

Vol 5 Issue 10 July 2016

ISSN No : 2249-894X

*Monthly Multidisciplinary
Research Journal*

*Review Of
Research Journal*

Chief Editors

Ashok Yakkaldevi
A R Burla College, India

Ecaterina Patrascu
Spiru Haret University, Bucharest

Kamani Perera
Regional Centre For Strategic Studies,
Sri Lanka

Review Of Research Journal is a multidisciplinary research journal, published monthly in English, Hindi & Marathi Language. All research papers submitted to the journal will be double - blind peer reviewed referred by members of the editorial Board readers will include investigator in universities, research institutes government and industry with research interest in the general subjects.

Regional Editor

Manichander Thammishetty
Ph.d Research Scholar, Faculty of Education IASE, Osmania University, Hyderabad.

Advisory Board

Kamani Perera Regional Centre For Strategic Studies, Sri Lanka	Delia Serbescu Spiru Haret University, Bucharest, Romania	Mabel Miao Center for China and Globalization, China
Ecaterina Patrascu Spiru Haret University, Bucharest	Xiaohua Yang University of San Francisco, San Francisco	Ruth Wolf University Walla, Israel
Fabricio Moraes de Almeida Federal University of Rondonia, Brazil	Karina Xavier Massachusetts Institute of Technology (MIT), USA	Jie Hao University of Sydney, Australia
Anna Maria Constantinovici AL. I. Cuza University, Romania	May Hongmei Gao Kennesaw State University, USA	Pei-Shan Kao Andrea University of Essex, United Kingdom
Romona Mihaila Spiru Haret University, Romania	Marc Fetscherin Rollins College, USA	Loredana Bosca Spiru Haret University, Romania
	Liu Chen Beijing Foreign Studies University, China	Ilie Pintea Spiru Haret University, Romania
Mahdi Moharrampour Islamic Azad University buinzahra Branch, Qazvin, Iran	Nimita Khanna Director, Isara Institute of Management, New Delhi	Govind P. Shinde Bharati Vidyapeeth School of Distance Education Center, Navi Mumbai
Titus Pop PhD, Partium Christian University, Oradea, Romania	Salve R. N. Department of Sociology, Shivaji University, Kolhapur	Sonal Singh Vikram University, Ujjain
J. K. VIJAYAKUMAR King Abdullah University of Science & Technology, Saudi Arabia.	P. Malyadri Government Degree College, Tandur, A.P.	Jayashree Patil-Dake MBA Department of Badruka College Commerce and Arts Post Graduate Centre (BCCAPGC), Kachiguda, Hyderabad
George - Calin SERITAN Postdoctoral Researcher Faculty of Philosophy and Socio-Political Sciences Al. I. Cuza University, Iasi	S. D. Sindkhedkar PSGVP Mandal's Arts, Science and Commerce College, Shahada [M.S.]	Maj. Dr. S. Bakhtiar Choudhary Director, Hyderabad AP India.
REZA KAFIPOUR Shiraz University of Medical Sciences Shiraz, Iran	Anurag Misra DBS College, Kanpur	AR. SARAVANAKUMARALAGAPPA UNIVERSITY, KARAIKUDI, TN
Rajendra Shendge Director, B.C.U.D. Solapur University, Solapur	C. D. Balaji Panimalar Engineering College, Chennai	V.MAHALAKSHMI Dean, Panimalar Engineering College
	Bhavana vivek patole PhD, Elphinstone college mumbai-32	S.KANNAN Ph.D , Annamalai University
	Awadhesh Kumar Shirotriya Secretary, Play India Play (Trust), Meerut (U.P.)	Kanwar Dinesh Singh Dept.English, Government Postgraduate College , solan

More.....



Review Of Research



WHATSAPP USE BEHAVIOUR AND SOCIAL INTERACTION ANXIETY AMONG STUDENTS

Pramod S.K¹ and Seena Raj²

¹Faculty, Department of Counselling Psychology , Loyola college of Social Sciences, Trivandrum.

