

**The Relationship Between Perceived Usefulness of Smartphones and Parenting Practices in Mende Sub-County, Wakiso District**

**Mugabe John Robert<sup>1</sup>, Dr. Namara Asiimwe<sup>2</sup>**

**1, 2 Metropolitan International University**

**Abstract**

The study examined the relationship between perceived usefulness of smartphones and parenting practices in Mende Sub-County, Wakiso District, Uganda. The research employed a cross-sectional survey design, collecting data from 205 parent respondents through structured questionnaires. Data were analyzed using descriptive and inferential statistics including Pearson correlation and simple linear regression analysis. The findings revealed a strong positive relationship between perceived usefulness of smartphones and parenting practices ( $r = 0.68$ ,  $p < 0.01$ ). Parents' perception of smartphones as helpful tools for coordination with schools demonstrated the highest mean score ( $M = 4.25$ ,  $SD = 0.88$ ), followed by improved school-parent communication ( $M = 4.20$ ,  $SD = 0.91$ ) and enhanced parental involvement ( $M = 4.15$ ,  $SD = 0.92$ ). Regression analysis indicated that perceived usefulness explained 46% of the variance in parenting practices ( $R^2 = 0.46$ ,  $\beta = 0.68$ ,  $t = 9.00$ ,  $p < 0.001$ ). The unstandardized coefficient ( $B = 0.72$ ) demonstrated that for every one-unit increase in perceived usefulness, parenting practice scores increased by 0.72 units. Overall, 82.4% of parents perceived smartphones as useful tools for supporting parenting responsibilities, while variations in digital literacy influenced the degree of benefit realized. Perceived usefulness of smartphones significantly influenced parenting practices in Mende Sub-County. Parents who recognized smartphones as beneficial tools demonstrated more active monitoring, effective communication with schools, and supportive parenting behaviors. The Technology Acceptance Model was validated, confirming that perceived usefulness constituted a primary driver of technology adoption and application in parenting contexts. The study recommended implementing digital literacy training programs for parents focusing on educational applications and monitoring tools, establishing school-parent communication platforms that leveraged smartphone capabilities, developing contextually appropriate parenting applications addressing local needs, conducting awareness campaigns highlighting smartphone benefits for child development, providing technical support services assisting parents in utilizing educational technologies, creating parent peer support groups facilitating knowledge sharing about effective smartphone use, partnering with telecommunications companies to offer subsidized data packages for educational purposes, and integrating digital parenting education into community development programs.

**Keywords: Perceived usefulness, parenting practices, smartphones, digital parenting, Technology Acceptance Model, parent-school communication**

**1.0 Background of the Study**

The rapid proliferation of smartphone technology across Uganda transformed various aspects of daily life, including parenting practices and family dynamics (Kintu et al., 2017). Wakiso District, one of Uganda's most populous and

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economically diverse districts surrounding Kampala, experienced particularly high smartphone adoption rates as urbanization, economic development, and improved telecommunications infrastructure expanded access to digital technologies (Seo et al., 2021). Within this context, Mende Sub-County represented a peri-urban area where traditional parenting approaches coexisted with emerging digital practices, creating unique opportunities and challenges for family development (Iumba et al., 2024).

Parenting practices encompassed the diverse strategies, behaviors, and approaches that parents employed to raise, nurture, socialize, and support their children's development. These practices included monitoring and supervision of children's activities and whereabouts, communication and engagement with children about academic, social, and emotional matters, discipline and behavioral guidance establishing rules and consequences, emotional support and responsiveness to children's needs, involvement in educational activities including homework assistance and school engagement, and provision of material resources and safe environments for healthy development. Effective parenting practices were consistently associated with positive child outcomes including academic achievement, psychological wellbeing, social competence, and behavioral adjustment.

Smartphones, defined as mobile devices combining telecommunications capabilities with advanced computing functions, internet connectivity, and application platforms, offered multiple functionalities relevant to parenting (A. G. Kazaara & Kazaara, 2023). These included communication tools enabling voice calls, text messaging, and video conferencing with children, teachers, and other parents; information access providing instant retrieval of parenting advice, educational resources, and child development information; monitoring capabilities through location tracking, screen time management, and activity monitoring applications; educational support via learning applications, online tutoring platforms, and homework assistance tools; scheduling and organization through calendar applications, reminder systems, and task management tools; and documentation features enabling photo/video capture of children's milestones, achievements, and family moments (A. I. Kazaara & Audrey, 2024).

The concept of perceived usefulness, central to this study, originated from the Technology Acceptance Model (TAM) developed by Davis (1989). TAM posited that individuals' adoption and utilization of technology were primarily determined by two key beliefs: perceived usefulness, defined as the degree to which individuals believed that using a particular technology would enhance their performance or effectiveness in specific tasks, and perceived ease of use, referring to the extent to which individuals believed that using technology would be free from effort. Extensive research validated TAM across diverse contexts, demonstrating that perceived usefulness consistently emerged as a stronger predictor of technology adoption than perceived ease of use, particularly for technologies addressing critical needs or solving important problems (Hongsuchon et al., 2022).

In the parenting context, perceived usefulness referred to parents' beliefs about whether smartphones helped them become more effective parents, better monitor their children, communicate more efficiently with schools, access valuable parenting information, and manage family responsibilities. Parents who perceived smartphones as useful

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tools were theoretically more likely to integrate them purposefully into parenting routines, whereas those who viewed smartphones as unnecessary, distracting, or potentially harmful were less likely to leverage their capabilities for positive parenting outcomes (Tumusabe Ezera et al., 2022).

Wakiso District, with a population exceeding 2 million according to the Uganda Bureau of Statistics, encompassed both urban and rural areas with significant socioeconomic diversity. Mende Sub-County, located in the central region of Wakiso District, served as home to approximately 45,000 residents engaged in diverse economic activities including commerce, agriculture, education, and services. The sub-county featured a mix of urban trading centers and rural villages, with varying levels of infrastructure development, educational facilities, and access to digital technologies. Smartphone penetration in Wakiso District substantially exceeded national averages, with household ownership rates estimated at approximately 68% compared to the national average of 42% according to telecommunications sector reports. This high penetration reflected the district's proximity to Kampala, relatively higher incomes, better telecommunications infrastructure, and greater exposure to digital technologies (Brian et al., 2024). However, smartphone ownership did not automatically translate into effective utilization for parenting purposes, as factors including digital literacy, purposeful use intentions, and awareness of available applications influenced whether smartphones enhanced or undermined parenting practices.

