

See discussions, stats, and author profiles for this publication at: <https://www.researchgate.net/publication/333421893>

# USE AND APPROPRIATION OF NEW MEDIA TECHNOLOGIES BY TEENS: <<THE E-TEEN MODEL>> PERSPECTIVE This work is licensed under a Creative Commons Attribution- NonCommercialNoDerivatives 4.0...

Article · May 2019

CITATIONS

0

READS

184

2 authors:



[Theodora Dame Adjin-Tettey](#)

University of Ghana/Rhodes University South Africa

27 PUBLICATIONS 57 CITATIONS

SEE PROFILE



[Blessing T. Mbatha](#)

University of South Africa

39 PUBLICATIONS 212 CITATIONS

SEE PROFILE



# USE AND APPROPRIATION OF NEW MEDIA TECHNOLOGIES BY TEENS: «THE E-TEEN MODEL» PERSPECTIVE

Theodora Dame Adjin-Tettey (a), Blessing Mbatha (b)

(a) University of Professional, Studies, P.O.Box LG 149, Accra, Ghana.  
E-mail: theodoradame@yahoo.com

(b) University of South Africa, Preller St, Muckleneuk, Pretoria, 0002, Republic of South Africa. E-mail: mbathbt@unisa.ac.za

## Abstract

In this article it is reasoned that e-teens have different characteristics, attitudes, motivations and needs regarding new media use and appropriation. Consequently, teenagers have to be studied in a different context than any other group. We also argue that theories and models regarding uses, gratifications and appropriation of new media technologies are generalized and therefore cannot aptly be applied to the study of e-teens. Grounded in concepts from Uses and Gratifications, Model of Technology Acceptance, Technology Appropriation theories and a critical study of the developmental needs of e-teens, this study proposes a conceptual model that explains how e-teens use and appropriate new media technologies- the E-teen Model. Further, to test the model, the quantitative approach was used to select 300 teens from age 13 to 19 in senior high schools in the Greater Accra region of Ghana to answer questions in relation to the predictions in the E-teen Model. The results of the study show that educational, sociability and social inclusion, respectively, were the most popular gratifications sought and obtained by e-teens, as predicted in the model. The Correlation and Mann-Whitney U tests applied confirmed all three hypotheses formulated in the model. To provide support and substance to the e-teen model, other researchers are encouraged to test and extend it where necessary.

## Keywords

E-teens, new media technologies, digital natives, appropriation, conceptual model, e-teen model, social inclusion, educational, sociability, digi-teens





This work is licensed under a [Creative Commons Attribution-NonCommercialNoDerivatives 4.0 International License](https://creativecommons.org/licenses/by-nc-nd/4.0/)

## 1. INTRODUCTION

Although there are claims that the older generation of new media users are increasingly adopting technology, empirical evidence exist to confirm certain variations in the patterns of use and the degree to which younger generation of new media users make use of technology and their attendant platforms as compared to their older counterparts (Hargittai & Dobransky, 2017; Vanden Abeele, Beullens & Roe, 2013; Niehaves & Plattfaut, 2014; O'bannon & Thomas, 2014; Bell, Fausset, Farmer, Nguyen, Harley & Fain, 2013, Kamiel, 2017; Olson, O'Brien, Rogers & Charness, 2011). Teenagers form part of a group of users referred to as “digital natives” as they are born and raised during the digital age (Carr, 2011). Digital native teens are also called “e-teens” which is the short form of “electronic teens”. This illustrates that they largely depend on electronic gadgets, including new media technologies. If these assertions are anything to go by, then e-teens can be said to be relatively different in their expression of competency and gratifications for use of new media technologies. Their expression of competency may not compare with older counterparts who were not born into the “digital age” and considered “digital dinosaurs” or “digital immigrants” (Johnson, 2015).

In this article, new media technologies are defined as technologies that aid the transfer information or communications through digital techniques. Examples are smart phones, mobile phones, PCs, laptops and tablets. It also includes interactive platforms and applications such as instant messaging, games, social networking, blogs as well as photo and vide sharing platforms. E-teens are also defined as teenagers (persons aged 13 to 19) who are high appropriators of new media technologies and platforms, their use of which is marked by their heavy and the regular use of new media technologies for day-to-day tasks and activities. They also demonstrate proficiency in the use of these technologies. According to Bar, Weber and Pisani (2016, p. 617), appropriation of technology is “the process through which technology users go beyond mere adoption to make technology their own and to embed it within social, economic and political practices”. This means evidence of appropriation of technology is seen in the “appropriator” having control or expertise over use of the technology. The technology also permeates throughout the daily practices or activities of the users as users build strong relationships with the technology and depend on it for a lot of things they do. Similarly, in this study, new media users who express marked competency



and frequently use new media technologies have “appropriated” the technologies because they have control and regularly depend on them for what they do.

Various studies have been conducted on uses, gratifications and appropriation of technologies, including new media technologies, among young people. Most of the studies were grounded in general theories and models of technology use and appropriation such as Uses and Gratifications Theory (U & G), Media Systems Dependency Theory (MSDT), Technology Appropriation Model (TAM) and Model of Technology Appropriation (MTA). These studies, intuitively, convey the impression that all users of technology are homogenous with parallel dispositions to the use of technology (E.g. Malik, Dhir, & Nieminen, 2016; Florenthal, 2015; Sheldon & Bryant, 2016; Pittman & Sheehan, 2015; Yoon, 2016; Mahmud, Ab Rahim & Miskon, 2016; Sheldon & Bryant, 2016; Albayrak & Yildirim, 2015; Aluri & Tucker, 2015; Muraina, Osman, Ahmad, Ibrahim & Yusof, 2016; Pruet, Ang & Farzin, 2016; Kim & Hahn, 2015; Carroll et al., 2001; Jenkins et al., 2006). This study, however, takes a different approach. It is contended that e-teens are a unique set of new media users who have unique characteristics, attitudes, motivations and needs in relation to new media use and therefore have to be studied in a different context than any other group. The overarching argument in this article is that using the conceptualisations in the MTA, TAM and U & G theories to study or explain e-teens’ use and appropriation of new media technologies (as has been done in previous studies) is not satisfactory. This is because the usage and appropriation tendencies of this set of new media users is unlike any other group calling for efforts to have theoretical underpinnings tailored to their unique tendencies and characteristics which this study undertakes.

The main problem this article seeks to address emanates from the lack of theories that address how e-teens use and appropriate new media technologies, and motivations driving that. Hence a conceptual model (the E-teen model) is proposed and is empirically tested.

## **2. EVIDENCE FROM THEORETICAL LITERATURE (PRIOR THEORY)**

One of the assumptions of the Model of Technology Appropriation (MTA) is that high appropriation occurs when the user has a need which could be fulfilled by the use of the technology. So, technology appropriation does not merely mean attainment of knowledge about a technology or learning how to do or apply something with the technology but how there is



a simultaneous transformation of user and the technology (Overdijk & van Diggelen, 2006:94). In the construction of the E-teen Model, the researchers assume that e-teens are high appropriators of new media technologies mainly because the technologies help them fulfill their distinct developmental or growth needs.

