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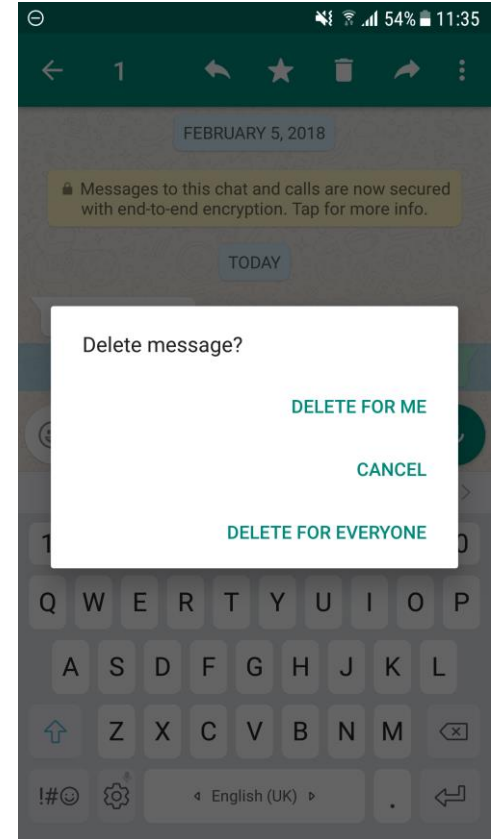# USER PERCEPTION OF DELETING INSTANT MESSAGES

EuroUSEC'18, London, UK, 23 April 2018

Theodor Schnitzler, Christine Utz, Florian M. Farke, Christina Pöpper, Markus Dürmuth

MOTIVATION

Instant Messaging

- New WhatsApp feature introduced October 2017
- Delete messages for everyone

How do other
messengers
do this?

Do users
delete
messages?

Do users
know what
happens?

What do
users
expect?

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OVERVIEW

Messenger	Users (M)	Del. Local	Del. Global	Hint	Chat	Eph Msg
Facebook Messenger	1300	●	O	O	●	O
Google Hangouts	19	O	O	-	●	O
GroupMe	9	●	O	O	●	O
Line	214	●	O	O	●	O
Signal	0.5	●	●	O	●	●
Skype	300	●	●	●	●	O
Snapchat	255	●	●	O	●	●
Telegram	100	●	●	O	●	●
Threema	3.5	●	O	O	●	O
Viber	260	●	●	●	●	O
WeChat	963	●	●	●	●	O
WhatsApp	1300	●	●	●	●	O

Dialogue to select local or global

Local only

Global only

Delete and Recall separate functions

Conversations only

Confirmation of local deletion

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RESEARCH QUESTIONS

1. *What are users' expectations towards the functionality of deletion mechanisms?*

2. *Do specific implementations of this functionality match users' perceptions, i.e., do users correctly estimate the consequences of a particular deletion action?*

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AGENDA

- Introduction

- **Methodology**

- Results

- Conclusion

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WHAT WE DID

Experiment
- Send and delete a message
- Receiver's device under our control
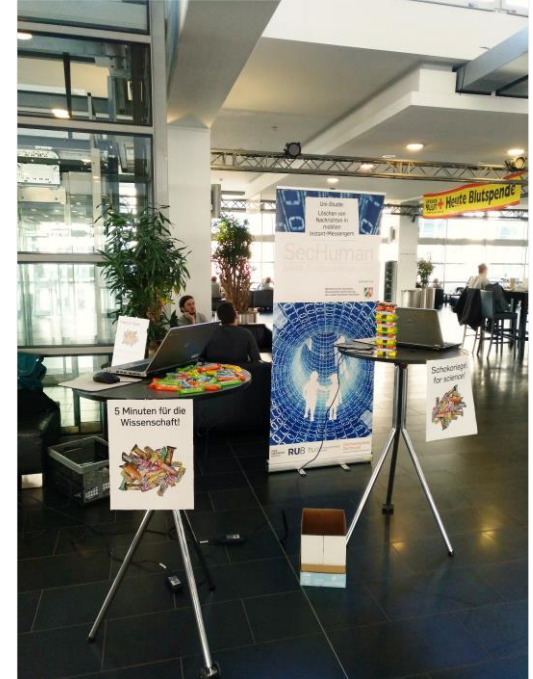
Questionnaire
- Mobile device usage
- Message deletion practice
- Demographics

