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Using digital technology to enhance adolescent and young adult development: An examination of implications for child welfare in Nigeria

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Abstract

The use of digital devices is increasing among adolescents and young adults (AYAs), who consider them an important part of their daily lives. This study investigated the use of digital technology by AYAs in Oyo State, Nigeria. A quantitative research design was adopted and AYAs between the ages of 13 and 18 who use smartphones were recruited from public secondary schools in Ibadan metropolis; Ibadan North, Ibadan North-East, Ibadan North-West, Ibadan South-East and Ibadan South-West areas. The probability and non-probability sampling techniques were used to select 159 respondents. The results showed that digital technology have some roles on AYAs behaviors. AYAs perceived the risk factors as eye strain, sleep problems when using digital technology for many hours in a day, poor posture, reduced physical activity, to name a few. AYAs' perceptions of parents/guardians protecting them from the Internet safety risks show that their parents/guardians do not talk to them about online content and behavior, and do not use controls or other methods of blocking, filtering, or monitoring their online activities. Based on the results, it has been recommended that digital safety should be included in the curriculum of some secondary school subjects, such as computer science.

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Introduction

Digital technology has been helpful in providing many benefits to users, especially young people. Adolescents' growth and development can be influenced by internal and external forces, both of which are interrelated (WHO, 2020). As children develop and enter puberty, they rapidly absorb everything around them that will eventually shape them into adulthood. The period between puberty and adult independence is known as the adolescent and young adult or AYAs (Blakemore, 2019).

Digital technology refers to devices such as computers, tablets, and cell phones, as well as the myriad of digital activities that children engage in today, such as surfing the internet, visiting social networking sites, chatting, and playing video games (Omokhabi, 2021). Digital technology use is a broad term that encompasses a range of tools, services, and usage patterns that have grown and are rapidly changing the way people live. In the past, digital technology was only used by adults in a work context. Today, the use of technology has transformed the way people of all ages live, creating a new digital culture. The use of digital technologies, such as the Internet, mobile phones, mobile apps, and social media platforms, is fundamental to the lives of young people and adults in general (Villanti, Johnson, Ilakkuvan, Jacobs, Graham &, Rath, 2017; Pew Research Center, 2018). With the digitization of society, digital technologies, primarily the Internet, are increasingly being used in all aspects of our lives. Although there are significant regional differences, worldwide, 75% of adolescents and young adults (15-24 years) use the Internet, representing 59% of the population (United Nations Children's Fund (UNICEF), 2017; Statista, 2020). As a digital population, 21st century adolescents and young adults (AYAs) have unprecedented access to digital and media technologies. The range of digital devices and media activities available to children is constantly expanding.

The current rapid advances in digitization have led researchers to suggest that today's AYAs are a multifaceted generation capable of approaching digital challenges differently than their predecessors (Livingstone, Mascheroni, & Staksrud, 2018). The lives of AYAs are becoming increasingly intertwined with technology. According to national studies in the United States of America, 92% of teens use the internet daily, and 95% of teens report owning or having access to a smartphone (Anderson & Raine, 2018). Many use online social networks to communicate and seek health advice, and many wristwatches provide daily step counts (Rideout & Fox, 2018). Both AYAs and clinicians see the potential to use these platforms to expand health care and promote patient engagement and education as technology becomes more readily available to manage AYA health and wellness (Househ, Borycki & Kushniruk, 2014). As AYAs use the Internet for personal, educational, and social purposes, they often acquire digital skills (Livingstone, Kardefelt Winther, & Saeed, 2019). Mobile phones, desktops, and laptops with and without internet connectivity, as well as social networking sites accessed on these devices, are all examples of digital technology. There is an abundance of literature describing the activities young people around the world engage in with these contemporary technologies, as well as the benefits and drawbacks of doing so.

The majority of young people today use mobile devices to access digital technology. (Livingstone, 2014). Smartphones are a key component of AYA media use, as they provide the features and affordances of numerous other media. (Humphreys, Karnowski & von Pape, 2018). According to one study, digital technology use and adolescent well-being are related (Orben, & Przybylski, 2019). Although the relationship found was small,

