

Investigating the impact of social media platforms use among children on formal and informal learning: From the uses and gratifications theory perspective

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Abstract: Social media has become one of the primary sources of communication, information, entertainment, and learning for users. Children gain several benefits as social media helps them acquire formal and informal learning opportunities. This research also examined the effect of social media on formal and informal learning among school-level children in Ajman, United Arab Emirates (UAE), moderated by social integrative and personal integrative needs. Data was gathered by using structured questionnaires, which were distributed among a sample of 364 children. Results revealed that social media significantly affects Informal and formal learning among children, indicating its usefulness in child education and development. The results also indicated a significant moderation of social integrative needs on social media's direct effect on informal learning, indicating the relevant needs as an important motivating factor. However, the moderation of personal integrative needs on social media's direct effect on formal learning remained insignificant. Overall, this research highlighted the role of social media in providing learning opportunities for children in the UAE. It is concluded that children actively seek gratifications from social media, shaping their learning within structured educational contexts in their daily lives. Through the lens of UGT, certain needs play a critical role in strengthening the gratification process, affecting how children derive learning advantages from their interactions on social media platforms. Finally, implications and limitations are discussed accordingly.

Keywords: social media; uses and gratifications; learning; informal learning; formal learning structural equation modelling

1. Introduction

Prompt technological advancements and increased connectivity have led to the evolution of digital skills to keep up with the fast-paced information era in the 21st century (Moyser, 2021). The younger generations, especially millennials, have grown up in a favorable digital world where obtaining digital skills is essential. Nowadays, some children actively use different social media platforms through mobile applications (Ersoy, 2019). The accessibility of communication technologies and the internet has enabled the widespread use of social media tools, applications, and services. Social media allows individuals to engage in self-introduction, connecting with others, sharing views and ideas, learning from others, entertainment, gaming, advertising, and event organization. These activities can be performed quickly and economically compared to real-life equivalents, saving business, time, and other costs (McDool et al., 2016). Also, social media has changed the dynamics of competition and collusion in the virtual environment, which is distinct from the real world. Notably,

the internet, which gained popularity in the 1990 s, continues to grow, and social media plays a critical role in this growth. The innate human need for socialization and convenience and the decreased resources needed for online interactions contribute to increasing internet use. All websites, including e-commerce, educational and research platforms, news portals, and forums, integrate social media links and features (Adegboyega, 2020). Consequently, it is assumed that social media platforms contain a plethora of content for individuals from all age groups. The usability and benefits of social media cannot be associated with a single type of content; rather, it offers users entertainment, information, education, and communication (Huang and Li, 2021).

However, compared to the studies published before COVID-19, recent studies indicate the disease outbreak further accelerating social media usage among children (Pandya and Lodha, 2021; Bozzola et al., 2022). As Mesce et al. (2022) noted, the COVID-19 pandemic emerged when digitization became a global phenomenon, enabling people worldwide to connect. This global crisis significantly affected millions of children, mainly due to the closure of schools. As a result, many young people have had to rely on online education and digital media to resume their studies and sustain social connections with their peers. Consequently, there has been a substantial increase in the use of social media among children, who spend more time on smartphones, tablets, and computers. Social media platforms allow children to stay connected with friends and family. Also validated by Chen et al. (2021), social media played a critical role in the development of children, transforming computers from mere sources of leisure to indispensable tools for education and communication during the COVID-19 pandemic. This shift brought about meaningful changes in students' daily routines, leisure activities, and perceptions of online practices. Dyer (2018) stated that social media platforms have the prospect to offer children positive interactions and encourage stronger friendships, not only within their existing social circles but also with like-minded individuals from diverse groups, including cultural and artistic societies. Besides, social media can enhance access to diversity, promote inclusivity, and mitigate social isolation. Like teenagers, children often join social media sites to maintain and bolster their friendships and connect with individuals who share common interests online. Notably, existing literature (Annamalai et al., 2023; Jeljeli et al., 2022) considers social media as providing child development and support opportunities. As noted, even apart from "just" communication, online forums, educational groups, and live discussions allow young students to collaborate, share knowledge, and seek assistance from educators, indicating a stronger role of social media in their development and well-being. Platforms like YouTube and educational apps offer numerous contents, from tutorials on intricate subjects to interactive simulations. This accessibility democratizes education, assuring that children from different backgrounds have equal prospects to learn and succeed.

