

Study of social relationships among students on Whatsapp.

A comparative study between India and Germany

Guide - Prof. Venkatesh R
By Nazreen, Anjana



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2. Abstract

In this report, we present a study of Whatsapp, an instant communication channel smartphone application. Through our interviews with participants, we develop anthropologist Tim Ingold's [\[2\]](#) notion of dwelling, and discuss how use of Whatsapp is constitutive and essentiality of a student life. We investigate student habits and how the features supported by Whatsapp seamlessly integrate into the daily life cycle of students. The further narrative is woven by constructing the mental image of social bonds in everyday life through instant communication channel.

3. Introduction

The aim of this research is to understand how the the communication medium allows for the development of particular patterns in the construction of social bonds among students pursuing technical education. After reviewing some of the current research, we rely on empirical studies of the uses of the mobile phone and mobile instant messaging applications in India to discuss how this particular repertoire of instant messaging relationships has gradually solidified as these technologies have become widespread and as each additional communication resource has been made available to users. The major satire of this study is to understand how communication technologies relate to face to face interactions from co existence and substitutiary angle.

Goffman (1969) makes a distinction between expression and communication. Expression consists of the gestures, signs, vocalizations, noises, and movements produced by individuals, usually involuntarily. These acts remain connected to their sources and have meaning only in their original context. Their meaning is relative to the person who produced them. By opposition, Goffman limits the notion of communication to the use of linguistic signs. In this particular and narrow sense, 'communication' is related to symbolic and intentional utterances concerning things, events, or ideas.

In a country like India, students are tied by many social norms and stigmas. This highly influences face to face communications while a screen based communication has already broken huge issues like the opposite gender being able to communicate freely when there is a screen in front of them rather than an actual human [6][6]. Though this medium was mainly to bridge gaps, students have found their own ways to use this to form social bonds and this also varies highly with respect to personal friends group, class groups, family group and so on.

framework in which the interaction takes place. It may be either directly referred to in

4. Related Literature

4.1. Connected presence

‘Connected’ presence: The emergence of a new repertoire for managing social relationships in a changing communication technoscape:

A review of current social-science research on mediated interactions and relationships [5][5]:

There are three approaches in dealing with relationship studies:

Micro: Single mediated interactions

Messo: overlaying of social relationships and study of the interconnections with the medium

Macro: understanding social relationships and communication intermittent network.

“....A relationship stretches over a period of time that exceeds individual interactions. As it develops it is distributed in a multiplicity of contexts and situations, so that its permanence cannot be ascribed to any specific action. In an interactionist and constructivist perspective, a relationship is presented as a sequence of situated exchanges and mediated interactions. Each of these mediated interactions reactivates, reaffirms, and reconfigures the relationship. On the other hand, the relationship is part of the participative

subsequent exchanges or clearly referred to in the interaction in the form of signs of the link..” [3][3](Goffman, 1971)

The literature on connected presence and computer mediated communication (CMC) study is vast. But to understand the evolution if both these terminologies were important to us in the study. The repertoire of social bonding over CMC are ways of living together in the current world are made up of various flowings, of interactions and interconnection, of exchanges and encounters both face and face and mediated. These are ordered and patterned through time and location which defines the rhythm of presence and absence. Different technologies of communication create and organise a challenge of maintaining social bonds where communication in the real or digital world, are intimately interrelated and bound to weave mutually interdependent meaningful acts. From the literature study we coined four indicators to model our study:

- Time
- Location
- Face to face interaction
- Face to Screen interaction

4.2. Content consumed amongst students

The content shared using whatsapp ranges from text, pictures, audio, video to contacts and the sharing and frequency of usage also depends on the social groups. The preference for content was determined by their affinity with person/s within their social network (Content Consumption and Exchange Among College Students: A Case Study from India). A social group has shared preferences and the content flow within this group get determined by the same.

