The International Journal of Social Sciences and Humanities Invention 7(03): 5840-5851, 2020
DOI:10.18535/ijsshi/v7i03.03 **ICV 2015: 45.28**
ISSN: 2349-2031

.Research Article

Evaluating the Social Media Usage Pattern Among the Hearing Impaired and Visually Impaired Students at University of Tabuk.

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Abstract: Social media is a modern innovation for effective communication. Researchers are investigating a useful framework to integrate social media in an educational setting of deaf and blind students. Deaf or hearing impaired and visually impaired people have poor communication skills that cause lowered social interactions and make them feel isolated. The current study aimedat evaluating the social media usage pattern among the deaf or hard of hearing and visually impaired students. The findings revealed that the majority of the students used Whatsapp for communication purposes.Furthermore, the use of social media bolstered communication among the deaf or hearing impaired and visually impaired students with ordinary people. The study revealed that the primary motivation behind social media usage was social interaction. The social media usage pattern was found to be statistically significant with the motivation behind usage. The social media usage pattern was also statistically significant with the experienced benefits of increased communication. Moreover, the study also revealed that students had learned something from social media usage. These associations were found to be statistically significant at $P \leq 0.05$.

Key Words :Social Media, Deaf, Hearing Impaired, Visually Impaired, Students.

Introduction:

Educational researchers have long been fascinated by the idea of integrating social media technologies in educational institutions. Social media has been reported as the means of communication, the flow of information and promoting self-regulated learning processes among students (Dabbagh&Kitsantas, 2012). In the last decade, there is an increased experimentation on the adoption of social media technologies in education such asFacebook, Myspace, Twitter etc. (Greenhow &Askari, 2017; Huang & Yuen, 2010; Lim & Richardson, 2016) and wikis (Kimmerle et al., 2011; Zou et al., 2016). These social media platforms have revolutionized the communication channels and provided a mean to access information

from any place (Veletsianos&Navarrete, 2012).

Social media is the tool to democratisethelearning process in the students. It has been reported that social media offers an opportunity to the students with special needs to counter the barriers in the physical space (Moores, 2011; Antoniadis et al., 2017; Chen &Bryer, 2012). The students who have disabilities with hearing or vision are at a disadvantage to effectively communicate in the learning environment. The lack of communication creates a participation gap for the hard of hearing and blind students. One of the studies evaluated the factors that influenced the high failure rate among deaf or hearing impaired students and it was found that these students were highly dissatisfied with communication in the educational environment (Liu, 2013). Deaf and hearing impaired students require an effective communication strategy to learn efficiently and overcome the barriers of social integration (Norman & Jamieson, 2015). Moreover, it has been reported that the lack of adequate communication in physically challenged students also results in fewer friends and reduced social interaction with peers (Garrote, 2017).

There are limited studies on the social media usage pattern of deaf and hard of hearing individuals. Most of these studies have inconsistent findings and thus cannot be generalised. A study conducted in Israel revealed a higher motivation among deaf and hearing impairedstudents to using the internet for communication (Barak &Sadovsky, 2008). It was also found that deaf and hard of hearing students have a lower level of self-efficacy and well-being due to poor communication and interactions (Mekonnen, Hannu, Elina&Matti, 2016). The individuals with hearing impairments that used the internet particularly social media sites had higher level of self-esteem and well-being.

Contrarily, a study conducted in the US and Netherlands onstudents with hearing impairments found no substantial difference in the motives for social networking sites and online friendship (Blom, Marschark, Vervloed&Knoors, 2014). In another study, the researcher found that deaf students at a US school were less involved in the internet as compared to the normal-hearing students (Marschark, Shaver, Nagle & Newman, 2015). Moreover, it also revealed that the hearing impaired students experienced cyberbullying (Hadjikakou& Panayiotis, 2012). Despite the lack of substantial empirical evidence, the previous studies have concluded an empowering impact of social networking sites for deaf and hearing impaired individuals (Blom et al., 2014). Most of the studies have labelled social networking sites as a way of communication and an empowering tool for disabled individuals that enhance interaction, knowledge, and experience.

Like hearing impairment, individuals with visual impairment have complex learning needs. The visually impaired individuals can access social networking sites with the help of mobile devices, computers, screen reader software and the WAI-ARIA (Wu &Adamic, 2014). One of the recently conducted study on 191 blind people revealed that 92% of the individuals used at least one social media website and 80% reported the use of Facebook (Brady, Zhong, Morris &Bigham, 2013). However, it is interesting to note that despite the higher usage of Facebook among visually impaired individuals, limited information is available on the activities these physically challenged individuals perform on Facebook. Therefore, the questions arise regarding the usage pattern and engagement level of visually impaired individuals on social media websites such as Facebook, Instagram, Skype, Whatsapp, and Snapchat.