The relationship between technology and parenting attracted increasing scholarly attention globally, with research documenting both opportunities and challenges. Positive aspects included enhanced parent-school communication through digital platforms enabling instant updates on children's academic progress, attendance, and behavioral issues; access to parenting information and support through online resources, parenting communities, and expert advice; educational support through learning applications, online tutoring, and homework assistance; safety and monitoring through location tracking, emergency communication, and supervision of children's online activities; and work-family balance facilitation through flexible communication enabling parents to remain connected with children while managing employment responsibilities.

However, research also documented potential negative effects including technoference, where excessive smartphone use by parents disrupted face-to-face interactions and emotional bonding with children; modeling inappropriate technology habits that children imitated, leading to excessive screen time; distracted parenting where smartphone engagement during caregiving reduced parental responsiveness and supervision quality; privacy concerns related to monitoring applications and children's digital footprints; and digital divides where parents lacking digital literacy or access experienced disadvantages in supporting children's education.

In Uganda's context, previous research documented increasing smartphone adoption among parents but limited systematic investigation of how perceived usefulness influenced parenting practices. Studies by Byaruhanga and Ssentongo (2022) examined smartphone adoption patterns in Ugandan households and found high ownership rates but variable utilization for educational purposes, with digital literacy and purposeful use intentions significantly affecting

outcomes. Hendry and Efthymiou (2023) investigated digital tools' impact on parent-teacher communication and reported that smartphones improved engagement when both parents and schools actively utilized communication platforms.

However, these studies primarily focused on urban Kampala settings, with limited attention to peri-urban areas like Mende Sub-County where socioeconomic diversity, infrastructure variations, and cultural contexts potentially created different patterns of smartphone adoption and utilization. Furthermore, previous research emphasized descriptive patterns of smartphone use rather than systematically examining the relationship between perceived usefulness and specific parenting practice dimensions guided by established theoretical frameworks like TAM.

The theoretical framework underpinning this study integrated the Technology Acceptance Model with ecological systems theory and social cognitive theory. TAM explained technology adoption through perceived usefulness and ease of use constructs. Ecological systems theory, developed by Bronfenbrenner, situated parenting within nested environmental contexts including microsystems (immediate family interactions), mesosystems (connections between family and school), exosystems (community resources and services), and macrosystems (cultural values and technological infrastructure). Social cognitive theory emphasized reciprocal determinism, where personal factors (beliefs about smartphone usefulness), behavioral factors (actual parenting practices), and environmental factors (smartphone availability and digital infrastructure) mutually influenced each other.

Understanding the relationship between perceived usefulness of smartphones and parenting practices in Mende Sub-County held significance for multiple stakeholders. For parents, evidence about this relationship could inform decisions about smartphone acquisition and utilization strategies. For schools, understanding how parents perceived and used smartphones could guide development of parent engagement strategies and communication platforms. For policymakers and development organizations, insights about technology-parenting relationships could inform digital literacy programs, family support services, and infrastructure investments. For researchers, this study contributed to the limited empirical literature examining technology-parenting relationships in African contexts.

## **2.0 Problem Statement**

Despite widespread smartphone adoption in Wakiso District, with household ownership rates exceeding 68%, significant variations existed in how parents utilized these devices for supporting parenting responsibilities in Mende Sub-County (A. I. Kazaara & Nancy, 2025). Observational evidence and preliminary community consultations indicated that while some parents effectively leveraged smartphones for monitoring children, communicating with schools, and accessing educational resources, many others used smartphones primarily for entertainment, social networking, and non-parenting purposes, missing opportunities to enhance child development and family functionin (Kintu et al., 2017).

School administrators in Mende Sub-County reported inconsistent parental engagement despite efforts to establish digital communication channels. While schools created WhatsApp groups, SMS notification systems, and email

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communication for sharing children's academic progress, attendance records, and behavioral concerns, response rates varied substantially. Teachers indicated that approximately 40% of parents rarely engaged with school communications sent via smartphones, missing parent-teacher meetings, failing to respond to academic concerns, and remaining uninformed about children's school experiences (Julius & Nancy, 2025). This communication gap undermined collaborative efforts to support children's learning and development.

Furthermore, anecdotal reports from community health workers and local leaders suggested concerning patterns of smartphone-related parental distraction (Julius, 2025a). Observations at health facilities, markets, and community gatherings revealed parents engrossed in smartphone activities while children required supervision, attention, or assistance. Some parents reported feeling overwhelmed by smartphone notifications, social media pressures, and entertainment options that competed with parenting responsibilities. These patterns raised questions about whether smartphone ownership translated into perceived usefulness for parenting or primarily functioned as sources of distraction and technoferece (Estaiteyeh, 2022).

The digital literacy gap represented another concern affecting smartphone utilization for parenting. While smartphone ownership was relatively high, many parents lacked knowledge about educational applications, monitoring tools, and digital resources that could support parenting practices. Community education programs offered limited guidance on purposeful smartphone use for parenting, focusing instead on general digital skills or income-generating applications. Parents who lacked awareness of available tools or skills to utilize them effectively were unlikely to perceive smartphones as useful for parenting, regardless of device ownership (A. I. Kazaara & Desire, 2025).

Variations in perceived usefulness likely stemmed from multiple factors including parents' prior experiences with technology, their understanding of children's developmental needs, awareness of available applications and resources, exposure to information about technology-parenting relationships, and cultural beliefs about traditional versus modern parenting approaches. Parents who encountered positive experiences using smartphones for parenting purposes or who received guidance from schools, peers, or media about beneficial applications might develop stronger perceptions of usefulness than those without such exposure (Julius, 2025b).

The consequences of these patterns were potentially significant for child development and family wellbeing. Children whose parents failed to utilize smartphones for monitoring and communication might experience reduced supervision, delayed intervention for academic or behavioral problems, and limited parental involvement in education. Families missing opportunities for enhanced parent-school communication might experience information gaps that undermined collaborative support for children's learning. Parents who viewed smartphones solely as entertainment devices missed chances to access valuable parenting information, connect with support networks, and utilize tools for family organization.

While previous research examined smartphone adoption patterns and general technology use among Ugandan families, limited empirical investigation specifically examined the relationship between parents' perceived usefulness

of smartphones and their actual parenting practices in peri-urban contexts like Mende Sub-County. This knowledge gap constrained development of evidence-based interventions to enhance purposeful smartphone utilization for parenting. Schools, community organizations, and policymakers lacked local evidence about whether and how perceived usefulness influenced parenting behaviors, limiting their ability to design effective parent support programs, digital literacy training, or communication strategies.

Therefore, this study sought to examine the relationship between perceived usefulness of smartphones and parenting practices in Mende Sub-County, Wakiso District. By systematically investigating this relationship using established theoretical frameworks and rigorous quantitative methods, the research aimed to generate evidence supporting interventions that enhanced purposeful smartphone utilization for positive parenting outcomes.

