Exploring Public Opinion to Analyze the Consequences of Social Media on Students' Behaviors

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Abstract

Social media sites like as twitter, Facebook and flicker widely used by people, not only as a source of distributing information but also as for communication purpose, with the advancement of technology today. Now a day's one of the most frequently used communication methods are social networks. In various research studies, their use in different fields and the effects of social media on student's behaviors, chat sites and blogs caused by Facebook has been analyzed. In order to obtain the basic data, a general scanning model that is public opinion and views of parents and comments that are openly available across social media sites, used to perceive attitude of graduate students, instead of traditional methods like questionnaires and survey's conduction. A dataset of nearly 20000 reviews of parents was collected from different social media networks about their children's, while in another dataset in which 362 graduate school teachers who observe the students to use social media during classes, labs and in campus during free times, their comments about those students were chosen. As per this study, through different positive and negative factors the detailed analysis has been performed to show effect of social media on student's behavior.

Keywords:

Opinion, Students, Behavior, Social Media, Facebook

1. Introduction

As a way of entertainment, distributing information and communication (Nawaz, Asghar, & Naqvi, 2019), social media is widely used by people particularly graduates and undergraduate students. Their purpose of joining the social media is for "comments" and "likes" and their views that are being "shared" (Hasnain, Nasreen, & Ijaz, 2015). Social media and micro blogging sites like Facebook, twitter, flicker etc are more famous in public as compared to other media because of their extensive usage and simple processing (Mingle, & Adams, 2015). If we talk about different age groups, it has been clearly observed that mostly the users of microblogging sites are the youngsters. Figure 1 shows the age wise usage of social media forums. With the passage of time they are continuously passing through the social drive and allow other people to write their views on it (Hasnain, Nasreen, & Ijaz, 2015; Rehman & Asghar, 2020) and put them on the social media.

Social networks and microblogging sites have dramatic influence on the student community. Precisely innovations

are being provided via numerous networking websites and social media that are taking place swiftly in the field of information technology. For instance, WhatsApp, Instagram, and Facebook offer some of these methods of communication that are neither instructed nor reciprocated (Roblyer, McDaniel, Webb, Herman, & Witty, 2010) and new-fangled social connectivity patterns of communication.
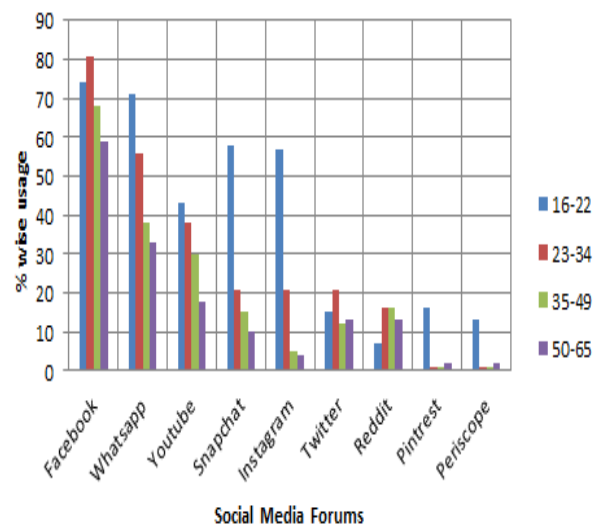

Figure 1: Age wise Usage of Popular Social Forums

As far as social networking is concerned, it is all about social actors and their settings like organizations, communities and individuals comprises of social actors and the social interactions plus communication (Valenzuela, Park, & Kee, 2009; Rehman & Asghar, 2019). The presentation of the public to user-generated data and ideas at a comparatively young age is one of the effective consequences of social networking site usage, which has enhanced knowledge in student communities (Lee, & Suzanne, 2017) and supported additional technological improvements. However, the increased level of depression in students by dramatically altered the social environment in which students grow and learn. Another study shows the

complete examination of the influence of social networking sites for students.

