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Statistical Analysis of Social Media and its Impact on Academic Performance of Different Age Group Students

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ABSTRACT

The limits between on-line and "genuine world" networks are quickly decaying, especially for the age of youngsters whose lives are infested by web based life. For this age, internet based life trades are an essential methods for correspondence, social commitment, data chasing, and perhaps, a focal segment of their character and network building. Teacher of psychiatry at UCLA, Dr. Gary Small, proposes these advanced locals—youngsters naturally introduced to a universe of PCs and PDAs, content informing, and tweeting—spend, by and large, over eight hours daily presented to computerized innovation, and may encounter generally unique mental health that favors steady correspondence and performing multiple tasks (Prensky, 2001). Given these real factors, postsecondary teachers should start to genuinely investigate the possibility to purposefully and deliberately saddle the intensity of these progressive changes in innovation use to all the more likely serve the requirements of understudies to improve their prosperity. Determinants of Acquiring Good results in Academics (for all age groups) analysis revealed that out of 7 explanatory variables 5 explanatory variables are significant at different probability levels. The coefficients of independent variables viz., student studying class and number of hours spent in study are significant at 10 percent probability level and also they indicate that increasing class level and number of hours spent in studying increase the performance of academics of children in the study area. Another two coefficients of variables namely number of hours spent in Internet and *number* of hours spent in Tuition are significant at 5 percent level. It also tells that the hours spent in either tuition or internet impacts positively. The other variable coefficient i.e., parent's education is significant at 1 percent level. It reveals that parent's education influence on children academic performance.

Keywords: Social media, Traits, Primary, Upper Primary

Internet based life, for example, Twitter, Face book, My Space, You Tube, Flicker and others have been developing at a huge rate and the appropriation pace of such media has been soaring which, thusly, has conveyed cosmic quantities of clients in under 10 years. As an outcome of this shocking wonder including both the fast development of this forefront innovation and its selection, web based life have been an indispensable piece of the contemporary study hall, of publicizing and open connection ventures, of political battling and of various different parts of our day by day presence. The consolidation of this gigantic media upsurge carries with it difficulties and openings that should be broke down through insightful research. Undergrads, regularly living endlessly from home just because, may take part in social collaboration for some, reasons, remembering a feeling of connectedness or having a place for the school network (Walther, Van der Heide, Kim, Western & Tong, 2008).

Technological developments and pedagogies that emphasize newbie's as co-producers of

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knowledge (Selwyn 2011) have contributed to people's adoption of the time period social media to indicate web sites and online applications that allow customers to create and take part in a variety of communities via functions such as communicating, sharing, collaborating, publishing, managing, and interacting. Typical social media features promote individual users through profile pages. Social media features include interconnections with other users through links and news feeds, and sharing of user-generated content (e.g., photos, ratings, tags). Pages can be dynamically updated and content embedded (e.g., embedding a video). Examples of social media include social network sites (e.g., Facebook); wikis (e.g., wikispaces); mediasharing services (e.g., YouTube); blogging tools (e.g., Blogger); micro-blogging services (e.g., Twitter); social bookmarking (e.g., Delicious); bibliographic management tools (e.g., Zotero); and presentation-sharing tools.

It has been argued that educators would benefit from 'a stronger focus on students' everyday use of and learning with Web 2.0 technologies in and outside of classrooms' (Greenhow, Robelia and Hughes 2009). Others argue that only a small proportion of young people are actually using social media in sophisticated ways that educators might value. Complicating this tension, there is a lack of current models that theories social media as a space for informal learning. There is also considerable debate about the benefits and challenges of appropriating technologies (e.g., social media) in everyday use for learning and little exploration of the connections between formal, non-formal, and informal learning such technologies might facilitate.

