement their existing curriculum. This is another great brain break to introduce to students in the middle of a content heavy lesson. It allows for students to change their focus away from intellectual thinking towards social-emotional thinking, giving them a welcomed break while still utilizing classroom time to facilitate holistic growth. A well-structured brain break might involve a quick 5-10 min video on PBS, followed by some random group discussions on their opinion of the video. By changing the topic away from the lesson of the day, students receive a refreshment on their mental focus. By forming random groups, students are encouraged to walk around and have some movement to break up their lesson as well.

Digital Storytelling

Digital storytelling is an effective way to encourage students to explore themes of empathy, diversity, and emotional expression. Platforms like Storyboard That enable students to create digital stories that reflect their personal experiences and emotions.

- **Storyboard That:** Teachers can assign projects where students create storyboards that depict various SEL themes. For example, students could illustrate scenarios that demonstrate acts of kindness, conflict resolution, or emotional resilience. This activity not only enhances creative expression but also helps students develop a deeper understanding of their own and others' emotions.

Moderated Online Platforms

Establishing guidelines and using moderation features within Learning Management Systems (LMS) ensures respectful and constructive digital interactions. Platforms like Google Classroom and Microsoft Teams offer tools for moderating student interactions. Teachers should set clear guidelines for online behavior and use moderation features to monitor discussions, ensuring that all interactions are respectful and supportive. Regularly reviewing and addressing any issues that arise helps maintain a positive online environment. I have included a sample classroom agreement used to set clear guidelines and expectations for online behavior in Appendix 1. Teachers can hand out the classroom agreement at the beginning of the semester after setting their students up with the LMS of their choice and collect the signed documents back from students after having an open discussion about the importance of respectful digital interactions. A classroom agreement is beneficial in many ways, backed by existing research. It acts as a “gentle ‘call in’ to practice collectively envisioning the classroom with our students” (Fernández, 2024, p. 17). From my experience as a teacher, a classroom agreement can be a great

opportunity to foster student-to-student and student-to-teacher connections, and as Fernández (2024) puts it, a declaration of “our commitment to care for each other.” (Fernández, J. S., p. 23)

Summary of Applications Chapter

This chapter outlines concrete, practical strategies to directly address and mitigate the negative impacts of technology on students’ social-emotional well-being argued in this paper. The focus is on enhancing social-emotional learning (SEL) through the effective use of digital technology while addressing key challenges identified in this paper. Teachers are encouraged to foster emotional intelligence (EI) through daily reflections and emotional journals, allowing students to express and regulate their emotions. Peer support groups facilitated through classroom discussions, online forums, and moderated discussion boards within LMS can promote empathy and provide a safe space for students to share experiences.

To combat cyberbullying, schools should implement digital citizenship curricula that educate students about responsible online behavior. Resources from Common Sense Media offer comprehensive lesson plans that can be integrated into existing curricula, along with anonymous reporting systems which can provide students with a confidential way to report incidents of cyberbullying. Most importantly, admins should provide support to teachers by engaging parents and guardians through regular communication and workshops to help extend digital citizenship education beyond the classroom.

This chapter also highlights the positive role of technology in enhancing SEL when used appropriately. Educational apps like Second Step and platforms like PBS LearningMedia offer interactive exercises and assessments that strengthen emotional awareness and regulation skills. Digital storytelling, using tools like Storyboard That, allows students to explore themes of empathy, diversity, and emotional expression creatively, and is not bound by subject or grade.

Leveraging technology to foster SEL outcomes requires a thoughtful approach that incorporates research findings and practical implementation strategies. By incorporating reflective journals, peer support groups, educational apps, digital storytelling, curated online content, and moderated platforms, educators can create an environment that supports students' emotional and social development. These strategies not only enhance empathy and resilience but also prepare students to navigate the complexities of the digital age with emotional intelligence and responsibility. The next chapter, Conclusion, will discuss the strength of the argument presented and link the paper's findings to a wider context, emphasizing the broader implications of integrating technology and SEL in educational settings.

