

Journal of **Education and Practice** (JEP)

**Perceptions of Primary School Pupils on the Influence of Digital
Devices on Socio-Emotional Well-Being in Dodoma City, Tanzania**



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Perceptions of Primary School Pupils on the Influence of Digital Devices on Socio-Emotional Well-Being in Dodoma City, Tanzania

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Accepted: 15th Aug, 2026, Received in Revised Form: 29th Aug, 2026, Published: 21st Sep, 2026

Abstract

Purpose: This study examined primary school pupils' perceptions of the influence of digital device use on their socio-emotional well-being in Dodoma City, Tanzania, in response to concern about children's emotional and social experiences of digital engagement.

Methodology: The study employed a concurrent parallel mixed-methods design, involving 160 pupils. Data was collected through questionnaires and focus group discussions, and analyzed using descriptive statistics alongside thematic analysis.

Findings: The descriptive results showed varied patterns of digital device use and socio-emotional well-being. Pupils' accounts identified possible benefits for learning and social interaction, alongside concerns about distraction, irritability, and reduced peer engagement. Substantial minorities reported sadness or worry, emotional-regulation difficulties, social exclusion, and sleep difficulties. These findings describe pupils' experiences; they do not establish causal effects or statistically tested associations between device use and well-being.

Unique Contribution to Theory, Practice, and Policy: The study contributes a Tanzanian primary-school perspective to understanding digital engagement within children's family, school, and peer environments. Its findings suggest that the purpose and context of use deserve consideration alongside time spent on devices, although moderation effects were not statistically tested. For practice, the findings support purposeful, supervised digital engagement balanced with learning, play, and direct social interaction. For policy, they provide context-specific descriptive evidence to inform school guidance, parent and teacher support, and further research on children's digital experiences and well-being.

Keywords: *Digital Device Use, Social Emotional-Wellbeing, Self Esteem, Social Interaction, Primary School*

JEL Classification: *I21, I31.*

INTRODUCTION

Digital technologies have become an important part of children's daily lives (Odgers, 2018; Valkenburg & Piotrowski, 2017). Devices such as smartphones, tablets, computers, and televisions are increasingly used for learning, communication, entertainment, and access to information. While these technologies provide opportunities for educational engagement and social interaction, concerns have emerged regarding their influence on children's socio-emotional well-being (AAP Council on Communications and Media, 2016; Odgers & Jensen, 2020).

Socio-emotional well-being refers to an individual's ability to regulate emotions, develop positive relationships, maintain self-confidence, and function effectively within social environments (Bronfenbrenner & Morris, 2006). During childhood, socio-emotional development plays a crucial role in shaping behaviour, academic participation, social adjustment, and overall well-being (Bronfenbrenner & Morris, 2006; McLaughlin & King, 2015). According to Bronfenbrenner and Morris (2006), children's development is influenced by interactions within family, school, peer, and community environments. As digital technologies become increasingly embedded within these environments, understanding their influence on children's socio-emotional development has become an important area of educational and developmental research (AAP Council on Communications and Media, 2016; Odgers, 2018).

Previous studies have reported mixed findings regarding the effects of digital device use on children's socio-emotional development. Bavelier et al. (2010) found that when used appropriately, digital technologies can enhance children's learning experiences, creativity, communication skills, and cognitive development. Similarly, Valkenburg and Peter (2011) reported that online communication may strengthen friendships and promote social connectedness among children and adolescents. However, other studies have highlighted potential adverse effects of excessive or poorly regulated digital device use. Keles et al. (2020) found that excessive digital media use was associated with increased anxiety, depression, and psychological distress among young people, while Twenge and Campbell (2018) reported that prolonged screen time was linked to lower psychological well-being. Furthermore, Odgers and Jensen (2020) argued that the influence of digital technologies depends not only on the amount of screen time but also on the type of digital activity, the content accessed, and the level of parental supervision. These findings suggest that digital devices can have both positive and negative effects on children's socio-emotional development, depending on how, when, and under what conditions they are used.