Media users seek out media that have personal utility and thus select media based on their preferences in order to fulfil particular purposes (Messing & Westwood, 2014). Quan-Haase and Young (2010) indicate that new media technologies and their platforms coexist and provide unique gratifications to users as communication tool integration is now higher than ever before. According to proponents of the Uses and Gratifications theory (U & G), mass media audiences are active rather than passive and their media use goal-oriented. This means media users are aware of their needs and choose particular media over others for their personal gratifications or satisfaction (Roy, 2014; Han, Min & Lee, 2015). E-teen users of new media technologies do so for their unique personal gratifications. Katz, Blumler and Gurevitch (1974) say there is an intrinsic and extrinsic origin of needs (psychological and social) which influences media choice and exposure resulting in particular gratifications. Literature shows that there is a developmental need for belonging during puberty which has a significant role in making teens develop a sense of identity (Brechtwald & Prinstein, 2011). Besides, having a sense of belonging provides a significant self-perception and encourages high academic achievement among adolescents (Schall, Wallace & Chhuon, 2016). The authors safely deduce that having a sense of belonging is a crucial psychological and developmental need for teenagers. Ling and Yttri (2006) argue that communicative patterns are tied to the particular developmental needs of teens who are engaged in negotiations over social identity and belonging. New media technologies have a way of making teens find this sense of belonging and social identity which is a crucial developmental need during puberty. They aptly afford e-teens the opportunity to feel a sense of belonging by providing avenues for them to find virtual friendship and companionship, which otherwise would not have been possible due to factors such as location, time and space in the physical world. This most likely will account for high appropriation.

The Technology Acceptance Model (TAM). TAM uses the Theory of Reasoned Action (TRA) as a theoretical basis to explain causal linkages between two key sets of constructs, Perceived Usefulness (PU) and Perceived Ease of Use [PEOU] which result in Attitude (A) towards the use of technology (Kripanont, 2007:53). Attitude then results in Behavioural Intention (BI) to use a technology and the consequent actual use (U). Partly



guided by these assumptions, this study, similarly, attempts to predict reasons (partially based on e-teens' unique disposition of being "digital natives") for new media technology use. We assume that e-teens have positive attitude towards the use of new media technologies as a result of having been born into a time of proliferation of new media technologies. Eteens have grown with and become used to the use of these technologies for day-to-day tasks such as communicating, learning, gaming, passing time and even planning their daily schedules. New media technologies have been woven into their lifestyles to the extent that they have become dependent on them for almost everything they do. As digital natives, eteens have nurtured a positive attitude about the usefulness and ease-of-use the technologies resulting in high appropriation of same. This shows up in their reliance on these technologies for every important activity considered core to their developmental need (communication, learning, passing time, contracting friendships, shedding of negative feelings) and being able to use these technologies with less difficulty.

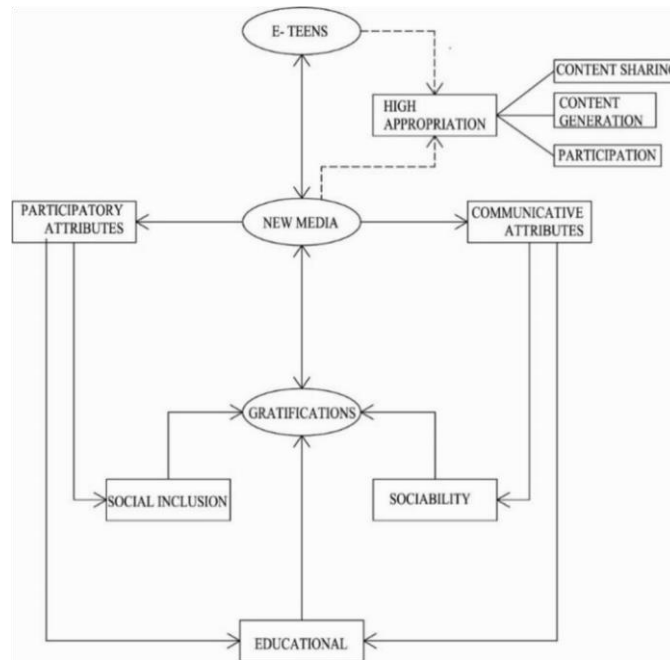
In her seminal piece, Rogoff (1995) highlighted the role of participation in appropriation by suggesting that appropriation comes about as a result of mutual involvement of individuals and their social partners in socio-culturally structured activities such as face-to-face interactions, communication or interaction through other means and coordination (Rogoff, 1995, p.142). Rogoff makes a case for participation as supporting acquisition of knowledge which can be extended to gaining knowledge about using new media technologies, leading to appropriation of same. Based on this argument, we suggest that new media technologies afford their users to engage other users on how they are using technologies, can ask to be shown how they could do and attempt same. In this sense, as eteens engage with new media technologies in a socio-cultural context they learn about what other users are doing with the technologies, attempt to take part in them, seek feedback and gradually become conversant with what the technologies have to offer, and adopt them in their daily practices. The E-teen Model predicts that high appropriators of new media technologies are those users who generate, share, interact and participate in content. It is suggested that aside helping teens to adequately obtain gratifications sought through the use of new media technologies, e-teens' ability to socially construct the use of new media technologies (through participation, content sharing, content generation) help them to appropriate the technologies.

### **3. THE PROPOSED CONCEPTUAL FRAMEWORK- THE ETEEN MODEL**



Grounded in literature, the position of this proposed conceptual model - The E-teen Model - first of all, is that e-teens are high appropriators of new media technologies because they are expert users. Second, it is assumed that platforms available on new media technologies, partly, account for the high appropriation of the technologies. It is also posited that at the point of selecting a new media technologies, participatory and communicative attributes of the technologies are the compelling features of the technologies to make e-teens want to go in for them. Participatory attributes are those features of new media technologies that provide e-teens the opportunity to partake in group activities, create and share content, participate in discussions as well as learn. Participatory attributes of new media technologies also help e-teens to have a sense of belonging and identity which is a key development need (Brechtwald & Prinstein, 2011). New media technologies offer teens them (e-teens) the chance to make friends online, join groups and share and shed off any personal burning issues, thereby satisfying their desire to communicate (to shed off emotional and psychological issues and concerns), socialize and have a sense of belonging.

Communicative attributes are the features of new media technologies that offer e-teens prospect for any kind of social interaction, such as, text messaging, voice communication, video calls and instant messaging. These two major attributes afford e-teens to meet the social and psychological origin of needs (sense of belonging and identity) that the Uses & Gratifications theory advances (Katz, Blumler & Gurevitch (1974, p.20). Below is the proposed conceptual model for e-teens' use and appropriation of new media technologies:



**Fig. 1: Conceptual model for e-teens' new media technologies use and appropriation**

The foundational tenet of the E-teen Model is that e-teens are high appropriators of new media technologies. This is shown with the broken lines moving from the e-teen to new media and both converging at “high appropriation”. E-teens exhibit high appropriation through content sharing, generation and participation. Content sharing is when an e-teen sends a media product, be it audio, video, web pages, links or text to other users. This is usually done through social media such as WhatsApp, Facebook, LinkedIn, and Twitter. Content generation on the other hand, is the creation or origination of any kind of content (video, audio, text or graphics) material or information on a new media device and meant to be shared or distributed to another end-user/audience or group using a new media device or platform. Content participation is the interaction e-teens have with content shared and retrieved through new media devices. This comes in forms such as commenting, re-posting, tagging or reacting to the. It is assumed that by partaking in the three (content sharing, generation and participation) e-teens explore the technologies and use advanced features of new media technologies, thereby, gaining more knowledge about how to use the technologies and mastering their use.

