



Digital Interventions as Social Support for Adolescent Psychosocial Development and Educational Policy Malaysia: A Conceptual Review

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ABSTRACT

The Digital Education Policy (DEP) aims to cultivate a generation of digitally fluent individuals who possess knowledge, value students and enhance skills and infrastructure across preschool to post-secondary education levels. Previous studies highlight the potential of digital interventions in addressing social issues among adolescents, particularly in providing social support. Despite growing use of digital tools in education, limited research has explored how these technologies can be systematically integrated to provide social and emotional support for adolescents. This gap highlights the need to review existing interventions and their potential for fostering psychosocial development. This review grounded in typological approach prior research—particularly studies conducted in Malaysia—to examine policies concerning the integration of digital technology. The effectiveness of interventions by teachers can influence adolescents' psychosocial well-being in addressing contemporary challenges. Hence, the future research of proposed digital intervention could empirically explore, examine and validate as presented in educational system through implementing nationality education policy.

1. Introduction

Integrating digital technology as well as innovative way to produce digitally generation. Nevertheless, the challenges of adolescent social issues with educational institution are not recent phenomenon. Involvement educator to addressing social problem among students are alternative through organizing programs and activities to help them overcome their problems. Implication conventional methods used to intervention by monitoring and communication quite difficult to explore affection psychosocial development. Thus, the education sector needs optimized strategy to counter challenging issues [1].

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The Ministry of Education Malaysia (MoE) has issued a declaration of commitment to effectuate a transformative shift in the digital education landscape. This initiative aims to cultivate a generation proficient in digital competencies by enhancing the knowledge, skills and values of students, educators and educational leaders alike. The MoE seeks to ensure the establishment of quality infrastructure, robust information systems and relevant content while simultaneously promoting the active engagement of strategic partners. This multifaceted approach is designed to be cohesive and comprehensive, addressing the educational from pre-school through to post-secondary education. By implementing these measures, the MoE aspires to create an educational environment that not only meets the demands of the digital age but also prepares learners to thrive in a rapidly evolving global landscape.

Transformation digital education landscape by practical Digital Education Policy (DEP) is a commitment to produce competitive knowledge generation, skills and values of student, educator and educational institutions. Revealed potential teaching and learning (TnL) opportunities during the COVID-19 pandemic, shows readiness Malaysia of paradigm shift in digital era. This policy is aligned to various national agenda as Malaysia preparation towards the Fifth industrial Revolution (5thIR). Alteration policy followed by Sarawak in strengthening the quality of education with the integration of digital education such with-in Post COVID-19 Development Strategy (PCDS) 2030.

Dealing competitive challenges psychosocial formation students through challenges of adolescent social issues in our education institutions are an endless phenomenon. Exposure youngest generation in digital technology are more advance differentiate previous generation. Even social issues among students leading to a shift in social dynamics away from conventional norms towards virtual interactions [2]. Besides, shifted conventional bully into cyberbully is more disturbing on mental health student on whole day. Urbanises digital technology with existence gadget providing the absence of restrictions on use dan raises various social issues such as bullies, skipping class, rude and mental health among students [3-5].

In addressing these issues, digital interventions need to be evaluated to address social issues among adolescents by practicing appropriate social support values to overcome these problems. According to Toh *et al.*, [6], digital technology intervention forms can be evaluated for practical feasibility and effectiveness in addressing social issues. However, the comprehensive implementation of digital technology interventions in fostering the psychosocial development of Malaysian adolescents remains limited.

Thus, the paper opens with a conceptual overview integration digital intervention being social support system and exploration DEP. Then, progress into a method of study and implication digital technology clarify on exploration intervention being social supports by observation selected previous study to frame research. Ultimately, aim of this conceptual review is to explore the potential integration of digital interventions as a form of social support for adolescents in Malaysian schools, with a focus on their influence on psychosocial development and implications for educational policy. This study argues that this exploration on digital technologies is more reliable and comprehensive as social support system for challenging environment today's [7].