The study in (Raghavendra, Hutchinson, Grace, Wood, & Newman, 2018; Rehman, Asghar, Fong, 2018) emphasized on investigating the influence of technological innovation on students' learning behavior, which plays a vital role in students' growth. We directed this investigation to analyze several issues relating to examples of social media usage at selected universities. Furthermore, through the comments of parents, teachers and their guardians, particularly their siblings, their behaviors in society after using social media has been analyzed through very common positive and negative factors involved in social media usage (Raut, & Patil, 2016; Rehman, Tariq, Nawaz, 2021).

1.1 Theoretical Background

The improvement in the Internet and its approval at public level and thereafter it's usage by common public specifically young generation and students through social media which has played a vital role in this conversion. Due to the improvements in social media, and the participation in social activities has completely altered the current landscape into new proportions in the last period. Now particularly the social media has a major characteristic in the social campaigns and the way public view and grab the difficulties mentioned on this platform in details in spite of time and space constraints. Previously, most of the work on social media, particularly on social network sites centered on the individual uses while some surveys have been published on the different social campaigns.

The study conducted by Ali (Ali, 2008), examining the role played by the new type of media, particularly social networks, in establishing political and social knowledge among Arab youth. The role of social networks in the development of political and social knowledge among Arab youth has been examined. On personality of the young public, the influence of the use of social media been investigated in number of researches. Figure 2 describes the use of different communities social media.
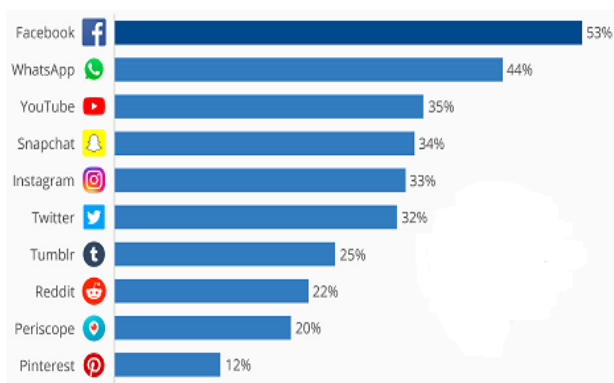

Figure 2: Use of Social Media by Community

Bozkurt survey (Bozkurt, Karadeniz, & Koçdar, 2017) named as "University Youth Communication through Social Network Sites" described a study conducted to investigate the process of correspondence for a genuine thought process through community locales among university students. It has been clearly observed from the study that the more than being a need made by the current time innovation such similarity is considered as a social wonder. An article (Sherman, & Švelch, 2015) "Facebook and the Technology Revolution", investigates the Facebook impact on students of the university, while 219 students of the university have been included in this study showing the results about the addiction of Facebook and Internet among the students of the university with large social network.

1.2 Related Research

Many surveys conducted about the dark and bright impacts of social networking sites on the students' academic and non-academics performances. In the survey conducted by Heffner (Heffner el al., 2016) argued that the use of social networking sites can be a good way out to trade with educational failures, particularly if the candidate having connection with another candidate facing the identical issue. Furthermore, another research (Helou, 2014) attempted to attain students' visions of how their use of social networking sites affects their educational and academic efficiencies.

Research conducted on several students of Malaysian university. Research results showed that social networking sites have a positive influence on their educational and academic effectiveness. Menseh et.al. (Menseh, & Nizam, 2016) explained that social media sites has a significant outcome on the students' educational and academic effectiveness. The study recommended that it is helpful in Malaysian colleges and universities to teach students to use social media platforms absolutely for academic purposes which will eventually consequence in a positive effect on their educational efficiency. Jha et al. (Jha, Jaipuria,, & Sinha, 2016) claimed that social media sites are very much influenced on students. Social media sites provides the students separate world to interact with friends. This is one of the good way to relieve pressure. Another observation is that, an approach is needed to stable the connection between academic study and social networking sites. As a result, students should consider more about the harmonizing of academics and social networking sites

Moreover, the results of an a survey carried out by Eke et al. (Helen, Omekwu, & Odoh, 2014) along with students in country 'Nigeria' displayed that there are some advantages obtained from using social media, which supports virtual conference with scholars, wellbeing, interpersonal connection etc. Study showed that usually students used social networking sites for communication with friends, watching videos, discussion about various problems like religious, politics etc. Another research (Mingle, & Adams,

2015) declared that students practiced development in their reading skills as an outcome of contribution and linking social networking sites. Students also discussed problems and various educational questions with their friends on social networking sites.

