

## Assessment of WhatsApp as a Communication Tool Among Bachelor and Master Degree Students at Taif University: A Cross-Sectional Study

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### Abstract

**Background:** Mobile applications are now widely used for communication. WhatsApp is at top of these applications. Since the traditional teaching is not possible due to the current situation, many educational institutions shifted toward online teaching. Students use many tools for communication with their professors. This study aimed to assess WhatsApp application communication channel between students and professors.

**Method:** This is a cross-sectional descriptive correlation study. The study was conducted among students of Foreign Languages Department at Taif University. The data was collected using an online form. The online form contained sociodemographic data and perceived usefulness of WhatsApp scale. The data were analyzed using SPSS program.

**Results:** The study included 200 participants, most of them were females ( $n=195$ ). The mean age of study participants was  $21.78 \pm 4.46$ . The study included both bachelor and master degree students from all academic years. Students used mainly WhatsApp for communication and there were 7% used email and black board messaging system. Students strongly agreed that WhatsApp is very useful application for communication. The mean to their answers to the scale items was 4.47. Participants characteristics were statistically significant related to scale items at a level less than 0.05.

**Conclusion:** There are no doubts that technology helped a lot in education. The previous results show that students rely mainly on WhatsApp for communication with their professors. They also recommended it for educational purposes.

**Keywords:** WhatsApp, communication, education, covid-19, tools.

### Introduction

In the last months, education has significantly been affected by the lockdown of COVID-19 crisis. There was an urgent need to continue education especially for higher institutions as universities. Since face-to-face teaching is not possible, many universities shifted to online education to continue. However, tools for online education are sometimes inconvenient to use. Students have some preferences on how to communicate with their professors. There is some

recent research focused on the use of mobile phone applications as communication channels (Sung et al., 2016).

Everyone tends to do everything quickly, including learning. The previous period was special in education process. During the lockdown of COVID-19 crisis, most educational institutions changed to online teaching. Many platforms were used for communication. However, WhatsApp was on top of these applications. This is due to the rapidity of sending and receiving messages.

There are several studies on mobile technologies which state that mobile instant messaging (MIM) grew from 1423 million in 2014, to over 3, 8 billion at the end of 2018. Furthermore, WhatsApp has increased the messages numbers per day around the world. It is estimated that WhatsApp is responsible for three-quarters of all mobile messaging traffic in 2018 (Yoon et al., 2015). According to Statista (2018), WhatsApp was the third most popular global social network accounting for 1, 5 million users. Due to the growth of WhatsApp, several studies attempted to analyze this tool from a pedagogical perspective (Kim et al., 2014).

After reviewing the literature on this subject, two opposed perspectives were observed. The positive approach comprises promising findings on MIM contributions such as cognitive interactions improvement or cognitive load reduction (Gao et al., 2017; Kim et al., 2014; Rambe and Bere, 2013). On the other hand, the negative approach by which the use of MIM is negatively assessed while attending lectures or working on assignments, and their learning results are also widely undermined (Jahnke et al., 2017; Santos et al., 2018).

Tang (2017) stated that Laptop, netbook, and iPad are now commonly used both by students as well as teachers. There are also mobile gadgets such as cellphone and smart phone are within this group. Using those gadget and internet connection, anyone could chat, browse, or discuss with each other. The application of WhatsApp which combine the smart phone and internet connection offers many advantages for language learning.

There are many students have WhatsApp application on their mobile. They always think about its capacity as a social networking platform and to benefit from it. While less people are thinking about how this mobile application can be effectively used for education process. In fact, we can use WhatsApp features to serve educational objectives and learning, including communication with professors.

The aim of this study is to analyze the students' perspective on using WhatsApp for communication with their professors and the relationships with their sociodemographic characteristics.

## Methodology

### Study Design

This study is a descriptive, analytical cross-sectional design. Since the aim of the study is to assess the usefulness of WhatsApp as a communication tool among different degree students at a defined period of time, this is the most appropriate design.

## Study Setting

The study was conducted at Taif University. The study was applied among faculty students of the Foreign Languages Department. Data were collected during the period from November 15<sup>th</sup> to November 30<sup>th</sup>, 2020.