adolescents still need to keep up with the current trend of digital technology as they use it as a platform for sports, entertainment, education, and social relationships. Due to digital technology's ability to speed up communication relationships and the ability to contact multiple users at once, Facebook and WhatsApp have taken over 80% to 90% of social media usage among AYAs (Subramanian, 2017). Today's adolescents and young adults spend hours browsing the Internet, interacting with others, and socializing on various social networking sites such as Facebook, Twitter, WhatsApp, LinkedIn, YouTube, Pinterest, Google+, Tumblr, and Instagram, among others. Since they are more concerned with Facebook friends, YouTube videos, postings, tweets, and other online contacts than they are with face-to-face friends, this has come to play a significant role in their lives. This supports Akintola's (2021) assertion that Facebook (and its associated Facebook Messenger), TikTok, WeChat, Instagram, QZone, Weibo, Twitter, Tumblr, BaiduTieba, and LinkedIn are among the most popular social media sites with over 100 million registered users. Other popular platforms that are sometimes referred to as social media services include YouTube, QQ, Quora, Telegram, WhatsApp, LINE, Snapchat, Pinterest, Viber, Reddit, Discord, VK, Microsoft Teams, and others, depending on the interpretation. Wikis are a type of collaborative content creation tool used by teens.

According to Singh, Amiri, and Sabbarwal (2017), young people now define who uses social media. Thanks to social media, youths now have a platform to build social networks or relationships with other people. A study by Aleke, Omaka- Amari and Obande-Ogbuinya (2018) in Nigeria showed that youths use social media at a high rate, especially on platforms such as You Tube, Facebook, LinkedIn, WhatsApp, Pinterest, 2go, Instagram and Twitter. This is in line with Ngonso's (2019) assertion that AYAs prefer Facebook to other social networking sites, and they have also been exposed to other social media platforms such as Instagram, Whatsapp, Twitter, and YouTube. According to Ilesanmi, Afolabi, and Adebayo's (2021) study of adolescents in Ibadan Oyo State, smartphones were the most commonly owned device with 98.1% of the population owning one. Smartphones were also the most popular device for accessing the Internet, with 97.9% using them, and the smartphone was the most common place to access the Internet, with 92.3% citing it. Socializing was the most commonly cited reason for going online during the lockdown (88%), and the most popular social networking platforms were Facebook (95.5%) and WhatsApp (89.9%). More than half of respondents (64.2%) used the internet on a daily basis.

Nguyen (2018) and Anderson and Raine (2018) argued that instead of spending time together physically, young people are more likely to connect virtually with their family and friends. As they become more frequent users of digital technologies, they are more likely to text, chat on social media, or connect through online games than to meet in person. Both young adults and children who overuse digital technologies risk harming their health because the more they use them, the less physical activity they engage in. In addition, AYAs spend less time playing outside, exercising, and burning calories as they spend more time in front of these devices. These bad habits can lead to serious weight gain and other related health problems over time, and teens who use media at bedtime are more likely to not get enough sleep at night. In addition, having access to a media device in the sleeping environment, even if the device is not being actively used near bedtime, is also associated with insufficient sleep. The average person needs about 6-8 hours of sleep, depending

on their age. Sleep is extremely important for teens and young adults as it helps the heart, promotes growth, affects weight, increases concentration and attention span, and even improves learning.

Excessive social media use has been shown to be associated with poorer sleep, lower self-esteem, increased anxiety, and depression when used at night (Heid, 2019). Adolescents and young adults have such a strong emotional attachment to social media that many of them will continue at night to make sure they don't miss anything. Worst of all, adolescents may need more sleep than adults, making nighttime social media use potentially harmful to their health. Recent research has linked social media use among teens and young adults to mental health issues such as anxiety and depression (Muzaffar, Brito, Fogel, Fagan, Kumar & Verma, 2018; Marino, Gini, Vieno, & Spada, 2018). With the increasing use of digital technology among adolescents and young adults around the world. Although the impact of technology on their mental health and education has been extensively studied, little has been reported on the developmental impact of current adolescents and young adults' digital engagement compared to previous generations, especially in Oyo State. This study is guided by four research questions. First, what is the role of digital technology on the behavior of adolescents and young adults in Ibadan Metropolis, Oyo State, Nigeria? What are the types of social media and digital platforms used by adolescents and young adults in Ibadan Metropolis, Oyo State, Nigeria? What are the risks associated with the use of digital technology by adolescents and young adults within Ibadan Metropolis in Oyo state, Nigeria? What is the perception of adolescents and young adults on parents/guardians protecting them from internet safety risks within Ibadan Metropolis in Oyo state, Nigeria? What factors determine the use of digital technology by adolescents and young adults for their development?