Nevertheless, another study (Mingle, & Adams, 2015) stated that bulk of respondent's viewed negative effects i.e. wrong spelling and slang words, assignments submission delays and bad educational efficacy because of excessive use of social networking sites. Eke et al. 2014 explained some risks related to social media sites. These risks are addiction of web, slowness, E-crime, typical crime including, murder, gambling, kidnapping; were recognized. The conclusion of a survey conducted by Roblyer et al. 2010 depicted that faculty and students vary to a certain extent in their current use of social networking sites. It was observed that there is a vital dissimilarity between the supposed roles of this tool as social, more willingly than academic.

Mushtaq, 2015 declared that most teachers and parents have a opinion that social networking sites have less positive influence and more negative influence on students. One reason is lack of knowledge about academical topics and discussion available of social media sites. Another research (Heffner, 2016) showed that social networking sites have negative influence on students of USA University named as Rowan University. Study recommended that there is proper check and balance on students when they are using social networking sites. In another study, Mushtaq (Mushtaq, 2015) revealed due social networking sites students are not pay attention in reading newspapers and books and as a reason they are losing beneficial information available in the books and newspaper. Moreover, Wang et al., 2011 supposed social networking sites are completely affecting students' efficiency as well as their grades. Teachers and parents need to more concerned about these students problems

Social networks impact on student's health was defined by Khalid (Khalid, 2017). How academics of the students was affected by social networks influence the academics of students was discussed by him. At the end, how students got composed by their confidential and personal data was discussed by him. Increase in use of various social media effects the students' psychological and physical health negatively was also figured out by him. The influence of social media is quite positive on their academics. It has been noted in the study that there are so many students who are the victim of harassment due to the lack of knowledge about their rights. Therefore, his study recommended that as a subject "influence of social media" should be taught for the awareness.

2. Purpose of the study

Lack of any previous research on the apparent influence of social networking sites on social improvement among university students motivated us to inspect the type of usage of social media, prevalence, the motivation for social media use and the impact of social media on students' social improvement. The focal point of this study is behavior of students on social media. Gauging a positive connection between social media participation and confidence can also be doped. The disadvantages of using social media have also been explained in the research (Prensky, 2001). This study would be useful to emphasize student behavior on social media. The following points are highlighted in this research:

1. Establishing the usage of social network among students
2. Pointing out behaviors of respondents on the Facebook
3. To observe the various social networking platforms which is used by students.
4. To find out the amount of time students invested on social media.
5. To examine the purposes for which students used social media.
6. To investigate the perceived impact of social media use on students' social life.

3. Method

Identifying the productive and non-productive factors of social media that classically shows the effects on students' learning behavior, this research examined the data collected in a form of opinions and reviews. Consequently, obtained within limited resource and continuous effort to search it, we also conducted an extensive examination of the earlier literature to build up an inclusive understanding of this topic. In addition, to examine the view of the students concerning social media sites, we established a unique data collection process that focus on considering only those opinion and review that only focus on the effect of social networking sites on students. Before administering the process of data gathering, we adjusted the study design with their specialist opinions, without some traditional or unrelated elements, together with suitable variables in the study. Various API's as mentioned in table 1 are used in the data collection. The reviews and opinions are categorized on the basis of parents, teachers and Siblings who post it on social media while observing their children during different occasions.

To check the reliability and effectiveness of the gathered data, and to identifying most effective factors, mean score (M) and standard deviation (SD) for each factor has been calculated. Subsequently, to evaluate and validate

the consistency of the respondents' opinions, we employed analysis of variance (ANOVA). In short, to evaluate the necessary elements affecting students' learning behavior, major information that showed the analysis of the discoveries, could be used. By analyzing the above studies, the experts suggested practical proposals based on the results of the study, media specialists have been occupied in the survey given their input for the poll study. Main purpose of this study is to analyse the effect of social media based on open review and opinion with the support of various positive and negative factors of social networking sites observed by early studies.