Revealing
- Presenting result on receiver's device
- Final questions on expectation matching

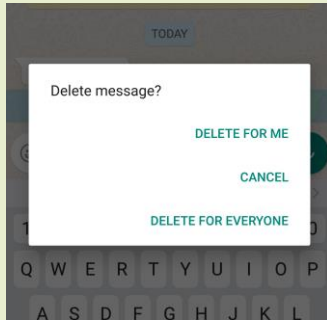Entrance area of dining hall

125 participants

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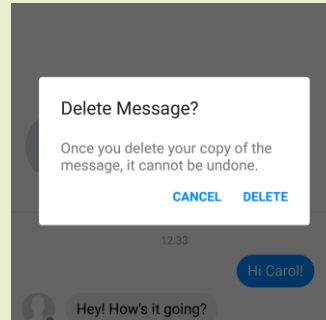RUHR UNIVERSITÄT BOCHUM

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WHAT WE DID

Test Conditions

WhatsApp

Dialogue to select
local or global deletion

**Facebook
Messenger**

Only local deletion

Skype

Only global deletion
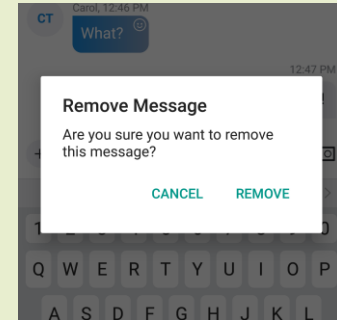
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HOW OFTEN DO USERS DELETE?

How often do you delete instant messages?
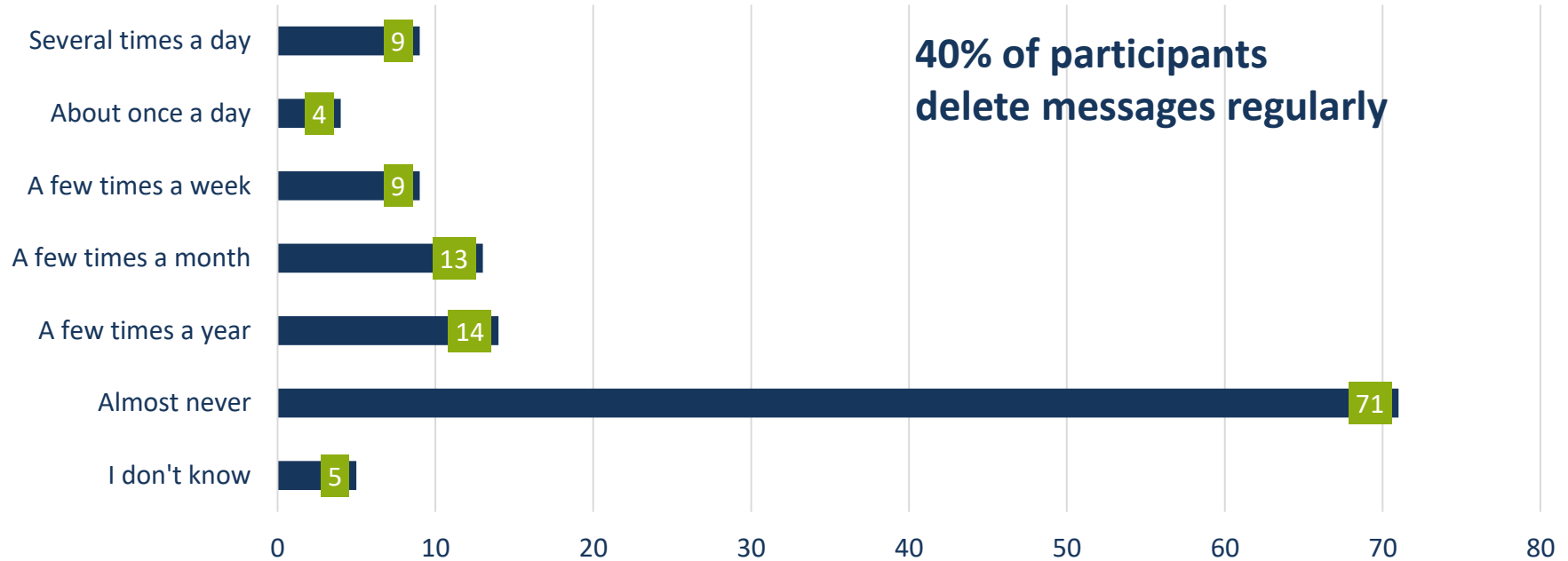
40% of participants delete messages regularly