The instructive advantages of appropriating web based life into learning settings are challenged. Research via web-based networking media in instruction recommends that incorporating internet based life in learning and training situations may yield new types of request, correspondence, coordinated effort, personality work, or have constructive subjective, social, and passionate effects. For example, investigate on learning and interpersonal organization destinations (e.g., Facebook) specifically has proposed their affordances for cooperation, coordinated effort, data and asset sharing, empowering support and basic reasoning, expanded companion backing and correspondence about course substance and appraisal, between social language learning and their beneficial outcomes on the declaration of personalities and computerized proficiencies, especially for minimized gatherings. Then again, scientists have cautioned against misusing web based life for learning. At long last, understudies were less ready to suitable online networking as a proper learning instrument, leaning toward it for course-related correspondence or utilizing it generally for mingling and non-scholastic purposes. Regardless of a developing assortment of work worried about online networking and 'casual realizing', 'there has been minimal genuine consideration regarding the structure or nature of that learning' or the interrelationship with formal learning Many investigations consider apportionment of web based life inside 'formal' as well as 'casual' learning, however much of the time these terms are under-estimated or treated as twofold conditions, which misrepresent the complexities of the real learning settings the present youth possess.

A few scientists propose that appropriating web based life can encourage 'consistent' coordination across learning circumstances incorporating formal and casual learning. Others feature the difficulties of appointment, embracing an increasingly 'principled way to deal with' understanding these strains and interrelationships is particularly significant considering ongoing innovative advancements, arrangement activities, changing instructor and workforce socioeconomics, and the real factors of youngsters' entrance to internet based life. As portrayed in more detail beneath, these joining patterns recommend it might be progressively valuable and sensible to guess internet based life as a space for learning with differing qualities of custom and casualness.

The limits between on-line and "genuine world" networks are quickly decaying, especially for the age of youngsters whose lives are infested by web based life. For this age, internet based life trades are an essential methods for correspondence, social commitment, data chasing, and perhaps, a focal segment of their character and network building. Teacher of psychiatry at UCLA, Dr. Gary Small, proposes these advanced locals—youngsters naturally introduced to a universe of PCs and PDAs, content informing, and tweeting—spend, by and large, over eight hours daily

presented to computerized innovation, and may encounter generally unique mental health that favors steady correspondence and performing multiple tasks (Prensky, 2001). Given these real factors, postsecondary teachers should start to genuinely investigate the possibility to purposefully and deliberately saddle the intensity of these progressive changes in innovation use to all the more likely serve the requirements of understudies to improve their prosperity.

Review of Related Studies

N. Friesen & S. Lowe (2012), paper enlighten that Facebook and other social media have been hailed as delivering the promise of new, socially engaged educational experiences for students in undergraduate, self-directed, and other educational sectors. A theoretical and historical analysis of these media in the light of earlier media transformations, however, helps to situate and qualify this promise. Specifically, the analysis of dominant social media presented here questions whether social media platforms satisfy a crucial component of learning – fostering the capacity for debate and disagreement. By using the analytical frame of media theorist Raymond Williams, with its emphasis on the influence of advertising in the content and form of television, we weigh the conditions of dominant social networking sites as constraints for debate and therefore learning. Accordingly, we propose an update to Williams' erudite work that is in keeping with our findings. Williams' critique focuses on the structural characteristics of sequence, rhythm, and flow of television as a cultural form. Our critique proposes the terms information design, architecture, and above all algorithm, as structural characteristics that similarly apply to the related but contemporary cultural form of social networking services. Illustrating the ongoing salience of media theory and history for research in e-learning, the article updates Williams' work while leveraging it in a critical discussion of the suitability of commercial social media for education.