Students with disabilities, such as deafness and visual impairment, have complex needs. These complexities arise due to poor communication and a lack of interactions with their peers. The usage of social media provides an active network to the deaf and visually impaired students to communicate and interact with peers. One of the studies has reported that the deaf and hard of hearing students use text-based communication, social media to interact with the people in their surroundings (Maiorana-Basas&Pagliaro, 2014). However, there is limited evidence on social media usage among deaf and hard of hearing students for the learning process (Gregor 2014, Kozuch et al., 2015; Saunders 2016).

According to the American Foundation for the Blind (AFC) revealed that social media is an effective way for visually impaired people to stay connectedwith the world (George, Duquette, 2006). It argued that social media such as Twitter, Facebook, and LinkedIn provide a channel to connect with others. One of the studies has reported that it is hard for blind people to establish and maintain social connections, and therefore they remain isolated (Hodge &Eccles, 2013). Therefore, it is imperative to enable visually impaired people to maintain social connections and engage in healthy activities. Social media offer a channel for

visually impaired people to interact and communicate with others. However, one study reported that the disability of blind people renders them unable to reap the full advantage of social media (Voykinska, Azenkot, Wu &Leshed, 2016). Therefore, there is a need to determine the best options for social media usage for deaf students to cater to their complex needs.

Aims and Objectives

The aims and objectives of this study are listed below:

- To evaluate the usage pattern among hearing and visually impaired students.
- To determine the activities performed by hearing and visually impaired students.
- To determine the level of engagement of hearing and visually impaired students on social media websites.
- To determine the learning experience of hearing and visually impaired students on social media.
- To determine whether hearing and visually impaired students participate in social interactions through social media websites.

Research Questions:

The research questions that raisedin this research include the following:

- What are the social media usage pattern among hearing impaired and visually impaired students?
- What is the motivation of social media usage for hearing and visually impaired students?
- What are the challenges of social media usage for hearing and visually impaired students?

Methodology:

Study Design

The quantitative survey methodology was chosen for this study. The study design helped in objective measurement and numerical analysis of social media usage patterns among disabled students. One of the studies has reported that quantitative survey design is appropriate to identify the relationship between two variables in a population (Labree, 2009). In this study, descriptive design was chosen to determine the strength of association among variables.

Study Participants

The study participants were randomly selected from theTabuk region. In this study, a sample size of 55 students out of 120 studentswas selected to participate in the study. A survey questionnaire was sent to all these selected participants. The hearing acuity of this study was in the range of 40-59db. All the students completed the survey, and it was further analyzed.

Data Collection Instrument

The data of this study were collected on a survey questionnaire. This questionnaire has 26 items that measured different variables associated with the usage pattern of social media. The internal consistency of the survey questionnaire were determined with the help of the Cronbach Alpha test. This test revealed that the survey questionnaire was reliable with Cronbach's Alpha value of 0.960.

Data Analysis

The data from the completed survey questionnaire from all the study participants were entered into SPSS (version 20). Descriptive statistics were applied to determine the frequencies, mean and standard deviation in the collected data. Furthermore, all the variables had a nominal measure; therefore, the significance of the relationship between a dependent variable and independent variables were determined through the Chi-Square test. Pearson correlation was determined and results were found to be significant at $P \leq 0.05$.

Results

Table 1: Descriptive Statistics of Selected Physically Disabled Students

Variables	Frequency	Percent	Mean	S.D
Age				
16-20	7	12.7	1.33	0.695
21-25	23	41.8		
26 and above	250	45.5		
Gender				
Female	49	89.1	0.11	0.315
Male	6	10.9		
Disability				
Deaf or hearing impairment	36	65.5	0.35	0.480