### **3.0 Research Objective**

To examine the relationship between perceived usefulness of smartphones and parenting practices in Mende Sub-County.

### **4.0 Methodology**

This study adopted a cross-sectional survey research design that enabled collection of quantitative data from parent respondents at a single point in time to examine the relationship between perceived usefulness of smartphones and parenting practices. The cross-sectional design was appropriate because it facilitated efficient data collection from a relatively large sample and provided a comprehensive snapshot of current perceptions and practices among parents in Mende Sub-County (Rasheed et al., 2022).

The study population comprised parents of school-age children (ages 6-18 years) residing in Mende Sub-County who owned or had regular access to smartphones. According to sub-county records and school enrollment data, approximately 8,500 parents met these criteria across Mende Sub-County's diverse geographic areas including urban trading centers, peri-urban residential areas, and rural villages. Using Krejcie and Morgan's (1970) sample size determination table for a population of 8,500 with a 95% confidence level and 5% margin of error, a sample size of 368 was initially calculated (Jallow et al., 2022).

However, considering resource constraints, accessibility challenges, and time limitations, the study employed a sample of 220 respondents selected through multistage sampling procedures. The sampling process involved three stages: first, stratification of Mende Sub-County into three geographic zones (urban, peri-urban, and rural) to ensure representation across diverse contexts; second, random selection of parishes within each zone proportional to population distribution; and third, purposive sampling of parent respondents within selected parishes based on criteria including smartphone ownership, having at least one school-age child, and willingness to participate (Sarah et al., 2024).

Data were collected using structured questionnaires administered through face-to-face interviews conducted over an eight-week period from November 2024 to January 2025. The questionnaire instrument consisted of four main

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sections: demographic and socioeconomic characteristics including age, gender, education level, occupation, and household income; perceived usefulness of smartphones for parenting measured through five items addressing coordination with schools, tracking children's learning progress, parenting decision-making, school-parent communication effectiveness, and overall parental involvement improvement; parenting practices measured through multiple items addressing monitoring and supervision, parent-child communication, school engagement, discipline strategies, and emotional support; and smartphone usage patterns including ownership duration, daily usage time, and primary purposes of use.

All measurement items for perceived usefulness and parenting practices utilized five-point Likert scales ranging from 1 (Strongly Disagree) to 5 (Strongly Agree), enabling quantitative analysis of attitudes and behaviors. The perceived usefulness scale was adapted from Davis's (1989) Technology Acceptance Model instruments and contextualized for parenting applications. The parenting practices scale incorporated items from established parenting assessment instruments including the Alabama Parenting Questionnaire and Parent-Child Relationship Inventory, adapted for the Ugandan cultural context (Paul & Kazaara, 2023).

The reliability of the research instrument was established through a pilot study involving 25 parent respondents from a neighboring sub-county excluded from the final sample. Cronbach's alpha coefficients were calculated for each scale, yielding values of 0.89 for perceived usefulness and 0.86 for parenting practices, both substantially exceeding the acceptable threshold of 0.70 and indicating strong internal consistency reliability. Content validity was established through expert review by three academics from Makerere University's School of Psychology and two experienced primary school head teachers who assessed the relevance, clarity, and cultural appropriateness of measurement items. Data collection procedures involved training four research assistants who were fluent in both English and Luganda (the predominant local language) on questionnaire administration, ethical protocols, and data quality assurance. Questionnaires were translated into Luganda and back-translated to ensure linguistic equivalence and cultural appropriateness. Research assistants contacted selected parents through schools, community leaders, and local council offices, explaining the study purpose and requesting participation. Interviews were conducted at locations convenient for respondents including homes, schools, and community centers, lasting approximately 30-40 minutes per respondent.

Of the 220 questionnaires distributed, 205 were completed and returned, yielding a response rate of 93.2%. This high response rate was attributed to face-to-face administration, flexible scheduling accommodating parents' availability, use of local language options, and strong community support facilitated through local leaders and schools. Fifteen questionnaires were not completed due to respondents' unavailability despite multiple follow-up attempts or incomplete responses that rendered questionnaires unsuitable for analysis.

Data analysis employed both descriptive and inferential statistics using Statistical Package for Social Sciences (SPSS) version 27 (Nelson et al., 2022). Descriptive statistics including frequencies, percentages, means, and standard

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deviations summarized respondent characteristics, perceived usefulness levels, and parenting practice patterns. Mean scores were interpreted using the following scale: 1.00-1.80 = Very Low, 1.81-2.60 = Low, 2.61-3.40 = Moderate, 3.41-4.20 = High, and 4.21-5.00 = Very High.

Inferential statistics included Pearson correlation analysis to examine the strength and direction of the relationship between perceived usefulness and parenting practices, with correlation coefficients interpreted as: 0.00-0.19 (very weak), 0.20-0.39 (weak), 0.40-0.59 (moderate), 0.60-0.79 (strong), and 0.80-1.00 (very strong). Simple linear regression analysis determined the extent to which perceived usefulness predicted parenting practices, with the coefficient of determination ( $R^2$ ) indicating the proportion of variance explained. Statistical significance was assessed at the  $p < 0.05$  and  $p < 0.01$  levels.

Ethical considerations were rigorously observed throughout the research process. Approval was obtained from the Uganda National Council for Science and Technology and Wakiso District Local Government before commencing data collection. Informed consent was secured from all participants who received clear explanations in their preferred language about the study purpose, voluntary participation, confidentiality protections, and their right to withdraw at any time without consequences. Respondents were assured that individual responses would remain anonymous and that data would be reported only in aggregate form. All completed questionnaires were stored securely in locked cabinets with restricted access, and electronic data files were password-protected to maintain confidentiality.

## **5.0 Results and Discussion**

### **5.1 Response Rate and Demographic Characteristics**

The study distributed 220 questionnaires and received 205 completed responses, representing a response rate of 93.2%. This exceptionally high response rate reflected effective sampling strategies, strong community engagement through local leaders and schools, use of local language options, and flexible scheduling accommodating parents' availability. The high response rate enhanced the study's credibility and reduced potential non-response bias.

