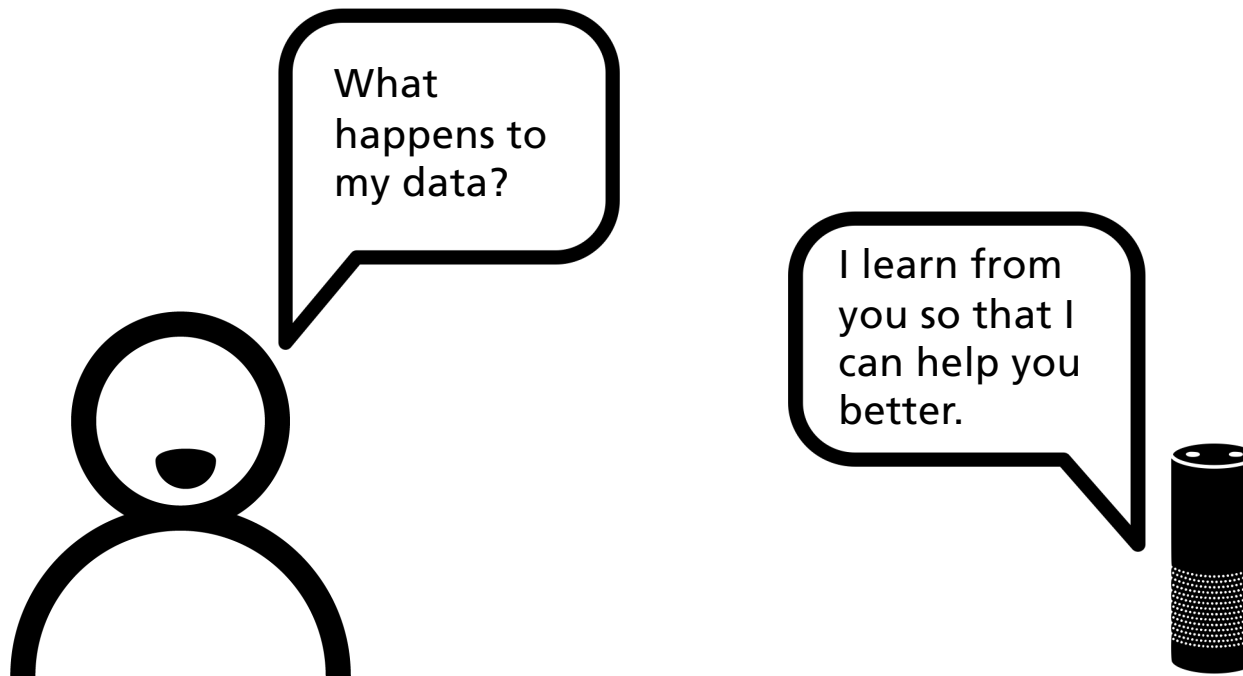


# Conversational Privacy

## What is conversational privacy?



## **Why** conversational privacy?

Potential **USP**: Siri, Google and Alexa don't do conversational privacy well.

GDPR advises on **seamless** communication of privacy.

**User reactions** may provide insights into user experience and requirements for privacy and security.

## **Why** conversational privacy?

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GDPR advises on **seamless** communication of privacy.

**User reactions** may provide insights into user experience and requirements for privacy and security.

## Why conversational privacy?

User	Siri
<b>Information</b> What happens to my data?	<b>X</b> I am sorry, I can't do that.
<b>Opt-out</b> I do not want you to process my data	<b>X</b> <sup>(2)</sup> OK.
<b>Deletion</b> I want you to delete my data	<b>X</b> I can't do that.