Blind	19	34.5		
Were you born with a disability?				
Yes	44	80.0	0.20	0.404
No	11	20.0		
Have you any cochlear implant				
Yes	3	5.5	0.95	0.229
No	52	94.5		
Which language do you prefer?				
Spoken English	17	30.9	1.07	0.879
American Sign Language	19	34.5		
Signed English	17	30.9		
Cued English	2	3.6		
Which social media platform do you use most?				
Facebook	1	1.8	3.15	1.393
Twitter	7	12.7		
Instagram	5	9.1		
Whatsapp	24	43.6		
Snapchat	11	20.0		
Skype	2	3.6		
Any other	5	9.1		
Do you post regularly on social media?				
Yes	28	50.9	0.49	0.505
No	27	49.1		
What do you usually post on social media?				
Photos	18	32.7	1.84	1.803
Personal Stories	11	20.0		
Educational Stories	9	16.4		
Disability Stories	3	5.5		
Videos	7	12.7		
Others	7	12.7		
Do you post on other's posts?				
Yes	26	47.3	0.53	0.504
No	29	52.7		
Do you regularly check your profile?				
Yes	37	67.3	0.33	0.474
No	18	32.7		
Have you created any social media group?				
Yes	25	45.5	0.55	0.503
No	30	54.5		
Have you created any social media page?				
Yes	14	25.5	0.75	0.440
No	41	74.5		
Are you part of any disabled community group on social media?				
Yes	11	20.0	0.80	0.404
No	44	80.0		
Are you part of any health promotional group on social media?				
Yes	2	3.6	0.96	0.189
No	53	96.4		
Are you part of any educational group on social media?				
Yes	7	12.7	0.87	0.336
No	48	87.3		
Do you use social media applications?				
Yes	47	85.5	0.15	0.356
No	8	14.5		

How often do you check your social media profile in a day?				
Once	17	30.9	1.67	1.334
Twice	9	16.4		
Thrice	4	7.3		
Multiple Times	25	45.4		
How much time do you spend on social media in a day?				
Less than 10 minutes	4	7.3	3.04	1.387
20 minutes	7	12.7		
30 minutes	6	10.9		
40 minutes	4	7.3		
1 hour	34	61.8		
Where do you spend your time on social media?				
Sharing posts	17	30.9	1.29	1.165
Private messages	17	30.9		
Reading articles or any other information	11	20.0		
Scrolling through other profile	8	14.5		
Other	2	3.6		
Have you found social media beneficial				
Yes	53	96.4	0.04	0.189
No	2	2.6		
Which social media platform has the best interface to cater to your disability?				
Twitter	8	14.5	2.89	1.149
Instagram	11	20.0		
Whatsapp	19	34.5		
Snapchat	13	23.6		
Skype	4	7.3		
Have you learned anything from social media?				
Yes	46	83.6	0.16	0.373
No	9	16.4		
What is the motivation behind your social media usage?				
Leisure	4	7.3	2.09	1.543
Social integration	22	40.0		
Communication	14	25.5		
Socialization	3	5.5		
Entertainment	4	7.3		
Information	8	14.5		
What benefits do you experience using social media?				
Social benefits	15	27.3	1.38	0.892
Psychological benefits	4	7.3		
Communication benefits	36	65.5		
What are the core challenges that you experience while using social media?				
Psychological challenges	7	12.7	1.15	0.621
Social challenges	33	60.0		
Technical challenges	15	27.3		

The descriptive statistics were applied to the data to determine the frequencies of responses to the survey questionnaire. It revealed that 45.5% of participants were of the age 26 and above. 89.1% ofthe participants in this study were female. 65.5% had deafness or hearing impairment disability and 34.5% had blindness. 34.5% of participants preferred American Sign Language as the medium of communication. 43.6% reported having mostly used Whatsapp as the leading social media platform. 50.9% reported having posted regularly on social media. One interesting finding was that 20% reported posting personal stories on social media. 83.6% of students reported to learn something from social media and 96.4% found social media beneficial. 60% of participants reported experiencing social challenges while using social media.

Table 2: Chi-Square Tests of Social Media Usage and its motivation

Variables	Pearson Chi-Square		
	Value	df	Asymp. Sig. (2-sided)
Social Media Platform used mostly	119.018[a]	30	0.002
Post Regularly on Social Media	48.141[a]	5	0.032
Post on Other's Posts	55.000 [a]	5	0.012
Regularly Post on Social Media	139.922[a]	25	0.000
Regularly Check Your Profile	44.294[a]	5	0.024
Created Social Media Group	51.150[a]	5	0.012
Created Social Media Page	26.54[a]	5	0.034
Part of any Disabled Community Group on Social Media	25.170[a]	5	0.022
Part of any Health Promotional Group on Social media	26.462[a]	5	0.001
Part of any Educational Group on Social Media	31.674[a]	5	0.004
Use Social Media Mobile Applications	55.000[a]	5	0.035
Often Check Social Media Profile in a Day	69.723[a]	15	0.032
Time Spent on Social Media in a Day	91.250[a]	20	0.041
Time Spent on Social Media	93.915[a]	20	0.013
Social Media Platform with the best Interface for Disability	108.008[a]	20	0.023

The correlation between social media usage and the motivation behind social media usage was found with the help of Chi-Square statistics. The results revealed a strong association among the social media usage variables and the motivation behind usage. All the variables were statistically significantat $P \leq 0.05$.