## Participants and sampling

Participants in this study were bachelor and master's degree students from Taif university. All students who used WhatsApp for communication with their professors were eligible participants to the study. Sampling technique was non-probability convenient sample. The study almost included approximately all eligible students during the study period.

## Data collection and study instrument

The data collection process was through an online google form. The form contained study questionnaire. The study tool was a self-designed questionnaire based on published literature on the same topic (Yoon et al., 2015). The questionnaire included two domains: first, sociodemographic data of participants and second, perceived WhatsApp Usefulness scale.

## Statistical Analysis

Data obtained from questionnaire were entered to excel sheet then analyzed using SPSS program version 23 computer software. Sociodemographic data are presented using descriptive statistics as means, median, percentages and standard deviation. Likert scales' answers are demonstrated as means, percentages and standard deviations. Independent T test and one-way Anova are used to show statistical significance among mothers' characteristics and perinatal outcomes. Chi square test is used to show relationship between categorical variables.

## Permission and ethical considerations

An approved permission was gained from research committee at Taif University. Students were free to participate at the study. Study objectives were explained as introduction part in the online form.

## Results

### Sample characteristics

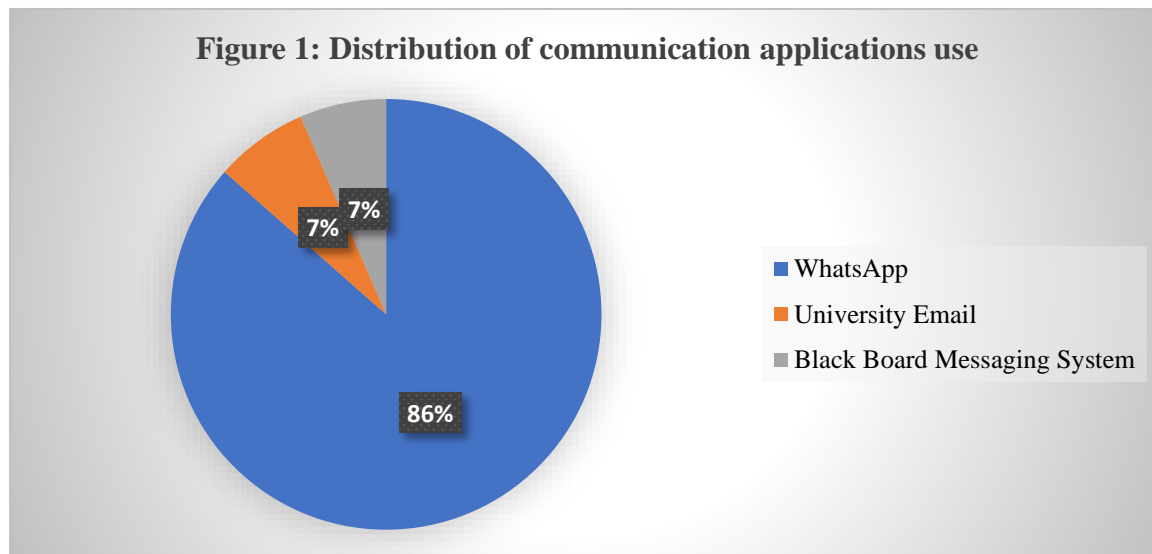
The study included a total of 200 students from the Foreign Languages Department at the College of Arts. Females were most dominant in the study and represented 97.5% of study sample (n= 195). The mean age of study participants was 21.78 years with a standard deviation of 4.46 years. Students were from both bachelor degree (n= 168, 84%) and master degree (n= 32, 16%). Most students who were from bachelor degree were first year students. On the other hand, master students were almost equally distributed between first and second year. Table 1 shows the distribution of students according to degree and academic year.

*Table 1: Distribution of study participants according to degree and academic year*

		Academic Year				
		1	2	3	4	Total
Degree	Bachelor	67	37	58	6	168
	Master	15	16	1	0	32

Students were asked to provide their grade point average (GPA). However, only 95 participants responded for this. Then mean GPA among them was 3.26 with a standard deviation of 0.66. Most of study participants were single individuals (n= 172, 86%) and there were 27 married participants (13.5%) and one participant was separated.

Students participated in this study used three kinds of communication channels. WhatsApp was the most frequently used application for communication (n= 173, 86.5%). Figure 1 presents the use of communication applications among study participants.