2. Overview Integration Digital Intervention being Social Support System

Previous studies have focused on implementing digital interventions through institution medical support on encounter public health regarding mental health. For instance, revolution digital technology being develop and dedicated to education system on propose e-learning materials for disciplines and academic levels [8]. From a practical standpoint, previous study shows that somehow conducting among adolescent in school, required consumption digital practices on execute social

issues. Currently, the teachers had quite challenging on developing psychosocial among students primary and secondary schools. Therefore, cases occurred were different compared to the previous students' day and need alternative methods to provide social support among them.

Several studies have also revealed feasibility of implementing digital intervention in addressing social issues among adolescents. As a results, this research was discovered from several countries, such as Finland, United Kingdom, New Zealand, Pakistan and, of course, ASEAN countries from Thailand and Indonesia. Furthermore, these interventions conducted by several methods with identified social issues and come out the intervention such as psychosocial well-being. Promoting social emotional, KiVa anti-bullying program and web program support based.

Conceptually, digital interventions propose using specific tools such as communication technologies, computer, internet programming, gadget and video calls while can implemented by any various digitals' tools [6]. Furthermore, social supports are a multifaceted concept being defined feeling of being care or cared of experienced support received by individuals or other persons within groups. Hence, social supports formed functional dimensions are emotional, informational, validation and instrumental [9].

This study explores the integration digital interventions to use on developing psychosocial among adolescents by implementing social support mechanism. This provides several contributions to theory and practice from a previous study especially Malaysia context education institutions. Thus, conceptual review adds to the existing policy endorsed by government as supporting digital technology on being practiced in education system. Moreover, the rapid adoption of digital technology has facilitated the creation of diverse networks and methods to address these issues, aligning interventions with the specific needs of the environment.

Table 1

Criteria for implement integration digital interventions

Criteria	Description
Accessibility	Accessible access to different gadgets (smartphones, tablets, computers) for students and users
Integration with school programs	Should complement existing school initiatives such as counselling, health education and informative content program
Teacher and parental involvement	Encourage active participation by monitoring students and guide them using digital technology effectively
Engagement strategies	Utilize interactive and engaging methods such as peer-to-peer communication and maintaining student interest and motivation by multimedia elements (infographic, videos, animation)
Cultural relevance	The intervention should respect, value and language relevant to the students' users. Avoid bias and stereotypes
Personalization	Adapts intervention to individual needs through suitable assessments and customizable content
Effectiveness and evaluation	Implement mechanism to assess and refine the intervention by analytic on usage pattern and periodic outcome evaluation. Use data to improve the effectiveness and sustainability intervention

2.1 Role of Digital Interventions in Education

This intervention has been implemented to address various challenges. Therefore, effectiveness in aiding the development of children with learning disorders, such as dyslexia, employing intervention methods rooted in cognitive, medical and psycho-educational models [10]. According to Fakhriya [11] highlighted digital intervention as a tool for mitigating health risks associated with chronic conditions and enhancing healthcare delivery through smartphone applications or online

platforms facilitating personal interaction. The primary aim of these interventions is to promote empowerment and autonomy, thereby fostering well-being, with a focus on family assessment and addressing psychosocial risks [12]. Resembling the United Kingdom's approach, digital interventions have been increasingly utilized as alternatives for adapting to the challenges posed by COVID-19, particularly in addressing communication conflicts and social issues [13]. The popularity of digital interventions as a medium for social support has led to the development of various services tailored to different types of technology, including phone-based, web-based and mobile applications [14].

2.2 Social Support Dimensions

Delineate social problems into two main components: objective and subjective. The objective aspect pertains to tangible life circumstances such as food scarcity, inadequate healthcare services, educational deficiencies, mortality rates, diseases and illiteracy [15]. On the other hand, the subjective component reflects public perceptions, encompassing concerns like poverty and eroded trust. To clarify, the objective element encompasses personal experiences that can be quantified through various metrics, such as unemployment rates, bankruptcy filings or inability to afford medical expenses. Conversely, the subjective aspect is gauged through public opinion, which interprets situations based on concepts of truth or falsehood. The presence of social support evolves in response to shifting societal dynamics over time and relates to familial, peer and environmental relationships [16]. This engenders a capacity to address social issues through contextually relevant and suitable approaches within specific situations and environments.

