

# WHATSAPP MESSENGER USAGE PATTERNS AMONG STUDENTS IN KARACHI: A SOCIOLOGICAL STUDY

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**Abstract** —*The nature of communication has changed due to mobile mediated communication. The Current study found high level of usages of WhatsApp amongst students in Karachi which most popular social networking site among students of Karachi. Results indicated that majority of students is using this app for various purposes such as voice messages, academics, family contacts, 18.3 % respondents did not use WhatsApp in Karachi. 556 students were selected from 18 different educational institutes from the city. In this study the researcher conducted a survey by using a questionnaire among the students (students). The study determined that WhatsApp is one of the essential social media activities of students. A proposed framework that will guide future researcher in this area and present results to be used in future research. In short, WhatsApp is most popular messenger of online communication.*

**Keywords:** *Social Networking Sites, WhatsApp, Social Media, Mobile Mediated Communication, Messenger and Communication*

## I. INTRODUCTION

Currently, there is no consensus as to which rating and which media-medium is more growing but significantly Media networking on Computers and Mobiles is the fastest, and youth is receiving, sharing and searching almost all of information from social networking sites and as observed that the extensive social networking among youth are loss of privacy, sharing too much information, and it also disconnect them from reality and its becoming a permanent trail the moment they sign into any service provided by such networks they are disconnected to the real world around them. Later, their involvement leaves a permanent impact on professional and personal areas of their lives. Young Pakistani generation born in rich digital media environment who is using social networking sites, play online games, watch online movies, seek online job opportunities and active members of many community.

New media including WhatsApp is shaping and changing the everyday routines and lifestyles of young Pakistani generation.

In the current study researcher examined the impact of social media on young Karachiites. Social Media actually turned our world into “Global Village” and tenderized Virtual world with attractive opportunities to avail the facilities by making friends, chatting, sharing pictures, videos and comments. Excessive use of social media is affecting social life of the people of Pakistan. Pakistanis also appear to spend a lot of time on the internet, with more than 80% saying that they spend more than an hour of the day online.

WhatsApp is an important messaging (IM) application for smart phones also available for PC. That app is used for multiple purposes via internet such as IM images, videos, and log and addiction messages. Ex-employees of yahoo.com Brian action and john koum.com after that Facebook bought WhatsApp for 19 billion US dollars in February 19, 2014. The name of WhatsApp deduced from “what’s up” and launched in 2009 at California. WhatsApp is a multitasking mobile mediated communication (MMC) messaging application which permits users to exchange messages without paying for SMS. WhatsApp is designed for multi-platforms iPhone, BlackBerry, Android, Windows Phone and Nokia. Users can email, web browsing, and contact with your friends. According to official website of WhatsApp, “More than 1 billion people in over 180 countries use WhatsApp1 to stay in touch with friends and family, anytime and anywhere. WhatsApp is free and offers simple, secure, reliable messaging and calling, available on phones all over the world.”

WhatsApp has become the one of the leading social networking website, which is boom gadget of user globally, killing the minds , grown-up bigger than twitter and a trend setter of mobile communication WhatsApp is one the most popular social networking among youth globally including Pakistan.

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## II. LITERATURE REVIEW

WhatsApp is an important messaging (IM) application for smart phones also available for PC. That app is used for multiple purposes via internet such as IM images, videos, log and addiction messages. Maniar et al (2013) reported that students of Baroda use WhatsApp for chatting with their contacts, sharing audio and video files keeping connectivity with their friends and relatives. Church and German (2013) conducted multinational telephonic research explored that nature and intent of WhatsApp messages tend to be more social, informal and conversational in nature.

According to The Times of India (June 16, 2013), "Indian Students prefers WhatsApp, Facebook over SMS." Maheswari (2014) studied "frequency of using WhatsApp messenger among college students in Salem, Tamil Nadu", and identified that a strong frequency ratio of using WhatsApp messenger by college students for various purposes. Yehboah et al (2014) examined similar dimension in Ghana and explored that 72% of respondents use WhatsApp for chatting. A study titled "WhatsApp goes to school" was done by Bouhnik and Deshen (2014) in Israel found that impressive role of WhatsApp between students & teachers' coordination. Sarker (2015) reported that app's effects are very powerful on Bengali students who give up their real-world interest and they cannot control themselves from constantly chatting, replying and sharing of ideas on that app.

