



“WHAT HAPPENS IF I PRESS THIS BUTTON?”

USER PERCEPTION AND EXPECTATIONS ON DELETING INSTANT MESSAGES

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I. MOTIVATION

In October 2017, WhatsApp introduced **Deleting Messages for Everyone**

- User choice: Delete message locally or globally?
- Effects of deletion functionality had not been stated before

Do users delete messages?

How do other messengers do this?

Do users know what happens?

What do they expect?

Messenger	Active Users (M)	Local Deletion	Global Deletion	Residuals	Delete Chat	Ephemeral Messages
Facebook Messenger	1300	•	○	○	•	○
Google Hangouts	19	○	○	–	•	○
GroupMe	9	•	○	○	•	○
Line	214	•	○	○	•	○
Signal	0.5	•	•	○	•	•
Skype	300	•	•	•	•	○
Snapchat	255	•	•	○	•	•
Telegram	100	•	•	○	•	•
Threema	3.5	•	○	○	•	○
Viber	260	•	•	•	•	○
WeChat	963	•	•	•	•	○
WhatsApp	1300	•	•	•	•	○

• Provides functionality ○ Does not provide functionality – Functionality does not apply

II. STUDY PROCEDURE

125 participants

1) Experiment

- Participants send and delete a message
- Receiver's device under our control

2) Questionnaire

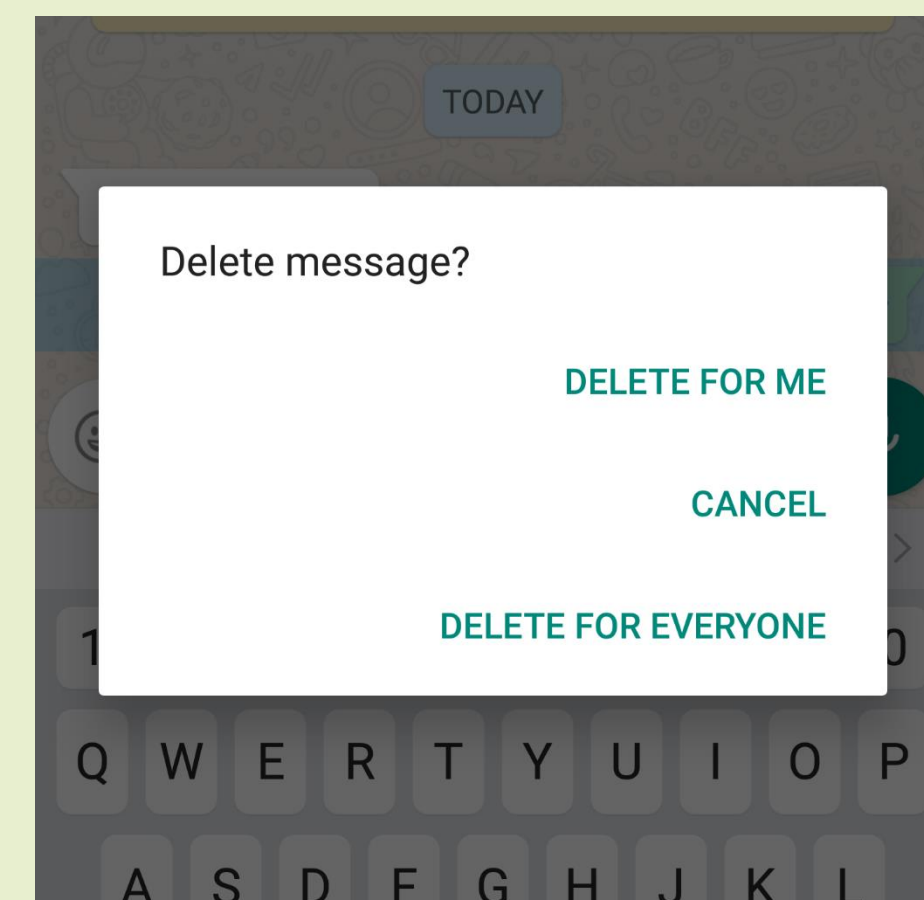
- Mobile device usage
- Message deletion practice
- Demographics