2.3 Linking Interventions to Adolescent Psychosocial Needs

The integration of digital technology into community affairs has become commonplace in daily life, with tools such as smartphones, computers, laptops, mobile applications and gadgets facilitating various tasks. Notably, adolescents are more adept at and reliant on technology compared to adults.

Digital technology serves as an intervention in addressing issues related to health, psychology and counselling within communities. Toh *et al.*, [6] elucidated that digital interventions, encompassing smartphone use, online messaging and video calls, form a crucial part of utilizing technology in therapeutic methods, offering social support, stress relief and anxiety management. Interventions aim to mitigate social problems stemming from individual, familial, group or environmental factors, such as drug addiction and truancy [17]. The rapid adoption of digital technology has facilitated the creation of diverse networks and methods to address these issues, aligning interventions with the specific needs of the environment [18]. Platforms like WhatsApp and Telegram have emerged as alternative interventions, particularly in assisting students with school related challenges. Nevertheless, the introduction of digital technology into school environments can provoke cultural shock, impacting community lifestyles [19]. Thus, the utilization of digital technology must be contextually appropriate to ensure effective implementation of intervention approaches, particularly in providing support for adolescents within school settings.

The multifaceted resources acquired from interpersonal interactions that impact a person's emotional, cognitive and behavioural functioning are referred to as 'social support' in the psychosocial setting. It encompasses several key elements that promote social adjustment and psychological well-being. A sense of safety and emotional stability are fostered during times of psychosocial stress by emotional support, which includes displays of empathy, tenderness and reassurance. The term "instrumental support" describes the provision of material assistance, such as cash, task assistance or program access, that directly reduces outside stressors and improves day-to-

day functioning. Sharing pertinent counsel, direction or problem-solving techniques that help people deal with life's responsibilities and make wise decisions is known as 'informational assistance'. Affirmation and constructive criticism are key components of appraisal support, which is frequently based on common standards and values. It improves self-perception and promotes adaptive coping. Companionship and physical support, such as talking, spending time together or giving physical embraces, also help to strengthen social connections and lessen feelings of loneliness. When taken as a whole, these support systems are extremely important for fostering resilience, self-efficacy and psychosocial growth, especially in those who are emotionally or socially vulnerable.

3. Empowering Digital Education Policy (DEP)

The advancement of digitalization plays a role in increasing productivity and community development in various sectors, including educational institutions. The proposed policy emphasizes digital technology as a tool to solve social challenges. In Malaysia, the MoE has implemented the DEP as an effort to drive the country's digital education landscape in line with the Fifth Industrial Revolution (5thIR). The implementation of teaching and learning with the application of digital technology has evolved in the country's education system. The ministry has set a direction by integrating digital technology as an effort to produce a generation of digitally fluent students who can solve problems and communicate effectively. Nordin *et al.*, [20], to the widespread use of digital technology in the school ecosystem, the MoE needs to pay attention to the underprivileged to sustain the digital student policy. The implementation of the Sarawak Economy Digital Blueprint 2030 is a policy to support digital transformation in improving the quality of education. In line with the DEP, the digital inclusion plan is an effort to ensure that society, including adolescents, can face social challenges such as dropping out, bullying and mental health. Chabo *et al.*, [21] student dropout is a major challenge faced by schools around Sarawak due to factors such as school location, lack of infrastructure and support services for students in schools. Based on the challenges of education in this digitalization trend, the Sarawak State Government has taken the initiative to implement PCDS 2030 as a step towards educational services through the stimulation of digital technology. Among the strategic digital pillars in the education system in Sarawak are the provision of high-speed internet and the ability to own and integrate digital skills in primary and secondary school education. This initiative aims to adapt education by providing human capital development to Sarawak educational institutions that benefit especially school adolescents.

3.1 Policy Maker Implication

The transformation global education system has advancement in educational system, necessitating policies that prepare students digital literacy. Moe prepare a strategic policy designed to integrate into education system aligning with broader national agendas such MyDigital, 5IR, JENDELA, Malaysia Education Blueprint (MEB) and National Science, Technology and Innovation Policy (NSTIP). Figure 1 as shown progress the policy framework of the national education system to form a DEP.