3.1 Data Collection

Researchers analyze the social media manually and that is a hectic task in time perspective with so many limitations. As conventional approaches are time-consuming and permits analysts to assess only inadequate amounts of material. In addition, researchers will not be competent to understand public opinion or mood on a mass scale and their biases may influence their interpretations of what they read. As far as survey procedure is concerned, the information gathered from the questionnaire used in the survey is not much authentic. People who are filling up the survey forms are sometimes not able to provide the answer of all questions mentioned in the survey questionnaire. Thus, there is a possibility that the result after the analysis of survey questionnaire may not portray the promising results or may have the chance of ambiguous results on certain subject. So in this research, a public opinion of individuals particularly parents; teachers and entrepreneurs' views and comments that are posted on various social media forums about their kids and students are collected. The detailed description along with review structure is described in table 1.

Table 1: Dataset.

Comments/Review Category	Number of Reviews	Source Link
Post Graduate Students	22,450	• https://www.postgraduateforum.com/?cat=Off • https://www.findamasters.com/advice/masters-discussion-forum.aspx
Parents	42,230	• https://www.kidsinthehouse.com/forums/elementary-talk
University Teachers	11,700	• http://edupln.ning.com/ • https://whoteaches.com/
Miscellaneous	900	• https://www.riverbankschools.org/parent-teacher-forum-ptf/

Table 1 demonstrates about the categories of the reviews and comments showing that there are 22,450 reviews of post graduate students while the reviews posted by the parents are 42,230 in number. University teacher's comments are 11,700 in number and last but not the least the miscellaneous reviews are 900 in total describing the detail of the dataset used. Figure 3 is showing the duration of the usage of social media vs the number of respondents that have used the social media within one hour, two hours, three hours, four, five and more than five hours of interval respectively.

3.2 Data Processing

With the consumption of Stanford CoreNLP (Cerda, 2019, Hebert, Robichaud, Parisien, Duta, Tremblay, Almahairi, Boisvert, 2019), the POS (AlGhamdi, Molina, Diab, Solorio, Hawwari, Soto, & Hirschberg, 2019) labelling and stemming are finished. Sentences for example, *"this is anything but a decent teacher's facility"* consume words with positive division. However the elimination of expression of NOT alters the division of a sentence. Unigram features are used to check the effect of the negative words. The data Pre-processing steps are shown in Fig. 4.
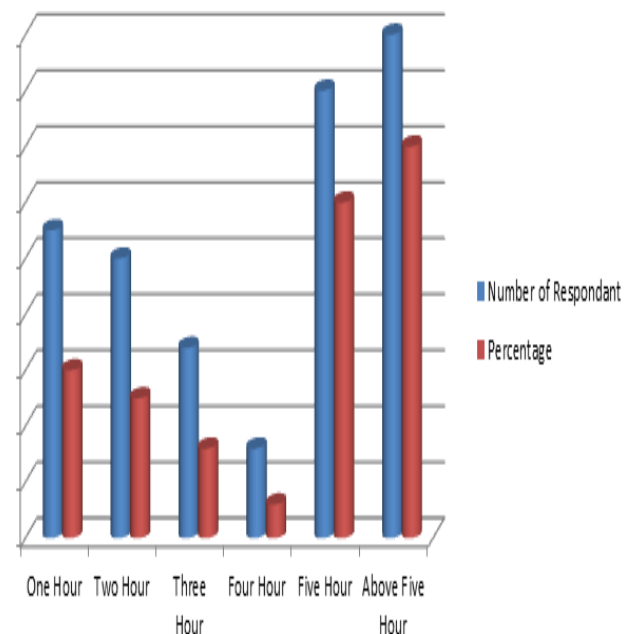

Figure 3: Duration of using While Gathering and Crawling Comments/Reviews

3.3 Data Analysis

It's a hectic and time taken task to collect relevant comments and reviews from different social media platforms. However, there is a possibility of data crawling which has been utilized very diligently and carefully to observe the usage of social media by certain users in different time spans as shown in Figure 3. It has clearly been observed from the figure that number of respondents on social media is increasing or decreasing on hourly basis. When data has been collected it's not in a pruned form and may have redundant and fake information in it. The data has been pruned through the pre-processing phase. Finally, the description of the reviews in terms of vocabulary size is shown in Table 2.