Table 3: Chi-Square Tests of Social Media Usage and its Perceived Benefits

Variables	Pearson Chi-Square		
	Value	Df	Asymp. Sig. (2-sided)
Social Media Platform used mostly	20.755[a]	6	0.02
Post Regularly on Social Media	2.152[a]	1	0.142
Post on Other's Posts	1.861[a]	1	0.173
Regularly Post on Social Media	14.232[a]	5	0.014
Regularly Check Your Profile	4.266[a]	1	0.039
Created Social Media Group	1.730[a]	1	0.188
Created Social Media Page	0.709[a]	1	0.400
Part of any Disabled Community Group on Social Media	0.519[a]	1	0.471
Part of any Health Promotional Group on Social media	0.078[a]	1	0.780
Part of any Educational Group on Social Media	0.303[a]	1	0.582
Use Social Media Mobile Applications	12.193[a]	1	0.000
Often Check Social Media Profile in a Day	2.491[a]	3	0.477
Time Spent on Social Media in a Day	1.282[a]	4	0.864
Time Spent on Social Media	55.000[a]	4	0.000
Social Media Platform with the best Interface for Disability	26.464[a]	4	0.000

The results of social media usage and the perceived benefits of usage are provided in Table (4). These findings revealed a statistically significant association between social media platform mostly used and the perceived benefits with P-value 0.02 at P≤0.05. Moreover, the study also revealed a statistically significant association between the variable of regularly checking profiles and perceived benefits with P-value 0.039 at P≤0.05. Besides that, the variables such as social media mobile applications, time spent on social media and social media platforms with the best interface for disabled people have a statistically significant correlation with all having a p-value of 0.000 at P≤0.05.Likewise, the Chi-Square test of social media usage and the benefits experienced by the study participants. It revealed that all the variables have a statistically significant association with the benefits actually experienced while using social media. Only two variables have a statistically non-significant association; these findings provide the Table (4).

Table 4: Chi-Square Tests Of Social Media Usage And Benefits Experienced

Variables	Pearson Chi-Square		
	Value	Df	Asymp. Sig. (2-sided)
Social Media Platform used mostly	50.569[a]	12	0.000
Post Regularly o n Social Media	27.991[a]	2	0.000
Post on Other's Posts	32.277[a]	2	0.000
Regularly Post on Social Media	52.569[a]	10	0.000
Regularly Check Your Profile	14.122[a]	2	0.001
Created Social Media Group	34.833[a]	2	0.000
Created Social Media Page	50.081[a]	2	0.000
Part of any Disabled Community Group on Social Media	36.667[a]	2	0.000
Part of any Health Promotional Group on Social media	5.535[a]	2	0.063
Part of any Educational Group on Social Media	21.389[a]	2	0.000
Use Social Media Mobile Applications	4.941[a]	2	0.085
Often Check Social Media Profile in a Day	55.499[a]	6	0.000
Time Spent on Social Media in a Day	71.500[a]	8	0.000
Time Spent on Social Media	52.304[a]	8	0.000
Social Media Platform with the best Interface for Disability	65.667[a]	8	0.000

Table 5: Chi-Square Tests of Social Media Usage and Learned Anything from Social Media			
Variables	Pearson Chi-Square		
	Value	Df	Asymp. Sig. (2-sided)
Social Media Platform used mostly	43.043[a]	6	0.000
Post Regularly on Social Media	11.159[a]	1	0.001
Post on Other's Posts	9.648[a]	1	0.002
Regularly Post on Social Media	44.562[a]	5	0.000
Regularly Check Your Profile	22.120[a]	1	0.000
Created Social Media Group	8.967[a]	1	0.003
Created Social Media Page	3.674[a]	1	0.055
Part of any Disabled Community Group on Social Media	2.690[a]	1	0.101
Part of any Health Promotional Group on Social media	0.405[a]	1	0.524
Part of any Educational Group on Social Media	1.569[a]	1	0.210
Use Social Media Mobile Applications	47.849[a]	1	0.000
Often Check Social Media Profile in a Day	12.913[a]	3	0.005
Time Spent on Social Media in a Day	6.646[a]	4	0.156
Time Spent on Social Media	48.607[a]	4	0.000
Social Media Platform with the best Interface for Disability	32.518[a]	4	0.000

The study also evaluated the association between social media usage and anything participants learned from social media. The findings revealed that the usage of social media has enabled the participants to learn many things. The relationship was found to be statistically significant at $P \leq 0.05$.