Category	Value
Several times a day	9
About once a day	4
A few times a week	9
A few times a month	13
A few times a year	14
Almost never	71
I don't know	5

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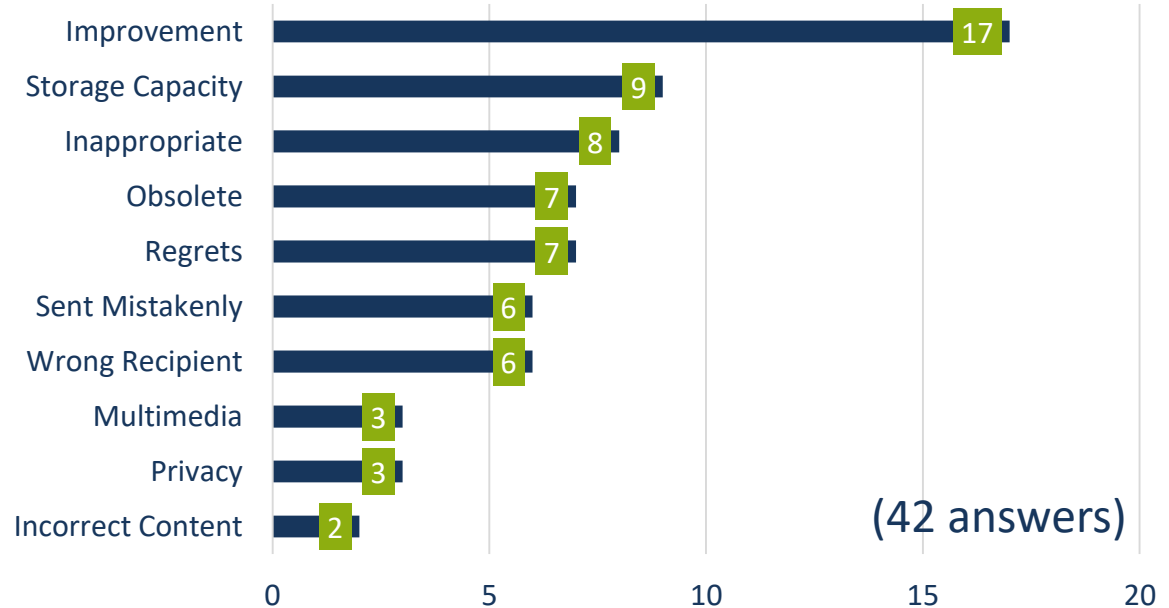
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WHY DO USERS DELETE?

What are your reasons for deleting messages?

"only because of misspelling"

"just because they consume some memory"

"message to the wrong person"
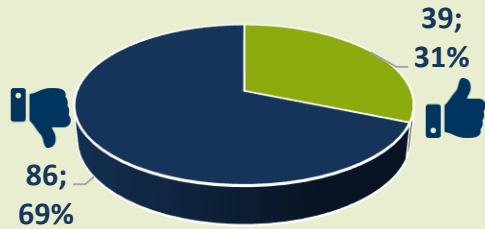
"grammatical failures or I regret what I was going to say"

Reason	Count
Improvement	17
Storage Capacity	9
Inappropriate	8
Obsolete	7
Regrets	7
Sent Mistakenly	6
Wrong Recipient	6
Multimedia	3
Privacy	3
Incorrect Content	2

(42 answers)

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DELETION LIMITATIONS

Do you think the deletion function should be limited?