Davis III, C.H., Deil-Amen, R., Rios-Aguilar, C., & González Canché, M.S. (2015), the boundaries between on-line and "real-world" communities are rapidly deteriorating, particularly for the generation of young people whose lives are pervaded by social media. For this generation, social media exchanges are a primary means of communication, social engagement, information seeking, and possibly, a central component of their identity and community-building. Given these realities, postsecondary educators should begin to seriously explore the potential to intentionally and strategically harness the power of these revolutionary transformations in technology use to better serve the needs of students to enhance their success. Therefore, this review of books, academic journals, higher education news, research reports, individual blogs and other online media on the use of social media technology (SMT) in higher education provides a baseline sense of current uses nationally, providing a descriptive overview of the social media phenomenon. Additionally, the review clarifies how colleges and college students use SMT and also challenges assumptions in two areas: how institutions can best exploit social media's features and its impact on student outcomes. The review further provides a foundation to develop conceptual frameworks that would better capture the role and impact of SMT among colleges and college students, and community colleges in particular.

Need for the Study

Recently University of Bamberg, Germany scholars study states that whether the social media had a positive or negative impact on the grades, published CNN News on Feb, 2018. Another study found that as they had expected, students who used social media intensively to communicate to their peers about school-related or college-related topics actually tended to have slightly higher, not lower grades. In addition, they found that those who were particularly active on social media did not spend less time studying.

However, those who used social networking sites very frequently, regularly post messages and photos, did have slightly lower grades, although the team stressed that the negative effect is very small. Those who used social media while studying or doing homework also had slightly worse grades than students who didn't use the sites, possibly because this form of multi-tasking distracted students from their work. In this connection, the paper studies the impact of social media on the academic performance of students.

Objectives of the Study

The following objectives are formulated basing on the related studies:

1. To test whether there is any relationship between academic performance and time spent on social media.
2. To find whether any other traits of students impact on the academics.
3. To suggest for policy makers.

METHODS, RESULTS AND DISCUSSION

Methodology

To full fill the objectives of the study, consider both primary as well as secondary data. The primary data collected by using well structured questionnaire and information furnished through the method of direct personal interview from randomly selected various age group students in the city of greater Visakhapatnam. The sample respondents are classified as four groups 6 years to 12 years (Primary Education) 13 to 15 years (Upper Primary Education / Adolescent), 16 years to 20 years (Intermediate and Graduation/ teenage) and 21 years to 25 years (Higher Education/ Adult). Totally 100 samples are interviewed and information furnished. Additional information has been taken as a reference from various scholarly articles, news articles and various statistical magazines.

Multinomial Regression Model: Model Specification

The dependent variable of the model is grades of different age group students and the following variables are the independent variables for various age groups are specified as:

Dependent Variable: Grade (Percentages)

Independent Variables:

- Class, 1- Primary, 2- Upper Primary, 3-Inter and graduation, 4- Above graduation
- No. of hours spent in school
- No. of hours spent in social media
- No. of hours spent in internet
- No. of hours spent in tuition
- No. of hours spent in study
- Parents Education levels, 1-Above Intermediate, 0- Below Intermediate

$$(Y_1) = \alpha + \beta 1\ (X_1) + \beta_2\ (X_2) + \beta_3\ (X_3) + \beta_4\ (X_4) + \beta_5\ (X_5) + \beta_6\ (X_6) + \beta_7\ (X_7) + u_i$$

Where, X_1 = Class; X_2 = No. of hours spent in school; X_3 = No. of hours spent in Social Media; X_4 = No. of hours spent in internet, X_5 = No. of hours spent in tuition; X_6 = No. of hours spent in study; X_7 = Parent's education levels; and u_i is the error term.

Different variables were expected to affect the marks among the different age groups. Thus, in order to address the issue of how the factors determine the total marks are determined within the various age group students and total students.

RESULTS AND DISCUSSION

In the total study, respondents relating to different age groups are presented in the following table.

Table 1: Class Wise Respondents

Class	Frequency	Percent	Cumulative
Primary	25	25.00	25.00
Upper Primary	25	25.00	50.00
Inter and Graduation	25	25.00	75.00
Above Graduation	25	25.00	100.00
Total	**100**	**100.00**	

Source: *Primary Data.*

From the table 1, it is observed that 25 respondents belongs to primary classes, 25 respondents belongs to Upper Primary classes, 25 respondents belongs to inter and graduation and the remaining respondents belong to above graduation level. Class wise participation in the social media are presented in Table 2.