Table 2: Data Description

Dataset Name	Duration	Number of Reviews	Vocabulary Size
Parents Dataset	One Hour	18,903	8,200
	Three Hour	15,438	6,100
	Five Hour	7,947	2,725
	Total	**42,230**	**17025**
Teachers Dataset	One Hour	7,800	5300
	Three Hour	2450	3300
	Five Hour	12,200	9100
	Total	**22,450**	**17700**
PG Student Dataset	One Hour	3350	4100
	Three Hour	1850	2450
	Five Hour	6500	5350
	Total	**11,700**	**11900**

As per data analysis, to discover and establish the most significant social media factors and their influence on the students are the major challenges of this particular study. After an in-depth examination and each element have been investigated autonomously, these factors were acknowledged from the earlier literature.
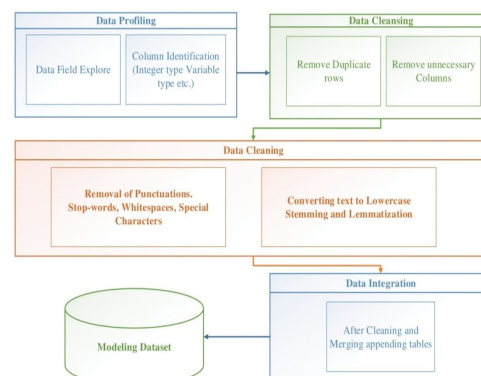

Figure 4: Data Pre-processing Model

3.4 Influencing Factors

The decisive challenge of this study is to analyze opinions of parents, teachers and sibling to determine the effect of social media on their students and kids. Moreover, this research work utilizes the most common factors i.e. positive and negative that are already mentioned in the past literature that influence the students to strengthen the proposed analysis. Table 3 displays these factors as follows.

Table 3: Influencing Factors

S.No.	Factor ID	Positive Factors
1	PF01	Awareness Towards Study
2	PF02	Study Material Sharing
3	PF03	Group Discussion
4	PF04	Building Community
5	PF05	Search Books and Reduce Cost of Purchasing
6	PF06	Improve Oral and Verbal Skills
7	PF07	Social gathering and Promoting Social Drives
8	PF08	Strengthen Knowledge
9	PF09	Reduce Stress
10	PF10	Regular and Energetic
		Negative Factors
1	NF01	Time Wastage
2	NF02	Lake of Writing and Reading Skills
3	NF03	Laziness
4	NF04	Lake of health Hazards
5	NF05	Mental Depression
6	NF06	Whistle Blowing
7	NF07	Ethical problems while joining different Groups
8	NF08	Mind Disruption
9	NF09	Increase cyber-bullying
10	NF10	Lack of Critical thinking

4. Results

The most prominent social media factors and their eventual effect on the students' communities are the major challenges of this particular study were to investigate and verify, according to data analysis. From the earlier literature, these factors were acknowledged after an in-depth examination. The positive impact of the social media among the groups of parents, teachers and PG students along with their mean and f value is shown in Table 4. The positive factor with PF ranging from 01 to 10 is showing the range