Study objectives

The research examines the interplay between children's engagement with social media and their formal and informal learning experiences, drawing discernment from the Uses and Gratifications Theory (UGT) (Pasha et al., 2021). This study aims to find children's social media use and how these gratifications are sought to relate to both

structured learning within educational contexts and unstructured learning in their daily lives. Notably, under the UGT, this study proposes moderation of personal and social integrative needs in gratifying formal and informal learning through social media. This research addresses the gap in the literature by extending the application of UGT to the younger demographic, exploring how social media influences learning outcomes, cognitive development, and critical thinking skills. Moreover, the study attempts to uncover possible social media usage patterns differences. While various studies have delved into aspects of children's social media engagement and learning, there are several areas for improvement that this research aims to address. Relevant studies investigating the evolving nature of Emirati children's social media use and its impact on learning experiences are scarce, providing an opportunity for this research to contribute valuable insights over time. Besides, exploring diverse samples encompassing various cultural, socioeconomic, and geographical contexts must be improved, highlighting the need for a more extensive understanding of the broader implications. Furthermore, the complex relationship between distinct types of social media engagement and multifaceted learning outcomes necessitates thorough investigations to discern the complex dynamics at play. Bridging these gaps will lead to a profound comprehension of how children navigate social media in their learning journeys and how society can harness its prospects while minimizing its risks and learning outcomes, adding a nuanced perspective to the current discourse.

2. Review of literature

2.1. Informal learning

According to Greenhow, Sonnevend et al. (2016), social media has become essential to children's lives, offering them a platform for communication, information sharing, and entertainment. It provides a venue where they can connect with friends, explore their interests, and engage with a wide range of content. Especially regarding informal learning, social media plays a powerful role in increasing traditional educational experiences. Children frequently use platforms like YouTube, forums, and educational apps to pursue information on topics of interest, watch educational videos, or partake in online discussions. This informal learning through social media is indicated by its adaptable and self-directed nature, allowing children to explore subjects not covered in their formal curriculum. Burgess (2018) argued that social media platforms offer various content, serving different learning styles and preferences. Visual learners may benefit from instructional videos and infographics, while textual learners can engage with informative articles and posts. The accessibility of information on social media empowers children to learn at their own pace and explore subjects beyond the confines of traditional classroom settings. Additionally, social media facilitates peer-to-peer learning, where children can share their knowledge, ask questions, and engage in collaborative learning environments. This promotes a sense of community and enables children to learn from one another in informal yet valuable educational exchanges.

Social media platforms allow children to interact, share information, and observe others' behaviors, leading to learning experiences. According to Al-Omari (2022), one aspect of learning through social media platforms is the observation of others' actions

and behaviors. Children can observe how their peers and influencers act, communicate, and interact on digital platforms. They may learn new vocabulary, slang, or expressions and acquire insights into diverse cultural practices or standpoints. Notably, many studies have witnessed social media platforms as providing a space for informal learning for children. Besides, Ranaivoson (2019) argued that children could also learn social norms, manners, and cues by observing others' behavior and responses to various situations. According to Dong et al. (2020), another significant form of learning on social media is sharing and resharing knowledge and information. Children can come across educational content, news articles, tutorials, and discussions on different topics of interest. They may learn about new subjects, gain factual knowledge, and devise an understanding of different viewpoints and perspectives. Children can develop their knowledge and critical thinking skills through incidental exposure to informative content. Kim (2020) stated that collaborative learning is another prominent way through social media platforms. Children can engage in online communities, experience group discussions, and collaborate on projects or shared interests. These interchanges teach them to work collaboratively, learn social behaviors, negotiate, compromise, and communicate effectively. Indeed, online platforms help children to connect with peers from multifarious backgrounds, promoting cultural awareness, empathy, and appreciation for diverse viewpoints (Przybylski and Weinstein, 2017). Based on the cited literature, it is hypothesized that.

- H1. Social media use has a significant effect on informal learning.