Table 2: Class Wise Participation in Social Media Activities

Class	No. of Respondents	Frequency	Percent
Primary	25	8	32.00
Upper Primary	25	15	60.00
Inter and Graduation	25	22	88.00
Above Graduation	25	24	96.00
Total	**100**	**69**	**69.00**

Source: *Primary Data.*

From the table 2, it is observed that 96 percent of above graduate respondents are participating social media activities. It is followed by inter and graduation respondents (88 percent), Upper primary class respondents (60 percent). Overall indicate that increase in class level leads to increase participation in social media activities. The number of respondents with reference to class represented in the following Table 3.

Table 3: Class Wise Usage of Internet

Class	No. of Respondents	Frequency	Percent
Primary	25	19	76.00
Upper Primary	25	22	88.00
Inter and Graduation	25	25	100.00
Above Graduation	25	24	96.00
Total	**100**	**90**	**90.00**

Source: *Primary Data.*

From the table 3, it is noticed that inter and graduation class respondents are using internet in cent percent. It is followed by above graduation, upper primary and primary level respondents, 96 percent, 88 percent and 76 percent are using internet respectively. Overall more than 50 percent of respondents use internet for their education. The data relating to students going to tuition with respect to class is depicted in the table 4.

Table 4: Class Wise Tuition

Class	No. of Respondents	Frequency	Percent
Primary	25	17	68.00
Upper Primary	25	20	80.00
Inter and Graduation	25	8	32.00
Above Graduation	25	4	16.00
Total	**100**	**49**	**49.00**

Source: *Primary Data.*

The table 4 reveals that, 80 percent of upper primary class students are going to tuition and followed by primary (68 percent), Inter and graduation (32 percent) and above graduation (16 percent). Overall, it is concluded that upper primary and primary class students are going to tuitions for improving their academics. Opinion of respondents on social media impact on academics is presented in the table 5.

Table 5: Opinion of Respondents on Social Media Impact on Academics

Class	No. of Respondents	Frequency	Percent
Primary	25	9	36.00
Upper Primary	25	11	44.00
Inter and Graduation	25	20	40.00
Above Graduation	25	18	36.00
Total	**100**	**58**	**58.00**

Source: *Primary Data.*

The table 5 indicates that, 44 percent upper primary school students are opinioned that social media impact on academics, 40 percent of inter and graduation students are opinioned in the same way and 36 percent of students belong to above graduation express the similar opinion in the study area. The analysis relating to determinants of acquiring good results in academics is presented in Table 6.

Table 6: Determinants of Acquiring Good Results in Academics - Multinomial Regression Results (For all age groups)

		No. of observations		100
		F(7,92)		12.63
		Prob>F		0
		R-squared		0.4901
		Adj R-squared		0.4513
Explanatory Variables	**Coefficient**	**Standard Error**	**t**	**P > |t|**
Constant	64.6171	4.6636	13.86	0.000
Class	1.4963***	0.8243	1.82	0.073
No. of Hours spent in school	0.2874	0.6081	0.47	0.638
No. of Hours spent in Social Media	-0.4349	0.7081	-0.61	0.541
No. of hours spent in Internet	1.0633**	0.5117	2.08	0.04
No. of hours spent in Tuition	1.5161**	0.6295	2.41	0.018
No. of Hours spent in Study	0.9085***	0.5341	1.7	0.092
Parents Education	8.099*	1.3324	1.33	0.000

Source: *Primary Data.*

Note: ** indicates 1% probability level, ** indicates 5%probability level, *** indicates 10% probability level significance.*

The above multinomial regression analysis revealed that out of 7 explanatory variables 5 explanatory variables are significant at different probability levels. The coefficients of independent variables viz., student studying class and number of hours spent in study are significant at 10 percent probability level and also they indicate that increasing class level and number of hours spent in studying increase the performance of academics of children in the study area. Another two coefficients of variables namely number of hours spent in Internet and *number* of hours spent in Tuition are significant at 5 percent level. It also tells that the hours spent in either tuition or internet impacts positively. The other variable coefficient i.e., parent's education is significant at 1 percent level. It reveals that parent's education influence on children academic performance.