The usage of social media for education has increased to a great extent and many parents and teachers are becoming part of the social group to generate and share content real time and this made news recently, 'Students are using social media to do more than just share tips to ace the next exam: They're turning to Instagram, Twitter and Snapchat to share success stories for student-loan payoffs, find summer internships and collaborate on projects with students across the country. From stronger parent-teacher relationships to creative assignment challenges, social media is poised to power a new education revolution.' [4][4]

Even among students there is a quick sharing of information which might otherwise take longer. "The college board is often cluttered with a lot of notices and it is easy to miss information. If one of us spots something important, then we take a picture and share it on the group. All of us remain updated on important information this way.", said a student Ragini when she participated in the Offline Strangers,

Online Friends research. (Offline Strangers, Online Friends: Bridging Classroom Gender Segregation with WhatsApp).

Further, the advantages of a social media in sharing information amongst students is identified as

- Increased Student Collaboration
- Increased Student Participation
- Team Projects are easier to review
- Rich eLearning Media available Video Conferencing abilities [4][4].

When connecting, communicating and sharing information became easier, it gives them an opportunity to break barriers. This has been the crux of the study by Preeti Mudliar and Nimmi Rangaswamy where they state that the college youth easily expressed themselves in online communication. The lack of physical and voice interaction made this possible due to the facelessness of such an interaction.(Content Consumption and Exchange Among College Students: A Case Study from India)

- to determine how whatsapp helps in the daily life of students in technical institutions of both the countries.

5. The Study

5.1. Objective of the study

To understand how instant communication medium (whatsapp) allows for construction of social bonds amongst students from different cultural backgrounds, in this case Mumbai, India and Darmstadt, Germany. To perceive how students studying in the leading technical universities from a fast developing country and from a developed country use this medium for various purposes. To understand the cultural influences on a student while determining to use face to face communication or screen based communication for a specific purpose which are events like deciding a social meet, asking for a doubt, sharing study material and so on.

The preliminary study examines the use of Whatsapp Messenger amongst students at Technical Institutions in India. The researchers attempted to understand the perceived high-level of usage of social Whatsapp Messenger amongst the students by looking at the intensity of it usage and how it affects their daily lives. The main objective of this paper:

- to evaluate the degree of the impact of the use of Whatsapp Messenger
- to determine the relationship between the use of the application and social bond construction

5.2. Pre study

The first part of the study was to understand the existing methods of Instant messaging among students in the technical university. From a sample survey we arrived at a conclusion that Whatsapp was the popular IM service among student. The next stage was to design an enquiry model to collect data in a non intrusive method. For this we first studied the evolution and existing features of Whatsapp. These are often called Over The Top applications (OTT) since they are independent of the network being used at any time just as they are of the smartphone itself, the device. Such applications are free or inexpensive to download and use, and offer various capabilities for sharing media - images, video, audio clips, and even location data. Main OTT application found in phones are basically Whatsapp, Skype, FB Messenger, Hangout, IMO and Duo. This helped us design an enquiry model which could give emphasis to features of Whatsapp. This model also requires getting dimensional data which helps us give out patterns on daily usage of Whatsapp [7][7].

Whatsapp:

WhatsApp describes itself as “Simple. Personal. Real Time Messaging.” . As a cross-platform MIM app, it facilitates ‘free’ exchange of messages by drawing from the user’s existing mobile Internet plan. Design of a whatsapp message:

Whatsapp messenger is a series of threaded messages on a wall using time of each message as marker position. Each chat contains the contact name along with contact photograph (which is served as Whatsapp display picture). The conversation bubble design (popularized by the SMS application on mobile phones) where different colors are used to differentiate between sender and receiver. WhatsApp presents IM chats as a series of threaded messages on a wall, using spatial position and colour to differentiate sender and receiver messages. These chats can be performed either between 2 individuals or as a group. As well as text, messages can also include URLs, images, video or audio clips. All messages are timestamped and include one or two ticks next to the time to indicate the message has been sent and delivered respectively. Various status messages are also included such as when the recipient was “last seen online”.

Whatsapp features:

Its features support exchange of text, audio, and video messages. It also allows users to see each other's presence on the app through 'timestamp' information that reveals when a user was 'last seen' on the app. However, in recent privacy changes, Whatsapp allows users to restrict access to information such as the last seen timestamp, and their profile picture. The app hit headlines in February 2014 when it was acquired by Facebook in a US\$19 billion deal. (Offline Strangers, Online Friends: Bridging Classroom Gender Segregation with WhatsApp). With the call update, audio and video calling feature is also available on whatsapp which works on the internet. The call happens only if the other person is also on whatsapp and is online.