2.2. Formal learning

Social media platforms have woven into children's lives, providing a space for communication, entertainment, and social interaction. However, it is important to recognize that their influence extends beyond leisure activities. In formal learning, social media can serve as a supplementary educational tool. Educational institutions and teachers can utilize online forums, discussion boards, and even dedicated educational apps to engage with students in a digital learning environment. This integration allows for the disseminating of educational materials, assignment submissions, and interactive discussions, providing an additional avenue for structured learning (Hall, 2017). According to Cuc (2014), social media's interactive nature allows students to engage with educational content dynamically. They can participate in online quizzes, watch instructional videos, and collaborate with peers on group projects. Additionally, social media provides a platform for teachers to share relevant resources, links to academic articles, and updates on class schedules. This real-time interaction fosters a sense of connectivity and engagement among students and between students and their educators. It also encourages a more inclusive learning environment, where students who may be more reserved in a traditional classroom can feel comfortable participating and expressing their thoughts.

According to V. Kumar and Nanda (2022), social media (SM) tools have introduced an innovative approach to education. This contemporary form of learning via SM platforms caters to both formal and informal learning needs, accommodating a broad range of learners. Digital technology has facilitated novel teaching and learning approaches, improving student engagement, decreasing costs, and

maintaining the reputation of educational institutions. SM platforms offer diverse content, encompassing text, images, and more. Students envision technology-enabled learning environments that transcend traditional classroom boundaries, unrestricted by financial constraints, conventional funding sources, or even instructor expertise. Incorporating SM into the classroom encourages collaboration and innovation among students and helps them grasp practical applications for the SM resources they routinely use. Like active learning, social learning involves students actively experiencing their learning process rather than passively absorbing information for recall during exams (V. Kumar and Nanda, 2019). With features like content sharing with comments, live streaming, and group interactions, SM platforms captivate students on a deeper level. This modern blended learning style offers students a comprehensive learning experience and the flexibility to move beyond classroom settings. This amenity and accessibility are critical components of effective learning. Prominent social networking sites and learning management systems (LMS) seamlessly connect individuals and ideas across vast distances (V. Kumar and Malhotra, 2021).

A growing body of evidence suggests that the amount of time children spend on technological devices and social media at home and in school has significantly risen during the past few years (Konca, 2021). Studies reveal that children possess home computers and personal devices, i.e., mobile phones, tablets, and laptops, and subscribe to internet services to access formal educational resources. Furthermore, research highlights a significant increase in children's use of social media platforms (Badri et al., 2016). According to You et al. (2021), children utilize home computers for various purposes, such as playing games, browsing the internet, and completing school-related tasks. A study by Raj et al. (2018) found that 23% of school-going children use online platforms that are designed as formal learning management venues, with the highest usage rates observed among children aged 5–9, indicating online platforms provide children with strong formal learning opportunities to maximize its benefits to them. Thus, it is hypothesized that:

- H2. Social media use has a significant effect on informal learning.

3. Theoretical framework

In examining children's social media usage and its impact on formal and informal learning within the Uses and Gratifications Theory (UGT) framework, it is important to consider the theory's proposed moderating position of social integrative and personal integrative needs (Leong et al., 2019). UGT asserts that individuals are active media users who seek out and consume content to meet specific needs. In this case, social integrative needs refer to the desire to link with others and belong to social groups. While personal integrative needs involve following self-enhancement and personal identity development (Ho and Cho, 2021). From the theoretical perspective, social integrative needs can be critical in children's social media engagement. Social media platforms provide routes for interaction, communication, and social bonding, which align with the social integrative needs proposed by UGT. Children may use social media to connect with peers, share experiences, and base a sense of belonging, which could affect their informal learning experiences. For example, interactions on

social media lead to exposure to new viewpoints and ideas, contributing to their cognitive development and shaping their knowledge of the world (Ocansey et al., 2016). On the other hand, personal integrative needs mirror an individual’s purpose of self-enhancement and identity formation. In the context of children’s social media usage, these needs can be exemplified through sharing personal accomplishments, interests, and self-expression. UGT indicates that children use social media to project a specific image of themselves, seeking validation and recognition from their peers (Day et al., 2020). This self-presentation facet of social media aligns with personal integrative needs, potentially affecting how children engage with formal learning contexts. For example, the validation obtained through online interactions could affect their confidence in participating in classroom discussions or demonstrating their ideas in educational settings. According to Gruzd et al. (2016), social media platforms have become important channels for fulfilling personal integrative needs among children. These needs involve the desire for social interaction, belongingness, and community connection. Through platforms like Facebook, Instagram, and Snapchat, children can share moments from their lives, exchange messages with friends, and engage in group activities. This promotes a sense of belonging and helps them feel included in their peer groups. Additionally, social media provides opportunities for children to join online communities or groups centered around shared interests, further enhancing their sense of affiliation and social integration. Also, regarding cognitive needs, social media plays a role in promoting intellectual curiosity and mental engagement.

