Understanding the effect of context on preferences for texting and calling

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ABSTRACT

This paper continues the investigation on the relationship between contexts and communication behaviors on mobile phones, which was studied qualitatively. Purpose of this study is to find quantitative evidence to justify the qualitative findings. Surveys were conducted to collect data on what people choose between calling and texting under different contexts and the reasons behind their selection. The results proved that communication behaviors are correlated to contexts and people continuously evaluate strengths and weaknesses of calling and texting based upon the context.

INTRODUCTION

Texting and calling have become the prevalent mode of communication. The decision of choosing the mode of communication depends upon multiple factors. It has been shown that the important considerations are personal preference, context and inherent characteristics [3]. Here we hypothesize that context is a primary consideration while selecting a mode of communication. Previous studies give information about which contextual cues are considered helpful to decide whether or not to initiate a call [2][1]. Our interest lies in finding the reasons behind a person's preference of one particular mode of communication under a given context. In this paper, assuming that the inherent characteristics of a mode of communication do not change, by varying context, we can find the relation between the preferred mode of communication and the reason behind it.
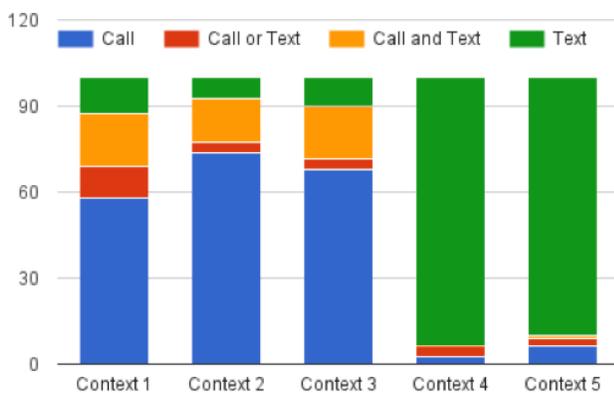

Figure 1. Answers to Question A.

METHODS

We created a Google Form to gather information from participants. The survey was piloted by a sample of 5 people from diverse backgrounds and adapted based on their responses to meet our need of being universally relatable and free from bias. The survey was then shared on social media to collect maximum responses. We created a set of questions keeping in mind various contexts. The survey collected basic demographic information (age, gender and occupation) from the participants. It consisted of five contexts, each of which had two questions. The contexts were considered applicable to a generic population of people who use mobile phones for communication. Each context targets a certain inherent characteristic of calling or texting. The following were the five contexts and their significance:

• **Context1**: "Your friend is supposed to pick you up from your house, but he/she is late. You are a little mad at him/her. You have to contact him/her to ask where he/she is." This context is designed to check how the users react to urgency of time and express emotions (mad at him/her).

• **Context 2**: "You want to wish happy birthday to a close family member (mom, dad, wife, husband and etc.)." This context involves close relations and a need to express emotions.

• **Context 3:** "You just found out some big problems with your project that is due tomorrow. You want to talk about it with one of your teammates." This context need to convey dense information and involves urgency of time.

• **Context 4:** "Your friend asked for the number of your hair salon and you need to give him/her the number." This context is associated with conveying low density but complex information.

• **Context 5:** "You are on vacation and you want to tell your friend you are having a good time. Your friend is probably busy at work." This context is based on availability and the freedom to send multimedia.

We asked two identical questions for every context. Question A was a choice between always text, always calls, both text and call or either text or call method to respond to a given context. Question B was to select all applicable reasons behind the answer of the previous question. Each option is based on inherent characteristics found in our previous paper. The following are the options and their

respective characteristic that was plotted based on our study.