## Why conversational privacy?

User	Google
<b>Information</b> What happens to my data?	<b>X</b> Here's the top search result:... <i>[showing web search results]</i>
<b>Opt-out</b> I do not want you to process my data	<b>X</b> Here are some results: ... <i>[showing web search results]</i>
<b>Deletion</b> I want you to delete my data	<b>✓</b> (3) Alright, here's the place where you can delete your assistant activity ... <i>[Forwards user to settings where data can be deleted]</i>

## Why conversational privacy?

User	Alexa
<b>Information</b> What happens to my data?	✓ <sup>(1)</sup> I respond to you and learn from interactions, so that I can help you better.
<b>Opt-out</b> I do not want you to process my data	✗ I am not sure
<b>Deletion</b> I want you to delete my data	✗ I am not sure.

# **Researching** Conversational Privacy





Philip Lalone



Birgit Brüggemeier

## How did we investigate conversational privacy?

Chatbot Experiment

[Mary] For how many months do you want to check your balance?

3

[Mary] Checking the balance of card 5 6 7 8 for the past three months, I am processing your request...

[Mary] So your balances for the past three months are: 99 euros, 272 euros, 410 euros.

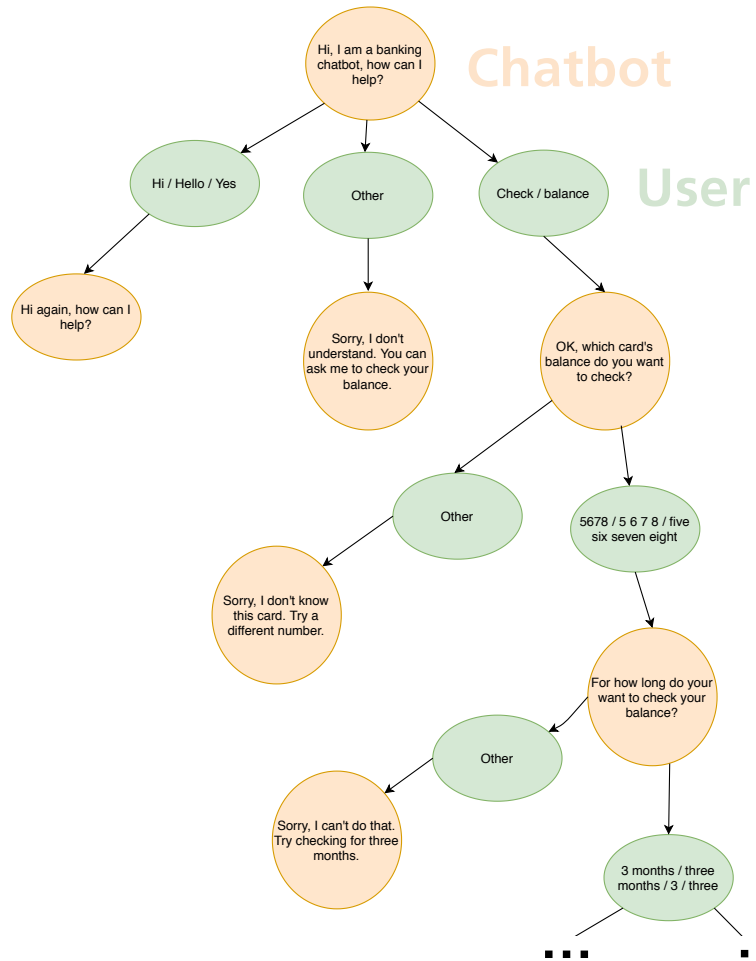
[Mary] Do you want me to delete your data from this interaction now to protect your privacy?