6. Data Collection Model

38 participants volunteered to share data for the study from both Mumbai, India and Darmstadt, Germany. The age group was between 17 and 25. The group had 19 male and 19 female volunteers. No names or chat related information is disclosed in the study and content was substituted with pseudo names. The initial task was to get the participants to be in ease with the interviewer when asking personal questions by giving previous examples of previous studies of Instant messaging services have lead to better design decisions in instant messaging services.

Information collected in the beginning was to identify the persona of an everyday user.

The collection of data included parameters such as number of single chats, number of group chats, number of conversations and further,

- Total number of chats
- Active chats per day
- Number of chats with people in the same vicinity
- Number of chats with people seen face to face
- Number of chats with people not seen on a daily basis
- Number of group chats

Observations were made for the following

- conversational versus communication messages
- Single chat vs group chats
- Proximity markers
- Whatsapp exclusive feature study
- Multi - application switch of data

Reading messages was taken to be an intrusion into the privacy of the user. To overcome this challenge, behaviour patterns were derived from key indicators using time, location and number of conversations. Also the daily schedule was logged for the same week as the enquiry was conducted.

7. Methodology

7.1. Introduction

The idea behind this particular section is to reveal the rationale for the research methodology, the method and strategy adopted in collecting data for the research. This part also seeks to reveal how we conducted the research to be able to investigate the impact of whatsapp on students life with their daily lives and social bonds.

7.2. Research Methods

We made use of both primary and secondary data, which were gathered from diverse sources, including, archival sources, text books, journals/articles and internet sites to understand instant messaging and social bond construction which is mentioned in the site section above.

7.3. Primary Research

The primary research is tailored to suit the needs of the research. This research involves the collection of raw data, which forms the main basis for achieving the research objectives. We used of multiple data collection methods, such as observation, interviews, document analysis and questionnaires [1][1]. With the importance of multiple sources of

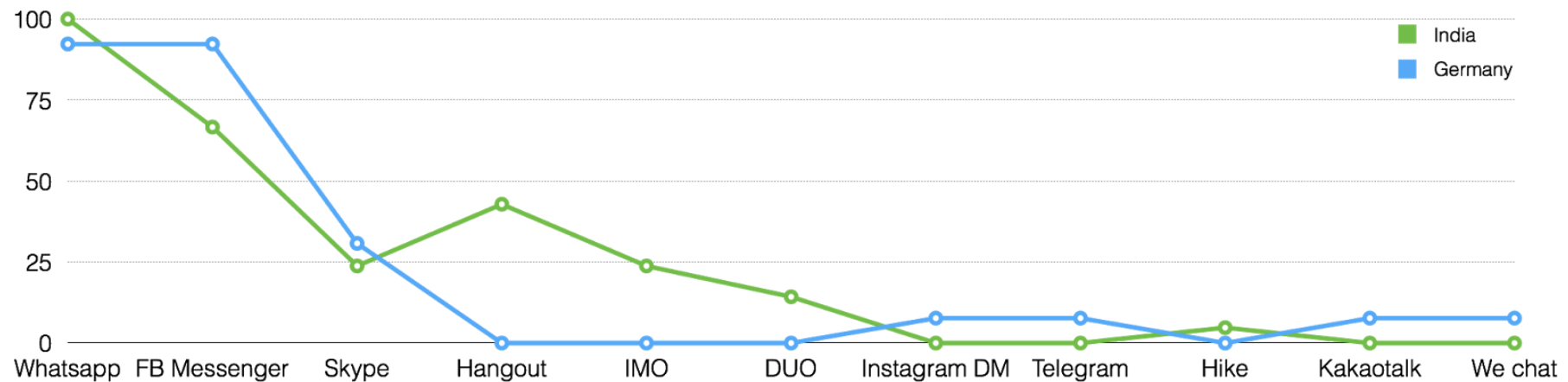
data very vital to the reliability of this research Stake, (1995), two primary sources of evidence were used: questionnaires and interviews. The two data collection methods proved useful in providing detail information needed for the studies. Primary data collection methods that were adopted includes: self-administered questionnaire, interviewing and observation [8].