In Tanzania, access to digital technologies has increased significantly due to the expansion of internet services, smartphones, and educational technologies (Ministry of Education, Science and Technology, 2023; Tanzania Communications Regulatory Authority, 2024). The Ministry of Education, Science and Technology (2023) reported that the integration of information and communication technologies (ICT) in schools has enhanced access to digital learning resources

and supported teaching and learning processes. Similarly, the Tanzania Communications Regulatory Authority (2024) reported a substantial increase in internet connectivity and smartphone penetration, indicating that children are increasingly exposed to digital technologies both at school and at home. Despite these developments, existing evidence has largely focused on ICT infrastructure, technology adoption, digital literacy, and educational access, with limited attention given to the socio-emotional consequences of digital device use among primary school pupils. Consequently, there remains a lack of empirical evidence on how digital device use influences pupils' socio-emotional well-being, particularly in the Tanzanian context and specifically in Dodoma City. This study was therefore conducted to address this gap by examining the influence of digital device use on pupils' socio-emotional well-being among primary school pupils in Dodoma City, Tanzania.

Statement of the Problem

Although digital technologies provide important opportunities for learning, communication, and access to information, excessive or poorly regulated use has been associated with socio-emotional concerns such as sadness, irritability, reduced face-to-face interaction, sleep disruption, and difficulties in emotional regulation (Radesky & Christakis, 2016; Twenge & Campbell, 2018; Odgers & Jensen, 2020). The concern is therefore not simply whether children use digital devices, but how the duration, purpose, content, and level of adult supervision shape their experiences and well-being.

In Tanzania, digital access is expanding through smartphones, internet services, televisions, and school-based ICT initiatives (Ministry of Education, Science and Technology, 2023; Tanzania Communications Regulatory Authority, 2024). However, much of the available evidence has focused on ICT access, infrastructure, digital literacy, and academic use, leaving limited context-specific evidence on the socio-emotional implications of digital device use among primary school pupils. This gap is particularly important in Dodoma City, where children are increasingly exposed to digital technologies at home and at school. The present study therefore examined pupils' perceptions of digital device use and their socio-emotional well-being to provide evidence relevant to balanced digital engagement.

Purpose of the Study

The purpose of this study was to examine the influence of digital device use on the socio-emotional well-being of primary school pupils in Dodoma City, Tanzania.

Objectives of the Study

- To explore the patterns of digital device access and use among primary school pupils in Dodoma City.

- To assess primary school pupils' emotional well-being in relation to digital device use, focusing on indicators such as sadness, worry, anger, irritability, and emotional regulation.
- To examine primary school pupils' level of exposure to screen time, including the average daily duration of screen use.

Research Questions

- What are the patterns of digital device access and use among primary school pupils in Dodoma City?
- How does digital device use influence primary school pupils' emotional well-being, as indicated by sadness, worry, anger, irritability, and emotional regulation?
- What is the level of primary school pupils' exposure to screen time, in terms of average daily duration of screen use?

LITERATURE REVIEW

The use of digital devices among children has increased considerably over the past decade, influencing how they learn, communicate, and interact with others (AAP Council on Communications and Media, 2016; Odgers, 2018). Digital technologies provide opportunities for access to information, educational engagement, creativity, and communication, thereby supporting children's learning and social interactions when used appropriately (Subrahmanyam & Šmahel, 2011; Valkenburg & Piotrowski, 2017). Studies have shown that appropriate use of digital technologies can enhance learning experiences and support children's cognitive and social development (Bavelier et al., 2010; Valkenburg & Piotrowski, 2017).

Despite these benefits, concerns have been raised regarding the potential socio-emotional effects of excessive digital device use. Previous studies have associated prolonged screen exposure with emotional difficulties such as anxiety, sadness, irritability, and reduced psychological well-being among children and adolescents (Keles et al., 2020; Twenge & Campbell, 2018). Excessive digital engagement has also been linked to sleep disturbances and reduced opportunities for face-to-face social interaction, both of which are important for healthy socio-emotional development (Radesky & Christakis, 2016; Suryana, 2021).

Research further suggests that digital technologies may influence children's social relationships in different ways. While digital communication can strengthen friendships and social connectedness, excessive reliance on digital platforms may contribute to social isolation and reduced interpersonal interaction (Subrahmanyam & Šmahel, 2011; Valkenburg & Peter, 2011). Consequently, the effects of digital device use appear to depend on factors such as the type of content accessed, duration of use, and the level of parental and teacher supervision (Odgers & Jensen, 2020).

Although previous studies have examined digital technology and child development, limited evidence exists regarding the socio-emotional implications of digital device use among primary school pupils in Tanzania. This study, therefore, sought to contribute to the existing literature by examining the influence of digital device use on pupils' socio-emotional well-being in Dodoma City, Tanzania.