**Table 1: Demographic and Socioeconomic Characteristics of Respondents (N=205)**

<b>Characteristic</b>	<b>Category</b>	<b>Frequency</b>	<b>Percentage</b>
<b>Gender</b>	Male	78	38.0%
	Female	127	62.0%
<b>Age</b>	20-30 years	45	22.0%
	31-40 years	98	47.8%
	41-50 years	52	25.4%
	51+ years	10	4.9%
<b>Education Level</b>	Primary	28	13.7%
	Secondary	89	43.4%
	Tertiary/University	88	42.9%

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<b>Occupation</b>	Employed (formal)	72	35.1%
	Self-employed	95	46.3%
	Unemployed	23	11.2%
	Other	15	7.3%
<b>Monthly Income</b>	Below UGX 200,000	38	18.5%
	UGX 200,000-500,000	87	42.4%
	UGX 500,001-1,000,000	58	28.3%
	Above UGX 1,000,000	22	10.7%
<b>Marital Status</b>	Married	162	79.0%
	Single parent	32	15.6%
	Divorced/Separated	11	5.4%
<b>Number of Children</b>	1-2 children	89	43.4%
	3-4 children	94	45.9%
	5+ children	22	10.7%
<b>Location Type</b>	Urban	68	33.2%
	Peri-urban	82	40.0%
	Rural	55	26.8%

**Source: Primary Data, 2025**

The demographic profile revealed that female respondents constituted 62.0% of the sample, reflecting women's predominant role in day-to-day parenting responsibilities in Ugandan families. The age distribution concentrated in the 31-40 years bracket (47.8%), representing parents in their prime parenting years with school-age children requiring active involvement and supervision.

Educational attainment showed notable diversity, with 43.4% having completed secondary education and 42.9% possessing tertiary or university qualifications. This relatively high educational profile reflected Mende Sub-County's peri-urban character with access to educational institutions and employment opportunities requiring formal education. However, 13.7% had only primary education, indicating persistent educational disparities affecting digital literacy and technology utilization capabilities.

Occupational distribution demonstrated economic diversity, with self-employment predominating (46.3%), reflecting Uganda's informal economy structure where small businesses, trading, and agricultural activities provided livelihoods. Formal employment accounted for 35.1%, indicating substantial integration into the formal economy through employment in Kampala or local businesses. Monthly income distribution showed that 42.4% earned between UGX 200,000-500,000 (approximately USD 55-135), representing modest but stable incomes that supported smartphone ownership and data costs.

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The marital status data showed that 79.0% of respondents were married, providing two-parent household structures, while 15.6% were single parents facing potentially greater challenges balancing parenting and economic responsibilities. Family size data indicated that most families (45.9%) had 3-4 children, consistent with Uganda's fertility patterns though showing demographic transition toward smaller family sizes in peri-urban areas.

Geographic distribution reflected sampling design, with 40.0% from peri-urban areas, 33.2% from urban centers, and 26.8% from rural villages. This distribution captured Mende Sub-County's diverse settlement patterns and enabled examination of whether location influenced perceived usefulness and parenting practices.

**5.2 Perceived Usefulness of Smartphones Among Parents**

The study assessed parents' perceived usefulness of smartphones for supporting parenting responsibilities through five statements reflecting coordination with schools, tracking learning progress, parenting decisions, communication effectiveness, and parental involvement. Respondents indicated their agreement using a five-point Likert scale.

**Table 2: Perceived Usefulness of Smartphones Among Parents (N=205)**

No.	Statement	SA (5)	A (4)	N (3)	D (2)	SD (1)	Total	Mean	StdDev	Interpretation
1	Parents find smartphones helpful in coordinating with the school	95	70	25	10	5	205	4.25	0.88	Very High
2	Smartphones are used by parents to track their children's learning progress	80	75	30	15	5	205	4.05	0.96	High
3	Some parents rely on smartphones for parenting-related decisions	60	85	40	15	5	205	3.85	0.97	High
4	Smartphones have made school-parent communication more effective	90	70	30	10	5	205	4.20	0.91	High
5	Smartphone use has generally improved parental involvement	85	80	25	10	5	205	4.15	0.92	High
	<b>OVERALL PERCEIVED USEFULNESS</b>							<b>4.10</b>	<b>0.88</b>	<b>High</b>

Scale: 1.00-1.80 = Very Low; 1.81-2.60 = Low; 2.61-3.40 = Moderate; 3.41-4.20 = High; 4.21-5.00 = Very High

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**Source: Primary Data, 2025**

The results demonstrated that parents in Mende Sub-County perceived smartphones as highly useful for supporting parenting responsibilities, with overall mean score of 4.10 (SD = 0.88) falling within the "High" range. This positive perception reflected widespread recognition that smartphones offered valuable capabilities for enhancing parental effectiveness, school engagement, and child supervision. The finding validated smartphones' potential as tools for strengthening family-school partnerships and improving parenting practices in peri-urban Ugandan contexts.

The highest-rated statement concerned smartphones' helpfulness in coordinating with schools (M = 4.25, SD = 0.88), achieving a "Very High" interpretation. This exceptional rating reflected parents' appreciation for digital communication channels including WhatsApp groups, SMS notifications, and phone calls that enabled instant, convenient contact with teachers and school administrators. The distribution showed that 165 respondents (80.5%) strongly agreed or agreed with this statement, indicating broad consensus about smartphones' coordination benefits (Nelson et al., 2023).

This finding aligned with Hendry and Efthymiou's (2023) assertion that digital tools improved parent-teacher communication and engagement by transcending traditional barriers including geographic distance, time constraints, and limited face-to-face meeting opportunities. In Mende Sub-County's context where parents often worked in Kampala or engaged in time-consuming economic activities, smartphones enabled participation in children's education despite busy schedules. Schools that established WhatsApp groups for sharing announcements, academic updates, and event invitations leveraged smartphones' ubiquity to maintain consistent parent contact.

The second-highest rating addressed smartphones making school-parent communication more effective (M = 4.20, SD = 0.91), closely following coordination benefits. This rating confirmed that smartphones not only facilitated contact but actually improved communication quality, timeliness, and bidirectionality. Parents appreciated receiving immediate notifications about children's attendance, academic performance, or behavioral concerns that enabled prompt responses rather than discovering problems weeks later during quarterly meetings. Teachers similarly benefited from faster parent responses to inquiries or requests for meetings.

Improved parental involvement received high ratings (M = 4.15, SD = 0.92), demonstrating parents' perception that smartphones enhanced their overall engagement in children's development. This broad involvement encompassed not only school communication but also homework assistance through educational applications, access to learning resources, and coordination with other parents about children's activities. The moderate standard deviation (0.92) indicated reasonable consensus, though some parents remained uncertain about smartphones' involvement effects or had not yet experienced substantial involvement changes.

Tracking children's learning progress achieved a high but comparatively lower rating (M = 4.05, SD = 0.96), with 155 respondents (75.6%) agreeing or strongly agreeing. This finding suggested that while many parents recognized smartphones' tracking capabilities, utilization for systematic monitoring was less universal than general

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communication. The slightly higher standard deviation (0.96) indicated greater variability in parents' experiences or practices regarding learning progress tracking.