## Scale results

Students were asked to complete a scale to assess the usefulness of WhatsApp application as a communication channels with their tutors. Table 2 demonstrates scale items with participants' responses and the mean value for each item.

**Table 2: Frequency and percentages of participants answers to scale items**

No.	Item		1	2	3	4	5	Mean	SD
1	WhatsApp is an easy application to use for communication.	N	19	1	3	28	149	4.44	1.205
		%	9.5	0.5	1.5	14	74.5		
2	All my professors and colleagues use WhatsApp for communication.	N	26	52	65	63	21	2.87	1.17
		%	13	26	32.5	18	10.5		
3	WhatsApp is better than other communication tools (as Gmail) for communication.	N	12	7	19	39	123	4.27	1.151
		%	6	3.5	9.5	19.5	61.5		
4	Using WhatsApp improves my efficiency in sharing information and connecting with others.	N	9	8	20	47	116	4.27	1.087
		%	4.5	4	10	23.5	58		
5	Using WhatsApp enables me to communicate faster and more effectively.	N	11	7	5	37	140	4.44	1.083
		%	5.5	3.5	2.5	18.5	70		
6	WhatsApp helps me to remember dates of exams and lectures.	N	16	8	22	36	118	4.16	1.25
		%	8	4	11	18	59		

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7	WhatsApp is easy to share documents for assignments.	N	14	12	24	39	111	4.11	1.242
		%	7	6	12	19.5	55.5		
8	WhatsApp enables me to create group discussion with my colleagues and professors.	N	12	4	13	38	133	4.38	1.101
		%	6	2	6.5	19	66.5		
9	There are no technical problems when using WhatsApp.	N	19	5	24	43	109	4.09	1.273
		%	9.5	2.5	12	21.5	54.5		
10	I sometimes get annoyed from the load of messages in group chat.	N	28	20	64	45	43	3.28	1.295
		%	14	10	32	22.5	21.5		
11	Professor replies fast when I send a message.	N	9	16	26	49	100	4.08	1.165
		%	4.5	8	13	24.5	50		
12	I am satisfied with using WhatsApp as a communication channel with my professor.	N	10	11	15	38	126	4.3	1.138
		%	5	5.5	7.5	19	63		
13	I would recommend the use of WhatsApp over other tools for communication.	N	16	4	23	42	115	4.18	1.21
		%	8	2	11.5	21	57.5		
14	I have access to WhatsApp all the time.	N	12	10	21	31	126	4.25	1.193
		%	6	5	10.5	15.5	63		

15	I have no problems when tracking messages using WhatsApp.	N	16	15	25	38	106	4.02	1.297
		%	8	7.5	12.5	19	53		
<p>1- Strongly disagree 2- Disagree 3- Neutral 4- Agree 5- Strongly agree</p> <p>SD: Standard deviation</p>									

We notice from the table that the mean value for all items, except for 2 and 10, is between 4 and 5 which mean that participants agree on the usefulness of WhatsApp as a communication channel. Nevertheless, item two showed that most participants are neutral for the item and not all professors and colleagues use WhatsApp. However, it is still that WhatsApp was the most used application among study participants. For item 10, participants are sometimes annoyed by the presence of many messages in WhatsApp. The previous results from the table supports that WhatsApp is a very important channel of communication between students and professors.

### Open-ended questions result

After filling out the scale items, participants were asked to answer three open questions. The first question was about the advantages of WhatsApp. Participants agreed that it is an easy application to use and they liked the rapidity of communication and sending messages. Moreover, one of the most important advantages is that professors respond promptly to students. Students also find it easier to express and share their thoughts using WhatsApp messages. Participants also mentioned that using WhatsApp is easier and more efficient than using emails.

The second question was about the disadvantages of using WhatsApp. In spite of mentioning some disadvantages, more than 80% of participants said that there are no disadvantages of using WhatsApp. Participants highlighted some disadvantages. These disadvantages were (1) the load of messages, (2) some messages are spam, (3) WhatsApp is a personal application and (4) there are many annoying unneeded messages that may hide important announcements.