Method

A quantitative research design was used for this study. The rationale for adopting this type of design was based on the fact that the researcher did not manipulate the variables. Adolescents and young adults between the ages of 13 and 18 who use digital technology such as smartphones were recruited from public secondary schools in Ibadan metropolis—Ibadan North, Ibadan North-East, Ibadan North-West, Ibadan South-East and Ibadan South-West government areas of Oyo State, Nigeria between May 2022 and November 2022. AYAs who fell within the target age range of the study and were enrolled in school were eligible to participate.

Both probability and non-probability sampling techniques were used to select one hundred and seventy-five (175) respondents from the target population, which involved a multistage procedure using purposive, stratified and simple random sampling techniques respectively. The purposive sampling technique was used to sample five local government areas under Ibadan metropolis—Ibadan North, Ibadan North-East, Ibadan North-West, Ibadan South-East and Ibadan South-West local government areas of Oyo State, Nigeria. The stratified sampling was used to divide the public schools into two strata's junior and senior while the simple random was used to select one secondary school each in the five local government making five schools.

The questionnaire was self-developed by the researcher titled "Digital technology on Adolescent's Development and Use Questionnaire" (DTAD UQ). The questionnaire has six sections, section A dealt with demographic information of the respondents such as age range from 13 to 18 years, gender, class. parental educational

status, parental income and place of residence while remaining sections were basically designed in structured form to cater for the research questions and objectives. The responses were planned on both four point Likert scale rating which are; Strongly Agree, (SA)=4, Agree (A)=3, Disagree (D)=2 and Strongly Disagree (SD)=1. By checking a consent form, AYAs were asked to confirm that they were willing to participate in the survey with the consent of their parents or legal guardians. In order to effectively ensure the validity of the instruments used for this study, the instruments were subjected to content validity measurement, which includes face validity. In face and content validity, the items are presented in simple language for easy understanding by the respondents and also logically and systematically arranged in line with the research questions and objectives enumerated to be answered and achieved. The researcher also ensured the validity of the instruments by making sure that the contents of the instruments are consistent with the objectives and research questions of the study.

The instrument was piloted on twenty (20) adolescents and young adults in a selected school in Ibadan who were not part of the target population of the study. The internal consistency reliability coefficient was obtained using Cronbach alpha reliability technique. The justification for the use of Cronbach Alpha reliability technique was based on the fact that the items on the research instrument, i.e., questionnaire, have no right or wrong answer and it allowed the respondents to rate the degree or extent to which they agree or disagree with a statement on a particular scale. However, the Cronbach alpha reliability test yielded 0.65, 0.69, 0.67, 0.70 and 0.71 for each section of the instrument. The result posits that the instrument is suitable, appropriate, adequate and reliable for the research work.

The questionnaire was administered to the respondents by three trained research assistants who were familiar with the terrain of the sampled schools. These research assistants were briefed on the objectives, instructions, approach and explanations to the respondents on how to complete the questionnaire. The instrument was administered to one hundred and fifty-nine (159) respondents, representing an eighty-nine percent (89%) response rate. The quantitative data collected were analyzed using descriptive statistics which included percentages, mean and standard deviation.

Results and Discussion

This study builds on Erikson's (1963) theory of human development to understand the potential impact of technology on AYA development. Erikson's stages from childhood to adulthood represent the cognitive, emotional, and interpersonal/social challenges faced by individuals. Erikson's theory includes eight stages of development. At each stage, a crisis must be resolved in order for the individual to develop without the problems associated with the previous crisis. During infancy (the first year of life), Erikson recognizes that the primary crisis to be resolved is the crisis between trust and mistrust. He describes the issues to be resolved in the second year (toddler) as autonomy versus shame and doubt. Kindergarten (ages 3-5) includes the guilt initiative as well as the elementary crisis. Adolescence is the time when individuals must refine their sense of identity or struggle with role confusion. In early adulthood, intimacy versus isolation is the crisis to be dealt with. Creativity versus despair is a crisis to be dealt with in middle age. The final developmental crisis is integrity versus despair.

According to Erikson, a basic strength or virtue emerges when an individual overcomes

a crisis at any stage of development. He described eight basic virtues that he believed manifest in a person's psychosocial development as hope, will, purpose, ability, honesty, love, compassion, and wisdom. Since this study focuses on AYA who fall within the school age, the third (ability vs. inferiority) and fourth (identity and role confusion) describe them on the use of digital technology. Erikson considered people in this stage as AYAs in life stage who focus on issues like friends, work, relationships, intimate relationships, work and social life. At this stage, AYAs are contemplating the meaning of life, their guardians and family, and the individual they must be when they leave home. Be that as it may, as they form an inner sense of their individual character, they are very self-conscious and concerned about how others see them.