THEORETICAL FRAMEWORK

This study was guided by the Bioecological Theory of Human Development developed by Bronfenbrenner and Morris (2006). The theory explains that children's development is influenced by interactions within their immediate environments, including family, school, peers, and the wider community. In this study, digital devices are viewed as part of these environments that may influence pupils' socio-emotional well-being through daily interactions and experiences.

The study was also informed by Social Learning Theory, which suggests that children learn behaviours, attitudes, and emotional responses through observation and interaction with others. Through digital technologies, pupils are exposed to various forms of content that may shape their emotions, social relationships, and behaviour. The two theories, therefore, provide a useful framework for understanding how digital device use may influence pupils' socio-emotional well-being.

RESEARCH METHODOLOGY

This study employed a mixed-methods approach using a concurrent parallel mixed-methods design to examine the influence of digital device use on pupils' socio-emotional well-being in primary schools in Dodoma City, Tanzania. The design enabled the collection and analysis of quantitative and qualitative data concurrently, allowing for a comprehensive understanding of the phenomenon under investigation (Creswell & Plano Clark, 2018).

The study was conducted in four primary schools in Dodoma City, comprising two public and two private schools. School type was used for stratification, schools were selected through simple random sampling, classes were selected using cluster sampling, and pupils were selected systematically from class registers. The final sample comprised 160 pupils. Data were collected through questionnaires and focus group discussions. Questionnaires were administered to pupils while focus group discussions provided additional information on pupils' perceptions and experiences.

Quantitative data were analyzed using descriptive statistics, including frequencies and percentages, while qualitative data were analyzed through thematic analysis. The integration of quantitative and qualitative findings enhanced the credibility and comprehensiveness of the study findings.

Ethical considerations were observed throughout the study. Permission to conduct the study was obtained from relevant authorities, and participants were informed about the purpose of the research. Confidentiality, anonymity, and voluntary participation were maintained throughout the study.

FINDINGS AND DISCUSSION

This section presents and discusses questionnaire results together with evidence from pupil focus group discussions. It follows the study objectives, beginning with patterns of device access and use, followed by socio-emotional well-being indicators and daily screen time. The discussion identifies points of convergence between the two sources of evidence while distinguishing descriptive patterns and pupil perceptions from tested relationships.

PATTERNS OF DIGITAL DEVICE ACCESS AND USE

This section presents the findings related to pupils' access to and usage of digital devices. Understanding the types of digital devices used by pupils and the frequency with which they engage with them is essential for examining their potential influence on socio-emotional development.

Access to Digital Devices

The findings indicated differences in pupils' reported use of smartphones, tablets, computers, and television or videos. These frequency measures describe device use; they do not establish personal ownership or the extent of adult supervision.

Smartphones

Smartphones represent one of the most widely used digital technologies and are often central to children's exposure to digital environments. These devices provide access to communication platforms, internet resources, educational applications, and entertainment content.