²Faculty , Alan Feldman Public School, Trivandrum.

ABSTRACT:

WhatsApp with all its popularity and fabulous social interaction opportunities is attracting student community worldwide. Among students, this application offers a wide range of possibilities for communication and social interaction that also aids in academic growth. But its use



often results in addictive patterns that require personal, parental, societal and scientific attention. The present study focuses on understanding the extent of WhatsApp Use Behaviour and social interaction anxiety among students. It examines the relationship between the two variables. The participants of the study included 150

students from the district of Trivandrum, Kerala, who use WhatsApp. The data was collected by administering WhatsApp Use Behaviour Scale, Social Interaction Anxiety Scale, and WhatsApp use information sheet. The results of the study indicate that 11.3% and 1% of the participants are having high level of WhatsApp Use Behaviour and social interaction anxiety respectively. There exists a significant positive correlation between WhatsApp Use Behaviour and social interaction anxiety. One way ANOVA analysis indicates a significant difference among students having different level of social interaction anxiety in their WhatsApp Use Behaviour. Students with high level of social interaction anxiety are having high level of WhatsApp Use Behaviour when compared to students with average and low social interaction anxiety. Social interaction anxiety is one of the factors that contribute to the high WhatsApp Use Behaviour. There exists no significant difference between males and females in

their WhatsApp Use Behaviour and social interaction anxiety. There exists a significant education wise difference in WhatsApp Use Behaviour and social interaction anxiety. Even though WhatsApp is considered and used as an effective communication and social media application, its addictive use is prevalent in student community. Adequate preventive measures including mental health care support, counselling services and awareness programs should be implemented for helping students to use social media applications effectively without getting addicted. Social skill training and life skill training should be provided to students with high level of social interaction anxiety to help them face the society with confidence.

KEY WORDS: *WhatsApp Use Behaviour, Social Interaction Anxiety.*

INTRODUCTION:

The effects of rapid advancement in social media and Smartphone technology has invaded almost all aspects of human life and is reflected in day today behaviours. The ready availability of Smartphones and internet connectivity at affordable costs has made the social communication easy and viable. The advent of the Internet has changed the way individuals and groups interact with one another and the world. In fact, an entire generation has been brought up with the idea that “socializing” includes an online component. Yet despite the recent technological advances in social communication, and the fact that social bonding is a crucial psychological aspect of being human, there are certain individuals for whom social interactions are difficult, leading to real-life anxiety (Stein & Stein, 2008).

WhatsApp is one of the most commonly used communication application that influenced the world facilitating the exchange of instant messages, pictures, videos and voice calls via an Internet connection, which has been installed on Smartphone’s over a billion times all round the world (Statista, 2016). WhatsApp enables easy communication via text or voice messages between two or more persons and helps people to stay connected free of cost. WhatsApp Use Behaviour refers to all those behaviour patterns than is involved in using WhatsApp that can be either productive or non-productive. Higher WhatsApp Use Behaviour is an indication of addiction.

One of the most important functions of social networks and applications is connecting users with other users. There is the possibility, therefore, that social networking sites and applications might work as social lubricants that help people who struggle with real-life relationships initiate and establish social interactions with others (Forest & Wood, 2012). A number of studies have explored how social media stimulate sharing and relationship-building among their users.

Although people crave the company of others, socially anxious individuals avoid social situations for fear of being found out as unlikable or worse. The lack of audiovisual cues, coupled with the ability to create fictional identities or remain anonymous in online forums, led many experts to conclude that the Internet was particularly suitable for those seeking to overcome the inhibitions typically experienced in real-life social interactions (Kiesler, Siegel, & McGuire, 1984; Myers, 1987). People try to seek friendships and relationships through the use of the social applications when it comes to the Smartphone world. To what extent virtual relationships resemble real-life ones, however, is a question that remains very much open, challenging the standard definitions of the word “friendship” when it comes to social networking applications and sites. This is important because a successful online strategy for socially anxious individuals will depend, in large part, on how well the skills to succeed in online social interactions (e.g. the ability to make friends and relationships online) translate into real-life situations. Individuals who suffer from social anxiety and low self-esteem have a lot to gain from using social networking applications. People with low self-esteem express themselves

in ways that are not particularly likeable — such as posting negative remarks more often — making them less likely to make new friends (Forest & Wood, 2012).