Fathy and Fattah (2015) explored that WhatsApp is a major mobile learning tool to build students' writing skills. Alsanie (2015) noticed a positive impact particularly in the educational process among Saudi students. Choudhary, Irfan and Kantharia (2015) found that big impact of Facebook & WhatsApp on students' health, academics & productivity. Sharma and Shukla (2016) concluded that WhatsApp affected Indian students' academics language and spoils their spelling skills and grammatical construction of sentences. Students may get deceptive information or fake news. They spend more time on these applications rather than spending quality time with their family members. Sitheek et al (2016) revealed that WhatsApp is a "hidden social gathering" which allows to people to connect instantly. Students spend most of the time in a day in this virtual world. Participants in this study revealed that they spend around 2 hours on an average on WhatsApp per day.

Now a day's younger generation tend to chat on WhatsApp even when they are hanging around with real world friends and do not care their studies and real world's friends. WhatsApp

is killing the minds and people has become more isolated than before in the present world. Students today have a strong passion with their smart applications by their smart applications (Zayed, 2016).

Appiah (2016) discover that 46.7% of the students use WhatsApp ten or more times per day. 40% spend between 15 to 30 minutes on each visit, 20% devoted between 30 to 45 minutes during each visit in Ghana. Bhatt and Arshad (2016) found that Indian students emotionally and highly addictive and attached with WhatsApp and cannot stop themselves from constantly chatting, replying and sharing of ideas. A Pakistani study showed that the 94% of the respondents said that frequent use ruined family relationships (Ali, 2016). In India data showed that students shift from all social media to WhatsApp in a quick span of time (Kumar, 2016)

Harvard's researchers (2017) painted WhatsApp as a "highly addictive" application. Their findings showed that students' emotions depend on this SNS. In another Pakistani study revealed that, 21% students are using WhatsApp for acquiring knowledge, some people use for making new friends and class's assignments or presentations.

Taamneh (2017) reported that WhatsApp messenger played a significant in role learning English more than the traditional methods. Minalla (2018) claimed that a teacher can control his or her class by using WhatsApp. Aharon and Zion (2018) found that WhatsApp use decreased Israeli students' ability of working memory. This review helped me a lot to deduced final methodology.

## III. METHODOLOGY

Present research is a survey based and quantitative in nature, in which data analyzed on computer with the help of SPSS-22 in the present study. Data was collected from 18 different universities, collages, and institutes. In the current study convince survey method was used for data collection by using questionnaire as tool. Researcher used cluster sampling method. Sampling plan was designed in systematic and organized manner for present study. A combined sampling method, multistage (cluster) and connivances sampling was designed for current study.

Researcher designated Karachi as field of study because it is the largest city and financial hub of country. At the last sample sized appeared in the shaped of 625 respondents and printed out

questionnaires in the same quantity but 564 questionnaires were returned in which 8 were rejected those were not fully filled or not replied any answer. So that 556 respondents were the final sample size. Reseracher used Chi Square which is a non-parametric test of statistical significance. Chi-Square test used to know degree of freedom (df) which help to accepting or rejecting a hypothesis. Researcher used Pearson's chi-square test ( $\chi^2$ ) of significance. All cross tabs were test on 0.01 and 0.05 called the significance level of the test, traditionally 5% or 1% and denoted as . The Phi Coefficient also used to interpret measure of the degree of association between two binary variables.

*a. Sampling Characteristics*

In the discussed study sampling was based on various dynamics such as age groups, gender, house hold monthly income and ethnicity.

Table.1: age groups, gender, house hold monthly income and ethnicity

Variable	Frequency	%
<b>Gender</b>		
Male	235	42.3
Female	321	57.7
Total	556	100.0
<b>Age Group</b>		
16-20 years	229	41.2
21-25 years	294	52.9
26-30 years	21	3.8
Plus 30 years	12	2.2
Total	556	100.0
<b>Household income (PK Rs. per month)</b>		
Up to 10,000	47	8.5
11000-30,000	94	16.9
31,000 to 60,000	132	23.7
Plus 60,000	280	50.4
No Response	3	.6

Total	556	100.0
<b>Personality Type</b>		
Introverts	57	10.3
Ambiverts	103	18.5
Extrovert	395	71.0
No Answer	1	.2
Total	556	100.0

#### IV. DEFINITION OF YOUTH

Different age groups are used by different countries for defining the population of students. In Pakistan the age group of the population in the range of 15-29 years is taken as students. This age group is consistent with the definition of students taken by the Commonwealth. The United Nations has classified students as persons between the age brackets of 15-24 years. According to the Pakistan's official standards, students are people between 15-29 years of age. Students (15-29 years) constitute 28% of total population (around 54 million in number) In Pakistan, with almost 2/3rd of the population (68%) concentrated below the age of 30.