8. Data Analysis

38 volunteers answered self administered questionnaire which asked them easily comprehensible questions that could be understood by the participants. A small introduction was given to understand terminologies like proximity and over the top applications which is explained previously. Following which the questionnaire was sent across to all the volunteers.

15 volunteers participated in interviews and also allowed for observation for about a week. The interviews were based on the observations of their whatsapp usage and eventual discussion for understanding why a particular behaviour in specific user group occurred and how each factors affect it.

To understand the general trend of how students communicate, we started with finding out what applications they used on a regular basis and compared between India and Germany. The percentage of OTT(Over The Top) applications are plotted to understand the trend as follows:



As shown in the graph Indian and German students used Whatsapp messenger the most closely followed by FB messenger. German students used FB messenger as much as Whatsapp messenger but more for personal conversations. Around 7.69% of German students used Instagram Direct MESSaging, Telegram, Kakaotalk and Wechat. All 4 of these applications were not used by any Indian student while they used Hangout, IMO and Duo. 42.8% of the Indian students used hangouts on a daily basis.

8.1. Conversation vs communication messages - parameters to classify if it is a conversation or a communication

To see the trend in number of whatsapp messages including all groups, mode of the number of messages was calculated. In India the number is 145 whereas in Germany the number is 90.

In order to classify if a particular chat is a conversation or just a communication for some information, the following parameters were considered.

- Time period of active chats - to classify if it is a conversation or a communication.
 - When a chat is a conversation the time period of the active chats were much higher than in chats which has

just information to be conveyed or planning to be done.

- A conversation almost extends through an entire day (when awake) with breaks.
- Content sharing in conversations
 - Similar content of importance like time of submission, or portions for an exam, etc., is shared across different groups since the same set of students are part of many temporary groups.
 - In frequent conversations there are logs of the day or important activities of the day and the pattern repeats. There are pictures, videos and many personal audio messages.
- Frequency of keeping a chat active (more than 4 times a week)
 - The frequency is more than 4 times a week in case of conversations while communication happens even once a week or sometime in groups like birthday planning once a year and then it becomes dormant. The groups are sometimes never deleted.
- Usage of abbreviations
 - In communication abbreviations are generally very less used since important information is conveyed in short messages with mandatory details.
 - Whereas in conversations there are many abbreviations that is very localized and contextual. For example IIT Bombay students use 'insti' for institute and 'infy corridor' for infinity corridor. Since most people in a conversational groups are people from the same class or family and so on, short messages are mostly enough to convey details. People are on same

page and understand details without requiring to sketch it out.

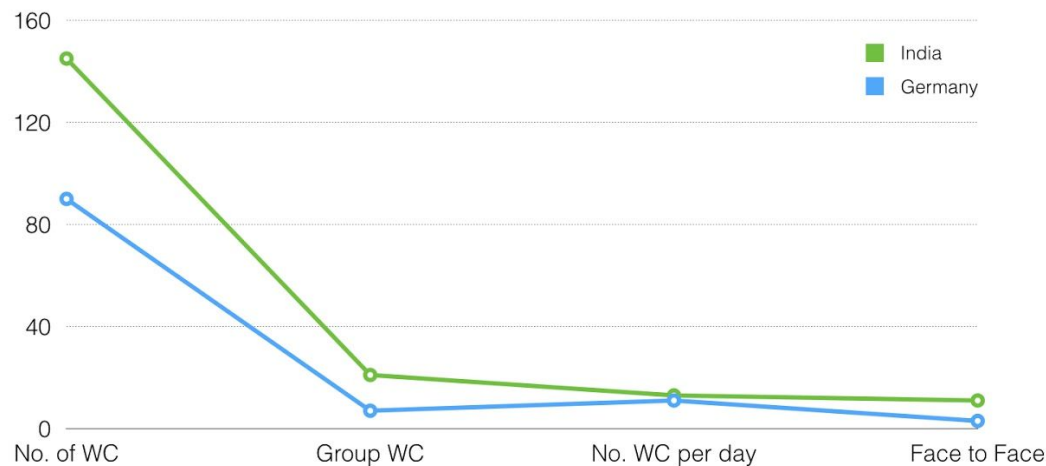
- Journey of a message
 - The journey a message takes creates an illusion of a person being available during a conversation. The online status makes one feel that the other person is available and creates a feeling of pseudo existence. People wait for the person to reply when they see 'typing', like one would when some person talks but people do not wait for reply in a group specially when it is communication based group.