Even if it is possible for social networking applications to help people suffering from social interaction anxiety, low self-esteem, and social phobias by providing them with an opportunity to establish new relationships at a reduced cost, the formation of weak relations does not necessarily translate into the kind of relationships that becomes social bonding.

According to Ethan Kross et. al (2013) there is a direct connection between heavy social media usage, and feelings of depression and envy—another major issue observed in prevalent social media use amongst youth.

Personality is having an influence on the way the person deals with the social world. Extroverts and introverts use social media in a different way. A hallmark of extraverts is their enthusiastic attitude for the outside world, and can be put forward as friendly, energetic, confident and showing optimism. On the other hand, introverts are reserved, lack enthusiasm and are less optimistic. The link between social media usage and extraversion has seen two contrary suggestions being brought forward on the basis of facebook usage. The first state that as social media application is a way to reach out to contacts made off- line, extraverts are likely to spend more time on it. The second proposition suggests that because introverts do not communicate as effectively in person, they may also try to use virtual communication media for interacting with the world (Moore & McElroy, 2012). Rapid technological progression and enhanced accessibility of social media have changed the way introverts and extroverts interact with the online environment. Some introverts are now able to portray a lifestyle they don't even have. Overextending themselves on social platforms is now a regular occurrence.

Research studies in relation to WhatsApp use and personality indicates that, extraversion is of high importance in understanding WhatsApp usage. In keeping with earlier Smartphone studies on extraversion and call behaviour extraverts use WhatsApp for longer durations compared with introverts (Butt & Phillips, 2008) (Montaget al ,2014).This was hypothesized, because extraverts usually reach out more often to their social networks than introverted individuals. Extraverted humans reach out to their social network more via voice calls. In particular, the number of outgoing calls was positively associated with extraversion. Extraverts can be described as socially outgoing and attaching easily to other persons. Moreover, extraverts have more positive attitudes towards WhatsApp compared to introverts (Sultan, 2014). The duration of daily WhatsApp use is positively associated with Extraversion and Neuroticism.

Behavioural research on WhatsApp Use Behavior is limited. Studies indicate that WhatsApp usage might have an addictive character (Sultan, 2014). Uncontrolled usage heavily disrupts our work life and social activities. Moreover, it is possible that overuse could resemble addictive tendencies. The current study focus on understanding the extent of WhatsApp Use Behaviour – the behaviour involved in using WhatsApp that includes normal, common, and productive use to intense addictive use that disrupts life - and to find out whether there exists any relationship between WhatsApp use behaviour and social interaction anxiety.

METHOD

Prior to conducting a quantitative study, a qualitative pre-test was arranged. Face to face interviews took place between 15 individuals between the ages of 18-22 who use WhatsApp, to understand the significance of the WhatsApp Use Behaviour and its relation to social interaction anxiety.

Sample

The participants of the study included 150 students from the district of Trivandrum, Kerala who uses WhatsApp. The participants were in the age group of 13 -24 years

Tools

WhatsApp Use Behaviour Scale, Social Interaction Anxiety Scale, and WhatsApp Use Information sheet were used to gather information from the students and the details are given below.

1. WhatsApp Use Behaviour Scale (WUBS)

WUBS consist of 24 items that measures the intensity of WhatsApp use. (It helps to understand whether the person is using WhatsApp at a normal and productive level or whether using at an intense and addictive level). Higher scores indicated addictive patterns of WhatsApp Use. The reliability of the scale is .74. The correlation between WUBQ and PIU Scale is .70.