In the E-teen Model, arrows point downwards from participatory attributes and communicative attributes which lead to social inclusion educational and sociability gratifications. These are the gratifications e-teens seek to derive from the use of the technologies. There are arrows pointing



back from the gratifications through new media to e-teens. This demonstrates the two-way nature of communication and how using new media technologies provides gratifications of social inclusion, educational and sociability to e-teens. Social inclusion gratification (provided by the participatory attributes), in this model, means the ability to feel a part of and be part of any social group. Social inclusion is also the ability to project oneself in a way that one deems fit for one's image to others in a social grouping, thereby, carving an identity for oneself. Besides, having a sense of belongingness means that new media technologies allow the e-teen to identify with networks who share similar interests, views and habits. Also, having a sense of belongingness makes the e-teen find affection which is critical to their psychological, social and even mental development. The participatory features of new media technologies (especially social media) is suggested to make room for having a sense of belongingness and identity. E-teen users, therefore, use participatory features of new media technologies to achieve social inclusion gratification.

Sociability gratification (provided by the communicative attributes), on the other hand, is defined in the model as the features or functions of new media technologies which make it possible to communicate, connect, interact, contract friendships, have leisure and spend virtual time with significant others. E-teens satisfy sociability needs by signing up on social media sites, watching videos and joining chat rooms which new media technologies provide access to. During adolescent years, e-teens feel a need to have someone they could talk to about their personal issues aside relations. New media technologies come in handy while providing some level of privacy to do so. It is also suggested that while seeking sociability gratification through the use of new media technologies, it at the same time boosts e-teens' quest for belongingness and affection. This is because, by and large, finding a listening ear is likely to make one feel they belong and are loved.

Still, another remarkable and noteworthy use of new media technologies by e-teens, is using the technologies for academic or educational purposes. At this period of their lives, most e-teens are in the process of acquiring basic and/or secondary education, which is a critical foundation for future endeavours and are, consequently, advised and sometimes compelled to engage in activities that enhance their educational or academic pursuit. A lot of evidence abound about the use of new media technologies and platforms for the retrieval of academic content, sharing and receiving of academic content or information, looking up academic information among others, rather than through traditional means like going to the library or borrowing



physical books from the library. Although there may be disadvantages with the use of new media technologies in the school environment (such as distractions in the classroom), DeWitt for example, suggests that permitting students to have access to these devices “extend learning opportunities to times and places outside of the classroom” (DeWitt 2013, p. 1). This is because there is empirical evidence to support the positive effect of new media technologies on academic performance and education generally (Ogedebe 2012; Lynch 2015; Simon 2015). Besides, among the gratifications sought and likely obtained from the use of new media technologies, academic use has been extensively reported by many studies (Markwei & Appiah 2016; Asdaque, Nasir Khan & Abbas Rizvi, 2010; Ogedebe, 2012; Uche & Obiora, 2016; Khedo et al., 2013; Hlatshwayo, 2014).

Educational gratification is defined as the features of new media technologies, which make it possible for e-teens to engage in any kind of educational or academic activity (both formal and informal), such, as discussions, sharing and receiving of educational resources, asking questions and submission of assignments. It is predicted in the model that both communicative and participatory attributes of new media technologies allow e-teens to realise educational gratification. While communicative attributes of new media technologies help e-teens to engage in academic discussions (collaborative learning) through the technologies and their platforms, participatory attributes afford e-teens the opportunity to share and participate in educational activities through the posting and retrieval of educational resources through new media platforms like blogs, learning management systems and social media sites. So, e-teens with the aid of communicative and participatory attributes of new media technologies, are departing from traditional ways of acquiring information, such as through the classroom and physical library, to participating in virtual interactions and retrieval of information for educational purposes.

Essentially, the driving argument for the construction of the e-teen model is that e-teens use new media technologies to communicate and entertain themselves (termed ‘sociability gratification’ in the model) and to feel a sense of belonging (termed ‘social inclusion gratification’ in the model) as well as seek knowledge for personal and academic purposes (termed “educational gratification” in the model). These are made possible through the unique communicative and participatory attributes or characteristics of new media technologies. This, in effect, leads to high appropriation, propelled by content generation, content sharing and content participation among e-teens.



#### **4. HYPOTHESES DEVELOPMENT**

According to Rogoff (1995) there is significant link between appropriation and participation. The reason is that appropriation extends to the fabric of human culture where one learns as one interacts with one's environment. In the design of new media technologies, there is a lot of emphasis on interactivity, through the generation and sharing of content, and participation, which provides the opportunity for users to learn how to use the technologies. The interactivity nature of offers informal means of getting to know more about the technologies through interaction with other users. Content creation, sharing and participation can propel a user to get all the requisite details about how to use new media technologies as well as sharpen expertise. In this study, it is hypothesised that: H1 There is a positive relationship between e-teen users of new media technologies who generate, participate and share content and high appropriation of new media technologies. Essentially, because of its interactive nature, new media technology users who constantly engage with such technologies (through sharing, generating and participating in content) tend to know more about the technologies and even explore other ways of using them aside the popular usage patterns. In this study content generation, sharing and participation is measured by the extent or frequency to which respondents create (generate), share, receive content as well as partake in exchanges on new media platforms while appropriation is measured by the usage abilities and the frequency with which they use new media technologies.

The second hypothesis is it that: H2: High appropriation and use of new media technologies by e-teens are motivated by the unique communicative and participatory attributes of the technologies. Jenkins et al. (2006) described new media as a “participatory media culture”, whereas Gibbs (2007) has described the engagement around new media as “hypersociality”. Ito et al. (2008) subtly link teens to participatory forms of new media engagement. They intimate that youth participation in these media forms is high, leaning towards networked gaming and social media sites such as MySpace, Facebook or YouTube. They claim this has captured the public limelight and added fuel to the discourse of a digital generation.

It is offered that, most likely, e-teens use and highly appropriate new media technologies because features of the technologies allow for interactions and socialisation, as well as satisfying their quest for information which is important for shedding off their concerns at this stage of their lives. The reason being that, new media technologies become useful tools to handle key developmental issues and personal concerns. Thus, in this study, it is