8.2. Single chat vs group chats

All student chats consisted of both single and group chats. We tried to log their daily interaction with both. The number of active group chats and single chats were almost equivalent in most cases. Interestingly group chats were active throughout the day while single chats were active during only a particular time of the day. The behaviors in group formation among students were directly linked to their classroom cycle. There was a class group which consisted of all members in the attendance sheet creating a moving classroom in their pocket. Then there would be formation of secondary groups which are friends within the classroom which were grouped on the basis of gender, common hostel (living area), assignment group, activity planning etc. This was closely associated with their classroom behavior. Usage of groups depended on the activity for which the group was created. Behaviour in active group chats is almost similar in both countries ranging from 3 to 10 active chats per day. The number of

people per group is much lower in Darmstadt as compared to Mumbai.

person opens a chat to send a message and the 'last seen' of the recipient is more than 3 hours ago. Then the person considers other means to convey the message to the person like direct calling. This also depends on the degree of urgency of the message in the conversation.



No. of WC - number of whatsapp chats, Group WC - Group whatsapp chat, No. of WC per day - number of whatsapp chats per day, Face to face - whatsapp chats with people met face to face the same day.

8.3. Flow of conversation

The time stamp feature of Whatsapp 'last seen 00:00' was a major determinant in the conversation of students. Insights proved that this feature itself being considered as a message. For example, when a

The other feature is 'typing' the students tend to be active in the conversation and feel an anxiety to keep the chat alive by being online.

8.4. Multi - application response switch

Students are active within multiple social applications. There were data about different activities about their day being shared on

different platforms. Whatsapp was used to defined as a channel for switch of data. For quick response to an email a Whatsapp message was also sent. Even though the person checks both email and Whatsapp on his same phone, it was assumed that Whatsapp might be checked before email. Hence we coined the term multi application response switch, for the same action response through multiple applications was expected.

message between applications to convey emotions for daily necessities.

9. Discussion

In conclusion, our investigation demonstrates how WhatsApp is used by our participants as a key component, their way of living and interacting with peers. By observing the conversational pattern, we analyzed the social bond construction among students based on different parameters. Along with these other connections, we argue that it is constitutive similarity between usage communication medium in lives of students in both countries. This helps draw our attention not just to practices with WhatsApp but to the aspects of commitment, involvement and knowledge manifestation through the possibilities presented in this form of communication. A major unexpected behaviour in this medium was degree of “urgency” and multi- application responds to messages based on communication or conversational chats. Thus concluding how user chooses the path of

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10. Appendix

Sample data table

Code	Number of whatsapp chats	Number of group chats	Start date of using whatsapp	Ager	Sex
XXX	67	16	2014	18	F

Table 1

Chat questions		
Number of chat appliactions in the phone	3	Whatsapp, FB Messenger, Hangout
OTT applications	2	Whatsapp, FB Messenger
Observation data collected		
Week 1		

(Jan 2- Jan 8)1	Number of active chats	Number of active groups
2	12	13
3	20	10
4	13	10
5	16	9
W6	25	8
W7	22	12
Week 2		
(Jan 9- Jan15)1	16	9
2	14	12
3	18	7
4	17	11
5	25	11
W6	20	11
W7	22	11

	18.46153846	
Chat questionnaire		
Number of constant chats through the week	10	
Proximity markers		
Vicinity/ Face to Face	7	
Non vicinity	3	
Content sharing		
Photos	Yes	
Videos	Yes	
Location	Yes	
Voice messages	Yes	