Chapter Four: Conclusions

In this paper, I argue that the pervasive use of personal technology and social media among North American high school students (Grade 8-12) has a detrimental effect on their social-emotional development. This argument is supported by evidence showing a correlation between extensive social media use and higher levels of anxiety and diminished stress management skills experienced by students. Empirical studies have demonstrated a significant relationship between heavy social media use and increased anxiety and depression among teenagers. Additionally, my personal observations as a highschool teacher reveal that social and emotional issues are more difficult to manage amongst teens compared to pre-COVID times. This argument underscores the urgency of integrating social-emotional learning (SEL) into high school education to address the negative effects of pervasive digital technology on students' well-being.

The introduction chapter establishes the foundation of the central argument by exploring the current digital climate among elementary and secondary school students in North America. It emphasizes the significance of understanding the impact of digital technologies on students' social-emotional development. The chapter highlights the increasing reliance on technology, particularly during the COVID-19 pandemic, and its implications on student well-being. The argument is presented that personal technology and social media negatively affect students' social-emotional development, before diving into a comprehensive examination of current research in relation to the argument in Chapter Two: Literature Review.

The Literature Review Chapter delves into existing research on the impact of digital technology on social-emotional learning (SEL) among high school students. It examines the concept of emotional intelligence (EI) and its relevance to adolescent development, highlighting

the risks associated with excessive screen time and social media consumption. The review addresses issues such as cyberbullying and cybervictimization, emphasizing the importance of digital citizenship education and parental intervention. The chapter also explores the potential positive impacts of technology on SEL, such as educational apps and virtual environments, while identifying gaps in current research that call for further investigation into the long-term effects of technology on SEL.

Chapter Three: Applications translates the findings from the literature review into actionable insights and strategies for high school teachers. It provides practical methods for integrating emotional intelligence (EI) into classroom practices, such as daily reflections, emotional journals, and peer support groups. The chapter also addresses cyberbullying by promoting digital citizenship and implementing anonymous reporting systems. Engaging parents and guardians is also highlighted as a key strategy to extend digital citizenship education beyond the classroom. Additionally, the chapter explores using technology for positive SEL outcomes through educational apps, digital storytelling, and curated online content. Through providing concrete and actionable strategies, the applications chapter builds on the findings from the literature review and offers practical solutions for educators to mitigate the negative effects of technology on students' social-emotional well-being, as outlined by the argument.

This paper successfully examines the impact of personal technology and social media on high school students' social-emotional development and offers actionable strategies for integrating social-emotional learning (SEL) into education. It effectively argues that extensive use of technology and social media negatively affects students' well-being, which is supported by empirical studies and firsthand observations. The literature review explores both the negative impacts and potential positive uses of technology for enhancing SEL, identifying gaps in the

current research, and builds upon this result through practical applications. The applications chapter directly addresses the argument in this paper by providing specific tools for educators, such as educational apps and digital storytelling platforms, in the hopes of mitigating the detrimental effects of digital technology argued in this paper. The paper considers a holistic approach to education through emotional intelligence, digital citizenship, and parental involvement. Its relevance and timeliness, especially in the context of increased technology use after the COVID-19 pandemic, ensure the findings are applicable to current educational challenges. Overall, the paper contributes to educational practice by equipping educators with evidence-based strategies to enhance students' social-emotional development in the digital age.

Implications

This paper makes several contributions to the ongoing scholarly conversation about the impact of digital technology on social-emotional learning (SEL) among high school students. By synthesizing existing research and providing new insights, this paper enhances an understanding of how personal technology and social media shape adolescent development in various ways. This paper contributes to the existing pedagogical conversation by expanding SEL frameworks to include digital technology, addressing research gaps, emphasizing digital citizenship, advocating holistic approaches, and illustrating the practical application of theoretical insights. By advocating through research and application the integration of digital technology into current SEL frameworks, this paper contributes to the current scholarly conversation about Smartphones, social media use and youth mental health by offering a nuanced understanding of how these tools influence emotional intelligence (EI). These contributions are vital for advancing an understanding of SEL in the context of pervasive digital technology. It also informs future

research and educational practices within the context of North American high school classrooms that reflect the realities of modern students' lives.

Additionally, by identifying and addressing gaps in existing research, particularly regarding the long-term effects of technology on SEL, this paper contributes to current academic conversations through a more nuanced understanding of the effects between technology use and emotional well-being. It highlights the importance of continued exploration into both the positive and negative impacts of digital technology on adolescents, providing a foundation for future studies. The inclusion of digital citizenship as a critical component of SEL underscores the necessity of equipping students with the skills to navigate online environments responsibly. This paper emphasizes that SEL must evolve to include digital literacy and online behavior management to address the rapid changes of the modern digital landscape.