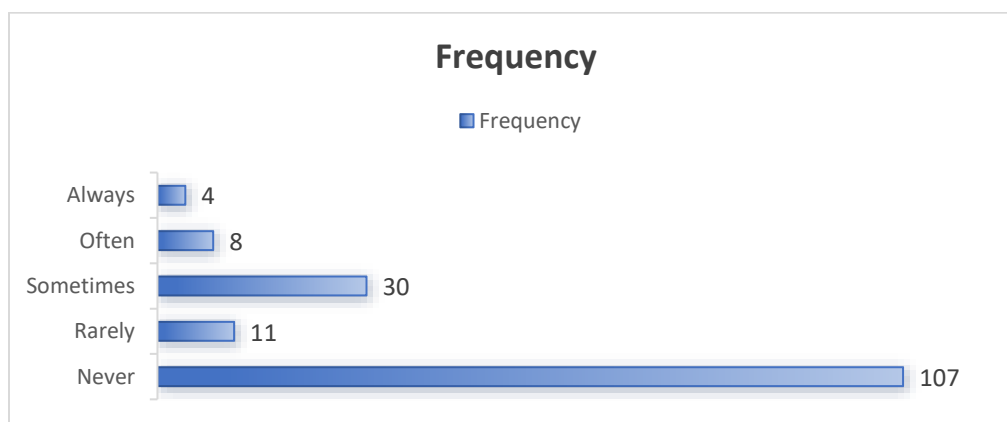


Figure 1: Frequency of Smartphone Use

Figure 1 shows that 107 pupils (66.9%) reported never using a smartphone. Greenleaf et al. (2025) reported mobile phone ownership rates ranging from 32% in Malawi to 84% in Eswatini among 15–24-year-olds across seven Southern African countries, with lower ownership among younger and poorer participants. This provides regional context for unequal access, but the populations and measures differ: the present study concerns primary school pupils' smartphone use, whereas Greenleaf et al. measured ownership among older youth. The comparison therefore suggests the relevance of access constraints without demonstrating their causes in the present sample.

Tablets

Tablets are commonly associated with educational use due to their interactive nature and ability to support multimedia learning. They are often used for activities such as accessing digital textbooks, educational applications, and visual learning content, especially in schools that have adopted digital learning approaches.

Table 1: Pupils' Use of Tablets

Response	Frequency	Percentage
Never	111	69.4%
Rarely	11	6.9%
Sometimes	30	18.8%
Always	8	5.0%
Total	160	100%
Source: Field data		

Most pupils (69.4%) reported never using a tablet, while smaller proportions reported rarely (6.9%), sometimes (18.8%), and always (5.0%) using one. The proportion reporting no tablet use was higher than for smartphones (66.9%) but lower than for computers or laptops (72.5%). This ordering differs from the household access pattern reported by Hinten et al. (2023), in which children's access to tablets exceeded access to smartphones. Differences in setting and measurement limit direct comparison. The present frequency data do not show whether parental restrictions, affordability, or device availability explain the pattern.

Computers or Laptops

Computers and laptops are often considered key tools for developing digital literacy, especially in educational settings where they support activities such as typing, research, and structured learning tasks.

Table 2: Pupils' Use of Computers or Laptops

Response	Frequency	Percentage
Never	116	72.5%
Rarely	12	7.5%
Sometimes	20	12.5%
Often	8	5.0%
Always	4	2.5%
Total	160	100%

Source: Field data

Computers and laptops were the least frequently used device type in this study: 72.5% of pupils reported never using one, with only small proportions reporting rarely (7.5%), sometimes (12.5%), often (5.0%), or always (2.5%) using one (Table 2). This is consistent with the broader pattern in Hinten et al. (2023), where laptop access for children (11.2%) was the lowest among all device types they measured, behind smartphones, tablets, and gaming consoles. Computers and laptops are often positioned within households as devices for adult work or older siblings' schooling rather than for younger children's independent use, which may help explain the pattern. However, household reasons for limited computer use were not established by these frequency data.

Television and Video Exposure

Another common form of digital exposure among children is through watching television programs or video content. Unlike interactive devices such as smartphones or computers, television mainly provides passive engagement. However, even this form of exposure can shape children's behaviour, emotions, and social understanding in meaningful ways, though not uniformly: recent evidence indicates that the effect of passive screen media on socio-emotional development is moderated by what is watched and how, with unsupervised, non-educational viewing associated with more behavioural concerns than co-viewed or content-appropriate exposure (Sticca et al., 2025).