Platforms like YouTube and educational forums offer a wealth of content that caters to various learning styles. Visual learners may engage with informative videos, while textual learners can delve into articles and posts (Muyingo, 2017). This diversity of content supports cognitive development by challenging children’s thinking and problem-solving skills. Moreover, social media platforms can catalyze discussions and debates on various topics of interest. Engaging in these intellectual exchanges helps children develop critical thinking abilities and expands their cognitive horizons (Ma et al., 2019). **Figure 1** shows the explanatory framework of current research under UGT, and **Table 1** provides an operationalization of key constructs to bring more clarity to their implementation. Hence, the previous discussion helped hypothesize that:

- Social integrative needs moderate the relationship between social media use and informal learning.
- Personal integrative needs moderate the relationship between social media use and formal learning.

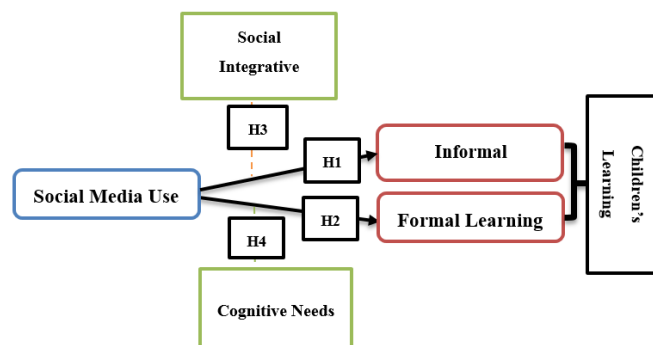


Figure 1. Explanatory framework of current research.

Table 1. Operationalization of key constructs.

Construct	Definitions	Sources
Social media use	Social media use is the extent to which individuals engage with and utilize various online platforms and networks for communication, information sharing, and social interactions. It encompasses posting, sharing, commenting, and networking through platforms like Facebook, Twitter, and Instagram.	(Przybylski and Weinstein, 2017) (V. Kumar and Malhotra, 2021)
	Social media use represents the habitual behavior of individuals in accessing and interacting with digital platforms designed to facilitate social connections, content sharing, and information dissemination. It encompasses active engagement, such as posting and commenting, and passive content consumption from sources within one's network.	
Formal learning	Formal learning pertains to structured educational experiences within established institutions, such as schools, colleges, or training programs. It follows a prescribed curriculum, often led by qualified instructors, and is typically characterized by standardized assessments and recognized certifications.	(Badri et al., 2016) (V. Kumar and Malhotra, 2021)
	Formal learning is based on accredited institutions' intentional and organized educational activities, where learning objectives, content, and assessments are predetermined. It follows a systematic approach, often includes defined courses or subjects, and aims to impart specific knowledge, skills, or competencies to learners.	
Informal learning	Informal learning refers to the spontaneous and unstructured acquisition of knowledge, skills, and attitudes outside formal educational settings. It is often self-directed and driven by personal interests, experiences, and interactions with one's environment.	(Ocansey et al., 2016) (Day et al., 2020).
	Informal learning encompasses the incidental and often serendipitous acquisition of knowledge, skills, and insights through everyday experiences, interactions with others, and exposure to various sources of information. It is characterized by its non-formalized nature and is driven by individual curiosity and exploration.	
Personal integrative needs	Personal integrative needs relate to an individual's innate desire for social belongingness, connection, and inclusion within a community or group. It encompasses the need for interpersonal relationships, a sense of identity, and feeling valued and accepted by others.	(Ocansey et al., 2016) (Day et al., 2020)
	Personal integrative needs refer to the fundamental human requirement for social interaction, acceptance, and belonging within a social group or community. It involves the desire to establish meaningful connections with others, share experiences, and feel a sense of affiliation and acceptance.	
Cognitive needs	Cognitive needs encompass an individual's innate drive for mental stimulation, intellectual growth, and the pursuit of knowledge and understanding. It involves the need for challenges, problem-solving, and engaging with activities that stimulate cognitive processes.	(Leong et al., 2019) (Ho and Cho, 2021)
	Cognitive needs pertain to the human inclination for intellectual exploration, curiosity, and acquiring new information or skills. It involves the desire to engage in activities that challenge and stimulate cognitive functions, leading to a sense of accomplishment and mental satisfaction.	