The implications of this paper, however, can extend far beyond the confines of North America. As digital technology and social media permeate every facet of modern life, understanding their impact on SEL becomes crucial across various contexts, including educators, policymakers, parents, and mental health professionals globally. This paper gives practical suggestions for integrating technology into SEL programs, which can benefit educational systems worldwide, particularly in regions experiencing rapid digitalization.

One of the primary practical implications of this research is the necessity for educational policymakers to recognize the importance of SEL in our modern pedagogy. By incorporating SEL frameworks that account for digital technology, schools can better prepare students for the emotional and social challenges of the digital age. This shift in focus could lead to more resilient, empathetic, and emotionally intelligent students who are equipped to navigate the complexities of modern digital society. Educational policymakers in different countries can all adopt these

insights to inform their education systems, which will ensure that students across the world can benefit from a holistic approach to learning that includes digital SEL.

Parents or guardians also play a crucial role in the practical applications of these findings. By understanding the impact of digital technology on their children's emotional well-being and practical applications that address these impacts, parents can more effectively guide and support their use of technology. This paper underscores the need for parental involvement in digital citizenship education, promoting healthier digital habits and fostering environments where children can thrive both online and offline. Encouraging parents to engage with and understand SEL practices can create a supportive home environment that complements the efforts made in schools.

Moreover, modern health professionals can leverage the insights from this paper to develop interventions and support systems tailored to the digital experiences of adolescents. Understanding the relationship between technology use and emotional health can directly contribute to the creation of targeted therapeutic approaches which address the unique challenges faced by today's youth. By incorporating digital literacy and SEL into their practices, mental health professionals can offer more effective support to adolescents struggling with anxiety, depression, and other emotional issues exacerbated by technology use.

Through this paper, the changes in the world that I would like to see lie in fostering a generation of digitally literate, emotionally capable individuals who can contribute positively to their communities. My hope is that by integrating findings from current research, practical applications, and theoretical frameworks, we can highlight the need for educational reforms to prioritize SEL in the digital age. This should be done not despite technology, but "through technology". By leveraging the positive usage of technology on promoting SEL, this paper calls

for global educators and policymakers to collaboratively address the emotional and social needs of “digital natives” through embracing the digital age. As digital natives continue to navigate an increasingly complex online environment, the integration of digital technology based SEL into educational practices becomes increasingly crucial for their overall development and well-being. By working together—parents, educators, policymakers, mental health professionals, and the global community—we can safeguard and advocate for the holistic growth of our future generation's emotional health. This begins at home, continues in the classroom, and ultimately transcends any traditional academic learning environments.

Appendix A

CLASSROOM AGREEMENT for Online Behavior

Welcome to our online classroom! To ensure a positive, respectful, and productive learning environment, we ask that all students adhere to the following guidelines when participating in online activities and discussions. Please read each guideline carefully and sign at the bottom to indicate your agreement.

Guidelines for Online Behavior

1. Respectful Communication

- Always use polite and respectful language when communicating with classmates and teachers.
- Avoid using offensive, derogatory, or inappropriate language.
- Listen to and consider others' perspectives, even if you disagree.

2. Privacy and Confidentiality

- Respect the privacy of your classmates and teachers by not sharing personal information without consent.
- Do not share screenshots, recordings, or any content from our online classroom without permission.

3. Academic Integrity

- Submit your own work and properly cite any sources you use.
- Do not engage in plagiarism, cheating, or any form of academic dishonesty.

4. Digital Citizenship

- Be mindful of your digital footprint and the impact of your online behavior.
- Use technology responsibly and ethically.

5. Conflict Resolution

- Address conflicts or disagreements calmly and respectfully.
- Seek help from the teacher if you are unable to resolve a conflict.

Consequences for Violations

- **First Violation:** Verbal or written warning.
- **Second Violation:** Temporary suspension from online discussions or activities.
- **Third Violation:** Parent-teacher conference and possible further disciplinary actions.

Support

If you experience or witness any form of inappropriate behavior, please report it to the teacher immediately.

By signing below, you acknowledge that you have read, understood, and agree to follow these guidelines for online behavior.

Student Name: _____

Signature: _____

Date: _____

These guidelines are designed to help create a supportive and respectful online learning community. Thank you for your cooperation and commitment to maintaining a positive classroom environment.