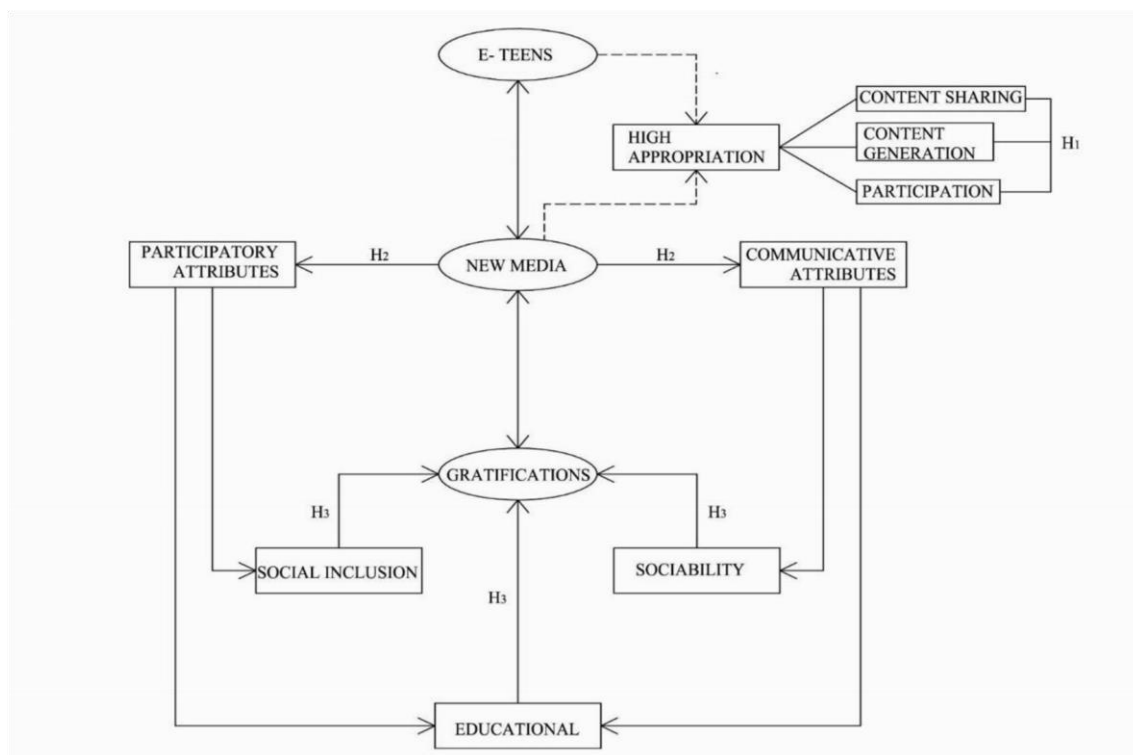


assumed that a very strong motivating factor for the use of new media technologies for e-teens is the communicative feature of those technologies.

The third hypothesis tests the gratifications e-teens and the gratifications sought and derived from the use of new media technologies:

H3 There is a positive relationship between e-teens' use of new media technologies and social inclusion, educational and sociability gratifications. It is assumed that because of their nature and unique longings and dispositions, e-teens will seek sociability gratification. Having access to new media technologies means e-teens will find that unique sense of belongingness they crave through communication without necessarily contracting face-to-face friendships. At this stage of their lives, teens have the tendency to yearn for social connectivity and belongingness (Chen, 2004) which when not attained, may lead to a feeling of loneliness and can affect their psycho-social development. In the quest of social connectivity and belongingness, teens contract online friendships, post pictures, comment and elicit comments on social media sites, which are all made possible through new media devices.

Additionally, it is proposed that e-teens are likely to seek gratifications along the lines of their educational pursuit. Since educational content is in abundance on Internet platforms such as educational websites, e-teens, who are usually students, will fall on these platforms to meet academic needs. They would not only retrieve educational content from educational sites, but will equally rely on interactive platforms like social media to discuss class projects and share educational content. E-teens' adeptness and heavy usage (high appropriation) of new media technologies and the fact that these technologies provide the platform to retrieve academic content, as well as serve as an extension of the classroom means that they likely will rely extensively on these technologies to meet their educational gratification needs. The hypothesised relationships in the model have been shown in the figure below:



**Fig. 2: E-teen Model showing hypothesised relationships**

## 5. METHODOLOGICAL CONSIDERATIONS

Probability sampling methods were used in the selection of respondents. The first stage of sampling was applying the simple random sampling method to select the two senior high schools in the Greater Accra region of Ghana - Ideal College and West Africa Secondary School- through the lottery method where the researcher randomly picked numbers that corresponded to the numbers on the list of schools acquired from the Accra Metropolitan Education Office of Ghana. This was to ensure every school stood a fair chance of being selected. Afterwards, the stratified sampling method was used to obtain a representative sample of the target population. With the aid of the student register, equal or proportional representations across forms were selected through the simple random sampling method (probability) to give a total of one hundred and fifty (150) for each school from the three forms.

The data collection instrument was questionnaire. Two levels of measurement were used - nominal and ordinal. For the ordinal, guided by the Likert-type scale response anchors suggested by Vagias (2006), this study



used a five-point Likert scale (response scale). According to John (2010, p6) there is sufficient data proving that when response scale is below five or is above seven, Likert items become rather significantly inaccurate. The five-point Likert item, thus, becomes the normal. During data analyses, variables measuring gratifications sought and obtained had to be grouped or recoded under various themes including social inclusion, sociability and educational gratifications in order to test hypothesis three. This is because simpler expressions/variables representing those variables were used in the questionnaire for easy understanding.

## 6. RESULTS

This section presents the findings from quantitative data analysis with the use of the Statistical Package for Social Sciences (SPSS) software. Correlation tests and Mann-Whitney U tests were applied in testing the hypotheses. The Mann-Whitney U test was used to test hypothesis 3 because the most suitable variable to crosstab with gratifications sought was gender.

In the E-teen Model, Content creation, participation and sharing are assumed to facilitate appropriation of new media technologies and their platforms. Table 2 summarizes the results of correlation test conducted to assess whether there was a relationship between users who create, participate and share content on new media platforms and certain markers of appropriation, such as respondents' frequency of the use of new media technologies; usage of new media technologies without struggle and respondents' personal ratings of their usage capabilities.

	I create and share content on new media platforms such as social media	I engage with new media devices everyday	I can confidently use new media devices without struggle	I can confidently use Apps on new media devices without struggle	Rate your new media usage abilities
I create and share content on new media platforms such as social media	Pearson Correlation Sig. (2-tailed)	.395**	.166**	.278**	.299**
N	300	300	300	300	300



I engage with new media everyday tailed)	Pearson **	.395	1	.195**	.236**	.298**
	Correlation Sig. (2-tailed)	.000	devices	.001	.000	.000
	N	300	300	300	300	300
I can confidently use new media without struggle	Pearson	.166**				
	Correlation Sig. (2-tailed)	.004	.195**	1	.702**	.306**
	N	300	300	300	300	300
I can confidently use Apps on new media devices struggle tailed)	Pearson **	.278				
	Correlation Sig. (2-tailed)	.000	.236**	.702**	1	.380**
	N	300	300	300	300	300
Rate your new usage abilities	Pearson **	.299				
	Correlation Sig. (2-tailed)	.000	.298**	.306**	.380**	1
	N	300	300	300	300	300

\*\* . Correlation is significant at the 0.01 level (2-tailed). \* . Correlation is significant at the 0.05 level (2-tailed).

**Table 1: Correlation test for hypothesis 1**

Most of the correlations were significant at the 0.01 significant levels. From the above table, “I create and share content on new media platforms such as social media” is ranked first among all the factors. This is an indication that content creation and content sharing through new media platforms such as social media (COR = 1.000) has great impact on the appropriation of new media technologies. The second factor is frequent



engagement with new media technologies (COR = 0.395). Respondents' personal rating of their new media usage abilities (COR = 0.299) is the third factor. This was followed by the participants' response to the question "I can confidently use Apps on new media devices without struggle" (COR = 0.278). The least factor for appropriation was established from responses to the statement: "I can confidently use new media devices without struggle" (COR = 0.166). This means that some of the participants had certain difficulties with the use of some new media technologies and this has an impact on content generation, content participation and content sharing. Worthy of note is that, although other factors account for appropriation content sharing and content creation has a greater impact on appropriation of new media technologies.

Moreover, "I create and share content on new media platforms such as social media" has a strong significant positive correlation with I will engage with new media devices every day. There was a positive correlation between the two variables,  $r = .395$ ,  $p < 0.05$  which means that the more respondents create and share content on new media platforms, the more they engage with new media devices every day. In the same way, "I create and share content on new media platforms such as social media" had a significant positive correlation with "I can confidently use new media devices without struggle" ( $r = .166$ ,  $p < 0.05$ ), "I can confidently use Apps on new media devices without struggle" ( $r = .278$ ,  $p < 0.05$ ) as well as new media usage abilities ( $r = .299$ ,  $p < 0.05$ ).