The psychosocial development of AYAs is a very important, highly valued, and meaningful concept. Life is a series of lessons and trials that help them grow, as the theory explains why. The theory is beneficial to both AYAs development No wonder, AYAs use technology for various benefits, including expanding social networks, improving visual thinking, and creating virtual classrooms. It also improves self-esteem, technical skills, and creativity. In fact, one study showed the benefits of technology for AYAs and the opportunities it provides for learning, socializing, enhancing creativity, and broadening their horizons (Byrne, Kardefelt Winther, Livingstone, & Stoilova, 2016). However, excessive use of digital technology can have more detrimental consequences for adolescents' well-being, such as loss of privacy, health problems, and changing social norms (Odgers, & Jensen, 2020). Hasbi and Dubus (2020) found that digital technologies are commonly used by AYA for communication and entertainment with friends and family, identity construction (Shava & Chinyamurindi, 2018), educational goals (UNICEF, 2017), educational reasons (Global Education Monitoring Report Team, 2015), information gathering (Owiny, Mehta, & Maretzki, 2014), and job search (Porter, Hampshire, Abane, Munthali Robson, De Lannoy, Tanle, & Owusu, 2020) are some of the commonly cited positive uses of digital technology among adolescents. Less frequently cited benefits include increased activism and public understanding of global issues (Shirazi, 2013) and promoting tourism in their home countries (Parke, 2016).

In addition, Nguyen (2018) found that a number of digital technologies, particularly games on smartphones, aid in the development of reasoning and problem-solving skills because the player must work independently to complete a task. In the process, individuals are confronted with a variety of obstacles and difficulties that they must learn to navigate and overcome. As a result, they are inspired to find their own solutions to problems, whether they are technology-related or real-world, such as homework, peer conflict, or personal grief. Increased self-esteem, perceived social support, increased social capital, safe identity experimentation, and increased opportunities for self-disclosure are some of the benefits of using online technologies, including social media, for adolescents that have been reported in the literature (Best, Manktelow & Taylor, 2014).

This section presents the findings of the study based on the data collected. The findings are analyzed and presented based on the research questions that guided the study. The findings are as follows:

Socio-demographic characteristics of the participants

The results in Table 1 show that 42.1% (n=67) of the participants were male while 57.9% (n=92) were female. The respondents 47.2% (n=75) were in junior secondary class

Table 1: Socio-Demographics Characteristics

Variables	Frequency	Percent (%)
Gender	**N**	**%**
Male	67	42.1
Female	92	57.9
Class		
JSS	**75**	**47.2**
SSS	**84**	**52.8**
Place of residence		
Rural	52	32.7
Urban	107	67.3
Parental Educational status		
No Formal Education	38	23.9
Primary Education	29	18.2
Secondary Education	25	15.7
ND/NCE	33	20.7
HND/BSc	32	20.1
Postgraduate	2	1.3
Parental Income		
Less than #50,000	38	23.9
#51,000-#70,000	33	20.7
#71,000-#90,000	44	27.7
Above #91,000	44	27.7

Source: Field survey (2022)

while 52.8% (n=84) were in senior secondary class, 32.7% (n=52) live in rural community while 67.3% (n=107) live in urban community, educational level of the participants' parents were 23.9% (n=38) possesses no formal education, 18. 2% (n=29) possesses primary education, 15.7% (n=25) possesses secondary education, 20.7% (n=33) possesses National Diploma/Nigeria Certificate in Education, 20.1% (n=32) possesses Higher National Diploma/Bachelor Degree while 1.3% (n=2) possesses postgraduate education. Finally, the income level of the participants' parents was that 23.9% (n=38) earned less than #50,000 per month, 20.7% (n=33) earned between #51,000-#70,000 per month, 27.7% (n=44) earned between #71,000-#90,000 per month and 27.7% (n=44) earned above #91,000 per month.

RQ 1: What roles do digital technology have on adolescents and young adults' behavior within Ibadan Metropolis in Oyo state, Nigeria?