2. Social Interaction Anxiety Scale (SIAS)

SIAS developed by Mattick and Clarke (1989, 1998) was used to assess the distress when meeting and talking with other people. Internal consistency of the scale ranged from .88 to 0.93 across patients and normal people. It's having a test -retest reliability value of 0.92. The scale is having significant positive correlation with other standard measures of social anxiety ($r = .54$ to $-.69$)

3. WhatsApp Use Information sheet

The WhatsApp use information sheet was used to gather the subjects WhatsApp use pattern and the personal view about using WhatsApp.

PROCEDURE FOR DATA COLLECTION

The researchers identified the students who use WhatsApp and met them individually to gather information to understand the nature and pattern of WhatsApp Use. After getting the informed consent from the participants the tools were given. Doubts were cleared on time and confidentiality was ensured. Once each participant completed answering the tools, the data was checked and verified on spot. After data collection, the verified data was coded appropriately and was subjected to statistical analysis.

RESULTS AND DISCUSSION

100% (n=150) of the participants reported WhatsApp as a good communication application that they use it in a daily pattern. For most of them it was a tool for time pass (69%), many of them used it for sharing personal ideas (43%) and academic contents (39%).

Figure 1
Extent of WhatsApp Use Behavior

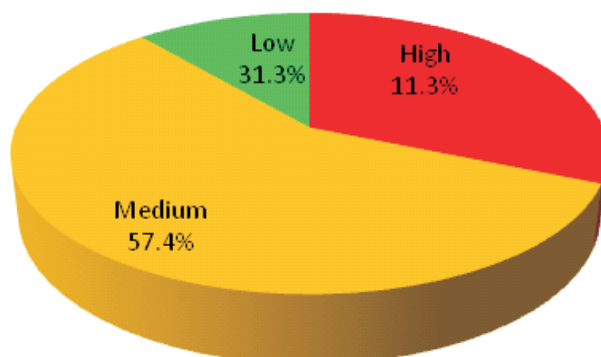


Figure 1 clearly indicates the extent of WhatsApp Use Behaviour among the student community. 11.3% (n = 17) of the participants are heavy users who use WhatsApp for more time and have a strong need and obsession for using the application for almost all the time when they get a chance to use it. For many of them it affected their daily routines. They took fewer responsibilities in their studies and family and are often having an addictive pattern of WhatsApp use. They have a tendency to use WhatsApp for more time and often get frustrated and distressed when they are not able to assess WhatsApp. They get themselves involved in using WhatsApp and communicate with a large group of friends. 57.4% (n = 86) were average users. The average time used by students for WhatsApp use is 2.6 hours/ day. 31.3% (n = 47) were users who used WhatsApp at a minimum level. They were not affected by the use of WhatsApp and they just rush through WhatsApp at least twice or thrice in a day.

The information collected through WhatsApp use information sheet reveals that 21.3% (n = 32) of the participants are having a very strong need for markedly increased amount of time for using WhatsApp. 16% (n = 24) have very strong urge to check WhatsApp at almost all possible times. For 19.3% (n = 29) checking their WhatsApp account was the first activity they engaged in the morning and the last activity of the day they did before going to bed. 21.3% (n = 21) reported that WhatsApp use very strongly affects their social, occupational, and daily routines in a way that they are often not able to manage their WhatsApp use. 26% (n = 39) reported that thoughts about WhatsApp use very strongly influence their day to day activities. 40.7% (n = 61) use WhatsApp even avoiding proper sleep. They reported as being carried away by WhatsApp use without time consciousness. 21.3% reported that the use of WhatsApp reduced their time for productive work. 27.3% (n = 41) uses WhatsApp as a stress reliever. For them, WhatsApp helps to forget their feelings of sadness and depression associated with day today activities. 27.3% (n = 41) of the students reported that WhatsApp use affected their studies at some point of time. 40.7% (n = 61) reported that WhatsApp help them to communicate those things that they are not capable of directly communicating in the presence of another person. For them, WhatsApp helps to express their feelings and concerns to their friends without being hurt or inhibition. The 'emojis' in WhatsApp often raises various types of strong emotions that is not easily visible in real life interactions. 75% of the participants reported that WhatsApp increased the relationship bond between, family members, friends and relatives.