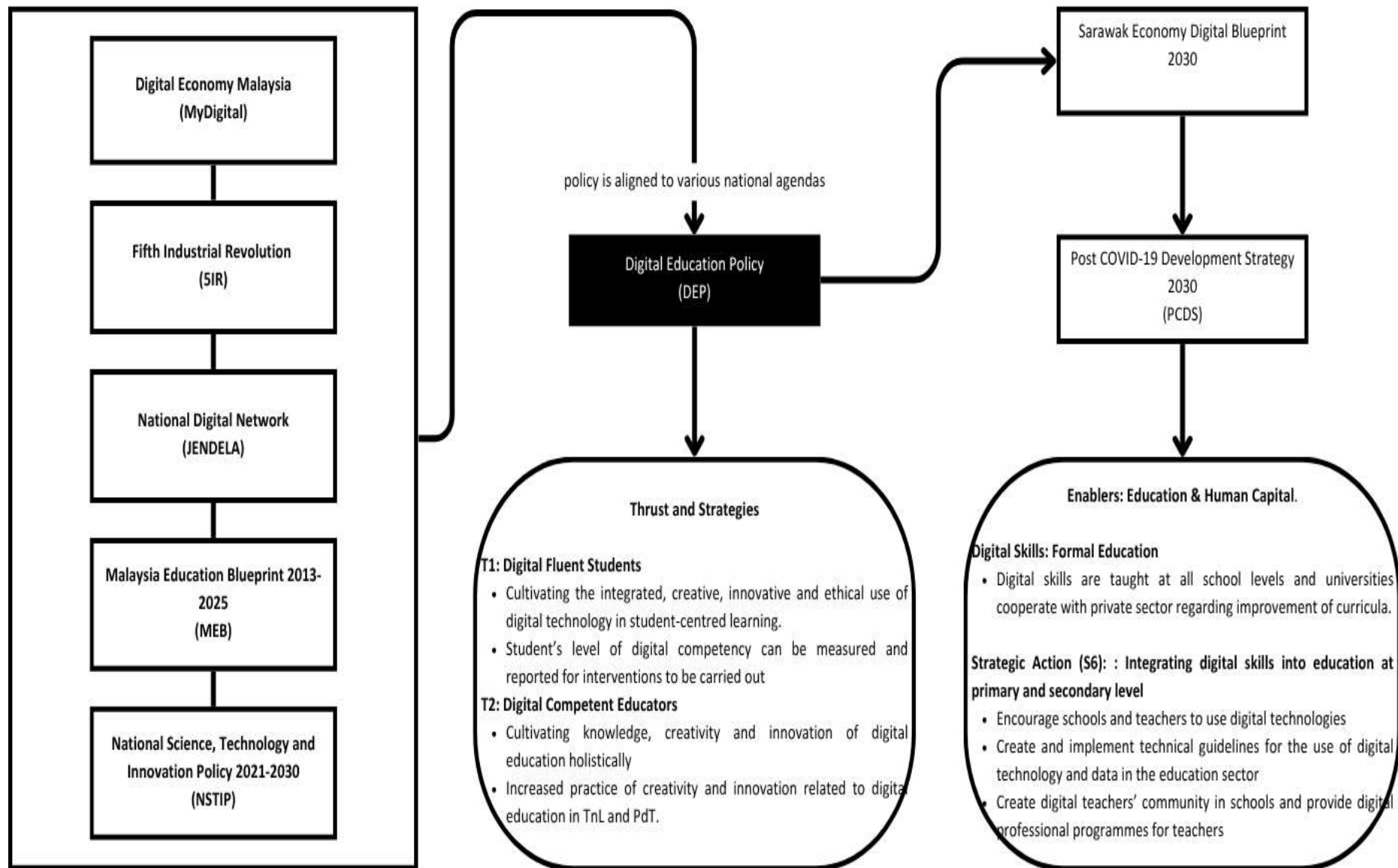


Fig. 1. The flow-aligned digital education policy (DEP)

The DEP is structured around two main thrust and strategies to establishing digital fluent students and competent educators. The key implements strategies towards developing students use creatively, ethically and innovatively digital technology by competency-based assessment and student-centred learning through interactive digital tools. In addition, collaboration teachers required on transferring knowledge by providing satisfactory digital equipment to encourages technical use as effective digital pedagogy.