In essence, the correlation test performed to examine the relationship between users of new media technologies who participate, generate and share content and new media usage abilities (high appropriation) found the relationship between variables to be significant. Therefore, hypothesis 1 (There is a positive relationship between e-teen users of new media technologies who generate, participate and share content and high appropriation of new media technologies) has been confirmed by data gathered. One can, as a result, concede that content creation, generation sharing lead to high appropriation.

---

I use new media technologies	Chat/Instant Video	Social Information/Educational messaging	Media
Entertainment	very often		



			and will use rest of my life	Calling	News apps	apps apps	apps	Apps them the	
use new media technologies often and will use them the rest of my life	Pearson I		.221**	.121*	.221**	.253**		.168**	.095
	Correlation <sup>1</sup>								
	Sig. (2very tailed)		.000	.036	.000	.000		.004	.110
	N	300	297	300	295	292		293	288
Chat/Instant apps	Pearson **		1	.451**	.611**	.441**		.287**	.224**
	Correlation								
	Sig. (2messaging tailed)			.000	.000	.000		.000	.000
	N	297	297	297	294	291		293	286
Video Calling	Pearson *		.451**	1	.492**	.415**		.311**	.192**
	Correlation								
	Sig. (2- tailed)		.000	.036	.000	.000		.000	.001
	N	300	297	300	295	292		293	288
Social Media Apps	Pearson **		.611**	.492**	.495**	1		.381**	.236**
	Correlation								
	Sig. (2- tailed)		.000	.000	.000	.000		.000	.000
	N	295	294	295	295	290		292	286
Entertainment	Pearson **		.441**	.415**	.495**	1		.352**	.175**
	Correlation								
	Sig. (2- tailed)		.000	.000	.000	.000		.000	.003
	N	292	291	292	290	292		290	283
Information/ News apps	Pearson **		.287**	.311**	.381**	.352**		1	.599**
	Correlation								
	Sig. (2- tailed)		.000	.000	.000	.000		.000	.000
	N	293	293	293	292	290		293	285
	Pearson		.224**	.192**	.236**	.175**		.599**	1
	Correlation								
			.095						



Educational apps Sig. (2-tailed)	.110	.000	.001	.000	.003	.000	
N	288	286	288	286	283	285	288

\*\* . Correlation is significant at the 0.01 level (2-tailed). \* . Correlation is significant at the 0.05 level (2-tailed).

**Table 2: Correlation test for hypothesis 2**

The table above indicates the association between the frequent usage and intention to use new media technologies and the apps frequently patronized by e-teens. Most of the correlations were significant at 0.01 and 0.05 significant level. From the table above, “I use new media technologies very often and will use them the rest of my life” is ranked first among all the others. This is an indication that respondents’ usage of and intention to use new media technologies the rest of their lives (COR = 1.000) are strongly correlated and that respondents are likely to use new media technologies at the same frequency or more as relationship with the unique communicative and participatory attributes of new media technologies. The actual factor for use and intention to use new media technologies was the entertainment apps of the technologies (COR = 0.253). The next factors are both chat/instant messaging apps and social media apps (COR = 0.221 respectively), which are considered communicative and participatory attributes of new media technologies. The other factor is information/news apps (COR = 0.168), followed by video calling (COR = 0.121) and the least factor being educational apps (COR = 0.095).

Data, hence, statistically supports the research hypothesis that: High appropriation and use of new media technologies by e-teens are motivated by the unique communicative and participatory attributes of the technologies. This is because the apps with the strongest correlations with use and intention to use new media technologies can be categorised as having communicative and participatory attributes.

**Rank**

	Gender	N	Mean Rank	Sum of Ranks
Gratifications sought and Male	161	143.21	23057.50	Obtained (social inclusion, Female 139
158.94	22092.50	sociability and educational)	Total	300
Test Statistics	Gratification sought and Obtained (Social inclusion, sociability and educational)			



---

Mann-Whitney U	10016.500
Wilcoxon W	23057.500
Z	-1.659
<u>Asymp. Sig. (2-tailed)</u>	0.097

---

a. Grouping Variable: Gender

---

**Table 3: Mann- Whitney U tests for Hypothesis 3**

The tests yielded that gender rankings or differences were not significantly different regarding the gratification sought and obtained ( $U = 10016, p > 0.05$ ). Which means that gratifications sought and obtained by males and females were the same. The predominantly-sought-after gratifications have been established to be sociability, social inclusion and educational gratifications have been confirmed as the gratifications sought and obtained by both males and females. It can be settled that research data statistically support the hypothesis that “there is a positive relationship between e-teens’ use of new media technologies and social inclusion, educational and sociability gratifications”. The suggestions put forward as the factors for the high appropriation of new media technologies by e-teens - the unique communicative and participatory attributes of the technologies - which aptly help to gratify e-teens’ unique gratification needs - have both been proven by the data gathered.

## **7. DISCUSSION**

Stemming from the fact that academic (educational), entertainment and leisure; socialization/social connectivity were the most predominant gratifications consistently sought and obtained by e-teens, the assumption in the E-teen model that gratifications sought by e-teens are in line with sociability, educational and social inclusion has been validated. By virtue of the technologies being able to satisfy these needs, e-teens tend to be high appropriators of new media technologies which is quickened by the generation, sharing and participation in content on new media technologies.

Specifically looking at factors for new media technology usage, it emerged that chat/instant messaging and social media applications of new media technologies account for frequency of usage and intention to use new



media technologies in the future. These applications are characteristically communicative and participatory as they allow for communication and participation online. The other factor for frequency of use (high appropriation) and intention to use new media technologies is information/news apps (COR = 0.168), followed by video calling (COR = 0.121) and the least factor being educational apps (COR = 0.095).

Data, hence, statistically supports the research hypothesis that: High appropriation and use of new media technologies by e-teens are motivated by the unique communicative and participatory attributes of the technologies. This is because the apps with the strongest correlations with use and intention to use new media technologies can be categorised as having communicative and participatory attributes.

The study also revealed that e-teens' high appropriation of technologies is equally accelerated, first, by content and sharing, followed by frequent engagement with the technologies.

In essence, conceptualisations and assumptions based on which the Eteen model was developed has been confirmed by primary data gathered, making the conceptual model a useable and authentic model that could be further verified in other contexts.

## 8. CONCLUSION

The aim of the study was to propose a conceptual model for e-teens' use and appropriation of new media technologies and to test hypothesised relationships. It was considered important to do so because teens (e-teens) are an important set of new media users because of their high uptake of the technologies. The study has contributed to conceptualisations of how e-teens use and appropriate new media technologies by proposing the E-teen Model. Empirical data gathered supports the assumption that the unique attributes of new media technologies help teens to meet needs tied to their needs—social inclusion, sociability and educational. These are considered core to their personal development. This because social inclusion and sociability gratifications fulfils the quest to find a sense of belongingness and affection which becomes key for a teen's psycho-social development. This is the stage of curiosity for most teens, with many teens hungry for information for personal consumption as well as for school purposes. New media technologies facilitate this quest for information in an even expedient manner. This means that e-teen are able to have their educational gratification needs met through the use and appropriation of new media technologies.