*a. Hypothesis*

H1: Majority of Students is using WhatsApp for communication in Karachi

#### V. RESULTS AND FINDINGS

Whatsapp is one the most popular social networking site among students globally including Pakistan. Karachi's study also proved that trend. Findings confirmed that only 18.3 % respondents did not use Whatsapp in Karachi. Majority of students in Karachi are using that app for various reasons.

Table.2: Total frequency distribution

What reasons are for using Whatsapp?	Frequency	Percent	Valid Percent	Cumulative Percent
Audio	86	15.5	15.5	15.5

Chatting				
Voice messages / Recorded voice	79	14.2	14.2	29.7
Academic work	67	12.1	12.1	41.7
Family	106	19.1	19.1	60.8
Used for Multi-purpose	116	20.9	20.9	81.7
Do not use this app.	102	18.3	18.3	100.0
Total	556	100.0	100.0	

Findings are showing that females mostly used WhatsApp communication with family, academic work, audio chatting whereas males usually utilize that app for voice recording.

$\chi^2 = 8.457$ ,  $df = 5$ , Insignificant,  $\Phi = 0.123$   
(Low positive relationship)

Surprisingly, 26-30 years old had least interest in WhatsApp for audio chatting and voice messages. Young age groups employed that application for multiple purposes as compared to other cohorts

Heavy social media users spent less time on WhatsApp for academic works and use WhatsApp for multipurpose. The relationship between time devotion on social media sites and WhatsApp usage proved significant.

Majority of respondents, who devoted more than 3 hours daily on cell phone use WhatsApp for multiple purposes more than light and moderate cell phone users. Chi-square test proved significant that relationship.

## V. DISCUSSION

Findings confirmed that only 18.3 % respondents did not use WhatsApp in Karachi. Majority of youth in Karachi are using that app for various reasons. Hypothesis also proved significant.

Females mostly used WhatsApp communication with family, academic work, audio chatting whereas males usually utilize that app for voice recording. As we already discussed that females are close to family members in Asian countries specifically in Pakistan. Surprisingly, 26-30 years old had least interest in WhatsApp for audio chatting and voice messages. Young age groups employed that application for multiple purposes as compared to other cohorts because they were more profound in media multitasking or more active in their social or Facebook groups. Poor youth was mostly involved in audio chatting. Upper class youth mostly used those apps for academic work and family communication followed by upper middle and lower upper lower classes. That trend is clearing showing that WhatsApp is the favorite app for those purposes. Present findings suggested that heavy social media users spent less time on WhatsApp for academic works and used WhatsApp for multipurpose. The relationship between time devotion on social media sites and WhatsApp usage proved significant. Furthermore, 22.9% of light social media users do not use WhatsApp. Cell phones and Devices: Majority of respondents who spent more than 3 hours daily on cell phone use WhatsApp for multiple purposes more than light and moderate cell phone users. Chi-square test proved significant relationship.

WhatsApp has increasingly become one of the popular social networking among youth. According to Facebook survey (2014) 25% of American teenagers (16-19s) have already joined the WhatsApp. WhatsApp users' ratio is as under.

Percentage	Region
69%	Middle East and African
62%	Latin American
40%	Europe
19%	Asia Pacific
4%	North America

Source: ([www.digitalmarket.com](http://www.digitalmarket.com)).

WhatsApp sends 30 billion instance messages daily and grows like crazy users. In July 2015 that app had 700 million active users. According to Pakistanstar.com majority of Smartphone users are using that application around

the world including Pakistan 34% of smart phone users have WhatsApp in the cell phones and esteemed approximate 10.3 million WhatsApp user reside here.

Smartphone's are available in low cost in Karachi, majority of users (77%) are 21-30 years old, 9% are 10-20 years old, 12% are 31-40 years old and 1% are belongs to 40+ age group. May be low cost is the main reason of WhatsApp penetration in Pakistan, according to appetite dot com (2015) 36% of smart phone users bought low cost phones, 68% has android and 60% users have more than one cell phone. Phone world dot com (2015) revealed that smart phone market share 31% in Pakistan and that media technology is affordable for people. Specifically, youth has boosted the market they wanted to connect 24/7 on social networking sites.