The execution of the Sarawak Economy Digital Blueprint 2030 serves as a policy that promotes digital transformation aimed at enhancing the quality of education. Following the DPD, the digital inclusion strategy is designed to empower society, including young people, to confront social issues such as dropout rates, bullying and mental health concerns. As noted by Chabo *et al.*, [21], student dropout represents a significant challenge for schools throughout Sarawak, influenced by factors such as the geographical location of schools, insufficient infrastructure and a lack of support services for students. In response to the educational challenges posed by the trend of digitalisation, the Sarawak State Government has proactively initiated the implementation of PCDS 2030, which is a measure to enhance educational services through the promotion of digital technology. Key strategic digital pillars within Sarawak's education system include the provision of high-speed internet and the capacity to acquire and integrate digital skills into both primary and secondary education. This initiative is intended to modernise education and facilitate human capital development within Sarawak's educational institutions, particularly benefiting adolescents in schools.

4. Method

This research utilized a thematic analysis and literature search as the method for collecting and analysing the data to exploring potential integration digital intervention as social support mechanism on psychosocial development to achieve the objective study. Reviewing recent studies were selected among Malaysian scholars during a five-year period (2020-2025) and preferring scholarly works in Malaysian. To identify the key literature works with terms such as “digital”, “intervention”, “adolescent”, “social support” and “psychosocial”, scholars using Mendeley and Google Scholar as tools. Subsequently, literature works were identified, including two study by Putra *et al.*, [1] and Alshammari *et al.*, [8], which the scholar believes could provide strengthen the findings.

The methodological structure of the conceptual paper is grounded in a typological approach, which categorises various conceptual variations based on theoretical frameworks and prior research. This framework elucidates the diverse iterations of concepts by organising them according to distinct research divisions. Furthermore, it facilitates the identification of critical dimensions of these concepts, as derived from the insights gleaned from previous studies [22].

The purposes of this study were coded by thematically analysed and data being considered relevant to the purpose. The selection of a research design involves identifying phenomena or concepts pertinent to the issues addressed in this conceptual paper. The implications of the typological approach are grounded in relevant theory and concept, as well as the suitability of the terminology employed in the analysis. The codes refer to the arguments by the scholars within Malaysian study and being organised into different themes and codes. Table 2 was used to display potential digital intervention as social support in evaluating the effectiveness of educators and educational institutions.

5. Implication Digital Technology Integrate Social Support Intervention

Findings from earlier research by Wahab *et al.*, [23] support the hypothesis that the use of digital technology and socio-emotional factors are positively related. This is because people who use digital technology more often need emotional support. Digital technology facilitates access that aids communities and users in expressing interests and collaborating. According to Hassan *et al.*, [24], digital transformation facilitates the formation of online support groups, enabling adolescents to share experiences and receive emotional support. The emotional support provided by social media can positively influence users in the dissemination of information and communication dynamics. Data analysis of digital technology usage among adolescents indicates that the frequency of social network utilization, including Facebook, WhatsApp, Instagram and Twitter are higher among adolescents. Furthermore, as stated by Yaacob *et al.*, [25], digital technology is used in educational institutions to facilitate support among teachers in the practice and implementation of innovative teaching and learning methods. This multidimensional support approach aims to enhance emotional well-being and foster psychosocial development, thereby assisting in the cultivation of adolescents' social skills.

Nevertheless, utilizing social media as a means of providing emotional support entails risks and adverse consequences. According Hassan *et al.*, [24] argue that prolonged device usage can adversely impact both physical and mental health. From a psychological standpoint, this effect induces fatigue and insomnia, resulting in adolescents' difficulties in managing stress. This can diminish their productivity and hinder physical development. Digital technology presents both opportunities and challenges in delivering emotional support to adolescents. While it facilitates access to social media, it poses risks to mental health. Consequently, helping *via* this technology requires guidance in managing and selecting effective communication methods. The middle east country, demonstrates the effectiveness of promoting socio-emotional development, indicating that such an approach necessitates the involvement of parents in initiatives aimed at supporting mental health programs [26].