Finally, participants were asked whether they recommend the use of WhatsApp for educational purposes. They recommended the use of WhatsApp due to the many advantages of it and in cases on lockdown such as COVID-19 crisis. This will help a lot since fact-to-face education is nor possible.

### Statistically significant relationships

In this section of analysis, we looked for any statistically significant relationship between participants characteristics and their responses to scale items. As most of study participants

were females, gender was not associated with any item of the scale. The university degree, whether being bachelor or master student, was found to have statistically significant relationships with scale items (1, 3, 4, 5, 6, 7, 8, 9, 11, 12, 13, 14, 15) at a level of less than 0.05. Although most of study participants were single individuals, the marital status of study participants was found to have statistically significant relationships with all scale items. The academic year had statistically significant relationships with items (2, 9, 13). GPA had a statistically significant relationship with scale item 2 only. The value of these relationships was less than 0.05.

## Discussion

This paper studied the role that perceived WhatsApp usefulness could play as an interaction and communication tool between students and their professors at the university. The perception of WhatsApp usefulness could be an indicator in order to adopt it for educational purposes (Cai et al., 2017), this study aimed to evaluate students' perception on this communication tool and what are its advantages and disadvantages. Moreover, to ask for its suitability for educational purposes. In contrast to the idea that WhatsApp may have a disruptive role (Hawi and Samaha, 2016), our study was focused on the effects of WhatsApp on the learning process, contributing to reinforcing this positive perspective (Holtgraves, 2011). This study is also focused on analyzing the relationship between students' characteristics and perceived WhatsApp usefulness.

The sample in the current study is of young age and all of them have smart phones. Needless to say, that all of them uses WhatsApp for non-educational purposes. However, they all recommended it to use for communication with professors.

As extant literature had reported relationships between gender and learning contextual variables in the adoption of communication tools (Pierce, 2009). However, in our study, most of participants were females and we couldn't draw any significant relationships with gender. We also considered the role that some academic variables (degree, year of study) played on the perception of WhatsApp usefulness.

Our findings showed that after using WhatsApp to communicate with professors in the absence of traditional face-to-face meetings, students reported that its use was effective. This finding is aligned with others that point to university students showing positive attitudes towards social networks (Chuah et al., 2016). Additionally, this attitude contributes to students' perspective to recommend it over other communication tools such as email. Easy use and fast messaging system made WhatsApp the best to use according to students' responses.

Degree and year of study were linked with perceived WhatsApp usefulness. Bachelor students that also happened to be third-year students had the best attitude towards perceived WhatsApp usefulness. Further analysis should be done on this finding in order to clarify these relationships using longitudinal comparative studies. The previous result is consistent with findings in (Maynard et al., 2012).

The fact that communication is essential for an effective coordination reveals the usefulness of WhatsApp as an interaction tool. Along the same lines, recent studies also reported a strong

relationship between perceived usefulness of communication tools and behavioral intention towards adopting them (Yoon et al., 2015). It is worth underlining the positive reaction of students when they were informed that the role-play would require the use of WhatsApp.

On a whole, these findings could indicate that perceived WhatsApp usefulness could help to establish (or reinforce) official communication platform using WhatsApp in line with extant studies (e.g., Jarvenpaa & Majchrzak, 2008), and to contribute to developing the perception of education efficacy. Moreover, these results could be fundamental in widening WhatsApp application in «serious» contexts (e.g., educational contexts), beyond merely being used for sending simple messages, sharing links or delivering announcements. Finally, perceived WhatsApp usefulness would be helpful to develop not only positive communications attitudes, but also some educational processes through enhancing specialization and coordination particularly among university students when working on complex learning activities involving decision-making.

To sum up the perception of WhatsApp usefulness could positively influence the perception of specialization, coordination and learning efficacy. This attitude could increase an effective use of WhatsApp as a communication tool, since working through it sends a clear signal to all members of educational process about the importance of establishing a method to best coordinate individual efforts.

## Conclusion

There are no doubts that technology helped a lot in education. The previous results show that students rely mainly on WhatsApp for communication with their professors. They also recommended it for educational purposes. WhatsApp is very popular application in Saudi Arabia. There are more than 8.59 million users. It is recommended to conduct further studies to assess the effectiveness of WhatsApp for educational purposes. There is a need for longitudinal comparative studies in which more than one communication channels are being evaluated.

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