Type your reply here ... Send

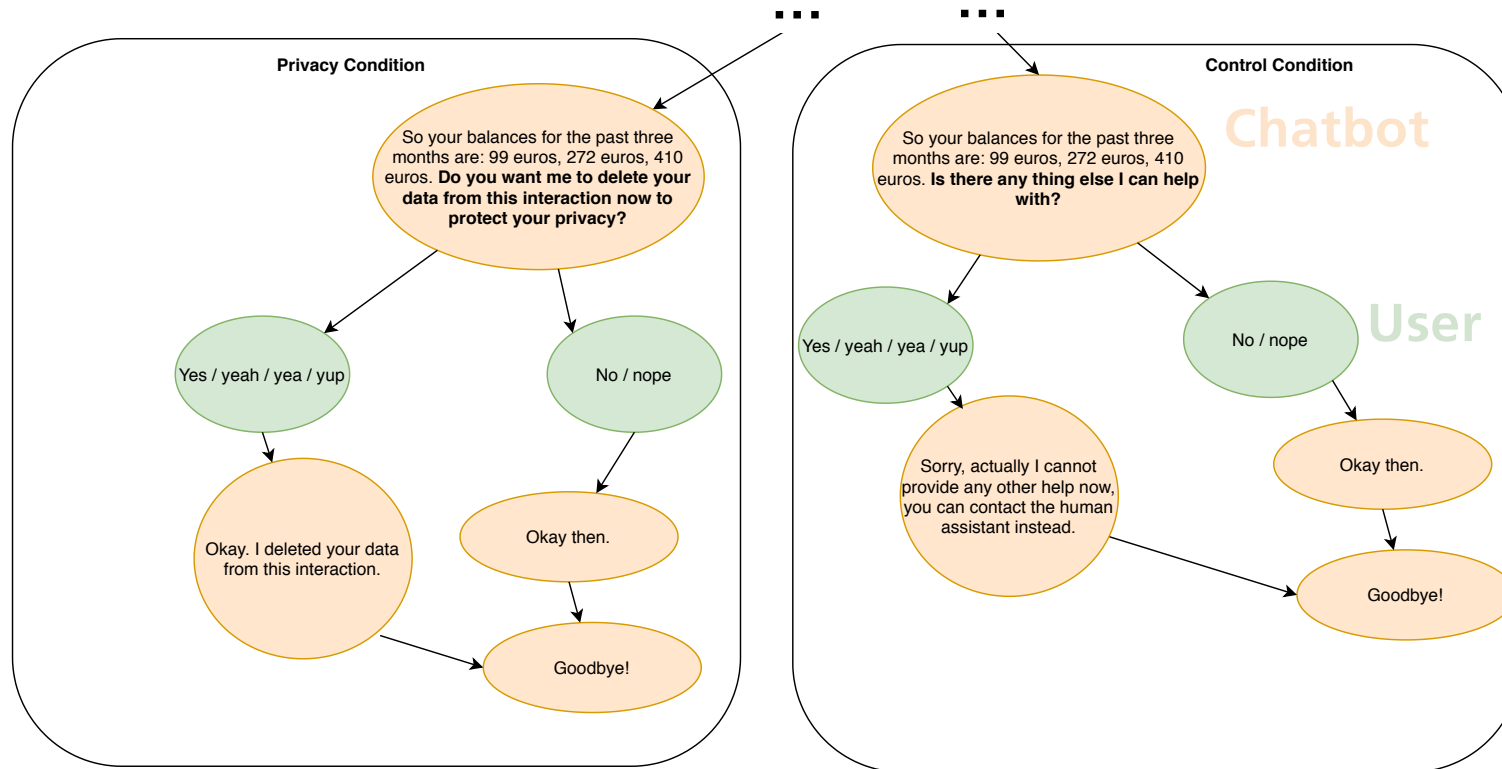
Task: **Check the balance** of your credit card ending with **5678** for the past **three months**.

on **amazon**  
mechanical turk

## How did we investigate conversational privacy?



## How did we investigate conversational privacy?



## How did we investigate conversational privacy?

[illegible]