Options	Characteristics
There is a lot to talk about	High Information Density
There is not much to talk about	Low Information Density
I want immediate reply from the other person	Immediate Feedback
I don't want to do small talks	Social Customs
I don't want to look at my phone while communicating with her/him	Synchronous vs. Asynchronous
I don't want to interrupt him/her if he/she is busy at the moment	Social Customs
I want to express my feelings	Express Emotions
I don't want to show my feelings	Hide Emotions
I am busy and don't want to stop what I am doing	Availability and Personal Preference
I want to share emoji, links, or images	Ability to share Multimedia

Table 1. Options to Question B and their corresponding characteristics

N	Chi-square	DF	p-value	Sig
80	276.376	12	0	0.05

Table 2. Results of chi-square text on choices and contexts

RESULTS

81 responses were received and data was first cleaned and filtered. One response was removed from the sample (the response had two conflicting options checked "There is a lot to talk about" and "There is not much to talk about." for the same question). Therefore, the final sample size is 80. 60.5% are male and 39.5% are female; the majority (74.1%) are aged between 23 and 27.

Context	Purpose of context	Predicted most common reasons for calling	Actual most common reasons for calling
1	To make plans for immediate future	I want immediate reply from the other person	I want immediate reply from the other person; I want to express my feelings
2	To express emotions to intimate relations	I want to express my feelings	I want to express my feelings; There is a lot to talk about
3	To communicate about something at length with an imminent deadline	There is a lot to talk about; I want immediate reply from the other person	There is a lot to talk about; I want immediate reply from the other person

Context	Purpose of context	Predicted most common reasons for texting	Actual most common reasons for texting
4	To deliver a small piece of information	There is not much to talk about	There is not much to talk about
5	To communicate with someone with different availability	I don't want to interrupt him/her if he/she is busy at the moment; I want to share emojis, links, or images	I don't want to interrupt him/her if he/she is busy at the moment; I want to share emojis, links, or images; There is not much to talk about.

Table 3. Predicted and actual most common reasons for context 1 - 5

The chi-square test proves that people's choices to call or text are correlated with contexts (Table 2). Participants show clear preferences to one form of communication over the other under different contexts. For context 1, 2, and 3, 58%, 73.8%, and 67.9% respectively of people chose to call; for context 4 and 5, 93.8%, 90.5% of people choose to text. The percentage of people who are indifferent is very low in all contexts: 11.1%, 3.8%, 3.7%, 3.7%, and 2.5% of participants in the five contexts choose "There is no difference between calling and texting". (Figure 1) These two pieces of evidence obtained from the data to Question A confirms our prediction that people are sensitive to contexts when making decisions to call or text. Results from each the five contexts respectively suggest that people chose to call when they want immediate feedback, when they want to express emotions, and when they need to communicate at length; people chose to text when the information they want to deliver is small; when they don't want to interrupt other people and when they want to send multimedia.

Answers to Question B were analyzed to find out why people choose to text or call for all five contexts. For context 1, 2, and 3, participants who chose to call were selected and their answers to Question B were analyzed to find out why they chose calling over texting. For context 4 and 5, participants who chose to text are selected and their answers to Question B were analyzed to see why they chose

texting over calling. Figure 2 and Table 3 summarize the results from Question B. In Figure 2 we display the statistics of the answers received. A threshold of 15% is chosen to decide the most common answers as shown in Table 3. Since each context is designed to prime a different characteristic, answers to questions B have different distributions across contexts as hypothesized. For each context, there are a few answers that are chosen significantly more often than others, which suggest that people choose reasons relevant to the corresponding context. This suggests that people evaluate these inherent characteristics [3] based on which they decide to call or text.

DISCUSSION

The results in general are consistent with the hypothesis. Results from question A show people choose the better form of communication according to context. There are a few things from the results that were not expected. In question B, participants choose the reasons that make one form of communication better than the other under specific contexts. However, participant also chose more reasons than expected. In context 1, in addition to the expected answer "I want immediate reply", the second most common reason is "I want to express my feelings." This is probably due to the fact that the context implies the need to express emotions since the context says "You are a little mad at her/him". Although context 2 is used to test if people want to call when they want to express emotions, this unexpected result from context 1 is consistent to and corroborates findings from context 2. It is true for context 2 and 5, whose results include more answers than expected. In context 2 where participants are asked to wish happy birthday, in addition to the expected answer "I want to express my feelings", participants also chose "There is a lot to talk about". Results for calling-oriented contexts (1, 2, and 3)