References

- Amendola, Simone & Spensieri, Valentina & Guidetti, Vincenzo & Cerutti, Rita. (2019). The relationship between difficulties in emotion regulation and dysfunctional technology use among adolescents. *Journal of Psychopathology*, 25(1), 10-17
- Fernández, J. S. (2024). Developing Classroom Community Agreements to Cultivate a Critically Compassionate Learning Community. *The Radical Teacher*, 128, 16–24.
<https://www.jstor.org/stable/48770151>
- Gill, L. J., Ramsey, P. L., & Leberman, S. I. (2015). A systems approach to developing emotional intelligence using the self-awareness engine of growth model. *Systemic practice and action research*, 28, 575-594.
- Grimm, F., Alcock, B., Butler, J., Fernandez Crespo, R., Davies, A., Peytrignet, S., Piroddi, R., Thorlby, R., & Tallack, C. (2022). Improving children and Young People’s Mental Health Services. <https://doi.org/10.37829/hf-2022-ndl1>
- Hill, M. G. (2022, March 3). *Fostering Social and emotional learning (SEL) through technology*. World Economic Forum. Retrieved February 17, 2023, from <https://medium.com/inspired-ideas-prek-12/fostering-social-emotional-learning-through-technology-8da6974e54bb>.
- Kidger, J., Evans, R., Bell, S., Fisher, H., Turner, N., Hollingworth, W., Harding, S., Powell, J., Brockman, R., Copeland, L., Araya, R., Campbell, R., Ford, T., Gunnell, D., Morris, R., & Murphy, S. (2021). Mental health support and training to improve secondary school teachers’ well-being: The wise cluster RCT. *Public Health Research*, 9(12), 1–138.
<https://doi.org/10.3310/phr09120>
- Kivunja, C. (2014). Theoretical perspectives of how digital natives learn. *International Journal of Higher Education*, 3(1), 94-109.

- Kurtz, H. (2021, October 13). *Student and teacher views of social-emotional learning: Results of a national survey*. EdWeek Research Center. Retrieved January 10, 2023, from <https://www.edweek.org/research-center/research-center-reports/student-and-teacher-views-of-social-emotional-learning-results-of-a-national-survey>.
- Lee, Y.-K., Chang, C.-T., Lin, Y., & Cheng, Z.-H. (2014). The dark side of smartphone usage: Psychological traits, compulsive behavior and technostress. *Computers in Human Behavior*, 31, 373–383. <https://doi.org/10.1016/j.chb.2013.10.047>
- Livingstone, S., and Smith, P. (2014) Annual research review: children and young people in the digital age: The nature and prevalence of risks, harmful effects, and risk and protective factors, for mobile and internet usage. *Journal of Child Psychology and Psychiatry: Annual Research Review 2014*. Online first. doi: 10.1111/jcpp.12197
- Maples-Keller, J. L., Bunnell, B. E., Kim, S. J., & Rothbaum, B. O. (2017). The use of virtual reality technology in the treatment of anxiety and other psychiatric disorders. *Harvard review of psychiatry*, 25(3), 103-113.
- Medina, N. J. (2023). *Exploring the Use and Impact of Targeted Social Emotional Apps with High School Students as a Tool for Self-Management of Stress, Anxiety, and Depression* (Doctoral dissertation, The Chicago School of Professional Psychology).
- Prensky, M. (2001). Digital Natives, Digital Immigrants, Part 1. *On The Horizon*, 9, 3-6. <http://dx.doi.org/10.1108/10748120110424816>
- Seo, D. G., Park, Y., Kim, M. K., & Park, J. (2016). Mobile phone dependency and its impacts on adolescents' social and academic behaviors. *Computers in Human Behavior*, 63, 282–292. <https://doi.org/10.1016/j.chb.2016.05.026>

Sun, H., Yuan, C., Qian, Q., He, S., & Luo, Q. (2022). Digital resilience among individuals in school education settings: a concept analysis based on a scoping review. *Frontiers in Psychiatry*, 13, 858515.

Tran, T., Ho, M. T., Pham, T. H., Nguyen, M. H., Nguyen, K. L. P., Vuong, T. T., ... & Vuong, Q. H. (2020). How digital natives learn and thrive in the digital age: Evidence from an emerging economy. *Sustainability*, 12(9), 3819.