3) Revealing

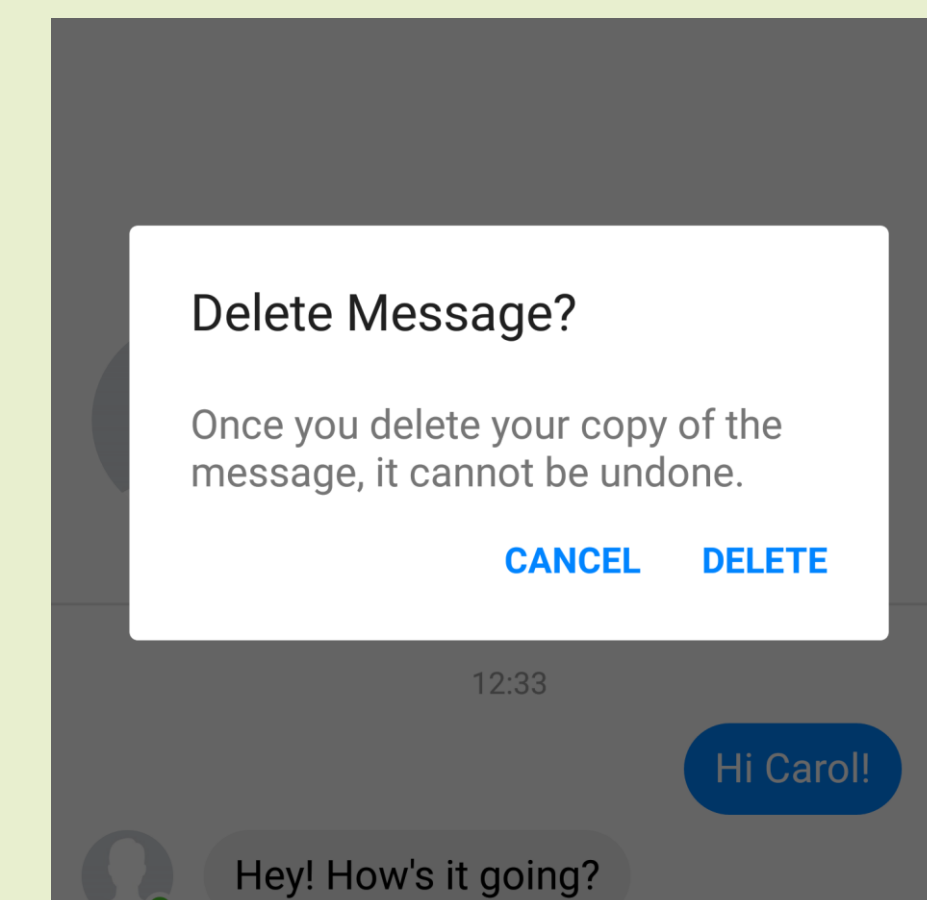
- Result presented on receiver's device
- Final questions on expectation matching