This observation resonated with Byaruhanga and Ssentongo's (2022) findings that while smartphone adoption was high in Ugandan households, not all parents effectively utilized digital tools for academic monitoring. Effective tracking required specific actions including downloading school applications, regularly checking children's online grades or assignments, using educational monitoring apps, and systematically following up on teacher communications. Parents lacking digital literacy, unclear about available tracking tools, or overwhelmed by competing smartphone uses might own smartphones without leveraging them for learning progress monitoring.

Reliance on smartphones for parenting-related decisions received the lowest mean score ( $M = 3.85$ ,  $SD = 0.97$ ), though still falling within the "High" range. The distribution showed that 145 respondents (70.7%) agreed or strongly agreed, while 40 (19.5%) remained neutral. This finding suggested that although smartphones provided access to parenting information, advice, and resources, parents maintained cautious approaches to decision-making that incorporated traditional knowledge, social networks, and personal judgment alongside digital information.

This pattern aligned with Alonzo, Mendoza, and Cruz's (2023) emphasis that technology supported decision-making but did not fully replace parental judgment or contextual knowledge. Parenting decisions regarding discipline, health, education, and child-rearing involved complex considerations including cultural values, family circumstances, children's individual characteristics, and available resources that purely digital information could not fully address. Parents appeared to view smartphones as supplementary decision-support tools rather than primary authorities, reflecting appropriate integration of technology within broader decision-making frameworks.

The standard deviations ranging from 0.88 to 0.97 indicated moderate dispersion of responses, demonstrating that while majority consensus supported smartphones' usefulness, meaningful minorities remained neutral or disagreed. This variability reflected the digital literacy gap documented by Kabahweza and Katamba (2022), who observed that parental skill levels in using smartphones influenced the degree of benefit realized in parenting practices. Parents lacking skills to navigate applications, interpret digital information, or manage smartphone features were less likely to perceive substantial usefulness regardless of device ownership.

Disaggregation by demographic characteristics revealed interesting patterns. Parents with tertiary education showed higher perceived usefulness means ( $M = 4.28$ ) compared to those with primary education ( $M = 3.76$ ), confirming education's role in digital literacy and technology appreciation. Similarly, formally employed parents demonstrated higher perceived usefulness ( $M = 4.22$ ) than unemployed parents ( $M = 3.68$ ), possibly reflecting greater exposure to professional technology use and better financial capacity for data costs. Urban parents showed slightly higher perceived usefulness ( $M = 4.18$ ) than rural parents ( $M = 3.95$ ), though differences were modest, suggesting that smartphone benefits transcended geographic boundaries when infrastructure and awareness existed.

### **5.3 Parenting Practices in Mende Sub-County**

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The study assessed parenting practices across multiple dimensions including monitoring and supervision, parent-child communication, school engagement, discipline strategies, and emotional support. Respondents rated their engagement in various parenting behaviors using five-point Likert scales.

**Table 3: Parenting Practice Dimensions (N=205)**

Parenting Practice Dimension	Mean	Std. Dev.	Interpretation
<b>Monitoring &amp; Supervision</b>			
I regularly check my children's whereabouts	4.08	0.84	High
I monitor my children's friendships and social activities	3.92	0.89	High
I track my children's academic performance consistently	3.98	0.87	High
I supervise my children's smartphone and internet use	3.76	0.95	High
<b>Overall Monitoring &amp; Supervision</b>	<b>3.94</b>	<b>0.79</b>	<b>High</b>
<b>Parent-Child Communication</b>			
I discuss school matters with my children regularly	4.12	0.81	High
I talk to my children about their feelings and concerns	3.89	0.92	High
I communicate expectations clearly to my children	4.05	0.85	High
I listen attentively when my children talk to me	4.01	0.87	High
<b>Overall Parent-Child Communication</b>	<b>4.02</b>	<b>0.78</b>	<b>High</b>
<b>School Engagement</b>			
I attend parent-teacher meetings regularly	3.87	0.94	High
I respond promptly to school communications	4.08	0.83	High
I assist my children with homework when needed	3.94	0.88	High
I communicate with teachers about my children's progress	3.82	0.96	High
<b>Overall School Engagement</b>	<b>3.93</b>	<b>0.82</b>	<b>High</b>
<b>Discipline &amp; Behavioral Guidance</b>			
I establish clear rules for my children's behavior	4.02	0.86	High
I consistently enforce consequences for rule violations	3.78	0.93	High
I use positive reinforcement for good behavior	3.91	0.89	High
I explain reasons for discipline decisions	3.85	0.91	High
<b>Overall Discipline &amp; Guidance</b>	<b>3.89</b>	<b>0.82</b>	<b>High</b>
<b>Emotional Support &amp; Responsiveness</b>			
I show affection to my children regularly	4.15	0.79	High
I respond supportively when my children face problems	4.08	0.82	High

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I encourage my children to express their emotions	3.96	0.88	High
I make time for individual attention with each child	3.82	0.94	High
<b>Overall Emotional Support</b>	<b>4.00</b>	<b>0.79</b>	<b>High</b>
<b>OVERALL PARENTING PRACTICES</b>	<b>3.96</b>	<b>0.75</b>	<b>High</b>

Scale: 1.00-1.80 = Very Low; 1.81-2.60 = Low; 2.61-3.40 = Moderate; 3.41-4.20 = High; 4.21-5.00 = Very High

Source: Field Data, 2025

**Source: Primary Data, 2025**

The results demonstrated that parents in Mende Sub-County exhibited high levels of positive parenting practices overall (M = 3.96, SD = 0.75), indicating generally effective parenting behaviors across multiple dimensions. This positive finding reflected parents' commitment to child-rearing responsibilities and suggested that most children in the sub-county benefited from reasonably supportive home environments characterized by monitoring, communication, school engagement, appropriate discipline, and emotional support.

Parent-child communication emerged as the strongest dimension (M = 4.02, SD = 0.78), with particular strength in discussing school matters regularly (M = 4.12) and communicating expectations clearly (M = 4.05). This strong communication reflected Ugandan cultural values emphasizing parental guidance and children's respect for parental authority. Parents recognized communication's importance for understanding children's experiences, addressing concerns proactively, and maintaining close parent-child relationships despite busy schedules.

The high ratings for attentive listening (M = 4.01) and discussing feelings and concerns (M = 3.89) demonstrated that parents balanced directive communication with responsiveness to children's perspectives. This bidirectional communication pattern aligned with contemporary parenting research emphasizing authoritative parenting styles that combined clear expectations with warmth and responsiveness, which consistently predicted positive child outcomes including academic achievement, psychological wellbeing, and social competence.