Table 7: Determinants of Acquiring Good Results in Academics - Multinomial Regression Results (For 6to 12 years age group)

		No. of observations	25
		F(6,18)	6.75
		Prob>F	0.0007
		R-squared	0.6922
		Adj R-squared	0.5896
Explanatory Variables	**Coefficient**	**Standard Error**	**t**	**P > |t|**
Constant	81.63	29.25	2.79	0.012
No. of Hours spent in school	-2.68	4.64	-0.58	0.571
No. of Hours spent in Social Media	-1.97	3.85	-0.51	0.615
No. of hours spent in Internet	2.18	1.69	1.29	0.215
No. of hours spent in Tuition	3.86***	2.21	1.75	0.097
No. of Hours spent in Study	0.89	1.17	0.76	0.457
Parents Education	6.57	4.97	1.32	0.202

Source: *Primary Data.*

Note: ** indicates 1% probability level, ** indicates 5% probability level, *** indicates 10% probability level significance.*

From the table 7 suggests that, out of 6 independent variables only one variable (number hours spent in tuition) is significant at 10 percent probability level. The age group of 6 to 12 years i.e. upper primary children's academic improvement only depends on tuition. The coefficient of that independent variable indicates that a one hour spent in tuition will result 3.86 times improvement their academic marks.

Table 8: Determinants of Acquiring Good Results in Academics - Multinomial Regression Results (For 13 to 15 years age group)

		No. of observations	25
		F(6,18)	6.40
		Prob>F	0.0010
		R-squared	0.68082
		Adj R-squared	0.5744
Explanatory Variables	**Coefficient**	**Standard Error**	**t**	**P > |t|**
Constant	62.11	12.04	5.16	0.000
No. of Hours spent in school	0.10	1.87	0.06	0.956
No. of Hours spent in Social Media	0.76	1.24	0.61	0.55
No. of hours spent in Internet	1.57***	0.81	1.94	0.07
No. of hours spent in Tuition	2.25**	0.99	2.28	0.04
No. of Hours spent in Study	2.49**	0.91	2.73	0.014
Parents Education	3.76***	2.07	1.82	0.085

Source: *Primary Data.*

Note: ** indicates 1% probability level, ** indicates 5% probability level, *** indicates 10% probability level significance.*

The analysis relating to upper primary age group students indicates that out of six independent variables four variables are significant at various probability levels. The coefficient of variable number of hours spent in internet is significant at 10 percent probability level and it stands that a one hour spent more in internet the academic performance may be increases in 1.57 times. The coefficient of variables number of hours spent intuition and number hours spent in the study significant at 5 percent probability level. It reveals that a one spent in either tuition or in study may increase 2.25 and 2.49 times respectively. Another coefficient of variable i.e. parent's education is significant at 10 percent and it leads to 3.76 times increase the academic performance if the parents are educated.