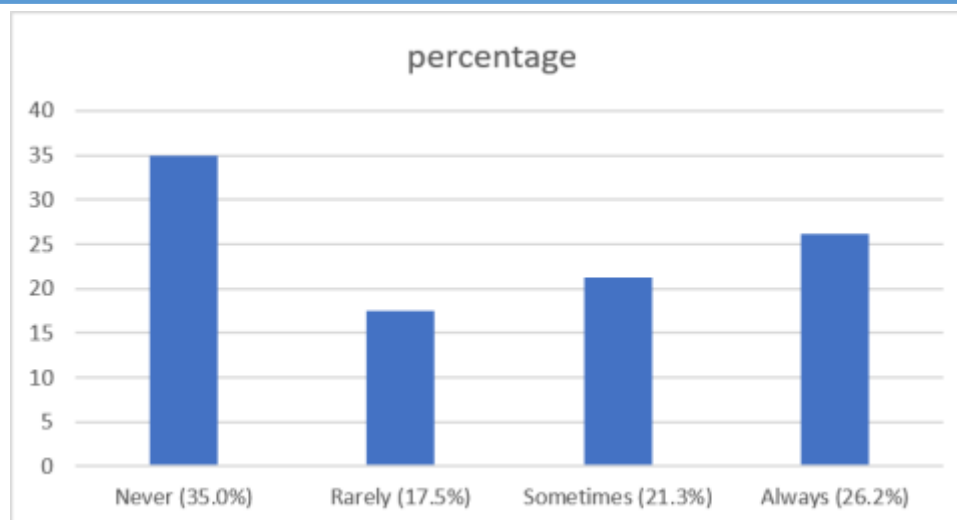


Figure 2: Pupils' Watching of Television or Videos

Source: Field data

Figure 2 shows that television and video exposure differed from use of the other devices. While 35.0% of pupils reported never watching television or videos, 65.0% reported at least some viewing: 17.5% rarely, 21.3% sometimes, and 26.2% always. Thus, a majority reported some exposure, although “never” remained the largest individual response category. Television and video viewing were more widespread than smartphone, tablet, or computer use.

One pupil explained,

"Most of the time we use phones or television to watch cartoons or movies after school" (FGD Participant 2, February 2026).

This account situates some entertainment viewing after school and identifies phones and television as alternative ways of accessing similar content. It therefore adds context to the frequencies in Figure 2 and suggests that pupils' media experiences can span more than one device. It does not establish how closely adults supervised that viewing or whether parents were at home. Sticca et al. (2025) discuss the importance of viewing context in interpreting developmental outcomes. In the present study, supervision remains a relevant consideration for interpretation and future research, rather than a condition demonstrated by this quotation.

Uses of Digital Devices

Pupils' reported uses of digital devices for homework, social media, and gaming revealed further differences in the purposes and frequency of their digital engagement.

Pupils' Use of Digital Devices for Homework

Digital technologies are increasingly recognized as important tools in supporting teaching and learning processes. Devices such as smartphones, computers, and tablets can provide access to

educational materials, online resources, and interactive platforms that enhance pupils' understanding of academic content.

Table 3: Pupils' Use of Digital Devices for Homework

Response	Frequency	Percentage
Never	89	55.6%
Rarely	16	10.0%
Sometimes	20	12.5%
Always	35	21.9%
Total	160	100%

Source: Field data

Homework-related use was uneven: 55.6% of pupils reported never using digital devices for homework, 10.0% rarely, 12.5% sometimes, and 21.9% always. Educational use was therefore routine for a minority but absent for the majority. Separately, the focus group discussions raised concerns about recreational screen use displacing schoolwork, a concern relevant to the relationship between problematic media use and academic procrastination discussed by Touloupis and Campbell (2024). The quotation below does not identify the speaker's homework-use category or show that pupils who always used devices for homework were more likely to neglect assignments:

"If someone watches television or plays games for too long, they may forget to do homework or other activities" (FGD Participant 7, February 2026).

Sonnenschein et al. (2023) reported changes in elementary-school children's home use of digital devices for learning following COVID-19, with variation across households. This provides context for the uneven homework-use pattern in the present study. Differences in household access, parental support, and school expectations may be relevant, but their contribution was not quantified here. Read together, the questionnaire and pupil account distinguish educational device use from recreational use that may compete with homework. Frequency of homework-related use alone cannot establish educational benefit or academic displacement; these require information about the content and context of use.

Pupils' Use of Devices for Social Media

Digital technologies have changed how people communicate and interact, even among younger children. Through digital platforms, pupils can connect with others, share information, and participate in social interactions, although this often depends on access and supervision.

Table 4: Pupils' Use of Devices for Social Media

Response	Frequency	Percentage
Never	108	67.5%
Rarely	16	10.0%
Sometimes	20	12.5%
Often	4	2.5%
Always	12	7.5%
Total	160	100%

Source: Field data

Social media use was less common than homework-related use: 67.5% of pupils reported never using devices for social media, while 10.0% reported rarely, 12.5% sometimes, 2.5% often, and 7.5% always doing so. Together, 22.5% reported sometimes, often, or always using social media. Nagata et al. (2025) also documented social media use among early adolescents, including participants below the minimum age considered in their study. This comparison highlights the importance of age-appropriate guidance. However, the present results do not report pupils' ages or platforms used, so they cannot establish how many users were below a particular platform's minimum age or which online risks they experienced.