Table 2 shows the mean and standard deviation of the respondents on the role of digital technology on the behavior of adolescents and young adults in Ibadan metropolis, Oyo state, Nigeria. The results showed that the mean scores ranged from 2.55 to 3.10 with a weighted mean of 2.44. The results imply that digital technology have some roles on Adolescents and Young Adults' behavior within Ibadan Metropolis in Oyo state, Nigeria such as increase creativity that is more creative; social identity development; social group connection; improvements in self-esteem and well-

Table 2: Roles of Digital Technology on Adolescents and Young Adults' Behavior within Ibadan Metropolis in Oyo State, Nigeria

Digital Technology roles:	N	x̄	S. D	Decision
increase creativity that is being more creative	159	3.09	0.22	Agree
social identity development	159	3.02	0.54	Agree
social group connection	159	3.05	0.58	Agree
improvements in self-esteem and well-being	159	3.05	0.58	Agree
helps in critical and strategic thinking	159	3.01	0.05	Agree
entertainment	159	3.10	0.75	Agree
to obtain information	159	2.55	0.49	Agree
playing games	159	2.55	0.52	Agree
following news and current events	159	2.59	0.67	Agree
Fun	159	2.55	0.58	Agree
health information	159	2.50	0.53	Agree
Grand Weighted Average 2.44				

Source: Field survey (2022)

being; helps in critical and strategic thinking; entertainment; to obtain information; playing games; following news and current events; having fun and health information. The use of Erikson's developmental theory implies that AYAs perceive that the use of digital technology provides insight into their behavior to facilitate a healthy transition into adulthood with an attachment to digital technology that parents, teachers, and other adults may not fully understand. It appears that AYAs use technology in distinctive ways to meet social, emotional, and developmental needs that are then linked to their current identity formation.

This finding is consistent with Hasbi and Dubus' (2020) assertion that digital technologies are commonly used by AYAs for communication with friends and family and entertainment, identity construction (Shava & Chinyamurindi, 2018), educational reasons (Global Education Monitoring Report Team, 2015), information gathering (Owiny, Mehta & Maretzki, 2014), and job searching (Porter, Hampshire, Abane, Munthali Robson, De Lannoy, Tanle & Owusu, 2020) are some of the commonly cited positive uses of digital technology among adolescents.

Additionally, this study agrees with Nguyen (2018) who found that a number of digital technologies, especially games on smartphones, help develop reasoning and problem-solving skills because the player must work independently to complete a task. Throughout the process, individuals face a variety of obstacles and difficulties that they must learn to navigate and overcome. As a result, they are inspired to find their own answers to problems as they face both technology-based and real-world concerns, such as homework, peer conflict, or personal grief.

RQ 2: What are the types of social media and digital platform used among adolescents and young adults within Ibadan Metropolis in Oyo state, Nigeria?

Table 3 shows the mean and standard deviation of the respondents on the types of social media and digital platforms used by adolescents and young adults in Ibadan Metropolis, Oyo State, Nigeria.The results showed that the mean scores ranged from 3.15 to 3.74 with a weighted mean of 3.20. The majority of the AYA in the study use

Table 3: Types of Social Media and Digital Platform Used Among Adolescents and Young Adults within Ibadan Metropolis in Oyo state, Nigeria

Items	N	x̄	S.D	Decision
YouTube	159	3.74	1.44	Agree
Instagram	159	3.73	1.33	Agree
Facebook	159	3.71	1.32	Agree
TikTok	159	3.61	1.30	Agree
WhatsApp or Signal	159	3.59	1.28	Agree
Hangout meet	159	3.47	1.36	Agree
Twitter	159	3.36	1.42	Agree
Snapchat	159	3.25	1.39	Agree
Tumblr.	159	3.21	1.38	Agree
Zoom	159	3.15	1.34	Agree
Grand Weighted Average 3.20				

Source: Field survey (2022)

YouTube, Instagram, Snapchat, TikTok, WhatsApp, Hangout meet, Twitter, Tumblr and Facebook. Eriksonian developmental theory provides a valuable framework for understanding the motivations and behaviors of AYA as they explore different identities, express their identities to others, and examine and interpret social responses. The online world provides a ripe context for expression and response for AYAs in Oyo State. This implies that expressing their identities in the digital world allows them to use various digital platforms for communication with and social support from their peers.