## 9. FUTURE RESEARCH

The major future direction for research is to empirically test the proposed E-teen model in different contexts. It is also recommended that other statistical means of testing for relationships that the model predicts, such as regression or other statistical analysis with the aid of Structural Equation Modelling (SEM) could be employed to determine the strength or measure of relationships. Other research data collection methods such as observation, in-depth interviews and focus groups can be considered to complement the survey design in order to fill any gaps that might have been uncovered and to make room for detailed investigation into the subject area. The model could equally be extended or modified to include other constructs to improve it.

### References

- Albayrak, D., & Yildirim, Z. (2015). "Using social networking sites for teaching and learning: Students' involvement in and acceptance of Facebook® as a course management system. *Journal of Educational Computing Research*, 52(2), 155-179.
- Aluri, A., & Tucker, E. (2015). "Social influence and technology acceptance: The use of personal social media as a career enhancement tool among college students. *Journal of Hospitality & Tourism Education*, 27(2), 48-59.
- Asdaque, M.M., Nasir Khan, M., & Abbas Rizvi, S.A. (2010), Effect of Internet on the academic performance and social life of university students in Pakistan. *Journal of Education and Sociology*, December (2010), 21-27
- Bar, F., Weber, M. S., & Pisani, F. (2016). Mobile technology appropriation in a distant mirror: Baroquisation, creolisation and cannibalism. *New Media and Society*, 18(4), 617-636.
- Bell, C., Fausset, C., Farmer, S., Nguyen, J., Harley, L. & Fain, W. B. (2013). Examining social media use among older adults. In *Proceedings of the 24th ACM conference on hypertext and social media*, 158-163.
- Brechwald, W. A. & Prinstein, M. J. (2011). Beyond homophily: A decade of advances in understanding peer influence processes. *Journal of Research on Adolescence*, 21(1), 166-179.
- Carr, N. (2011). *The Shallows: What the Internet is Doing to Our Brains*. New York: WW Norton & Company.



- Carroll, J., Howard, S., Vetere, F., Peck, J. & Murphy, J. (2001). Identity, power and fragmentation in cyberspace: technology appropriation by young people. In: *Proceedings of the Twelfth Australasian Conference on Information Systems*.
- Chen, W.C. (2004). Adolescent interpersonal relationship quantity and quality, belongingness and loneliness. *Dissertation Abstracts International: Section A. Humanities and Social Sciences* 64: 3953.
- DeWitt, P. (2013). Are schools prepared to let students BYOD?. *Education Week*.
- Florenthal, B. (2015). Applying uses and gratifications theory to students' LinkedIn usage. *Young Consumers*, 16(1), 17-35.
- Han, S., Min, J. & Lee, H. (2015). Antecedents of social presence and gratification of social connection needs in SNS: a study of Twitter users and their mobile and non-mobile usage. *International Journal of Information Management*, 35(4), 459-471.
- Hargittai, E., & Dobransky, K. (2017). Old Dogs, New Clicks: Digital Inequality in Skills and Uses among Older Adults. *Canadian Journal of Communication*, (42)2, 195–212.
- Hlatshwayo, V.S. (2014) Youth usage of social media, Swaziland: A report for the Swaziland Chapter of the Media Institute of Southern Africa (MISA), 2014. Retrieved from <https://misaswaziland.files.wordpress.com/2014/07/the-youth-usageof-social-media-2014.pdf>
- Jenkins, H., Clinton, K., Purushotma, R., Robinson, A. J. & Weigel, M. (2006). Confronting the challenges of participatory culture: media education for the 21st Century. Retrieved from [http://www.digitalllearning.macfound.org/atf/cf/%7B7E45C7E0-A3E0-4B89-AC9CE807E1B0AE4E%7D/JENKINS WHITE PAPER.PDF](http://www.digitalllearning.macfound.org/atf/cf/%7B7E45C7E0-A3E0-4B89-AC9CE807E1B0AE4E%7D/JENKINS_WHITE_PAPER.PDF)
- Johnson, N. F. (2015). Digital natives and other myths. In: M. Henderson & R. Geoff. (Eds), *Teaching and digital technologies: Big issues and critical questions*, Cambridge University Press, Melbourne, VIC., pp. 11-21.
- Kamiel, A. (2017). A hot trend: The internet, social media & the elderly. Retrieved from [https://www.huffingtonpost.com/anitakamiel-rnmps/older-people-social-media\\_b\\_9191178.html](https://www.huffingtonpost.com/anitakamiel-rnmps/older-people-social-media_b_9191178.html)
- Katz, E., Blumler, J.G. & Gurevitch, M. (1974). *The Uses of Mass Communications: Current Perspectives on Gratifications Research*. Beverly Hills, CA: Sage.



- Khedo, K.K., Suntoo, R., Elaheebocus, S.M.R.A. & Mocktoolah, A. (2013). Impact of online social networking on youth: Case study of Mauritius. *The Electronic Journal of Information Systems in Developing Countries*, 56(6), 1-7.
- Kim, J. and Hahn, K.H. (2015). The effects of self-monitoring tendency on young adult consumers' mobile dependency. *Computers in Human Behavior*, 50: 169-176.
- Kripanont, N. (2007). Examining a technology acceptance model of internet usage by academics within Thai business schools. PhD diss., Victoria University, 2007.
- Ling, R. & Yttri, B. (2006). Control, Emancipation and Status: The mobile telephone in teens' parental and peer relationships. In Kraut, R, Brynin, M., & Kiesler, S. (Eds), *Computers, phones and the internet: Domesticating Information Technology*. Oxford, UK: Oxford University, pp. 19-34
- Mahmud, Y., Ab Rahim, N. Z. & Miskon, S. (2016). Social network site (SNS) appropriation process in family perspective based on family types. *Journal of Theoretical and Applied Information Technology*, 88(3), 464.
- Malik, A., Dhir, A. & Nieminen, M. (2016), Uses and gratifications of digital photo sharing on Facebook. *Telematics and Informatics*, 33(1), 129-138.
- Markwei, E. D. & Appiah, D. (2016). The Impact of social media on Ghanaian youth: A case study of the Nima and Maamobi communities in Accra, Ghana. *The Journal of Research on Libraries and Young Adults*, 7(2), 1-26.
- Messing, S. & Westwood, S. J. (2014). Selective exposure in the age of social media: Endorsements trump partisan source affiliation when selecting news online. *Communication Research*, 41(8), 1042-1063.
- Muraina, I. D., Osman, W.R.S., Ahmad, A., Ibrahim, H., & Yusof, S. A. (2016), "Modeling the Behavioural Intention of Broadband Technology Usage among Teenagers: Application of UTAUT Model. *Asian Journal of Information Technology*, 15(3), 593-601.
- Niehaves, B., & Plattfaut, R. (2014). Internet adoption by the elderly: employing IS technology acceptance theories for understanding the age-related digital divide. *European Journal of Information Systems*, 23(6), 708-726.