**What** were my research questions?

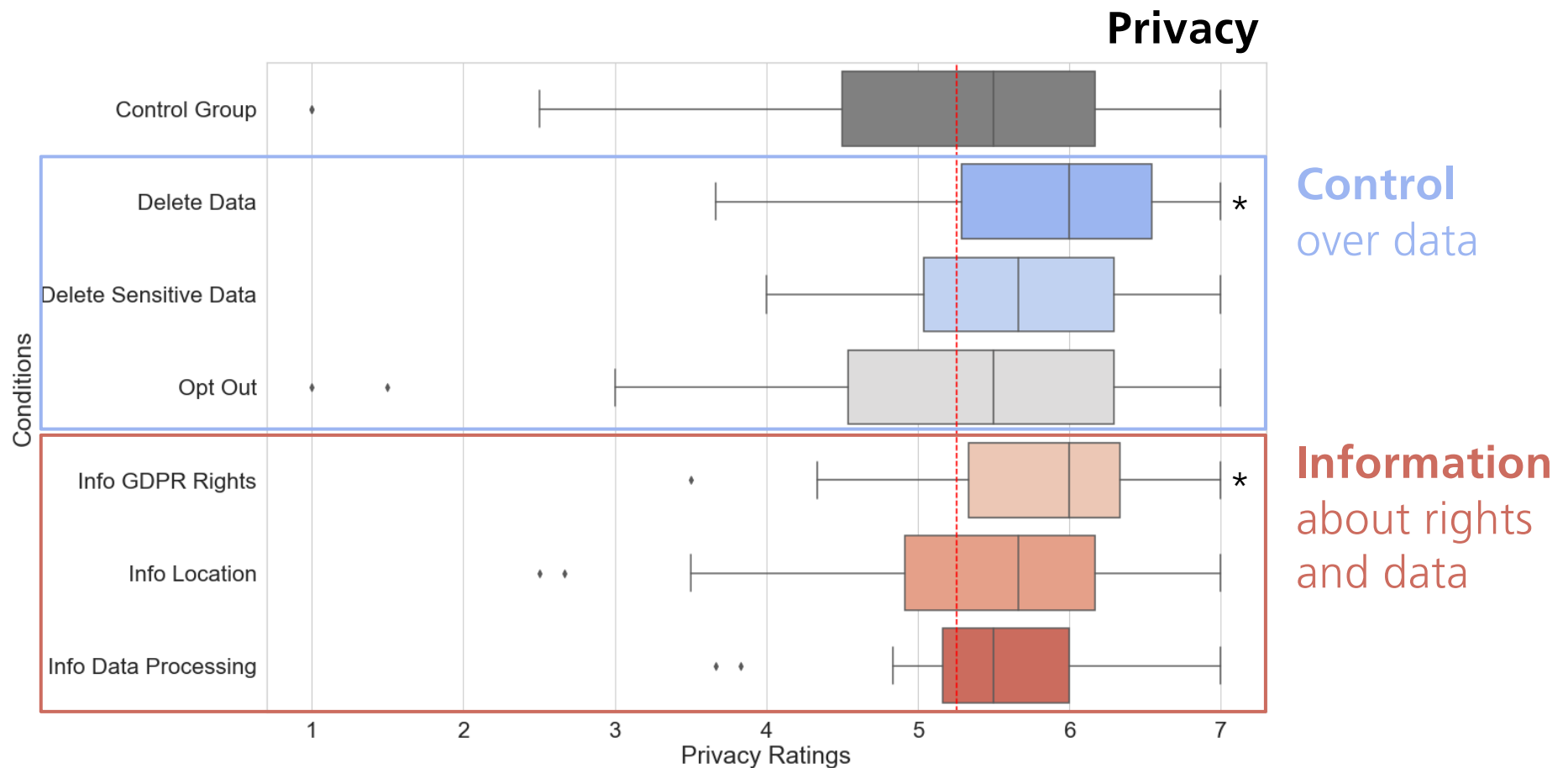
Does conversational privacy affect **user perceptions**?

Does conversational privacy affect **user choices**?