120 million cellular users have made that app one of the top most SNS in Pakistan (glow.net.pk). Pakistan telecommunication survey (2014) explored that Pakistanis are gradually leaving traditional SMS sending. According to survey people sent 180 SMS an average per day in 2014 which was 214 SMS in 2013, which means traditional SMS had reduced to 4.1%. This is probably showing popularity of social networking sites including WhatsApp. In USA 37% of 16-24 years old and 39% of 25-34 years old are using WhatsApp. 78% of South African and 75% of Malaysian population is utilizing WhatsApp. 25 million are joining the every month. (www.statistican.com). 47% of smart phones users spend the time on mobile communication with WhatsApp, we chat and others. (www.post.jagran.com, 28/6/15) here 500 million users of WhatsApp got traced in India which makes India the largest market of WhatsApp.

WhatsApp has beaten other social networking in various countries such as far where 98% of population is using smart phones 97% of user using WhatsApp. (dohanews dot com: 8-12-2014). 86% of Brazilians are using that site (E-marketer dot com, 25-5-2015). Similar 90% of Dutch people utilizing WhatsApp where 90% are women and 80% are men and majority of users belong to 20-29 of age group (www.dutchdailynew.com, 27/01/2014).

Same trend seems to be is establishing in Pakistan particularly in the urban centers. Current statistics showed approximate 80 % respondents are using WhatsApp for different purposes. May be Pakistani mobile generation has because the adductors of that social media site.

## VII. CONCLUSION AND LIMITATIONS

This discussion is proved that WhatsApp has become one of the major tools of MMC in Karachi as same trend was found globally. Insights proved that majority of students used social media sites for audio and video chatting. Although, researcher tried to conduct an in-depth analysis in the present study, but there is certain limitation of that study, such as this study only based on students? Everyone is now using social media particularly WhatsApp. Future researcher should carry out a study on teenagers because this is the most section of WhatsApp users in future.

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Table.3: Frequency distribution of gender differences				
		Gender		Total
		Male	Female	
Audio Chatting	Count	36	50	86
	% within Gender	15.30%	15.60%	15.50%
Voice messages / Recorded voice	Count	43	36	79
	% within Gender	18.30%	11.20%	14.20%
Academic work	Count	28	39	67
	% within Gender	11.90%	12.10%	12.10%
Family	Count	39	67	106
	% within Gender	16.60%	20.90%	19.10%
Used for Multi purpose	Count	42	74	116
	% within Gender	17.90%	23.10%	20.90%
Do not use this app.	Count	47	55	102
	% within Gender	20.00%	17.10%	18.30%
Total	Count	235	321	556
	% within Gender	100.00%	100.00%	100.00%

Surprisingly, 26-30 years old had least interest in Whatsapp for audio chatting and voice messages. Young age groups employed that application for multiple purposes as compared to other cohorts

Table.4: Frequency distribution of age differences						
What are reasons for using Whatsapp?		Age				Total
		16-20 years	21-25 years	26-30 years	30 Plus	
Audio Chatting	Count	36	46	0	4	86
	% within Age	15.70%	15.60%	0.00%	33.30%	15.50%
Voice messages / Recorded voice	Count	32	41	4	2	79
	% within Age	14.00%	13.90%	19.00%	16.70%	14.20%
Academic work	Count	32	33	1	1	67
	% within Age	14.00%	11.20%	4.80%	8.30%	12.10%
Family	Count	35	61	8	2	106
	% within Age	15.30%	20.70%	38.10%	16.70%	19.10%
Used for Multi purpose	Count	58	55	3	0	116
	% within Age	25.30%	18.70%	14.30%	0.00%	20.90%
Do not use this app.	Count	36	58	5	3	102
	% within Age	15.70%	19.70%	23.80%	25.00%	18.30%
Total	Count	229	294	21	12	556
	% within Age	100.00%	100.00%	100.00%	100.00%	100.00%

$\chi^2=21.852$ ,  $df = 15$ , Insignificant,  $\Phi = 0.198$  (Low positive relationship)

Students more likely tend towards audio chatting. Upper class students mostly used this app for academic work and family communication followed by middle and lower classes.