- O'bannon, B.W., & Thomas, K. (2014). Teacher perceptions of using mobile phones in the classroom: Age matters!. *Computers & Education*, 74: 15-25.
- Ogedebe, P.M. (2012). Internet usage and students' academic performance in Nigeria tertiary institutions: A case study of University of Maiduguri. *Academic Research International*, 23: 334-343.
- Olson, K.E., O'Brien, M.A., Rogers, W.A. & Charness, N. (2011). Diffusion of technology: Frequency of use for younger and older adults. *Ageing International*, 36(1), 123–145.
- Overdijk, M., & Diggelen, V. D. (2006). Technology appropriation in faceto-face collaborative learning”, in *First European Conference on Technology Enhanced Learning*, pp. 1-2.
- Pittman, M. and Sheehan, K. (2015). Sprinting a media marathon: Uses and gratifications of binge-watching television through Netflix. *First Monday*, 20(10) Doi:10.5210/fm.v20i10.6138
- Pruet, P., Ang, C. S. & Farzin, D. (2016). “Understanding tablet computer usage among primary school students in underdeveloped areas: Students' technology experience, learning styles and attitudes”, *Computers in Human Behavior*, Vol. 55, 1131-1144.
- Quan-Haase, A., & Young, A.L. (2010). Uses and gratifications of social media: A comparison of Facebook and instant messaging. *Bulletin of Science, Technology & Society*, 30(5), 350-361.
- Rogoff, B. (1995). Observing sociocultural activity on three planes: Participatory appropriation, guided participation, and apprenticeship. In: J. V. Wertsch, P. del Rio, & A. Alvarez. (Eds) *Sociocultural studies of mind*, pp. 139-164. New York, NY: Cambridge University Press
- Roy, S. K. (2014). Determining uses and gratifications for Indian internet users. *Case Studies in Business, Industry and Government Statistics*, 2(1), 78-91
- Schall, J., Wallace, T. L. & Chhuon, V. (2016). Fitting in' in high school: how adolescent belonging is influenced by locus of control beliefs. *International Journal of Adolescence and Youth*, 21(4), 462-475.
- Sheldon, P. & Bryant, K. (2016). “Instagram: Motives for its use and relationship to narcissism and contextual age”, *Computers in Human Behavior*, 58: 89-97.
- Simon, N. (2015). Do Tablets in the Classroom Really Help Children Learn? Retrieved from <https://www.linkedin.com/pulse/do-tabletsclassroom-really-help-children-learn-nataliasimon?redirectFromSplash=true>
- Uche, A.O., & Obiora, A.V. (2016) Social Media Typology, Usage and Effects on Students of Nigerian Tertiary Institutions, *International Journal of Innovative Research and Development*, 5(8).



- Vanden Abeele, M., Beullens, K., & Roe, K. (2013). Measuring mobile phone use: Gender, age and real usage level in relation to the accuracy and validity of self-reported mobile phone use. *Mobile Media & Communication*, 1(2), 213-236.
- Whiteside, M., Mills, J. & Mccalman, J. (2012). Using Secondary Data for Grounded Theory Analysis. *Australian Social Work*, Vol. 65, pp. 504-516. 10.1080/0312407X.2011.645165.
- Yoon, K. (2016). The Cultural Appropriation of Smartphones In Korean Transnational Families. In: *Mobile Communication and the Family* (pp. 93-108). Springer, Netherlands.

## ИСПОЛЬЗОВАНИЕ И ОСВОЕНИЕ НОВЫХ МЕДИА-ТЕХНОЛОГИЙ ПОДРОСТКАМИ: ПЕРСПЕКТИВА МОДЕЛИ «Е-TEEN»

Аджин-Тетти Теодора Дам (а), Мбата Блессинг (b)

(a) Университет профессиональных исследований, P.O.Box LG 149, Акра, Гана.  
E-mail: theodoradame@yahoo.com

(b) Университет Южной Африки, Preller St, Muckleneuk, Претория, 0002, ЮАР. E-mail: mbathbt@unisa.ac.za

### Аннотация

Статья показывает, что е-тинэйджеры (e-teens) имеют иные характеристики, отношения, мотивации и потребности в использовании и освоении новых медиа. Следовательно, подростки должны изучаться в ином контексте, нежели любая другая группа. Мы также утверждаем, что теории и модели, касающиеся использования, удовлетворения и освоения новых медиа-технологий, обобщены и поэтому не могут быть применены к изучению подростков. Основываясь на концепциях теории использования и удовлетворения, модели принятия технологий, теориях присвоения технологий и критическом исследовании потребностей развития е-тинэйджеров, в этом исследовании предлагается концептуальная модель, объясняющая, как е-тинэйджеры (e-teens) используют и осваивают новые медиа-технологии- модель е-тинэйджера (e-teens). Для проверки модели был использован количественный подход для отбора 300 подростков в возрасте от 13 до 19 лет в старших классах средней школы в районе Большой Аккры, Гана, для ответа на вопросы, касающиеся прогнозов в модели. Результаты исследования показывают, что образование, коммуникация и социальная интеграция, соответственно, были самыми популярными желаниями, к которым стремились и которые реализовывали e-teens, как и предполагалось в модели. Применение корреляций и U-критерия Манна-Уитни подтвердили все три гипотезы,



сформулированные в модели. Для поддержки модели e-teen другим исследователям предлагается протестировать и расширить ее, где это необходимо.

### Ключевые слова

Е-тинэйджеры (e-teens), подростки, новые медиа-технологии, цифровые аборигены, присвоение, концептуальная модель, модель электронного подростка, социальная инклюзивность, образование, коммуникабельность, digi-подростки



Это произведение доступно по [Creative Commons Attribution-NonCommercialNoDerivatives 4.0 International License](https://creativecommons.org/licenses/by-nc-nd/4.0/).

### Список литературы

- Albayrak, D., & Yildirim, Z. (2015). "Using social networking sites for teaching and learning: Students' involvement in and acceptance of Facebook® as a course management system. *Journal of Educational Computing Research*, 52(2), 155-179.
- Aluri, A., & Tucker, E. (2015). "Social influence and technology acceptance: The use of personal social media as a career enhancement tool among college students. *Journal of Hospitality & Tourism Education*, 27(2), 48-59.
- Asdaque, M.M., Nasir Khan, M., & Abbas Rizvi, S.A. (2010), Effect of Internet on the academic performance and social life of university students in Pakistan. *Journal of Education and Sociology*, December (2010), 21-27
- Bar, F., Weber, M. S., & Pisani, F. (2016). Mobile technology appropriation in a distant mirror: Baroquisation, creolisation and cannibalism. *New Media and Society*, 18(4), 617-636.
- Bell, C., Fausset, C., Farmer, S., Nguyen, J., Harley, L. & Fain, W. B. (2013). Examining social media use among older adults. In *Proceedings of the 24th ACM conference on hypertext and social media*, 158-163.
- Brechwald, W. A. & Prinstein, M. J. (2011). Beyond homophily: A decade of advances in understanding peer influence processes. *Journal of Research on Adolescence*, 21(1), 166-179.
- Carr, N. (2011). *The Shallows: What the Internet is Doing to Our Brains*. New York: WW Norton & Company.
- Carroll, J., Howard, S., Vetere, F., Peck, J. & Murphy, J. (2001). Identity, power and fragmentation in cyberspace: technology appropriation by