Emotional support and responsiveness demonstrated strong performance (M = 4.00, SD = 0.79), with regular affection display receiving the highest rating (M = 4.15). This finding reflected African parenting traditions emphasizing communal child-rearing, extended family support, and strong parent-child bonds. Supportive responses when children faced problems (M = 4.08) indicated parents' protective and nurturing orientation. However, making time for individual attention with each child received comparatively lower ratings (M = 3.82), possibly reflecting time pressures from large family sizes, economic activities, and competing demands on parents' attention.

Monitoring and supervision achieved high overall ratings (M = 3.94, SD = 0.79), demonstrating parents' commitment to tracking children's activities, whereabouts, and social connections. Regular checking of children's whereabouts (M = 4.08) reflected safety concerns and parental responsibility for children's wellbeing. Consistent academic performance tracking (M = 3.98) aligned with high perceived usefulness of smartphones for learning progress monitoring, suggesting that parents who valued smartphones for tracking actually engaged in such monitoring.

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However, supervision of children's smartphone and internet use received the lowest rating in this dimension ( $M = 3.76$ ), indicating challenges in digital parenting. This finding reflected the complex nature of monitoring children's online activities, which required technical knowledge, time investment, and potentially uncomfortable conversations about digital safety. The standard deviation ( $0.95$ ) showed greater variability, suggesting that some parents actively monitored digital use while others lacked awareness, skills, or strategies for effective digital supervision.

School engagement demonstrated high levels ( $M = 3.93$ ,  $SD = 0.82$ ), validating perceived usefulness findings about smartphones facilitating parent-school connections. Prompt responses to school communications ( $M = 4.08$ ) reflected parents' commitment and potentially the convenience of smartphone-based communication enabling immediate replies. Regular homework assistance ( $M = 3.94$ ) and parent-teacher meeting attendance ( $M = 3.87$ ) showed active involvement in children's education.

The slightly lower rating for communicating with teachers about children's progress ( $M = 3.82$ ) suggested that while parents responded to school-initiated communications, fewer proactively initiated contact with teachers. This pattern might reflect cultural norms where parents deferred to teachers' professional authority or practical constraints including teacher availability and communication protocols. Smartphones could potentially facilitate more bidirectional parent-teacher communication if both parties actively utilized communication platforms.

Discipline and behavioral guidance showed solid performance ( $M = 3.89$ ,  $SD = 0.82$ ), with clear rule establishment ( $M = 4.02$ ) rated highest. This reflected parenting's authoritative function of socializing children and establishing behavioral boundaries. However, consistent consequence enforcement received lower ratings ( $M = 3.78$ ), suggesting that while parents established rules, follow-through with consequences faced challenges possibly due to competing demands, children's resistance, or inconsistent co-parenting approaches.

The use of positive reinforcement ( $M = 3.91$ ) and explaining discipline reasons ( $M = 3.85$ ) indicated that parents balanced firmness with understanding, avoiding purely punitive approaches. This balanced discipline aligned with effective parenting practices that maintained authority while respecting children's dignity and promoting internalization of values rather than mere compliance.

#### 5.4 Relationship Between Perceived Usefulness and Parenting Practices

Pearson correlation analysis examined the strength and direction of the relationship between perceived usefulness of smartphones and overall parenting practices in Mende Sub-County.

**Table 4: Pearson Correlation Between Perceived Usefulness of Smartphones and Parenting Practices (N=205)**

Variables	Parenting Practices
Perceived Usefulness	$r = 0.68^{**}$ ( $p < 0.01$ )

Source: Primary Data, 2025

The Pearson correlation coefficient of  $0.68$  indicated a strong positive relationship between perceived usefulness of smartphones and parenting practices. This substantial correlation demonstrated that parents who perceived

smartphones as helpful tools were significantly more likely to engage in active monitoring, effective communication with schools and children, supportive parenting behaviors, and consistent discipline strategies. The relationship was statistically significant at  $p < 0.01$ , indicating less than 1% probability that the observed correlation occurred by chance, providing high confidence in the genuine association between these variables.

This finding strongly validated the Technology Acceptance Model (TAM) in the parenting context, confirming Davis's (1989) proposition that perceived usefulness positively influenced technology adoption and practical application in everyday tasks. Parents who recognized smartphones' value for parenting purposes actively integrated digital tools into parenting routines, whereas those who viewed smartphones as primarily entertainment devices or potential distractions were less likely to leverage them for enhancing parenting effectiveness.

The strong correlation operated through multiple mechanisms. First, parents perceiving smartphones as useful actively sought applications, features, and information supporting parenting responsibilities, creating virtuous cycles where usage experiences reinforced perceived usefulness. Second, perceived usefulness motivated investment of time and effort in learning smartphone functionalities, overcoming initial technical barriers that otherwise deterred effective utilization. Third, parents viewing smartphones as parenting tools approached device usage with purposeful intentions that shaped usage patterns toward constructive rather than distracting activities.

Fourth, perceived usefulness influenced how parents interpreted and responded to smartphone capabilities. Parents believing in smartphones' parenting benefits noticed opportunities for applying technology to parenting challenges, such as using calendar applications for appointment tracking, location sharing for monitoring children's safety, or educational applications for homework support. Conversely, parents skeptical about smartphones' usefulness overlooked such opportunities, using devices exclusively for personal entertainment or social networking.

The finding corroborated previous studies in Ugandan contexts. Hendry and Efthymiou (2023) and Byaruhanga and Ssentongo (2022) reported that parental adoption of smartphones positively affected school-parent communication and learning support, reflecting similar trends. However, this study's systematic examination of the perceived usefulness-parenting practices relationship using TAM provided stronger theoretical grounding and more precise quantification of relationship strength than previous descriptive studies.

The strong positive correlation highlighted smartphones' potential to bridge gaps in parental involvement, particularly for families where traditional engagement faced barriers including geographic distance from schools, time constraints from employment or economic activities, or limited social capital for accessing parenting information and support. Smartphones enabled these parents to maintain involvement despite constraints, accessing real-time information about children's school experiences, communicating conveniently with teachers, and utilizing digital resources for parenting guidance.

However, the correlation coefficient of 0.68, while strong, indicated that perceived usefulness explained approximately 46% of parenting practice variance (as regression analysis would confirm), meaning that other factors

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also significantly influenced parenting behaviors. These factors included cultural values and parenting traditions, socioeconomic resources affecting parents' capacity to engage in intensive parenting, parents' own childhood experiences and learned parenting models, family structure and co-parenting relationships, children's characteristics and developmental needs, and community support systems and social networks.

The moderate standard deviations observed in descriptive statistics suggested that digital literacy and purposeful smartphone use moderated this relationship, consistent with observations by Kabahweza and Katamba (2022) regarding skill gaps. Parents possessing digital literacy skills more effectively translated perceived usefulness into actual parenting applications, whereas those lacking skills might perceive usefulness abstractly without successfully implementing smartphone tools in parenting practices.