are more disperse and varied than texting-oriented contexts (4 and 5). For contexts 4 and 5, over 90% people choose to text, a very high proportion compared to first three contexts with 58%, 73.8%, 67.9% respectively. There are a couple of possible explanations. This could suggest that some people might have a general preference to texting. Since the sample composes mostly of young people and studies have shown that teenagers generally tend to text more than they call. The framing of the contexts may also have contributed to this result. Both context 4 and context 5 has very strong suggestions and are very typical scenarios where texting is more favorable than calling whereas context 1, 2, and 3 are more ambiguous.

While analyzing results from Question B, we chose 15% as the threshold to determine which answers are the most common. A more sophisticated statistical model is needed to decide such threshold.

CONCLUSION

Our findings indicate that an individual's preference for texting or calling is correlated to the context. People do have different preference in different contexts. For the contexts 4 and 5, the percentage of people who chose to text was significantly higher compared to the contexts 1, 2 and 3. A very small amount of people seem to find no difference between calling and texting. The results show that people call when they want immediate feedback, to express emotions, and to have long conversations. In the same way people chose to text when the information they want to deliver is small, when they don't want to interrupt other people and when they want to send multimedia.

In future studies, considering a more diverse and broader range of contexts or situations in which people call or text would produce a more accurate set of results. Although from the results that we got, it seems very plausible that the
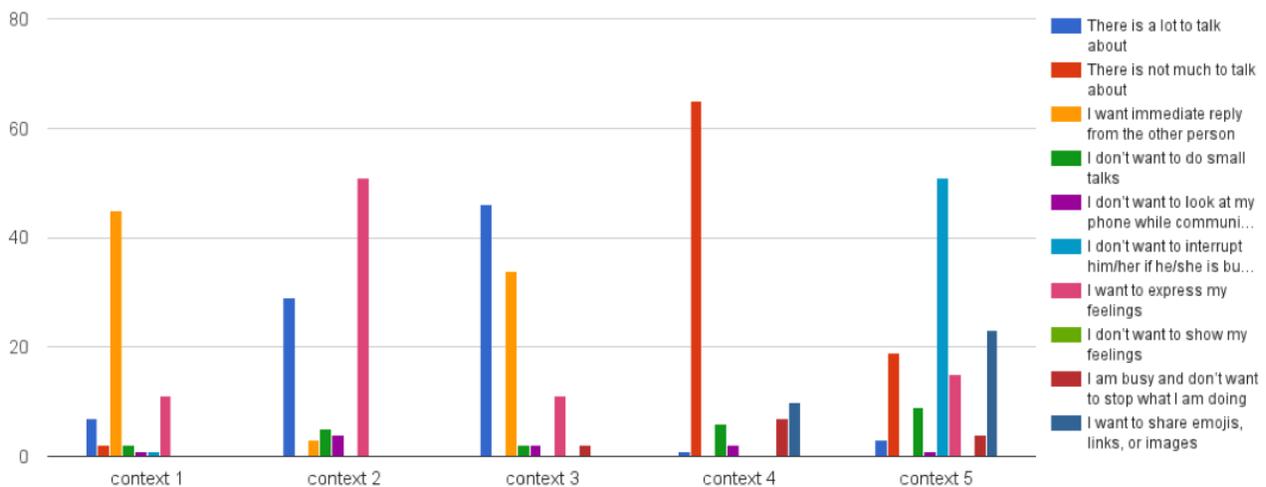

Figure 2. Answers to Question B: breakdown of why people choose to call or text.

preference of choosing to text or call depends on the five different contexts that we put together, there could be other

contexts as well which we haven't considered. Also from our results we have found that the occupation does not play

a vital role in choosing whether to text or call. Despite these limitations, our study provides insight on the reasons behind the preference between calling and texting; and shows that its dependent on context.

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