Pupils Playing Games on Digital Devices

Digital gaming is one of the most common forms of digital entertainment among children. Many games are interactive and engaging, offering opportunities for enjoyment as well as the development of skills such as problem-solving and coordination. However, the way children engage with these games can also influence their behaviour and emotional well-being.

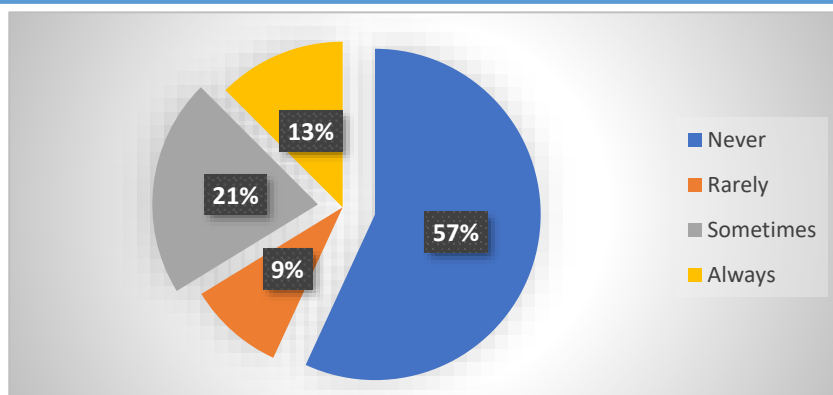


Figure 3: Pupils Playing Games on Digital Devices

Source: Field data

Figure 3 shows that 91 pupils reported never playing games on digital devices, 15 rarely, 34 sometimes, and 20 always, out of 160 pupils. Thus, 69 pupils reported at least some gaming. Marshall et al. (2025) examined problematic gaming and smartphone use among Australian primary and secondary school pupils, highlighting the relevance of monitoring difficulties during the primary-school years. The present study measured gaming frequency, not internet gaming disorder. Its results therefore describe participation in gaming and should not be interpreted as a prevalence estimate of problematic gaming or addiction.

SOCIO-EMOTIONAL WELL-BEING INDICATORS AMONG PUPILS

The study examined pupils' emotional well-being through indicators such as sadness, worry, anger, irritability, and emotional regulation.

Table 5: Socio-Emotional Well-Being Indicators Among Pupils

Indicator	Positive Condition (%)	Challenge Reported (%)
Sadness/Worry	58.8	41.3
Anger/Irritability	51.3	48.7
Ability to Calm Down	69.3	30.7
Ability to Make Friends	53.2	21.9
Feeling Left Out	62.6	37.5
Self-Confidence	51.3	22.5
Sleep Difficulties	63.8	36.3

Source: Field Data (2026)

Note: Positive condition represents favourable socio-emotional outcomes, while challenge reported represents socio-emotional difficulties for the respective indicator. Because some positively worded indicators retain an intermediate “sometimes” response category, the two percentages do not necessarily sum to 100%; minor differences may also reflect rounding.

Sadness or Worry as an Indicator

The findings revealed that although most pupils reported infrequent sadness or worry, a considerable proportion experienced sadness or worry. Specifically, 58.8% reported that they never or rarely experienced sadness or worry, while 41.3% indicated that they sometimes, often, or always experienced these feelings. This suggests that a substantial number of pupils faced emotional challenges that may affect their socio-emotional well-being.

Sadness and worry were reported by a substantial minority of pupils. McLaughlin and King (2015) examined anxiety and depression trajectories in early adolescence, providing a broader developmental context for these concerns. Odgers and Jensen (2020) emphasize the need to interpret digital experiences within children’s wider circumstances, while Keles et al. (2020) reviewed associations between social media use and adolescent psychological distress. These studies concern partly different populations and measures. The present descriptive percentages do not establish whether pupils with greater device use experienced more sadness or worry, and digital use should not be treated as the sole explanation for these feelings.

Anger or Irritability

The findings showed that 51.3% of pupils reported that they never or rarely experienced anger or irritability, whereas 48.7% indicated that they sometimes, often, or always experienced these emotions. During a pupil focus group discussion, one participant said:

“Sometimes when children play games for a long time, they become angry when they lose”
(FGD Participant 1, February 2026).

This suggests that although many pupils were able to regulate their emotions, a considerable proportion experienced emotional regulation challenges. The near-even distribution between pupils with low and higher levels of anger or irritability shows that emotional regulation is an important area of concern.