4. Methodology

The current study employs a quantitative design, using structured questionnaires with closed-ended questions for data compilation. According to Adam (2020), this survey technique is valuable as it directly collects firsthand data from individuals with direct experiences linked to the research inquiry. The questionnaire was designed by obtaining measurement items and scales from existing studies. **Table 2** shows sources, items, and several items related to each study construct. The data was gathered from July 2023 to August 16th, 2023. The questionnaires were sent through personal visits and online questionnaires designed using Google Forms. Once the data was collected, it was further analyzed using SPSS and AMOS.

Table 2. Sources, items, and number of items in the questionnaire.

Constructs	Items	Sources	Number of items
Social media use	I use social media platforms to access educational content related to my formal studies. Social media helps me connect with peers to discuss and share information about school-related topics. I believe using social media aids in my informal learning by providing access to various information and perspectives. I find it easy to navigate through social media platforms to find educational resources or information. Social media platforms enhance my overall learning experience, both inside and outside the classroom.	(Ho and Cho, 2021)	05
Informal learning	I often come across useful educational content on social media unrelated to my formal studies. Social media exposes me to new and interesting information that I would not typically encounter in school. I feel that using social media allows me to learn about a variety of subjects that are not covered in my formal curriculum. I believe that my informal learning experiences on social media contribute positively to my overall knowledge and understanding of the world.	(Mesce et al., 2022)	04
Formal learning	I use social media platforms to access educational resources and assignments provided by my school or educational institution. Social media helps me stay updated with announcements, events, and important information related to my formal education. I find that social media platforms facilitate communication with teachers and classmates about school-related topics and assignments. I believe that social media enhances my engagement with formal educational content and materials. Using social media platforms complements my formal learning experiences and helps me better understand the subjects I study in school.	(Pasha, 2021)	04
Social integrative needs	I use social media platforms to connect with classmates and peers for social interactions and discussions outside school. Social media helps me feel more connected to my peers and allows me to maintain social relationships. I find that social media platforms provide opportunities to join groups or communities centered around shared interests and hobbies. Using social media platforms supports my need for social interaction and helps me feel more included in my peer group.”	(Ho and Cho, 2021)	04
Cognitive needs	I use social media platforms to access educational content and resources that challenge my thinking and problem-solving skills. Social media helps me explore and learn about new ideas, concepts, or subjects that interest me. I find that social media platforms provide opportunities for intellectual discussions and debates with peers. Using social media platforms supports my cognitive needs by allowing me to engage with content that stimulates my curiosity and critical thinking abilities.	(Leong et al., 2019)	04

4.1. Sampling

The research focuses on children as social media users in Ajman city, United Arab Emirates. Recent data indicates 4,462,333 individuals under 15 in the Ajman, UAE (Statista, 2022). However, the respondents were selected by using a stratified sampling method. The schools were first divided into three categories: Public, Private, and Semi-government. Further, the respondents were selected from two private sector schools having a total population of 7120 students (3600 AAPS, 3520 BIPS). Under this calculation, the sample size was further selected by using Krejci and Morgan’s Formula (Krejcie and Morgan, 1970). The relevant formula determined that a sample size of $n = 364$ respondents would be ideal for this study.

4.2. Response rate

After the data gathering, all the questionnaires were carefully checked, and 14 questionnaires needed to be included or correctly filled out by the respondents. In order to ensure the reliability of the research tool, those questionnaires were omitted from

the final analysis. Consequently, the response rate remained at 96.1%, higher than the minimum response rate of 60.0% (Deutskens et al., 2004).

5. Analysis and results

This study is based on four research hypotheses evaluated using a two-step methodology commonly employed in Structural Equation Modelling (SEM), known as “inner model and outer model examination.” The first step involves assessing the validity and reliability of the inner model, including testing the measurement tool. The following step involves investigating the relationships between the variables proposed in the study hypotheses. Firstly, the inner model’s validity and reliability were examined. Convergent validity was evaluated to confirm the inner consistency among the measurement items for each construct, following the procedure recommended by (Cheung and Wang, 2017). Further, discriminant validity was examined to examine the extent to which the study constructs were uncorrelated (Mello and Collins, 2001). The results of the convergent validity assessment are summarized in **Table 3**. It was reported that most of the Factor Loads of the measurement items surpassed the recommended threshold of >0.5 (Mello and Collins, 2001). Furthermore, the Average Variance Extracted Values (AVE) exceeded the threshold of >0.5, showing that all the items showed internal consistency (Social Media Use 0.737, Informal Learning 0.811, Formal learning 0.706, Social Integrative Needs 0.792, Cognitive Needs 0.791).