III. TEST CONDITIONS

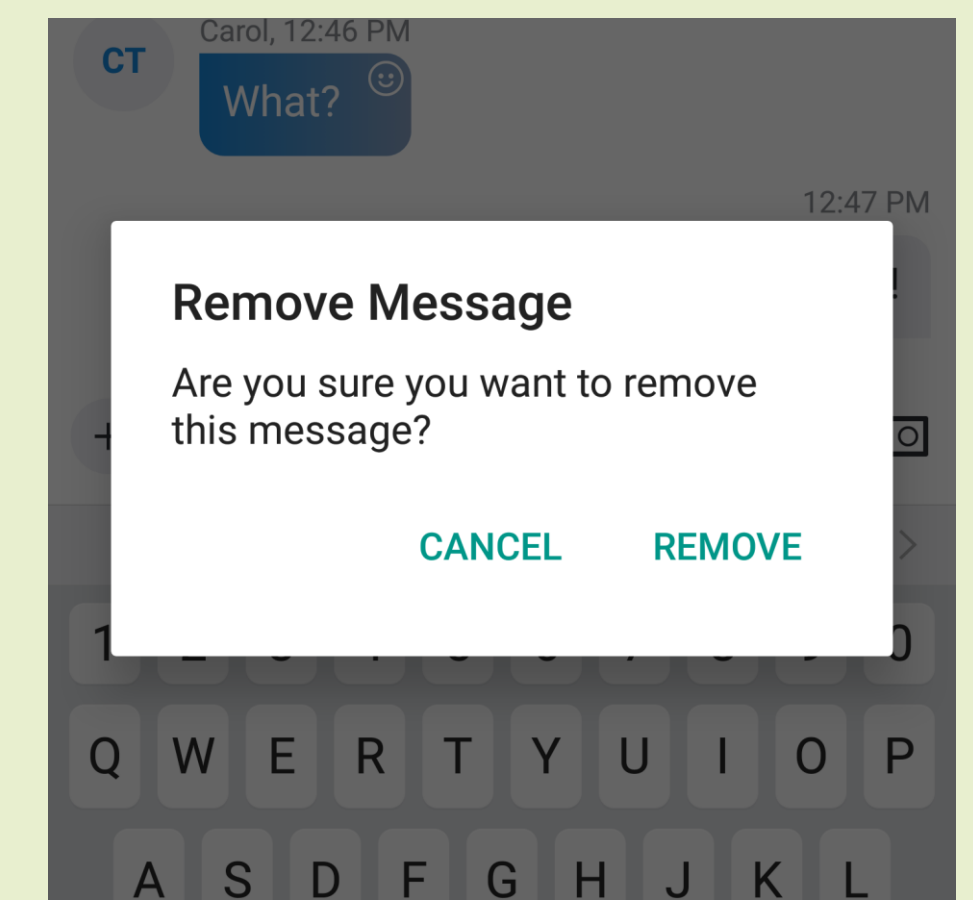
WhatsApp
User Choice



Facebook Messenger
Local Deletion



Skype
Global Deletion

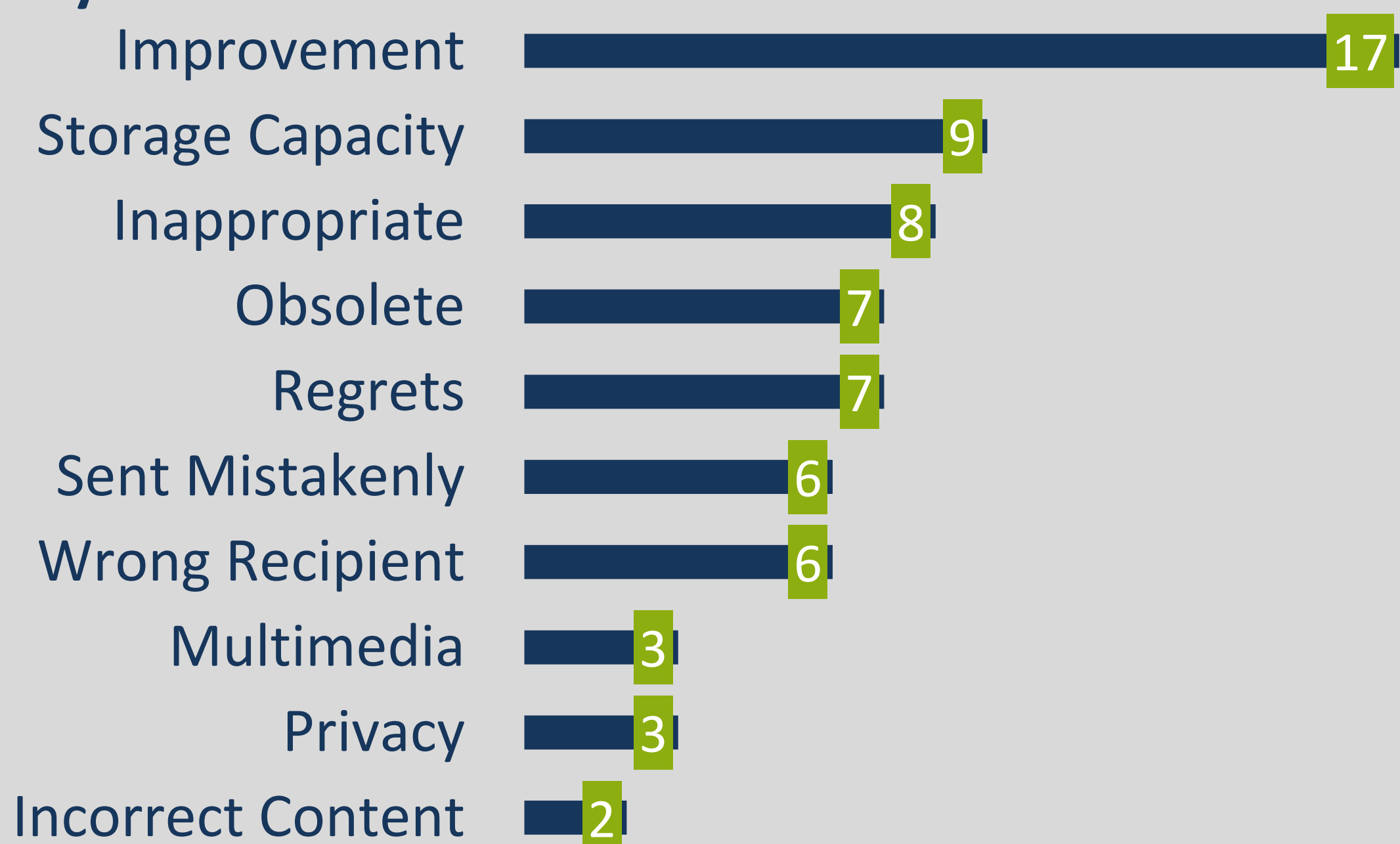


IV. RESULTS

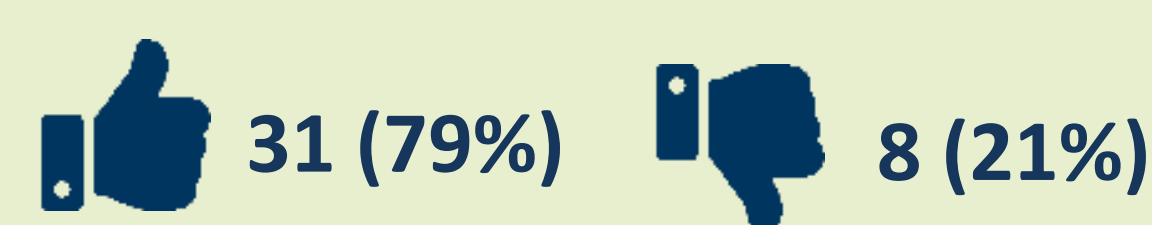
How often do users delete?



Why do users delete?

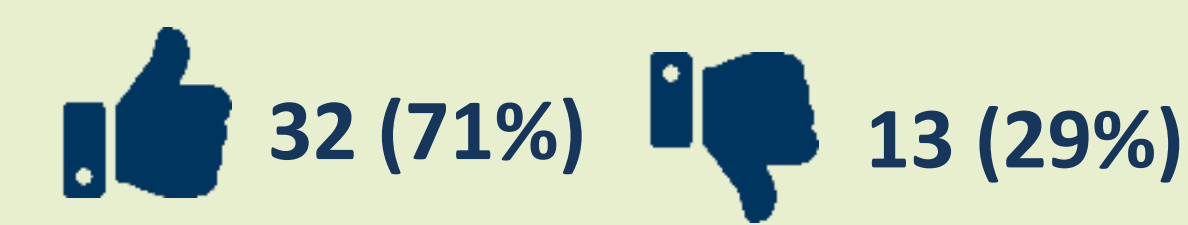


Did users expect what happened?



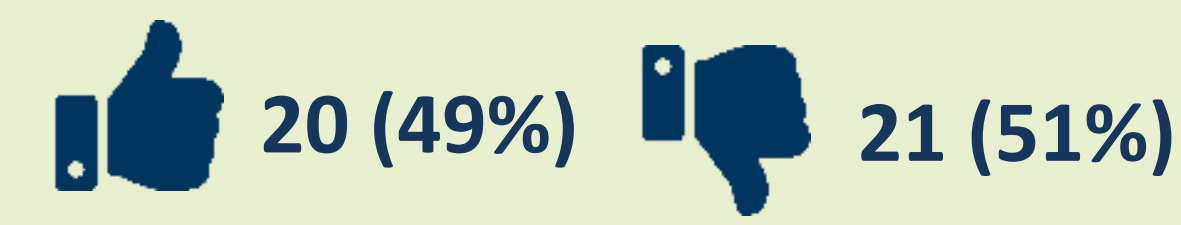
[YES] “Because I selected *delete for everyone* and that is what happened.”

[NO] “I thought [the message] would not be deleted at the recipient.”



[YES] “Because the app did not ask me in which device did I want the message to be deleted.”

[NO] “Because the message should have been deleted from the receiving device.”



[YES] “Because I deleted the message.”

[NO] “I expected the message to be deleted only from the sending device.”

Reasons for expectation mismatches

2 participants were surprised that the **message was actually deleted**

5 answers refer to the **message deletion hint**

10 participants did not expect that the **message was still available**

1 participant expected a **message deletion hint**

8 participants were surprised that the **message was deleted**

3 answers refer to the **message deletion hint**

V. TAKEAWAY

- The term “delete message” is ambiguous
- Implementations of deletion differ widely
- 40% of participants delete messages for a variety of reasons
- Selection dialogue can clarify functionality but puts additional burden on the user
- Consent-based deletion may be an option for conflict of interest: control vs. consistency

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