- young people. In: *Proceedings of the Twelfth Australasian Conference on Information Systems*.
- Chen, W.C. (2004). Adolescent interpersonal relationship quantity and quality, belongingness and loneliness. *Dissertation Abstracts International: Section A. Humanities and Social Sciences* 64: 3953.
- DeWitt, P. (2013). Are schools prepared to let students BYOD?. *Education Week*.
- Florenthal, B. (2015). Applying uses and gratifications theory to students' LinkedIn usage. *Young Consumers*, 16(1), 17-35.
- Han, S., Min, J. & Lee, H. (2015). Antecedents of social presence and gratification of social connection needs in SNS: a study of Twitter users and their mobile and non-mobile usage. *International Journal of Information Management*, 35(4), 459-471.
- Hargittai, E., & Dobransky, K. (2017). Old Dogs, New Clicks: Digital Inequality in Skills and Uses among Older Adults. *Canadian Journal of Communication*, (42)2, 195–212.
- Hlatshwayo, V.S. (2014) Youth usage of social media, Swaziland: A report for the Swaziland Chapter of the Media Institute of Southern Africa (MISA), 2014. Retrieved from <https://misaswaziland.files.wordpress.com/2014/07/the-youth-usageof-social-media-2014.pdf>
- Jenkins, H., Clinton, K., Purushotma, R., Robinson, A. J. & Weigel, M. (2006). Confronting the challenges of participatory culture: media education for the 21st Century. Retrieved from [http://www.digitalllearning.macfound.org/atf/cf/%7B7E45C7E0-A3E0-4B89-AC9CE807E1B0AE4E%7D/JENKINS WHITE PAPER.PDF](http://www.digitalllearning.macfound.org/atf/cf/%7B7E45C7E0-A3E0-4B89-AC9CE807E1B0AE4E%7D/JENKINS_WHITE_PAPER.PDF)
- Johnson, N. F. (2015). Digital natives and other myths. In: M. Henderson & R. Geoff. (Eds), *Teaching and digital technologies: Big issues and critical questions*, Cambridge University Press, Melbourne, VIC., pp. 11-21.
- Kamiel, A. (2017). A hot trend: The internet, social media & the elderly. Retrieved from [https://www.huffingtonpost.com/anitakamiel-rnmps/older-people-social-media\\_b\\_9191178.html](https://www.huffingtonpost.com/anitakamiel-rnmps/older-people-social-media_b_9191178.html)
- Katz, E., Blumler, J.G. & Gurevitch, M. (1974). *The Uses of Mass Communications: Current Perspectives on Gratifications Research*. Beverly Hills, CA: Sage.
- Khedo, K.K., Suntoo, R., Elaheebocus, S.M.R.A. & Mocktoolah, A. (2013). Impact of online social networking on youth: Case study of Mauritius.



- The Electronic Journal of Information Systems in Developing Countries*, 56(6), 1-7.
- Kim, J. and Hahn, K.H. (2015). The effects of self-monitoring tendency on young adult consumers' mobile dependency. *Computers in Human Behavior*, 50: 169-176.
- Kripanont, N. (2007). Examining a technology acceptance model of internet usage by academics within Thai business schools. PhD diss., Victoria University, 2007.
- Ling, R. & Yttri, B. (2006). Control, Emancipation and Status: The mobile telephone in teens' parental and peer relationships. In Kraut, R, Brynin, M., & Kiesler, S. (Eds), *Computers, phones and the internet: Domesticating Information Technology*. Oxford, UK: Oxford University, pp. 19-34
- Mahmud, Y., Ab Rahim, N. Z. & Miskon, S. (2016). Social network site (SNS) appropriation process in family perspective based on family types. *Journal of Theoretical and Applied Information Technology*, 88(3), 464.
- Malik, A., Dhir, A. & Nieminen, M. (2016), Uses and gratifications of digital photo sharing on Facebook. *Telematics and Informatics*, 33(1), 129-138.
- Markwei, E. D. & Appiah, D. (2016). The Impact of social media on Ghanaian youth: A case study of the Nima and Maamobi communities in Accra, Ghana. *The Journal of Research on Libraries and Young Adults*, 7(2), 1-26.
- Messing, S. & Westwood, S. J. (2014). Selective exposure in the age of social media: Endorsements trump partisan source affiliation when selecting news online. *Communication Research*, 41(8), 1042-1063.
- Muraina, I. D., Osman, W.R.S., Ahmad, A., Ibrahim, H., & Yusof, S. A. (2016), "Modeling the Behavioural Intention of Broadband Technology Usage among Teenagers: Application of UTAUT Model. *Asian Journal of Information Technology*, 15(3), 593-601.
- Niehaves, B., & Plattfaut, R. (2014). Internet adoption by the elderly: employing IS technology acceptance theories for understanding the age-related digital divide. *European Journal of Information Systems*, 23(6), 708-726.
- O'bannon, B.W., & Thomas, K. (2014). Teacher perceptions of using mobile phones in the classroom: Age matters!. *Computers & Education*, 74: 15-25.



- Ogedebe, P.M. (2012). Internet usage and students' academic performance in Nigeria tertiary institutions: A case study of University of Maiduguri. *Academic Research International*, 23: 334-343.
- Olson, K.E., O'Brien, M.A., Rogers, W.A. & Charness, N. (2011). Diffusion of technology: Frequency of use for younger and older adults. *Ageing International*, 36(1), 123–145.
- Overdijk, M., & Diggelen, V. D. (2006). Technology appropriation in faceto-face collaborative learning”, in *First European Conference on Technology Enhanced Learning*, pp. 1-2.
- Pittman, M. and Sheehan, K. (2015). Sprinting a media marathon: Uses and gratifications of binge-watching television through Netflix. *First Monday*, 20(10) Doi:10.5210/fm.v20i10.6138
- Pruet, P., Ang, C. S. & Farzin, D. (2016). “Understanding tablet computer usage among primary school students in underdeveloped areas: Students' technology experience, learning styles and attitudes”, *Computers in Human Behavior*, Vol. 55, 1131-1144.
- Quan-Haase, A., & Young, A.L. (2010). Uses and gratifications of social media: A comparison of Facebook and instant messaging. *Bulletin of Science, Technology & Society*, 30(5), 350-361.
- Rogoff, B. (1995). Observing sociocultural activity on three planes: Participatory appropriation, guided participation, and apprenticeship. In: J. V. Wertsch, P. del Rio, & A. Alvarez. (Eds) *Sociocultural studies of mind*, pp. 139-164. New York, NY: Cambridge University Press
- Roy, S. K. (2014). Determining uses and gratifications for Indian internet users. *Case Studies in Business, Industry and Government Statistics*, 2(1), 78-91
- Schall, J., Wallace, T. L. & Chhuon, V. (2016). Fitting in' in high school: how adolescent belonging is influenced by locus of control beliefs. *International Journal of Adolescence and Youth*, 21(4), 462-475.
- Sheldon, P. & Bryant, K. (2016). “Instagram: Motives for its use and relationship to narcissism and contextual age”, *Computers in Human Behavior*, 58: 89-97.
- Simon, N. (2015). Do Tablets in the Classroom Really Help Children Learn? Retrieved from <https://www.linkedin.com/pulse/do-tabletsclassroom-really-help-children-learn-nataliasimon?redirectFromSplash=true>
- Uche, A.O., & Obiora, A.V. (2016) Social Media Typology, Usage and Effects on Students of Nigerian Tertiary Institutions, *International Journal of Innovative Research and Development*, 5(8).
- Vanden Abeele, M., Beullens, K., & Roe, K. (2013). Measuring mobile phone use: Gender, age and real usage level in relation to the accuracy



- and validity of self-reported mobile phone use. *Mobile Media & Communication*, 1(2), 213-236.
- Whiteside, M., Mills, J. & Mccalman, J. (2012). Using Secondary Data for Grounded Theory Analysis. *Australian Social Work*, Vol. 65, pp. 504-516. 10.1080/0312407X.2011.645165.
- Yoon, K. (2016). The Cultural Appropriation of Smartphones In Korean Transnational Families. In: *Mobile Communication and the Family* (pp. 93-108). Springer, Netherlands.