To understand the relationship between WhatsApp use Behaviour and social interaction

anxiety, Pearson Product Moment Correlation was used and the results are given in table 1.

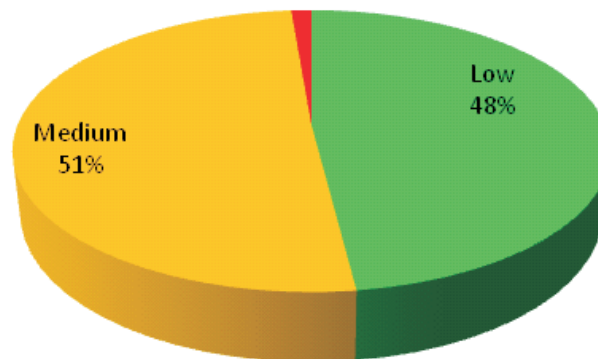
Table 1
Results of Correlation Analysis

Sl.No	Variables	1	2
1	WhatsApp Use Behaviour	[]	.40**
2	Social Interaction Anxiety	..	[]

Note: ** indicates significance at 0.01 levels.

The results clearly indicate that there exists a significant positive correlation between WhatsApp Use Behaviour and social interaction anxiety. The positive relationship indicates that as social interaction anxiety increases WhatsApp use behaviour also increases.

Figure 2
Distribution of Social Interaction Anxiety



48% (n =72) of the participants do have low level of social interaction anxiety, 50.7% (n =76) have a medium level and 1.0% (n = 2) have high level of social interaction anxiety.

To understand whether there exists significant difference in WhatsApp Use Behaviour on the basis of social interaction anxiety one way ANOVA was done and the results are given in table 2.

Table 2
Results of One- way ANOVA among students who have different level of social interaction anxiety for the variable WhatsApp Use Behaviour

Variable	Groups	Sum of Squares	df	Mean square	F
WhatsApp Use Behaviour	Between Groups	2449.564	2	1224.782	3.844*
	With in Groups	46841.609	147	318.650	

Note: * indicates that the F value is significant at 0.05 levels.

The F value shown in table 2 indicates that there is a significant difference among the students having different level of social interaction anxiety for the variable WhatsApp Use Behaviour. To understand the difference among the group members, Duncan test was done and the results of Duncan test indicate that students having high level of social interaction anxiety differ from those who use WhatsApp at an average and low level. Students with high social interaction anxiety are having a mean value of 77.50 for WhatsApp Use Behaviour, which is greater than the mean values obtained by students with medium (mean = 67.95) and low (mean = 60.40) social interaction anxiety.

Table 3 clearly indicates that there exist no significant gender difference in WhatsApp Use Behaviour and social interaction anxiety.

Table 3
Results of t- test between Male and Female Students on WhatsApp Use Behaviour and Social Interaction Anxiety

Variable	Sample	N	Mean	S.D	t-value
WhatsApp Use Behaviour	Male	34	76.9412	14.16128	2.01#
	Female	116	60.7931	17.64802	
Social interaction anxiety	Male	34	30.1176	10.25660	2..370#
	Female	116	26.3966	12.07000	

Note: # indicates that the t-value is not significant

Students are now equally treated without gender discrimination in almost all sectors of life. The opportunities for using WhatsApp and engaging in social interactions are equal for both males and females. The advancement in technology has made it easier for all to access to chose independently and engage in what they want to achieve in life. The emergence of Smartphone technology its availability has tempted students to buy and use it at any possible cost. Many students use it without the consent or knowledge of their parents or teachers.

Education wise difference exists in WhatsApp Use Behaviour and social interaction anxiety and the details are given in table 4 and 6.