Additionally, the use of instruments facilitates the assessment of psychosocial needs in school adolescents [27]. Instrumental support elements influence personality development in adolescents by impacting academic achievement within educational settings. Instrumental support in educational institutions is essential for guiding students, providing learning facilities and offering financial assistance. Digital technology serves to address human needs. The respondent, a counsellor, stated that collaboration with teachers aims to provide resources, including laptops, internet access plans and financial assistance, particularly for students facing economic challenges [28]. Additionally, digital technology serves as an assessment tool for educators in the teaching and learning process, with the objective of enhancing student comprehension [29].

Furthermore, digital technology demonstrates a 97% efficacy in enhancing the provision of social support. As a focus on academics, improving technology use skills and making it easier to get financial help, digital technology offers many instrumental supports that help teens develop psychologically and socially. Sources that effectively use digital technology can evaluate the potential for instrumental support by enhancing practical skills.

According to Azmian *et al.*, [30] assert that social media, as a digital technology mechanism, facilitates information dissemination and communication connections among users. Furthermore, a survey conducted by the Malaysian Communications and Multimedia Commission (MCMC) revealed that the primary activity of users in Malaysia is information acquisition via internet browsing. Digital technology serves as a crucial medium for information retrieval, facilitating avenues and opportunities that bolster the physical and mental well-being of adolescents. This space facilitates access to mental health information by providing health-related data. Educators utilize platforms

such as social media to disseminate academic information and promote initiatives organized by the Ministry of Education and schools to enhance adolescent self-confidence with pertinent information. Nonetheless, digital technology enables the dissemination of information among adolescents, potentially resulting in "information overload." This exposure complicates adolescents' ability to select beneficial information. Thus, Kamisian *et al.*, [31] assert that an individual must master information literacy to achieve optimal outcomes. The unregulated dissemination of information today can impact cognitive development, emotional well-being and rational thought. Adolescents can manage informational support by extensively utilizing digital technology. This facilitates their development and education. Nonetheless, the proliferation of misleading information can impact their well-being and comprehension. Educational institutions and families play a crucial role in offering guidance and adeptly filtering inauthentic information.

The endorsement of shared values or beliefs can impact adolescent development regarding life principles and social perspectives. Digital technology facilitates self-empowerment through beliefs, culture and collective perspectives. The correlation analysis revealed no significant relationship between the two variations. We can attribute our findings to the influence of the social and socioeconomic context on the development of adolescents. The advantage of technology is its capacity to connect adolescent demographics by associating familial backgrounds with shared beliefs and values and revealed that adolescents facing social conflicts exhibit deficiencies in their family's socioeconomic status. The suburban environment affects the social cognition and behaviour of adolescents. They often navigate a complex web of peer interactions, which can either reinforce or challenge the values instilled by their families. So, it's important to understand these dynamics to create targeted interventions that meet the specific needs of teens from a range of socioeconomic backgrounds. endeavour to instil belief values in students by employing effective education and reinforcing values through a nurturing teacher toolkit approach [32].

The use of a digital technology platform as a communication medium for teacher-student interactions can effectively enhance emotional balance and socialisation among adolescents. Parental support in meeting needs with available resources can cultivate reciprocal confidence. Digital technology offers adolescents the opportunity to cultivate shared values or trust with individuals in their lives. Socioeconomic and environmental limitations on adolescents result in psychological and biological impairments. Nonetheless, to cultivate balanced self-confidence and reinforce positive values, digital technology serves as a contributing factor to personal well-being.

The progression of digitalisation enables young individuals to access diverse types of assistance in navigating the challenges they encounter. Forms of support like conversations, hugs or physical assistance that encompass empathy and physical touch cannot be entirely conveyed through technology. Nonetheless, digital technology serves to engage adolescents in receiving support without the necessity of direct physical interaction. As noted by Wil *et al.*, [33], deep social support fosters significant and stable resilience, accompanied by effective emotional regulation. This initiative aims to tackle the challenges faced by school adolescents dealing with emotional stress related to their academic performance.

Furthermore, most individuals possess devices like smartphones, laptops, tablets and iPads for their daily activities. This pointer that adolescents favour digital technology's potential to offer them social support. Consequently, digital technology may serve as a provisional alternative for delivering physical support. It has further ramifications concerning the issue of social isolation. Relying entirely on technology may lead to feelings of loneliness and emotional distress among adolescents [34]. Therefore, we should emphasise traditional physical methods and integrate social support via digital technology.