of positive factors among the teachers, parents and PG students. While the Figure 5 shows the positive factor's mean and SD. The positive factors have the sharing of study material sharing, group discussion, building community, searching of books, improvement of oral and verbal skills, social gathering and promoting, strengthening of knowledge and stress reduction.
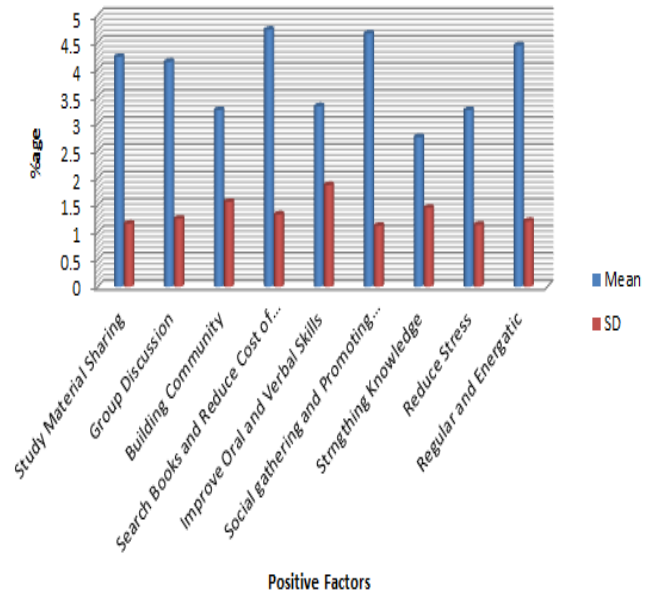

Figure 5: Analysis of positive effects of social networking sites on Student's Behavior.

The unfavorable or negative impacts of the extreme use of social media is shown in Figure 6 which include the wastage of time, Lack of writing and reading, laziness, lack of health hazards, mental depression, whistle blowing, ethical problems, mind disruption, cyber bullying and lack of critical thinking. The graphical bars are showing the percentage of their mean and SD.
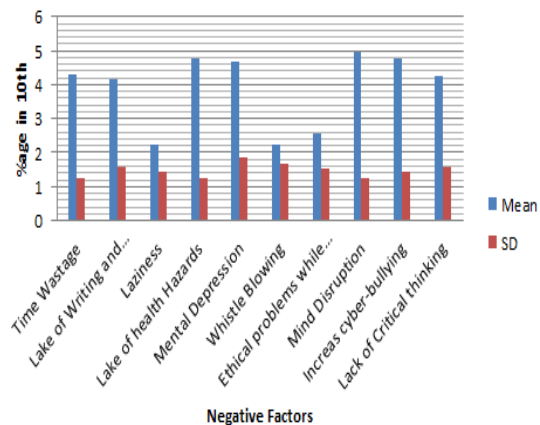

Figure 6: Analysis of negative impacts of social networking sites on Student's Behavior.

Table 4: Positive factors among groups: Parents, Teachers and PG Students with Mean and F-Values.

S.No.	Positive Factor	Parents	Teachers	PG Students	F Values
1	PF01	3.811	3.223	4.221	4.506
2	PF02	2.945	2.484	3.453	3.123
3	PF03	4.555	3.555	2.568	5.145
4	PF04	3.562	4.568	4.449	6.123
5	PF05	3.222	3.111	4.561	4.235
6	PF06	4.758	2.756	3.692	4.562
7	PF07	4.523	3.023	2.568	4.123
8	PF08	4.559	4.252	4.231	6.543
9	PF09	2.521	3.251	2.961	3.562
10	PF10	3.332	4.337	6.552	6.542

Based upon the reviews and comments, Table 5 is showing the negative factors among the groups of parents, teachers and PG students after performing the ANOVA test. The obtained results are showing the variance in three different groups with little differences in all categories. While the F values has also been shown in the last column of the table, defining the negative impact of the social media through ANOVA test. Ten different negative factors as discussed above have been selected for the test and after getting the results lie between 2.0 to 6.5 in different categories. While the range of F value is in between 3.5 to 6.5 respectively showing the efficiency of the test performed on the negative factors.

Table 5: Negative factors among groups: Parents, Teachers and PG Students with Mean and F-Values.