Radesky et al. (2015) discuss concerns about using mobile media to manage young children’s emotions, while Valkenburg and Peter (2011) describe both opportunities and risks in adolescents’ online communication. These perspectives help interpret the pupil’s account of anger following gaming losses, although they do not directly confirm the causes of irritability in this sample. The questionnaire results and quotation together identify emotional regulation as a relevant concern. They do not demonstrate that longer use or weaker supervision produced higher irritability, because such relationships were not tested.

Ability to Calm Down After Being Upset

The findings indicated that 69.3% of pupils reported that they sometimes, often, or always managed to calm themselves after becoming upset, while 30.7% reported that they rarely or never managed to do so. This suggests that although most pupils demonstrated positive emotional regulation, a notable proportion still experienced difficulties managing their emotions. These findings indicate that most pupils demonstrated at least some capacity to calm themselves, but the sizeable minority who rarely or never did so points to a continuing need for supportive emotional-regulation environments at home and school.

These findings are consistent with Bronfenbrenner and Morris (2006), who emphasize that children's emotional regulation develops through interactions within family and school environments. They also support Radesky et al. (2015), who argue that excessive digital exposure may affect children's ability to regulate emotions, although Valkenburg and Piotrowski (2017) note that appropriate digital engagement can also support positive emotional development. Taken together, these perspectives suggest that balanced digital use is most beneficial when it complements, rather than replaces, interactions that help children practise self-regulation.

Ability to Make Friends

The findings showed that many pupils reported ease in making friends, with 53.2% reporting that they often or always made friends easily, while 21.9% reported that they rarely or never did so. These findings suggest that many pupils had developed healthy peer relationships despite increasing exposure to digital technologies. The findings suggest that digital technologies can complement pupils' friendships when they support communication and collaborative learning, but they should not replace face-to-face interaction. One pupil commented:

"Sometimes when someone is using a phone or watching videos for a long time, they may not talk much with their friends" (FGD Participant 3, February 2026).

The findings support Bronfenbrenner and Morris (2006), who emphasize the importance of social interactions in children's development. They are also consistent with Valkenburg and Peter (2011), who argue that digital communication can strengthen friendships when it complements face-to-face interaction. However, excessive reliance on digital communication may reduce opportunities to develop interpersonal skills (Subrahmanyam & Šmahel, 2011). Maintaining direct peer engagement remains essential for the development of communication, empathy, and interpersonal competence.

Feeling Left Out

The findings revealed that 62.6% of pupils reported that they never or rarely felt left out by their peers, whereas 37.5% indicated that they sometimes, often, or always experienced feelings of social exclusion. Although most pupils felt socially included, the findings indicate that a

considerable proportion experienced challenges related to peer acceptance. The qualitative findings further suggest that differences in pupils' digital experiences and patterns of interaction may contribute to feelings of exclusion among some children.

Similar views were shared by other participants, who noted that excessive time spent on digital devices often limits participation in conversations, group activities, and social interactions within the school environment. These findings show that most pupils experienced a sense of social inclusion, although the proportion reporting some degree of exclusion remains substantial.

The reported feelings of exclusion should be considered within pupils' broader peer, school, and family relationships. Bronfenbrenner and Morris (2006) provide a framework for understanding these interacting settings, while Valkenburg and Peter (2011) discuss opportunities and risks for connectedness through online communication. Differences in digital access and participation may be relevant to belonging, but the present descriptive findings do not isolate these effects from other influences on pupils' social experiences.

Self-Confidence

The findings indicated that more than half of the pupils (51.3%) often or always felt confident in social situations, while 22.5% reported that they rarely or never felt confident. This suggests that although many pupils demonstrated positive self-confidence, a notable proportion experienced challenges that could affect their participation in school and peer interactions. The results show generally positive self-confidence among pupils, while also identifying a sizeable group that may require additional social and emotional support.

Bronfenbrenner and Morris (2006) emphasize the importance of children's interactions within family and school environments, providing a context for interpreting self-confidence. Bavelier et al. (2010) discuss potential learning benefits and risks of digital technologies, while Twenge and Campbell (2018) report associations between screen time and psychological well-being. These studies suggest reasons to consider the purpose and context of digital engagement. However, the present self-confidence percentages do not establish whether purposeful use increased confidence or whether entertainment use reduced it.