Table 4
Results of One Way ANOVA on the basis of Education
for WhatsApp Use Behaviour

Variable	Groups	Sum of Squares	df	Mean square	F
WhatsApp Use Behaviour	Between Groups	8718.707	3	2906.236	10.458**
	With in Groups	40572.467	146	277.894	

Note: ** indicates that the F value is Significant at 0.01 levels.

Duncan test in table 5 reveals that students belonging to school education (up to SSLC and Plus Two) are having significantly higher level of WhatsApp Use Behaviour than those students who belongs to higher education sector (graduate and post graduate). Age related impulses can be a major factor that plays a significant role in this. More than that school students have a tendency explore and experience various life situations that are available to them.

Table 5
Duncan test for WhatsApp Use Behaviour:
Comparison of students on the basis of Education

Education	N	Subset of alpha = 0.05*	
		1	2
Degree	30	58.1000	
Post Graduate	60	58.3333	
up to SSLC	30		72.6333
Plus Two	30		74.8667

*Mean values appearing in the same subset are not significantly different from each other.

The difference in social interaction anxiety on the basis of education can be attributed to age related factors, experience, academic pressures and the time available for learning. Further research is required in this area to understand the dynamics behind this difference.

Table 6
Results of One Way ANOVA on the basis of Education
for Social Interaction Anxiety

Variable	Groups	Sum of Squares	df	Mean square	F
Social Interaction Anxiety	Between Groups	2295.160	3	765.053	6.106**
	With in Groups	18294.200	146	125.303	

Note: ** indicates that the F value is Significant at 0.01 levels.

Table 6 clearly indicates that there exists a significant difference among students in their social interaction anxiety on the basis of education level.

Table 7
Duncan test for Social Interaction Anxiety:
Comparison of students on the basis of Education

Education	N	Subset of alpha = 0.05*	
		1	2
Post Graduate	60	23.1333	
Degree	30	27.8000	
SSLC	30		28.5000
Plus Two	30		33.6333

*Mean values appearing in the same subset are not significantly different from each other.

The Duncan test in table 7 evidently indicates that post graduate and degree students are having lesser social interaction anxiety when compared to students of SSLC and plus two. As education level increases students learn to deal with their life and society in a more effective way based on the maturity they arrive at based on experiences.

MAJOR FINDINGS

WhatsApp is a popular communication application used by majority of students with with having any problems that requires clinical care. 11.3% (n = 17) of the participants are heavy users of WhatsApp and their lives and academics are highly affected by its use. 1.0% (n = 2) of the students have a high level of social interaction anxiety. There is a significant difference among the students having different level of social interaction anxiety for the variable WhatsApp Use Behaviour. Students having high social interaction anxiety used WhatsApp more than those who have low level of social interaction anxiety. There exists a significant positive correlation between WhatsApp Use Behaviour and social interaction anxiety. There exists no significant difference between males and females in their WhatsApp Use Behaviour and social interaction anxiety. There exist s significant difference in WhatsApp Use Behaviour and social interaction anxiety on the basis of education.

CONCLUSION

Advancement in Smartphone technology and social media applications is having a strong impact on the student community. As a communication tool for sharing messages, pictures and videos WhatsApp is having a tempting force to invade the lives of all those who prefer to have friends and relations. Students use WhatsApp groups for sharing their academic contents. Apart from the normal and healthy use of WhatsApp, knowingly and unknowingly over use, misuse and inappropriate use of WhatsApp result in addictive patterns than adversely affects day today functioning of students. Decline in academics, health problems, and psychological break down can result if it is not used properly. Reduced social inhibitions and anonymity in the virtual world creates a temptation to experiment with a wide variety of experiences that is not readily available in the real world. Those with social interaction anxiety have a tendency to use virtual media for interacting with the social world and may sometimes use more effort and energy in it. Living in a digital world that is mechanical in nature, rather than interacting face-to-face, many individuals especially among student community opt to communicate their thoughts and feelings through limited words, emojis, and shared pictures instead. This subsequent overuse of social applications and underuse of real-world skills has resulted in difficulty for many to socialize meaningfully, hindering their ability to make real world relations, and ultimately

leading to feelings of loneliness, social anxiety, and depression.