S.No.	Negative Factor	Parents	Teachers	PG Students	F Values
1	NF01	3.841	3.226	4.221	5.231
2	NF02	2.452	2.484	3.452	4.223
3	NF03	4.551	3.551	2.565	4.125
4	NF04	3.562	4.562	4.443	5.006
5	NF05	3.223	3.118	4.564	4.231
6	NF06	4.751	2.755	3.699	4.125
7	NF07	4.525	3.024	2.564	3.562
8	NF08	4.551	4.258	4.236	6.523
9	NF09	2.568	3.252	2.962	4.231
10	NF10	3.334	4.333	6.551	6.541

5. Discussion

Examining the using pattern of students social networking, particularly on social media, the reason of usage, and how they relate with each other on website, how much time they spent by using social media, accompanying with the drawbacks and benefits of using it, and what are the impacts of using is also encompassed in this study. The graduate students are more prone to use social media than other students are also pointed out in population data. This research discloses that many respondents are using social media for distributing educational and social information, and it is the part of their daily experiences for persisting linked with their friends, plus job purposes, sending birthday greetings, and entertainment etc.

The points which are established by this study that most of the respondents also access social media for sharing personal information such as name, picture, birthday, gender, email, phone number, high school, college, university. In addition, religion, country, welfare, political view, and other statuses are also shared etc. In the contemporary age, communication systems of the past are altering step by step recommended by this study. Many users spent their time on social media and span of activities is diverse. They can alter, by using social media, their personal, familial, social and career, plus study life, etc. There is a severe alter is happened in whole everyday life of the students as per this study.

For using social media, students responded an open-ended question about their causes as the data depicts. Most of the respondents as per data shows that using social media for getting information, entertainment and communication and educational reasons. As the graphical representation shows that according to parents, their children spend most of their time in communicating with friends and others is around 78%, while the thinking of the teachers is same in this scenario showing with the percentage of 68. According to the PG students, most of the time of their siblings has been used by the Facebook for study purpose and is around 68% and so for the other activities. The thorough data is given in Figure 7.
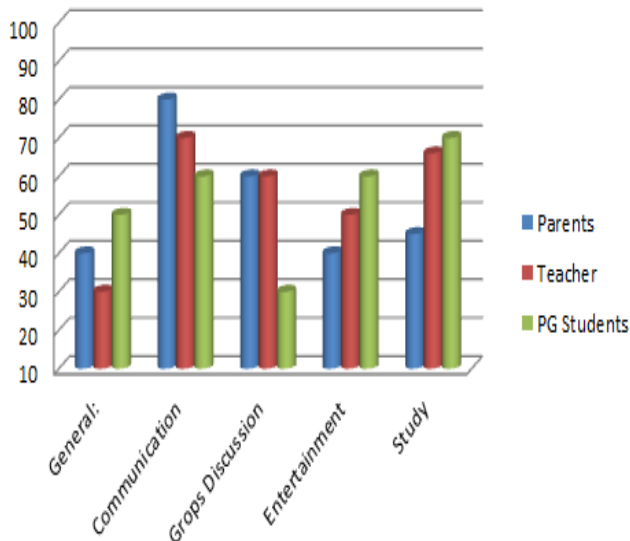
Figure 7: Analysis of Respondent of social media on Student's Behavior.
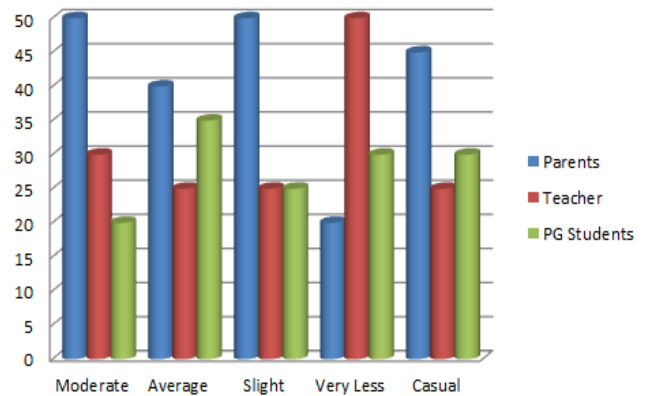
From the figure 8 the analysis of usage of social media has been shown for the behaviors of students, whether its moderate, average, slight, very less or casual. It has been observed that students are with friends, and some are for educational reasons, some are receiving information about the present world according to their parents, teachers and siblings who are also PG students. Graphical representation shows the percentage of using social media by students for general, communication, group discussion, entertainment and study purpose. Results proved that according to parents, teachers and siblings, the time mostly spend by students on social media is for communication and not for the other activities. Hence it has been depicted that social media is more or less beneficial for communication with others instead of study purpose.
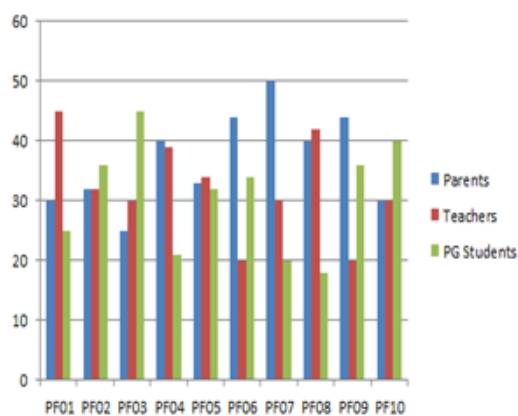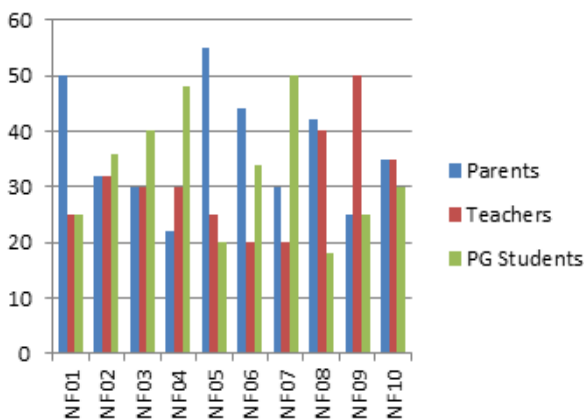