Table 3. Convergent validity analysis.

Variables	Items	Loads	AVE	CR	CA
Social media use	SM1	0.630	0.737	0.715	0.801
	SM2	0.654			
	SM3	0.557			
	SM4	0.520			
	SM5	0.559			
Formal learning	FL1	0.505	0.706	0.842	0.863
	FL2	0.643			
	FL3	0.736			
	FL4	0.692			
Informal learning	IFL1	0.672	0.811	0.794	0.814
	IFL2	0.602			
	IFL3	0.709			
	IFL4	0.595			
Social integrative needs	SCN1	0.720	0.792	0.780	0.817
	SCN2	0.566			
	SCN3	0.624			
	SCN4	0.597			
Cognitive needs	CNS1	0.832	0.701	0.766	0.798
	CNS2	0.746			
	CNS3	0.821			
	CNS4	0.520			

Likewise, the reliability of the constructs was also assessed, with Cronbach Alpha values demonstrating strong reliability (Social Media Use 0.715, Informal Learning 0.794, Formal Learning 0.842, Social Integrative Needs 0.780, Cognitive Needs 0.766). Also, composite reliability values were above the recommended threshold of 0.7 (Social Media Use 0.801, Informal Learning 0.814, Formal Learning 0.863, Social Integrative Needs 0.817, Cognitive Needs 0.798).

Further, the model fit was examined after removing the items having lower loading values in the study. According to Chwialkowski et al. (2016), the model fit helps ascertain how well the measurement model corresponds to the expected model. **Table 4** shows the final measurement model in the current research study. Following removing lower loading values, the goodness of fit analysis generated a Standardized Root Mean Square (SRMR) value of 0.181, below the specified threshold of <0.80. Also, the Non-Fit Index (NFI) registered at 0.783, within the range of 0 to 1. The Tucker and Lewis Index (TLI) remained strong at 1.537, surpassing the recommended threshold of >0.90. Moreover, the chi-square value stood at 2.730, well below the prescribed threshold of <3.00 (Mérigot et al., 2010), suggesting a suitable fit for the study.

Table 4. Model fit.

	Value	Criteria
SRMR	0.181	< 0.80
NFI	0.783	b/w 0–1
TLI	1.537	> 0.90
Chi-square	2.730	< 3.00

Furthermore, the measurement tool’s discriminant validity was assessed using a two-step process comprising both the Fornel-Larcker scale and the Heterotrait-Monotrait Ratio (HTMT) (Voorhees, 2015). The results indicated that the correlation values associated with each construct are distinctive, indicating a need for meaningful interrelationships. Further, the cumulative HTMT value falls below the specified threshold of < 0.90 (Shiu et al., 2011). This ensures the presence of discriminant validity among the study constructs. The results of the Fornel Larcker criterion are described in **Table 5**.

Table 5. Discriminant validity (Fornel-Larcker Criterion).

	Social media use	Formal learning	Informal learning	Social integrative needs	Cognitive needs
Social media use	1	-	-	-	-
Formal learning	0.474	1	-	-	-
Informal learning	0.478	0.329	1	-	-
Social integrative needs	0.364	0.281	0.381	1	-
Cognitive needs	0.363	0.098	0.121	0.061	1

According to Kraft (2020), effect size (f^2) quantifies the extent of the relationship between latent variables in a regression-based study. It demonstrates how much the dependent variable is expected to change when the independent variable changes by one unit, keeping other factors constant (Kraft, 2020). In this context, an effect size of 0.020 or lower is deemed small, 0.150 is ranked as moderate, and 0.350 or higher is ranked as large (Selya et al., 2012). Consequently, the effect size for social media use’s impact on informal learning is 0.283 (medium), and the effect size of social media use on formal learning is 0.433 (Large). These values highlight a significant effect of the independent variable on each corresponding dependent variable, as shown in **Table 6**.

Table 6. Effect size (f^2).

	f-square	Size
SM → IFL	0.283	Medium
SM → FL	0.433	Large

→ this sign shows effect/relationship between variables.