$X^2=30.384$ ,  $df = 20$ , Insignificant,  $\Phi = 0.263$  (Low positive relationship)

<b>Table.5: Frequency distribution of income levels differences</b>							
<b>What are reasons for using Whatsapp?</b>		<b>Income</b>					
		<b>Up to Rs.10000</b>	<b>Rs 11,000 to 30,000</b>	<b>Rs 31,000 to 60,000</b>	<b>Plus Rs 60,000</b>	<b>Did not mention</b>	<b>Total</b>
<b>Audio Chatting</b>	Count	9	15	22	39	1	86
	% within Income	19.10%	16.00%	16.70%	13.90%	33.30%	15.50%
<b>Voice messages / Recorded voice</b>	Count	5	18	23	33	0	79
	% within Income	10.60%	19.10%	17.40%	11.80%	0.00%	14.20%
<b>Academic work</b>	Count	5	9	15	38	0	67
	% within Income	10.60%	9.60%	11.40%	13.60%	0.00%	12.10%
<b>Family</b>	Count	10	18	19	59	0	106
	% within Income	21.30%	19.10%	14.40%	21.10%	0.00%	19.10%
<b>Used for Multi purpose</b>	Count	6	15	17	76	2	116
	% within Income	12.80%	16.00%	12.90%	27.10%	66.70%	20.90%
<b>Do not use this app.</b>	Count	12	19	36	35	0	102
	% within Income	25.50%	20.20%	27.30%	12.50%	0.00%	18.30%
<b>Total</b>	Count	47	94	132	280	3	556
	% within Income	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

$\chi^2=30.384$ ,  $df = 20$ , Insignificant,  $\Phi = 0.263$  (Low positive relationship)

Heavy social media users spent less time on Whatsapp for academic works and use Whatsapp for multipurpose. The relationship between time devotion on social media sites and Whatsapp usage proved significant.



Table.6: Frequency distribution of time devotion on social media sites					
What are reasons for using Whatsapp?		Time devotion on SNSs			
		Less than one hour	More the one hour	More than two hours	Total
Audio Chatting	Count	37	27	22	86
	% within Q5	14.90%	15.70%	16.30%	15.50%
Voice messages / Recorded voice	Count	33	23	23	79
	% within Q5	13.30%	13.40%	17.00%	14.20%
Academic work	Count	39	18	10	67
	% within Q5	15.70%	10.50%	7.40%	12.10%
Family	Count	46	37	23	106
	% within Q5	18.50%	21.50%	17.00%	19.10%
Used for Multi purpose	Count	37	43	36	116
	% within Q5	14.90%	25.00%	26.70%	20.90%
Do not use this app.	Count	57	24	21	102
	% within Q5	22.90%	14.00%	15.60%	18.30%
Total	Count	249	172	135	556
	% within Q5	100.00%	100.00%	100.00%	100.00%

Majority of respondents, who devoted more than 3 hours daily on cell phone use WhatsApp for multiple purposes more than light and moderate cell phone users. Chi-square test proved significant that relationship.

Table.7: Frequency distribution of time devotion on cell phones						
What are reasons for using Whatsapp?		Time devotion on cell phones				
		Less than 1 hour	More than 2 hours	More than 3 hours	Not involve in this activity	Total
Audio Chatting	Count	18	8	55	5	86
	% within Q9d	13.50%	8.90%	18.30%	15.20%	15.50%
Voice messages / Recorded voice	Count	17	12	49	1	79
	% within Q9d	12.80%	13.30%	16.30%	3.00%	14.20%
Academic work	Count	17	13	32	5	67
	% within Q9d	12.80%	14.40%	10.70%	15.20%	12.10%
Family	Count	30	20	50	6	106
	% within Q9d	22.60%	22.20%	16.70%	18.20%	19.10%
Used for Multi purpose	Count	19	19	73	5	116
	% within Q9d	14.30%	21.10%	24.30%	15.20%	20.90%
Do not use this app.	Count	32	18	41	11	102
	% within Q9d	24.10%	20.00%	13.70%	33.30%	18.30%
Total	Count	133	90	300	33	556
	% within Q9d	100.00%	100.00%	100.00%	100.00%	100.00%

$X^2=27.127$ ,  $df = 15$ , Significant (at 0.05),  $\Phi = 0.221$  (Low positive relationship  $X^2=20.556$ ,  $df = 10$ , Insignificant,  $\Phi = 0.192$  (Low positive relationship)