This is consistent with a previous study that Facebook and WhatsApp have taken over 80% to 90% of social media usage among AYAs due to their ability to speed up communication relationships and contact multiple users at once (Subramanian, 2017). Today's teenagers and young adults spend hours browsing the internet, interacting with others, and socializing on various social networking sites such as Facebook, Twitter, WhatsApp, LinkedIn, YouTube, Pinterest, Google+, Tumblr, and Instagram, among others. Since they are more concerned with Facebook friends, YouTube videos, posts, tweets, and other online contacts than with face-to-face friends, it has become a significant part of their lives. This finding is also in line with Aleke, Omaka- Amari, and Obande-Ogbuinya, (2018) that teenagers in Nigeria use social media at a high rate especially on platforms like You Tube, Facebook, LinkedIn, WhatsApp, Pinterest, 2go, Instagram, and Twitter. Furthermore, this is in line with Ngonso's (2019) assertion that AYAs like Facebook more than other social networking sites and they have been exposed to other social media platforms such as Instagram, Whatsapp, Twitter, and YouTube.

RQ 3: What are the risks concerned with adolescents and young adults use of digital technology within Ibadan Metropolis in Oyo state, Nigeria?

Table 4 shows the mean and standard deviation scores of the respondents on the risks associated with the use of digital technology by adolescents and young adults in Ibadan Metropolis, Oyo State, Nigeria. The results showed that the mean scores ranged from 3.74 to 3.95 with a weighted mean of 3.70. Majority of the AYA in the study perceived the risk factors as eyestrain including

Table 4: Risks Concerned with Adolescents and Young Adults Use of Digital Technology Within Ibadan Metropolis in Oyo State, Nigeria

Items	N	$\bar{x}$	S. D	Decision
Isolating adolescents and young adults from the social life by not allowing them to spend enough time with their family members.	159	3.95	1.97	Agree
eyestrain including blurred vision and dry eyes. using digital technology like laptops, smart phones	159	3.88	2.01	Agree
Sleep problems when using digital technology for many hours in a day	159	3.88	2.01	Agree
Poor posture	159	3.86	2.02	Agree
Reduced physical activity	159	3.82	1.99	Agree
Anxiety	159	3.80	2.04	Agree
Depression	159	3.79	1.98	Agree
Exposure to pornography	159	3.77	1.98	Agree
Sexing (sending messages of a sexual nature)	159	3.77	2.04	Agree
Gambling	159	3.74	2.02	Agree
Grand Weighted Average 3.70				

Source: Field survey (2022)

blurred vision and dry eyes when using digital technology such as laptops, smart phones, sleep problems when using digital technology for many hours in a day, poor posture, reduced physical activity, anxiety, depression, exposure to pornography, sexing, sending messages of a sexual nature and gambling. Erickson's theory shows that at this age, the relative immaturity of the AYA brain puts them at risk for emotional, impulsive, and risky behaviors. Despite advances in cognition and the ability to solve more complex problems, this stage is characterized by a sense of self-importance and resilience. There is an ongoing struggle to become more responsible, mature, and independent. The digital age therefore poses a particular health risk to AYA, as almost all of them use digital technology without understanding the health implications.

This is consistent with previous studies by Nguyen (2018) and Anderson and Raine, (2018) that instead of spending time together physically, young people are more likely to be connected virtually with their family and friends as they use digital technology more frequently, they are more likely to text, chat on social media, or connect through online games than actually meet them in person. Both young adults and children who use digital technology excessively risk damaging their health, as the more they use it, the less physical activity they engage in.

In addition, teens spend less time playing outside, exercising, and burning calories as they spend more time in front of these devices. These bad habits can lead to serious weight gain and other related health problems over time, and teens who use media at bedtime are more likely to not get enough sleep at night. In addition, having access to a media device in one's sleep environment, even if the device is not being actively used near bedtime, is also associated with insufficient sleep. The average person needs about 6-8 hours of sleep, depending on their age. Sleep is extremely important for teens and young adults as it helps the heart, promotes growth, affects weight, increases concentration and attention span, and even improves learning.

This study is consistent with Heid's (2019) study on excessive social media use, which showed a link between nighttime use and poorer sleep, lower self-esteem, increased anxiety, and depression. Adolescents and

young adults have such a strong emotional attachment to social media that many of them will continue at night to make sure they don't miss anything. Worst of all, teens may need more sleep than adults, making late-night social media use potentially harmful to their health. This finding is consistent with recent research that has linked social media use among teens and young adults to mental health issues such as anxiety and depression (Muzaffar, Brito, Fogel, Fagan, Kumar & Verma,2018; Marino, Gini, Vieno &, Spada 2018).

RQ 4: What is perception of adolescents and young adults on parents/guardian protecting them from internet safety risks within Ibadan Metropolis in Oyo state, Nigeria?