39; 31%

86; 69%

How should the deletion function be limited?
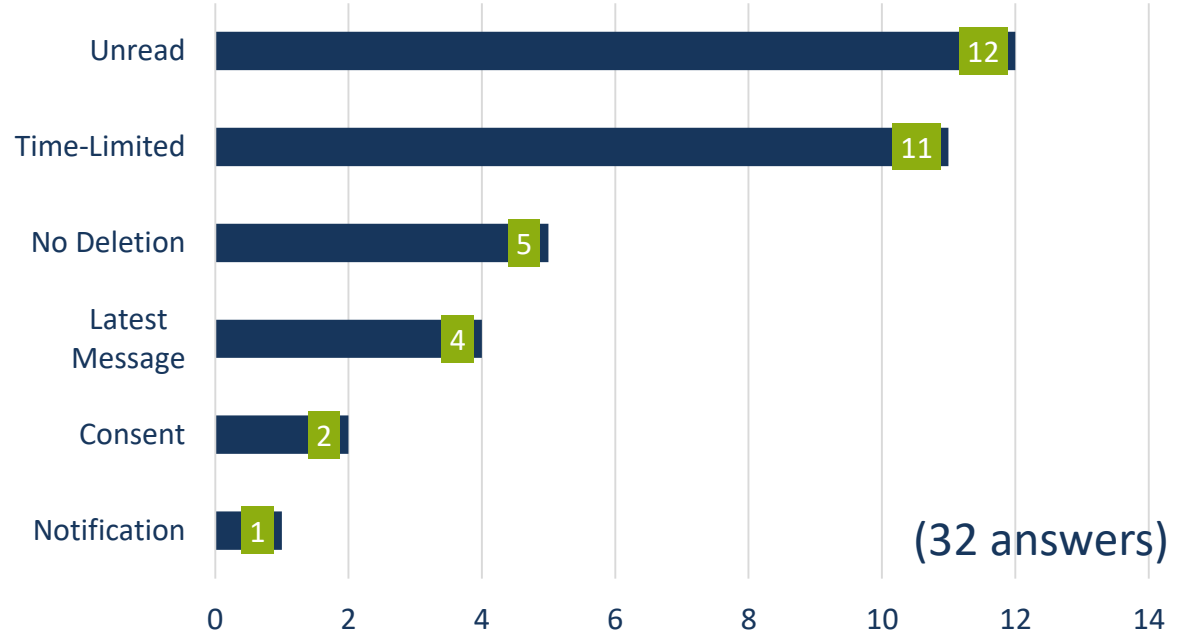
- Unread — 12
- Time-Limited — 11
- No Deletion — 5
- Latest Message — 4
- Consent — 2
- Notification — 1

(32 answers)

0 2 4 6 8 10 12 14

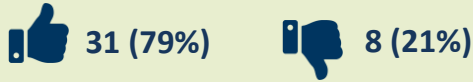جامعة نيويورك ابوظبي
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DID USERS EXPECT WHAT HAPPENED?

Does this result match your expectations?

Why does this result match your expectations? Why not?

WhatsApp
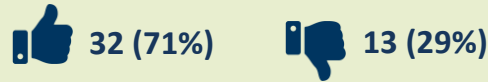
👍 31 (79%)   👎 8 (21%)

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

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

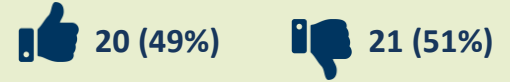**Facebook Messenger**

👍 32 (71%)   👎 13 (29%)

[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."

Skype

👍 20 (49%)   👎 21 (51%)

[YES] "Because I deleted the message."

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

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REASONS FOR MISMATCHING

Why does this result match your expectations? Why not?

WhatsApp

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

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

Facebook Messenger

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

1 participant expected a **message deletion hint**

Skype

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

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

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LIMITATIONS

- Biased sample

    - Younger people

    - Frequent smartphone users

- Study environment

- Limited feedback in questionnaire

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CONCLUSIONS & OUTLOOK

- Implementations of message deletion differ widely

- 40% of participants delete messages for a variety of reasons

- Conflict of interest: control vs. consistency

- Is there influence of functionality terminology?

- Interface design: can selection dialogues improve user experience?

  - Clarifying functionality

  - Additional burden to the user

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