Finally, the analysis was conducted to examine the hypotheses put forth. **Table 7** presents the findings of path analysis. Firstly, the study analyzed the suggested effect of social media use on informal learning among Emirati children (**H1**). The results showed a significant effect, with a beta path (β) of 0.270, a t -statistics of 11.678, and a significance value (p) of 0.000*** ($p < 0.05$). Next, the second hypothesis was scrutinized, which posited a significant effect of social media use on formal learning (**H2**). The path analysis showed a significant effect, with a path value (β) of 0.595, a t -statistics of 20.232, and a significance value (p) of 0.000*** ($p < 0.05$).

The third hypothesis (**H3**) was further analyzed, proposing a significant moderation of social integrative needs on the relationship between social media use and informal learning among Emirati users. The proposed moderation remained significant, with a path value (β) of 0.438, a t -value of 6.553, and a significance value (p) of less than 0.003*** ($p < 0.05$). Finally, the moderation (**H4**) of cognitive needs on the relationship between social media use and informal learning among Emirati users remained insignificant with the ($p > 0.05$).

Table 7. Hypotheses testing.

Relationships	Path	t-statistics	P-value	Decision
Social media use → informal learning	0.270	4.940	0.000	Accepted
Social media use → formal learning	0.595	9.128	0.000	Accepted
Social integrative needs x social media use → informal learning	0.038	1.348	0.000	Accepted
Personal integrative needs x social media use → formal learning	0.035	0.827	0.409	Rejected

6. Discussion

This research investigated the complex interplay between children’s engagement with social media and their formal and informal learning experiences as providing stronger development opportunities embedded in the Uses and Gratifications Theory (UGT) framework. Notably, this study posited that personal and social integrative

needs moderate the gratification of formal and informal learning through social media. Further, the researchers employed a survey technique analyzed through structural equation modeling, showing that social media's direct effect on both formal and informal learning remains significant. Also, it emphasized the significant moderating role of social integrative needs in the relationship between social media use and informal learning. In distinction, the moderation of cognitive needs in the relationship between social media and formal learning is found insignificant. Talking specifically about the study results, the effect of social media remained prominent in the learning process, which is assumed to have a significant effect on children's development and wellbeing in the current technological era (Wolf et al., 2018). **Table 7** describes the gathered responses.

Regarding social media use, the respondents indicated that they use social media daily for entertainment purposes. Besides, communication, information, and education also remained prominent. According to the respondents, the use of media use helps them understand real-world situations as well. These responses are consistent with the study by Radcliffe et al. (2023). As noted, social media platforms have become popular among individuals of various age ranges, providing several learning communication and information opportunities to users, specifically children. While the immediate aim of engaging with social media is typically for socializing, there is a growing trend where many people now turn to these platforms to access learning opportunities and information. This shift highlights the expanding role of social media in shaping how the young generation consumes and interacts with online content.

Further, the first hypothesis was that "Social media use has a significant effect on informal learning." Study respondents agreed that social media platforms help them to gain general knowledge as they work as an effective tool to share and receive information about different topics. They also agreed that frequent interaction with educational content on social media improves their skills and competencies beyond formal education. They also consider information gained from social media as credible as traditional learning and information-gathering resources. Also, participation in online communities helps the study respondents improve their conversational critical learning abilities. This wider agreement towards the effect of social media on informal learning is consistent with the existing literature indicating the important role of online platforms in contributing to children's education and learning journey (Greenhow and Lewin, 2015; P. Kumar and Gruzd, 2019). In their review study, (Yaşar and Karadeniz, 2023) argued that given that learning is a constant and ongoing process, individuals are constantly immersed in learning regardless of time or location. This learning can take different forms, such as seeking advice from a class fellow, watching tutorial videos, conducting online searches, or participating in virtual communities to acquire knowledge on specific subjects. Recent studies highlight the crucial role of technology in learning, especially in informal learning. Further, the emergence of social media has substantially affected the use of technology, leading to improved learning over the past decade. Thus, shifts in internet technology culture have promoted informal learning endeavors for young children in the best possible manner.