Table 5 shows the mean and standard deviation of the respondents as perception of adolescents and young adults on parents/guardians protecting them from internet safety risks within Ibadan metropolis in Oyo state, Nigeria. The results showed that the mean scores ranged from 2.34 to 2.59 with a weighted mean of 2.61. Adolescents' and young adults' perceptions of parent/guardian protection from Internet safety risks in Ibadan Metropolis, Oyo State, Nigeria show that their parents/guardians do not talk to them about online content and behavior; do not discuss media with them and help them understand the nature of media messages; do not use parental controls or other methods of blocking, filtering, or monitoring online activity to keep them safe when using the Internet; do not talk to them about upsetting and inappropriate content. In an open and non-judgmental way, don't keep track of what they do online and how much time they spend online, don't encourage and remind them to explore and use the Internet safely by reminding them

Table 5: Perception of Adolescents and Young Adult's on Parents Protecting Them from Internet Safety Risks Within Ibadan Metropolis in Oyo State, Nigeria

Items	N	$\bar{x}$	S. D	Decision
My parents/guardian talk with me on online content and behavior	159	2.59	0.97	Disagree
My parents/guardian discuss about media with me and assist to grasp the nature of media messages.	159	2.48	1.01	Disagree
My parents/guardian use parental controls or other methods of blocking, filtering, or monitoring online activity to keep me safe when using the internet.	159	2.48	1.01	Disagree
My parents/guardian speak with me about upsetting and inappropriate content in an open and non-judgmental way.	159	2.46	1.02	Disagree
My parents/guardian stay in touch with what am doing online and how much time I spend online.	159	2.42	0.99	Disagree
My parents/guardian encourage and remind me to check privacy settings while exploring and using the internet	159	2.40	1.04	Disagree
My parents point out negative aspects of media use and offer appropriate ways to use it.	159	2.39	0.98	Disagree
My parents/guardians discuss what information should and shouldn't be published on social media and mobile devices.	159	2.37	0.98	Disagree
My parents/guardians discuss about proper conduct with people over the phone or when on line.	159	2.37	1.04	Disagree
My parents/guardians look at my social media profiles and the websites I visit.	159	2.34	1.02	Disagree
Grand Weighted Average 2.61				

Source: Field survey (2022)

to check their privacy settings, don't point out negative aspects of media use and offer appropriate ways to use it, don't discuss what information should and shouldn't be posted on social media and mobile devices, don't discuss appropriate behavior with people over the phone or online, and don't look at their social media profiles and the websites they visit.

Erikson's theory of psychosocial development is based on the assertion that the social world surrounding AYAs influences their development at this key stage. Based on this assertion, this reflects on their perception on parents/guardians to protect them from internet safety risks as they gain experience with digital technology, their parents/guardians do not take advantage of numerous options and technological tools at their disposal to assist in tracking their online activities as well as not being able to chat with them about online safety and decency. The findings show that AYAs are using digital technology without understanding the risks they may be exposed to when using it.

Erikson's psychosocial development and the concept of success or failure at each stage helps to understand how AYAs develop and transition through life. The primary goal is to raise AYAs who are successful, happy, and mature when they reach the peak of adjustment. Failure at any of the earlier stages can lead to despair and unresolved feelings that may manifest as anxiety or self-doubt. According to the findings, parents failed in their role of supporting AYAs in this stage of digital technology use by not encouraging and monitoring AYAs' activities while using digital technology in Oyo State.

RQ 5 What factors determine adolescents and young adults' use of digital technology for their development?

Table 6 shows that there is a significant relationship between digital technology use and adolescent and young adult age (r= .260, p(.000)<.05), gender (r=.368, p(.000)<.05), class (r= .461, p(.000)<.05), parents' socioeconomic status (r= . 364, p(.000)<.05), Internet access (r= .470, p(.000)<.05), and digital literacy (r= .604, p(.000)<.05), but there was no significant relationship between digital technology use and parents' educational status (r= .080, p(.181)>.05). The results show that the use of digital technology depends on the age of adolescents and young adults, gender, class, socio-economic status of parents, access to Internet and digital literacy. Erikson's theory suggests that AYAs form and associate with specific social groups that reflect their emerging individual values, characteristics, and goals. At this age, AYAs associate with small groups of friends and peers. This may influence their use of digital technology as their peers use smartphones for various purposes. Their interaction with peers in the same grade or having friends of the same gender may influence their likelihood of developing high digital literacy skills as they relate to and learn from each other, teaching the use of digital technology.