Sleep Difficulties and Digital Device Use

The findings showed that 63.8% of pupils never or rarely reported sleep difficulties related to digital device use, whereas 36.3% reported such difficulties at varying levels. These self-reports identify sleep as a relevant concern for a substantial minority. They do not independently establish sleep quality, the timing of device use, or a causal effect of digital exposure.

Radesky and Christakis (2016) discuss screen exposure in relation to children's development and behaviour, including concerns about sleep. Iglesias-Vázquez et al. (2025) also examined screen time, sleep duration, and emotional and behavioural difficulties in young children. These studies support considering sleep alongside digital engagement, although their populations and measures

differ from those used here. The present findings justify attention to pupils' reported sleep difficulties and further investigation of evening use, supervision, and daily routines; they do not demonstrate which of these factors accounts for the difficulties reported.

LEVEL OF EXPOSURE TO SCREEN TIME

One of the most important indicators of children's interaction with digital technologies is the amount of time they spend on screens each day. Screen time helps to show the level of exposure children have to digital content and is often linked to their physical, social, and emotional well-being.

Table 6: Pupils' Typical Screen Time per Day

Screen Time	Frequency	Percentage
Less than 1 hour	47	29.4%
1–2 hours	56	35.0%
2–3 hours	24	15.0%
3–4 hours	16	10.0%
More than 4 hours	17	10.6%
Total	160	100%
Source: Field data		

Screen-time findings further clarify pupils' overall level of digital exposure. A total of 29.4% of pupils spent less than one hour per day on screens, and 35.0% spent between one and two hours, meaning that 64.4% of the sample stayed within, or below, two hours of daily screen exposure. However, 15.0% reported two to three hours, and a combined 20.6% reported more than three hours (10.0% at three to four hours, and 10.6% exceeding four hours), so that overall, 35.6% of pupils exceeded the two-hour daily threshold.

The two-hour category provides a useful descriptive comparison, but it should not be treated as a universal clinical threshold for all pupils. The AAP Council on Communications and Media (2016) recommended an individualized family media plan for school-aged children, with consistent limits that protect sleep and other activities. Iglesias-Vázquez et al. (2025) examined associations between screen time, sleep duration, and emotional and behavioural problems in young children. Their findings support considering sleep and developmental context, but they do

not establish that pupils in the present study who reported more than two hours of screen time experienced greater socio-emotional difficulties.

Panjeti-Madan and Ranganathan (2023) discuss possible relationships between screen use and children's self-regulation, including concerns about using screens to manage distress. This offers a possible explanation to investigate, rather than a mechanism demonstrated in the present sample. The daily screen-time categories do not show whether pupils used devices for self-soothing, and the descriptive analysis did not compare emotional-regulation outcomes across exposure groups. Future analysis would need to examine these relationships directly and account for alternative explanations.

Overall, 64.4% of pupils reported up to two hours of daily screen time and 35.6% reported more than two hours. These results demonstrate variation in exposure and support further examination of the purpose, timing, content, and supervision of use. They do not identify which exposure group experienced the greatest socio-emotional difficulties.

CONCLUSION

This study examined primary school pupils' perceptions of digital device use and socio-emotional well-being in Dodoma City, Tanzania. Smartphone, tablet, and computer use was limited for many pupils, while television and video viewing were more common. Most pupils reported up to two hours of daily screen time, although 35.6% reported longer exposure. Across socio-emotional indicators, many pupils reported favourable experiences, while substantial minorities reported emotional difficulties, exclusion, low confidence, or sleep problems. Pupil accounts illustrated concerns about distraction, gaming-related anger, and reduced peer interaction. Together, the findings support attention to purposeful digital engagement, adult guidance, and balance with daily activities. The cross-sectional, descriptive evidence does not establish causal effects or statistically tested relationships between device use and well-being. Further analytical research is needed to examine these relationships.

RECOMMENDATIONS

Schools should guide age-appropriate educational device use and balance it with collaborative learning, play, and direct interaction. Teachers should receive training in digital pedagogy, online safety, and socio-emotional learning. Parents and guardians should agree on reasonable limits, monitor content, encourage device-free activities, and discuss digital experiences with children. Policymakers should support equitable access, child protection, parent digital literacy, and school-family cooperation. Future longitudinal and analytical studies should examine relationships across settings and socio-economic groups, including the role of content, timing, and adult guidance. Intervention studies should evaluate ways to reduce problematic use while preserving educational benefits.

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