DiscussionThis study was aimed at evaluate the usage pattern of social media among students with hearing and visual disabilities. The current study generated a different perspective on social media usage among disabled students. The lack of substantial empirical evidence on the social media usage pattern among the disabled students compelled me to conduct this study and determine the statistical evidence. The current study revealed the specific dimension of social media usage among hearing and visual disabled students. It was found that the majority of disabled students (DHH and Visually Impaired) mostly used Whatsapp, followed by Snapchat. It suggests that these two social media platforms have an influential factor that engaged the disabled students. These findings are contrary to the previously conducted studies that revealed Facebook as the most frequently used social media site among deaf Americans and Germans (Blom et al., 2014). In another study, it was found that Facebook and Twitter were the preferred social media platforms (Saxena et al., 2015). None of the previously conducted studies revealed that Whatsapp is the leading social media platform used by the deaf or hearing impaired and blind students. It suggests that hearing and visuallydisabled students in Saudi Arabia have a strong affiliation

with Whatsapp that is mainly used for communication.

The majority of participants reported that they post regularly on social media and most of the content they posted included photos. Contrarily, a previously conducted study revealed that hearing impaired people do not participate in social media activities as frequently as normal hearing people (Blom et al., 2014). Moreover, it was also reported that people with milder hearing loss usually posted videos as compared to the people with higher degree loss of hearing (Kozuh et al., 2015).

However, it was found that the study participants were reluctant to post (comment or likes) on other's posts. It shows that disabled students are reluctant to interact with others on social media as well. The majority of the participants reported having regularly check their social media profiles. The participants also reported that they have never created any page or group on social media websites. These findings are consistent with the previously conducted studies that deaf and blind people have never created any group or page on a social media website.Similarly, the majority of participants were also not a member of any disabled community group, health promotional group or educational group. These findings suggest that the participants did not use social media to interact with any information sources. The majority of the participants reported having used social media applications with the habit of checking their profiles at multiple times in a day. The findings also revealed that participants spent most of their time sharing posts or sending private messages. The current study also evaluated the perceived benefits and the benefits experienced by deaf and blind students regarding social media usage. 96.4% reported that social media is beneficial. These findings align with the previously conducted studies that deaf and hearing impaired experienced a low level of loneliness and increased self-esteem with the help of social media (Bauman &Pero, 2010). However, these findings can be associated with the ease of communication through messages. Similar findings have been reported in one previously conducted study hard of hearing users were more comfortable with the help of online written communication (Akamatsu, Mayer &Farrelly, 2005). Likewise, most of the participants reported that Whatsapp has the best interface to caterfor their disability. 83.6% reported having learned something from social. Besides, 40% have reported that social integration is the primary motivation behind using social media. Furthermore, the participants reported that the major benefit of social media is an improvement in communication. However, the participants also reported that they had experienced social challenges while using social media. A previously conducted study also revealed social challenges that disrupt social media usage among users with disabilities (Badri, Al Nuaimi, Guang& Al Rashedi, 2017). Therefore, the findings of the current study align with previous studies.

The study also revealed the significance of the relationship between the social media usage pattern and the motivation behind the usage. It was found that all the variables associated with the social media usage pattern were statistically significant at $P \leq 0.05$. It was found that the social media platform used mostly and the perceived benefits havea statistically significant association with a P-value of 0.02 at $P \leq 0.05$. Likewise, the variables such as (typically post on social media, regularly check your profile, social media mobile application, time spent on social media and social media with the best interface) were found statistically significant at $P \leq 0.05$. These findings are consistent with previous studies that social media usage is associated with the perceived benefits. Moreover, the current study also revealed a statistically significant association between social media usage patterns and the benefits actually experienced by the participants at $P \leq 0.05$. There was also a statistically significant association between some variables of social media usage patterns and anything learned by the participants from social media at $P \leq 0.05$.

These findings are critical to formulating an effective intervention with the help of social media to improve the learning process among deaf or hearing impaired and visually impaired students. Moreover, it is essential to determine the best social media platform to effectively communicate with the disabled students with the help of sign, tactile or written language. The findings of the current study provide extensive empirical evidence on the usage pattern of social media among disabled students that would be helpful for educators and clinicians to ensure adequate teaching and clinical services to the disabled students and overcome their challenges.

ConclusionDeaf or hard of hearing and visually impaired students have complex needs. These students remain isolated and are unable to interact with others due to communication issues. The current study revealed the social media usage

pattern of disabled students. The findings revealed a statistically significant association between the social media usage pattern and the motivation behind usage.Moreover, the participants reported social media to be beneficial and enhance their communication. The current study also revealed that participants had learned something with the help of social media. Therefore, the current findings provide a framework to capitalise and develop a new strategy to integrate social media in the learning environment to cater to the educational and social needs of the deaf or hard of hearing and visually impaired students.

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