This finding is in line with the study by Gunnlaugsson, Whitehead, and Baboudóttir (2020) that the determinants of access to different forms of digital technologies include gender, adolescents' educational level, and rural/urban residence. This finding is consistent with Tang's (2015) finding that mobile phone and smartphone ownership,

Table 6: Zero Order Correlation Showing the Relationship Between Factors and Use of Digital Technology for Development Among Adolescents and Young Adults

	1	2	3	4	5	6	7	8	9
Digital Technology use	1								
Age	.260* (.000)	1							
Gender	.368* (.000)	.441* (.000)	1						
Class	.461* (.000)	.362* (.000)	.439* (.000)	1					
Place of residence	.334* (.000)	.471* (.000)	.434* (.000)	.385* (.000)	1				
Social economic status of parents	.364* (.000)	.557* (.000)	.546* (.000)	.436* (.000)	.697* (.000)	1			
Access to internet	.470* (.000)	.494* (.000)	.468* (.000)	.495* (.000)	.608* (.000)	.697* (.000)	1		
Digital skills	.604* (.000)	.345* (.000)	.459* (.000)	.494* (.000)	.566* (.000)	.653* (.000)	.675* (.000)	1	
Educational status of parents	.080 (.181)	.220* (.000)	.074 (.215)	.199* (.001)	.191* (.001)	.223* (.000)	.141* (.000)	.182* (.002)	1
$\bar{x}$	47.83	18.27	37.57	34.47	21.39	56.09	35.51	33.33	5051.33
S. D	9.32	4.36	5.99	5.46	4.95	11.54	7.14	6.39	13797.54

* Correlation is significant at the 0.05 level

Source: Field survey (2022)

Key: 1 = Digital Technology use, 2 = age, 3 = gender, 4 = class, 5 = Place of residence, 6 = Social economic status of parents, 7 = access to internet, 8 = digital skills, and 9 = Educational status of parents

as well as app use, are associated with the socioeconomic position of children's households. Specifically, adolescents from households with higher socioeconomic position are more likely to own a mobile phone, smart phone, or tablet and to have downloaded apps than adolescents from families with lower socioeconomic status.

Conclusion

This study examined the roles of digital technology on adolescents and young adults' behavior within Ibadan Metropolis in Oyo State, Nigeria. It showed that digital technology has some roles on AYA behavior such as increase in creativity; social identity development; social group connection; improvement in self-esteem and well-being; It also revealed that majority of AYA in the study use YouTube, Instagram, Snapchat, TikTok, WhatsApp, Hangout Meet, Twitter, Tumblr and Facebook. AYAs perceived risk factors as eye strain, sleep problems when using digital technology for many hours a day, poor posture, reduced physical activity, to name a few. AYAs' perceptions of parents/guardians protecting them from Internet safety risks show that their parents/guardians do not talk to them about online content and behaviors and do not use controls or other methods of blocking, filtering, or monitoring their online activities to keep them safe. AYAs in Oyo State's use of digital technology was dependent on their age, gender, parents' socioeconomic status, access to the Internet, and digital literacy. This shows that many AYAs between the ages of 13 and 18 in Oyo

State now rely heavily on digital technology in their daily lives. They were born with this technology, so it is not foreign to them. They use it for a variety of purposes compared to adults, including education, entertainment, socializing, and it is their go-to resource for everything. So, it should come as no surprise that the majority of AYAs are frequent users of digital technology, especially social media sites.

Based on the findings of the study, it was recommended that secondary school curriculum should include digital safety in some subjects such as computer science. Also, government and school boards should develop intervention strategies to sensitize parents/guardians to be involved in their children's use of digital technologies, as AYAs mostly use digital technologies at home. In addition, government and school boards should educate AYAs about safe online practices, what and who to share personal information with and who to add as friends, how to stay safe online, and what to do if they or a friend get into trouble. Finally, AYAs who are at risk online can have conversations with their parents about appropriate and inappropriate behavior, as well as safe and risky online behavior, and parents can provide guidance and answers to teens' questions. They can also take practical steps to monitor or control their teens' and young adults' online activities, including very low-tech methods such as monitoring social media profiles or adding them as friends on social media sites. Parental restrictions on an AYA's computer or phone can also be used as part of this monitoring.

Declaration of Ownership

This article is my original work.

Conflict of Interest

There is no conflict of interest to declare in this article.

Ethical Clearance

This study was approved by the institution.

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