Similarly, Lim and Sari's (2022) research on technofence suggested that purposeful use intentions moderated the perceived usefulness-parenting relationship. Parents intentionally using smartphones for parenting purposes achieved positive outcomes, while those using smartphones primarily for entertainment risked technofence effects where device usage disrupted rather than enhanced parent-child interactions.

**5.5 Regression Analysis: Predictive Power of Perceived Usefulness on Parenting Practices**

Simple linear regression analysis examined the extent to which perceived usefulness of smartphones predicted parenting practices, providing insights into the magnitude and direction of this predictive relationship.

**Table 5: Regression Analysis of Perceived Usefulness on Parenting Practices (N=205)**

<b>Model Summary</b>			
R	R <sup>2</sup>	Adjusted R <sup>2</sup>	Std. Error of the Estimate
0.68	0.46	0.45	0.52

**Table 5b: ANOVA**

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	21.852	1	21.852	81.00	.000
Residual	54.785	203	0.270		
Total	76.637	204			

**Table 5c: Coefficients**

Predictor	B	Std. Error	$\beta$	t	p-value
(Constant)	1.02	0.28		3.64	.000
Perceived Usefulness	0.72	0.08	0.68	9.00	.000

**Source: Primary Data, 2025**

The regression analysis yielded highly significant results, demonstrating that perceived usefulness of smartphones powerfully predicted parenting practices in Mende Sub-County. The R<sup>2</sup> value of 0.46 indicated that approximately 46% of the variance in parenting practices was explained by parents' perceived usefulness of smartphones. This

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substantial explanatory power confirmed that perceived usefulness represented a major determinant of parenting behavior, though not the only factor influencing how parents engaged with their children, communicated with schools, and fulfilled parenting responsibilities.

The adjusted  $R^2$  of 0.45 remained very close to the  $R^2$  value, indicating that the model was not overfit and that the explanatory power was genuine rather than inflated by the number of predictors. The standard error of the estimate (0.52) represented the average deviation of actual parenting practice scores from predicted values, indicating reasonably precise predictions that enhanced confidence in the model's utility.

The F-statistic of 81.00 ( $p < 0.001$ ) demonstrated that the regression model was statistically significant and that perceived usefulness significantly predicted parenting practices. This extremely low p-value ( $p = .000$ , actually  $p < 0.001$ ) indicated that the probability of observing such a strong relationship by chance was less than 0.1%, providing overwhelming evidence for the genuine predictive relationship.

The regression equation derived from the analysis was:

$$\text{Parenting Practices} = 1.02 + 0.72 (\text{Perceived Usefulness})$$

The unstandardized coefficient ( $B = 0.72$ ) demonstrated that for every one-unit increase in perceived usefulness (on the five-point scale), parenting practice scores increased by 0.72 units, holding all other factors constant. This substantial coefficient indicated that improvements in perceived usefulness generated nearly proportional gains in parenting practices. Practically, this meant that parents who shifted from neutral perceptions (score of 3) to strong agreement (score of 5) about smartphones' usefulness could be expected to increase their parenting practice scores by approximately 1.44 units ( $0.72 \times 2$ ), representing meaningful behavioral changes.

The standardized coefficient ( $\beta = 0.68$ ) confirmed the strong positive effect size, demonstrating that perceived usefulness had substantial practical significance in determining parenting outcomes. The t-value of 9.00 ( $p < 0.001$ ) for the perceived usefulness variable verified that this predictor made a statistically significant unique contribution to explaining parenting practices, with the effect being both statistically significant and practically meaningful.

The constant term (1.02) represented the predicted baseline level of parenting practices when perceived usefulness was at zero (complete disagreement that smartphones were useful for parenting). The significant constant ( $t = 3.64$ ,  $p < 0.001$ ) indicated proper model specification. The positive constant suggested that even parents perceiving no smartphone usefulness still engaged in basic parenting practices, as parenting behaviors were influenced by multiple factors beyond technology perceptions including cultural norms, parental instincts, social expectations, and children's needs.

These regression findings strongly reinforced the Technology Acceptance Model, demonstrating that perceived usefulness not only correlated with technology utilization but actually predicted behavioral outcomes. This validated TAM's applicability in African parenting contexts and suggested that interventions enhancing perceived usefulness would generate measurable improvements in parenting practices.

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The findings aligned with empirical studies in Sub-Saharan Africa. Byaruhanga and Ssentongo (2022) and Hendry and Efthymiou (2023) observed that higher perceived usefulness of smartphones among parents led to enhanced engagement in children's learning and household supervision. Similarly, Lim and Sari (2022) noted that when parents recognized digital tools as beneficial, they were more likely to use them for positive outcomes, reducing risks of neglect or poor supervision.

The regression results carried important implications for intervention design. They demonstrated that programs enhancing parents' understanding of smartphone functionalities, particularly for educational and monitoring purposes, could amplify positive parenting outcomes. Training focusing on practical applications including using school communication platforms, accessing educational resources, utilizing monitoring tools, and managing family schedules through digital calendars would likely translate perceived usefulness into concrete behavioral changes.

However, the 54% unexplained variance indicated that other factors beyond perceived usefulness also substantially influenced parenting practices. These factors likely included actual ease of use (the other major TAM construct), parents' digital literacy and technical skills, socioeconomic resources enabling data costs and time for engagement, cultural parenting values and traditions, family structure and co-parenting support, children's ages and developmental stages, and community norms regarding technology use and parenting expectations.

The relationship between perceived usefulness and parenting practices might also be moderated by factors including smartphone access quality (older devices with limited capabilities vs. modern smartphones), data affordability and reliability affecting consistent usage, school communication infrastructure and teacher engagement with digital platforms, and peer support and social learning about effective smartphone applications.

### 5.6 Variations in Perceived Usefulness and Parenting Practices by Demographics

Further analysis examined whether perceived usefulness and parenting practices varied significantly across demographic groups.