REFERENCE

1. Butt, S., & Phillips, J. G. (2008). Personality and self reported mobile phone use. *Computers in Human Behavior*, 24, 346–360.
2. Forest, A. L. & Wood, J.V. (2011). When social networking is not working: Individuals with low self-esteem recognize but do not reap the benefits of self-disclosure on Facebook. *Psychological Science*, 23, 295–302.
3. Kiesler, Siegel, & McGuire (1984). Social psychological aspects of computer-mediated communication. *American Psychologist*, 39, 1123–1134.
4. Kross, E., Verduyn, P., Demiralp, E., Park, J., Lee, D.S., Lin, N., et al. (2013) Facebook Use Predicts Declines in Subjective Well-Being in Young Adults. *PLOS ONE*, 8, 8, e69841.
5. Mattick, R. P., & Clarke, J. C. (1989). Development and validation of measures of social phobia scrutiny fears and social interaction anxiety, Unpublished manuscript. In Habke Marie, A., Hewitt L Paul, Norton G. Ron, & G. Asmundson. (1997). The social phobia and social interaction anxiety scales: An exploration of the dimensions of social anxiety and sex differences in structure and relations with pathology. *Journal of Psychopathology and Behavioural Assessment*, 19, 1, 21-39.
6. Mattick, R. P., & Clarke, J. C. (1998). "Development and validation of measures of social phobia scrutiny fear and social interaction anxiety," *Behaviour Research and Therapy*, 36, 4, 455–470.
7. Montag, C., Błaszczewicz, K., Lachmann, B., And one, I., Sariyska, R., Trendafilov, B., Reuter, M., Markowitz, A. (2014). Correlating personality and actual phone usage: evidence from psychoinformatics. *Journal of Individual Differences*, 35, 158–165.
8. Moore, K., & McElroy, J.C. (2012). The influence of personality on Facebook usage, wall postings, and regret. in *Human Behavior*, 28, 267–274.
9. Myers, D. (1987). "Anonymity is part of the magic": Individual manipulation of computer-mediated communication contexts. *Qualitative Sociology*, 10, 251–266.
10. Statista, (2016). Number of monthly active WhatsApp users worldwide from April 2013 to February 2016 (in millions). <http://www.statista.com/statistics/260819/number-of-monthly-active-whatsapp-users/>. Retrieved on 29/06/2016.
11. Stein, M. B. & Stein, D.J. (2008). Social anxiety disorder. *Lancet*, 371, 1115–1125.
12. Sultan, A.J. (2014). Addiction to mobile text messaging applications is nothing to "lol" about. *Social Science Journal*, 51, 57–69.

Publish Research Article

International Level Multidisciplinary Research Journal

For All Subjects

Dear Sir/Mam,

We invite unpublished Research Paper, Summary of Research Project, Theses, Books and Books Review for publication, you will be pleased to know that our journals are

Associated and Indexed, India

- ★ Directory Of Research Journal Indexing
- ★ International Scientific Journal Consortium Scientific
- ★ OPEN J-GATE

Associated and Indexed, USA

- DOAJ
- EBSCO
- Crossref DOI
- Index Copernicus
- Publication Index
- Academic Journal Database
- Contemporary Research Index
- Academic Paper Database
- Digital Journals Database
- Current Index to Scholarly Journals
- Elite Scientific Journal Archive
- Directory Of Academic Resources
- Scholar Journal Index
- Recent Science Index
- Scientific Resources Database

Review Of Research Journal
258/34 Raviwar Peth Solapur-413005, Maharashtra
Contact-9595359435
E-Mail-ayisrj@yahoo.in/ayisrj2011@gmail.com
Website : www.ror.isrj.org