Figure 8: Analysis of Usage of social media on Student's Behavior.

As per this study, most of the student's association with social media is for academic purposes. Moreover, social media is also used for various reasons such as communicating misinformation, fraud, strange presentation and copy of the statements of people to create misunderstandings between users and fraud. These kinds of patterns influence the students and distract their concentration from academic perspectives to others negatively. The Figure 9 shows the analysis of the various negative factors in the light of reviews posted by the parents, teachers and the PG students. The NF05 has the most effect according to the parents i.e. 54% while NF04 has the least effect on the student's behavior which is 22%. According to the teachers NF09 has the highest effect which is 50%. On the other hand, NF06 and NF07 has the least effect which is 20%. NF07 has the highest effect according to the PG students while NF08 has the least i.e. 19% respondents have reasonable effects by using social media, while 17% respondents mentioned very much effect, 19% slight effects, 13% much effect and 7% very slight effects by using social media on their daily usage, same by positive factor as well.

Figure 9: Analysis of Various Factors (Positive and Negative) of social media on Student's Behavior.

6. Conclusions and Future Studies

Based upon the data of population, this study provides the relevant literature by examining usage of social media. Moreover, this study claimed that it has a novel involvement because instead of traditional survey and questioner we have collected the open minded opinions of people about their kids regarding the use of social media and its impact on their educational life. It is concluded that union of the social media sites to communicate with friends, family, and strangers, social media is spreading across the world as an increasing number of teenagers, student communities, and others using it frequently and have the positive and negative factors involved impacting their career.

7. Recommendations

This study can be observed as a deep research about social media, as it is not an outdated medium of communication in the world. To discover the using practices of social media it's just an attempt, based on the user's data. Therefore, a lot of things have been explored and lot of scope is there to continue further research about social media, as it is a trendy medium. Nevertheless, some recommendations for more research about social media based on this study are given below:

- Instead of traditional method of data collection like survey and questionnaires which is time taking and difficult to conduct, it is recommended to analyze the public opinion that is openly available on social media forums.
- This research has been performed to determine the impacts of social media on students behavior that highlights the pros and cons of different factors on the life of student, it is recommended that the proposed study can further be enhance for other factors like promoting social drive on social media.
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