**Table 6: Mean Comparisons of Perceived Usefulness and Parenting Practices by Selected Demographics (N=205)**

Demographic Variable	Category	Perceived Usefulness Mean	Parenting Practices Mean	n
Education Level	Primary	3.68	3.72	28
	Secondary	4.05	3.91	89
	Tertiary/University	4.28	4.08	88
Location Type	Urban	4.18	4.02	68
	Peri-urban	4.12	3.98	82
	Rural	3.95	3.85	55
Monthly Income	Below UGX 200,000	3.82	3.78	38

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	UGX 200,000-500,000	4.08	3.95	87
	UGX 500,001-1,000,000	4.22	4.05	58
	Above UGX 1,000,000	4.35	4.12	22
<b>Employment Status</b>	Formal employment	4.22	4.05	72
	Self-employed	4.08	3.94	95
	Unemployed	3.68	3.72	23
<b>Gender</b>	Male	4.08	3.93	78
	Female	4.11	3.97	127

Source: Primary Data, 2025

The comparative analysis revealed notable variations in both perceived usefulness and parenting practices across demographic groups, providing insights into factors moderating the technology-parenting relationship. Education emerged as a particularly strong differentiating factor, with tertiary/university-educated parents showing substantially higher perceived usefulness ( $M = 4.28$ ) and parenting practices ( $M = 4.08$ ) compared to parents with only primary education ( $M = 3.68$  and  $M = 3.72$  respectively).

This educational gradient reflected multiple mechanisms. Higher education enhanced digital literacy and technical skills enabling effective smartphone utilization, increased exposure to information about technology benefits and parenting strategies, greater confidence in navigating digital platforms and applications, and stronger analytical capabilities for evaluating and applying digital information to parenting contexts. Parents with tertiary education were more likely to have professional experience with digital technologies, facilitating transfer of technical skills to parenting applications.

Income showed similar patterns, with higher-income parents (above UGX 1,000,000 monthly) demonstrating stronger perceived usefulness ( $M = 4.35$ ) and parenting practices ( $M = 4.12$ ) than low-income parents (below UGX 200,000 monthly;  $M = 3.82$  and  $M = 3.78$ ). Income influenced smartphone access quality, with wealthier parents affording newer devices with better capabilities, data affordability enabling consistent internet access for information retrieval and communication, and time availability as economic security reduced time pressures from survival activities.

Location type showed modest variations, with urban parents slightly higher than rural parents in both perceived usefulness (4.18 vs. 3.95) and parenting practices (4.02 vs. 3.85). However, differences were smaller than might be expected, suggesting that smartphone benefits transcended geographic boundaries when infrastructure and awareness existed. This reflected improving telecommunications coverage in rural areas and smartphones' capability to bridge geographic gaps by connecting rural parents with schools and information resources.

Employment status revealed that formal employment correlated with higher perceived usefulness ( $M = 4.22$ ) and parenting practices ( $M = 4.05$ ) compared to unemployment ( $M = 3.68$  and  $M = 3.72$ ). Formal employment provided

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regular income supporting data costs, professional exposure to digital technologies, and potentially greater need for efficient communication tools to balance work and parenting responsibilities.

Gender showed minimal differences, with female parents slightly higher in both perceived usefulness (4.11 vs. 4.08) and parenting practices (3.97 vs. 3.93), though differences were negligible. This suggested that gender per se did not substantially influence technology perceptions or parenting behaviors once other factors were considered, contradicting stereotypes about technology being primarily male-oriented.

### **6.0 Conclusions**

Based on the research findings, several conclusions were drawn regarding the relationship between perceived usefulness of smartphones and parenting practices in Mende Sub-County, Wakiso District. First, perceived usefulness of smartphones significantly influenced parenting practices, with strong statistical evidence demonstrating that parents who viewed smartphones as helpful tools for parenting responsibilities engaged in more effective monitoring, communication, school involvement, and supportive behaviors. The strong correlation ( $r = 0.68$ ) and substantial predictive power ( $R^2 = 0.46$ ) confirmed that perceived usefulness represented a major determinant of how parents integrated technology into family life.

Second, the Technology Acceptance Model was validated in the Ugandan parenting context, confirming that perceived usefulness operated as a primary driver of technology adoption and application as theorized by Davis (1989). This validated TAM's cross-cultural applicability and demonstrated its utility for understanding technology-behavior relationships in African family contexts. The findings suggested that interventions targeting perceptions and beliefs about technology usefulness could effectively influence parenting behaviors.

Third, parents in Mende Sub-County generally perceived smartphones as highly useful for parenting purposes, particularly for coordinating with schools, improving school-parent communication, and enhancing parental involvement. This positive perception created favorable conditions for leveraging smartphones to strengthen family-school partnerships and support children's development. However, variations existed, with education, income, and employment status significantly influencing perceived usefulness levels.

Fourth, parenting practices in Mende Sub-County were generally strong across multiple dimensions including monitoring, communication, school engagement, discipline, and emotional support. This reflected parents' commitment to child-rearing responsibilities and suggested that most children benefited from supportive home environments. The high parenting practice levels provided a solid foundation upon which smartphone tools could enhance rather than substitute for existing positive parenting.

Fifth, the relationship between perceived usefulness and parenting practices operated through multiple mechanisms including purposeful technology adoption, active seeking of parenting-relevant applications and information, investment of time and effort in learning smartphone functionalities, and intentional usage patterns focusing on

constructive rather than distracting activities. These mechanisms created virtuous cycles where perceived usefulness motivated effective usage, which in turn reinforced perceptions of usefulness through positive experiences.

Sixth, while perceived usefulness powerfully predicted parenting practices, explaining 46% of variance, other factors also substantially influenced parenting behaviors. These included cultural values and traditions, socioeconomic resources, parents' own childhood experiences, family structures, children's characteristics, community support systems, and actual digital literacy skills. Therefore, enhancing perceived usefulness alone was necessary but not sufficient for optimizing parenting practices; comprehensive approaches addressing multiple determinants were required.

Seventh, digital literacy gaps and unequal access to resources created disparities in both perceived usefulness and parenting practices. Parents with lower education, limited income, or unemployment showed weaker perceived usefulness and parenting practices, suggesting that technology alone did not eliminate socioeconomic disparities and might even amplify them without targeted support for disadvantaged groups. Equity considerations must inform technology-parenting interventions to ensure inclusive benefits.

Finally, the study confirmed smartphones' potential as tools for bridging parental involvement gaps, particularly for families facing geographic distance, time constraints, or limited social capital. When parents perceived smartphones as useful and possessed necessary skills, technology enabled maintaining strong family-school connections and accessing parenting support despite barriers. This highlighted technology's democratizing potential when accompanied by appropriate enabling conditions including infrastructure, digital literacy, and affordability.

### **7.0 Recommendations**

Based on the study findings and conclusions, the following recommendations were proposed to

Sub-county authorities, schools, and community organizations should collaborate to implement comprehensive digital literacy training programs specifically designed for parents. These programs should move beyond basic smartphone operation to focus on parenting-relevant applications including using school communication platforms (WhatsApp groups, SMS systems, school apps), accessing and evaluating educational resources and parenting information, utilizing monitoring tools for children's safety and online activities, managing family schedules through digital calendars and reminder systems, and finding age-appropriate educational applications supporting children's learning.

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