Table 9: Determinants of Acquiring Good Results in Academics - Multinomial Regression Results (For 16 to 20 years age group)

		No. of observations		**25**
		F(6,18)		1.37
		Prob>F		0.2781
		R-squared		0.3139
		Adj R-squared		0.0853
Explanatory Variables	**Coefficient**	**Standard Error**	**t**	**P > |t|**
Constant	67.89	9.17	7.41	0.00
No. of Hours spent in school	1.34	1.85	0.73	0.48
No. of Hours spent in Social Media	0.82	2.04	0.40	0.69
No. of hours spent in Internet	1.11	1.55	0.72	0.48
No. of hours spent in Tuition	-0.094	2.02	-0.05	0.96
No. of Hours spent in Study	-1.22	1.93	-0.63	0.537
Parents Education	4.38	5.15	0.85	0.406

Source: *Primary Data.*

Note: ** indicates 1% probability level, ** indicates 5% probability level, *** indicates 10% probability level significance.*

From the above table it is observed that out of 6 explanatory variables no variable is significant at any level of significance. It tells that the age factor may be more influence on academic performance than consider explanatory variables.

Table 10: Determinants of Acquiring Good Results in Academics - Multinomial Regression Results (For 21 to 25 years age group)

		No. of observations		**25**
		F(6,18)		7.80
		Prob>F		0.0003
		R-squared		0.7223
		Adj R-squared		0.6297
Explanatory Variables	**Coefficient**	**Standard Error**	**t**	**P > |t|**
Constant	80.79	7.81	10.35	0.000
No. of Hours spent in school	-0.35	0.86	-0.41	0.690
No. of Hours spent in Social Media	-2.25**	0.84	-2.68	0.015
No. of hours spent in Internet	2.17**	0.76	2.87	0.010
No. of hours spent in Tuition	-0.76	1.19	-0.64	0.533
No. of Hours spent in Study	-0.26	1.11	-0.23	0.82
Parents Education	9.12*	1.99	4.57	0.00

Source: *Primary Data*

Note: ** indicates 1% probability level, ** indicates 5% probability level, *** indicates 10% probability level significance.*

Out of six independent variables three variables are significant at 5 percent and 1 percent probability level in the study area. The coefficient of the variable number of hours spent in social media is significant at 5 percent probability level. It indicates that for the age group 21 to 25 negatively impact on their academics. The coefficient of other variables such as number of hours spent in internet and parents education levels are significant at 5 percent and 1 percent probability respectively. It indicates that spent the time to learn from internet sources impact on education.

CONCLUSION

The analysis relating to total respondents, it is observed that 25 respondents belongs to primary classes, 25 respondents belongs to Upper Primary classes, 25 respondents belongs to inter and graduation and the remaining respondents belong to above graduation level.

Class wise participation in Social Media depicts that 96 percent of above graduate respondents are participating social media activities. It is followed by inter and graduation respondents (88 percent), Upper primary class respondents (60 percent). Overall indicate that increase in class level leads to increase participation in social media activities.

Class wise internet usage indicates that inter and graduation class respondents are using internet in cent percent. It is followed by above graduation, upper primary and primary level respondents, 96 percent, 88 percent and 76 percent are using internet respectively. Overall more than 50 percent of respondents use internet for their education.

Class wise details about going to tuition noticed that 80 percent of upper primary class students are going to tuition and followed by primary (68 percent), Inter and graduation (32 percent) and above

graduation (16 percent). Overall, it is concluded that upper primary and primary class students are going to tuitions for improving their academics.

The opinion of the respondents on social media and its impact on academics results, 44 percent upper primary school students are opinioned that social media impact on academics, 40 percent of inter and graduation students are opinioned in the same way and 36 percent of students belong to above graduation express the similar opinion in the study area.

Determinants of Acquiring Good results in Academics (for all age groups) analysis revealed that out of 7 explanatory variables 5 explanatory variables are significant at different probability levels. The coefficients of independent variables viz., student studying class and number of hours spent in study are significant at 10 percent probability level and also they indicate that increasing class level and number of hours spent in studying increase the performance of academics of children in the study area. Another two coefficients of variables namely number of hours spent in Internet and *number* of hours spent in Tuition are significant at 5 percent level. It also tells that the hours spent in either tuition or internet impacts positively. The other variable coefficient i.e., parent's education is significant at 1 percent level. It reveals that parent's education influence on children academic performance.

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