The second study hypothesis was "Social media use has a significant effect on informal learning," which also remained significant, shoring residents' agreement. Respondents agreed that engaging with educational content on social media platforms

improves formal learning ventures as they provide additional tools for formal education. According to the respondents, their use of social media positively affects their academic performance and accomplishments in formal learning environments. Respondents also agreed that integrating social media in formal education encourages interactive and collaborative learning, and the advantages of using it for formal learning overpower potential distractions or negative effects on their educational experiences. These results indicate consistency with the study by Mpungose (2020) analyzing students' experiences using SMS (Short Message Service) for learning science modules. Qualitative data gathered from 47 students revealed a predominant dependence on Learning Management Systems (LMS) for science module learning, with a preference described by students for SMS (Short Message Service) as a learning tool.

Similarly, the third study hypothesis was based on the moderation of social integrative needs, as proposed: "Social integrative needs moderate the relationship between social media use and informal learning." According to the study respondents, social integration is vital in gaining informal learning experiences on social media platforms. Consequently, they are likelier to engage in informal learning activities on social media when they feel a sense of belonging and connection within their online communities. The respondents further revealed that learning with friends on social media can be fun and helpful, and due to this, when we talk and share ideas on social media, we can learn new things together. These results indicated compatibility with the study by Degner et al. (2022), as they found a strong interplay between social media and informal learning, further motivated by students' needs to socialize and communicate with their peers, instructors, and other individuals on online platforms. As a result, Mohamed Al-Sabaawi and Dahlan (2018) consider this social integration a personal motivation factor for young social media users that further helps them learn in digital and non-casual environments. Finally, the last hypothesis was "Personal integrative needs moderate the relationship between social media use and formal learning." However, the relevant hypothesis is rejected as the moderation of personal integrative needs remained insignificant. These results are inconsistent with the existing literature indicating a significant effect of personal integrative needs on social media use among the young generation (Haythornthwaite, 2022; Li et al., 2019; Norqvist et al., 2016). A study by Al-Sabaawi et al. (2021) analyzed the motivators that lead academic researchers to adopt Online Social Networking (OSN) platforms for learning. Data gathered from 786 valid responses revealed that factors such as collaboration, interactivity, communication, information quality, and subjective norms significantly affect the behavioral intent of students to use social media for learning.

7. Theoretical implications

This research contributes to the theoretical understanding of how children's engagement with social media affects their formal and informal learning experiences, as examined through the Uses and Gratifications Theory (UGT). By examining the interplay between children's social media use and learning contexts, this study highlighted seeking gratification from these platforms in both structured educational settings and unstructured daily learning experiences. Within the framework of UGT,

the research asserts that social integrative needs moderate the gratification process, affecting how children derive learning advantages from social media. Also, this research addressed a substantial gap in the existing literature by expanding the application of UGT to a younger demographic. It endeavors to determine the effect of social media on children's learning results, including cognitive development and critical thinking skills. In doing so, the study extends knowledge of the intricate relationship between social media engagement and learning and provides a nuanced stance on the developing nature of children's digital experiences. Finally, this research lays the basis for a deeper comprehension of how children steer social media in their learning journeys. Shedding light on the multifaceted dynamics at play offers useful insights into how society can harness the potential benefits of social media for learning while mitigating possible risks. Through its theoretical implications, this study contributes to the constant discourse surrounding children's engagement with social media and its effect on their learning results.

8. Conclusion

The study has shown how children actively seek gratifications from social media, shaping their learning within structured educational contexts and in their daily lives. Through the lens of UGT, this study has identified that personal and social integrative needs play a critical role in moderating the gratification process, affecting how children derive learning advantages from their interactions on social media venues. This research not only extends the relevance of UGT to a younger demographic but also extends our understanding of the effect of social media on children's learning. As society continues to navigate the digital landscape, it is critical to recognize the deep effect of social media on children's learning experiences. By understanding these dynamics more deeply, we are better prepared to harness the probable benefits while mitigating associated risks. This research offers practical insights for educators, parents, and policymakers in shaping informed methods for children's use of social media, eventually contributing to their holistic learning and development. Thus, this study contributes meaningfully to the ongoing discourse surrounding the effect of social media on formal and informal learning requirements among children.

9. Limitations

Despite this research filling an important gap in the empirical literature, it has some primary limitations. First, this research has adopted only two variables from the uses and gratifications theory, which limits its scope. Future researchers can conduct studies based on adopting other variables from the relevant theory to overcome the relevant limitation. The second limitation involves using a single methodological approach. Future research is recommended to enrich their work by using, i.e., a method approach to delimit this concern. Finally, the third limitation is based on the rejection of H4 of the study. However, it is assumed that using the same conceptual framework in future research with different samples and populations can help overcome this limitation.

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