The findings indicate a positive correlation for digital technology intervention methods as evidenced by cross-reference studies. A table is proposed that integrates social support and intervention methods, based on the analysis and literature review. Table 2 represent the summary of several study on potential digital interventions as social support mechanisms on psychosocial development among adolescents.

Table 2

Display potential digital intervention as social support

Digital Intervention	Social Support	Affected Mechanism	Implication for Adolescents
<ul style="list-style-type: none"> • Social media • Gadget • Text messaging • Mobile app • Internet • Video call • Web based 	Emotional support	Facilitating access enables communities and users to express interests and exchange information.	Facilitate the assembly of online support groups for adolescents to exchange experiences and obtain emotional assistance.
	Providing support Instrumentally	Assist in assessing the extent of psychological needs in adolescents	Instrumental support elements influence personality development via academic success in educational settings.
	Providing information support	Communicate information via user searches.	Can create avenues and opportunities to enhance the physical and mental well-being of adolescents
	Sharing values or supporting beliefs	Enhancing self-empowerment through convictions, cultural influences and the exchange of perspectives.	Proactively impacting developing adolescents through life principles and social perspectives
	Verbal support, embraces or physical aid	Engaging in online conversations with parents as a substitute for in-person interaction	A method for linking adolescents to receive support without direct physical interaction.

6. Implementation Challenges and Feasibility of Technology-Driven Social Support for Adolescents

The transition education policy towards digital infrastructure in Malaysia create dynamic education system, inclusive and flexible to align needs of students with the demands of the global [35]. The potential of DEP to transform educational practices, particularly T&L and in addressing the social issues faced by school adolescents, is significant. However, implementing policies and practices that are culturally appropriate within the Malaysian context presents considerable challenges.

In recent years, digital technology integration into education has become increasingly prevalent nevertheless, teachers face challenges accessing the up-to-date training resources due to limited availability during factors time and geographical constraint [36]. Meanwhile, it is imperative to undertake responsible actions to ensure the provision of digital access spaces and reliable internet networks, particularly to meet the needs of educators in schools located in remote areas [37]. The utilisation of online interventions has become increasingly prevalent among supervisors and clients to tackle mental health issues. These digital platforms offer flexible and accessible options for support, allowing individuals to engage in therapeutic practices from the comfort of their own homes. However, the implementation of contextualised treatments for adolescents presents certain challenges, primarily due to their often-limited levels of digital literacy [38]. This lack of proficiency can hinder their ability to fully engage with online resources, potentially diminishing the effectiveness of these interventions.

Furthermore, when tackling social issues faced by adolescents, it is essential to recognize that a purely technological approach is insufficient; it necessitates the incorporation of empathy through interventions that engage both parties. Consequently, alongside the emphasis on digital intervention

practices, educators must also strive to foster empathy, particularly among adolescents, by addressing issues such as bullying. For instance, in Finland, the deployment of the KiVa anti-bullying program has demonstrated a beneficial impact on decreasing the frequency of reported cases, yet it demands a commitment to ongoing enhancements [39,40].

7. Conclusion

This conceptual review aims to enhance the understanding of integrating digital technology in social support interventions for adolescents. As digital technology has become more up to date, so has education. This approach is in line with the DEP, which aims to improve education by incorporating digital technology into the learning environment. This process indirectly cultivates digitally proficient students to enhance infrastructure and infostructure cohesively and comprehensively. Consequently, there is a pressing need for comprehensive research to evaluate the viability of digital interventions aimed at enhancing the psychosocial well-being of adolescents in Malaysia. Considering the significant challenges faced by educators in schools, particularly following the COVID-19 pandemic, it is crucial to explore the multifaceted dimensions of this issue within the Malaysian context. Furthermore, the findings of this study may contribute to the development and implementation of educational policies that support the Malaysian education system, ensuring alignment with global advancements in educational practices and mental health support [38]. Taking care of cases involving adolescents' social problems in school settings also requires using intervention strategies to make sure that these adolescents continue to get social support.

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