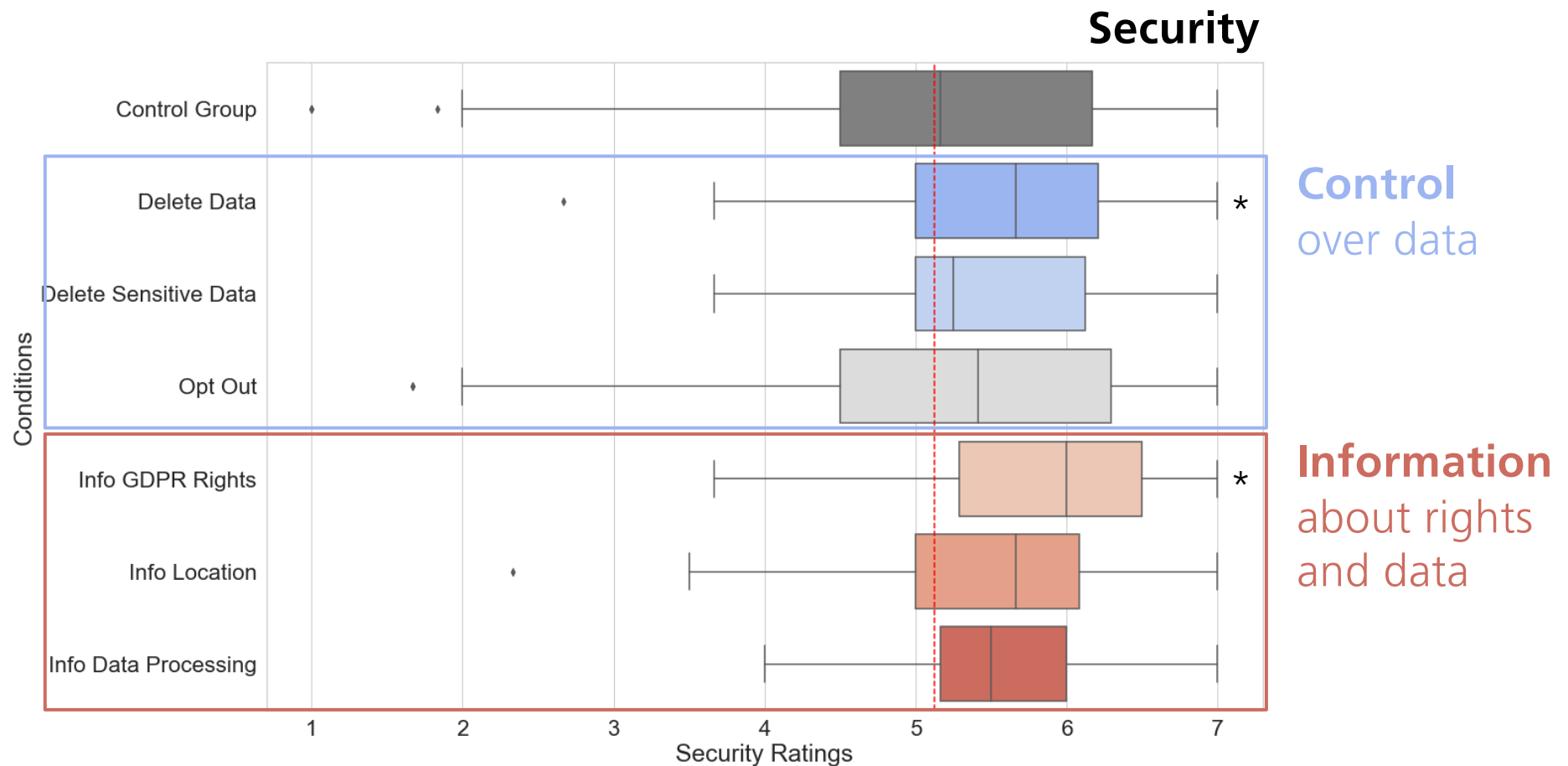
Are user perceptions affected by **privacy priming**?

Will be explained later on!

# Does conversational privacy affect **user perceptions**?

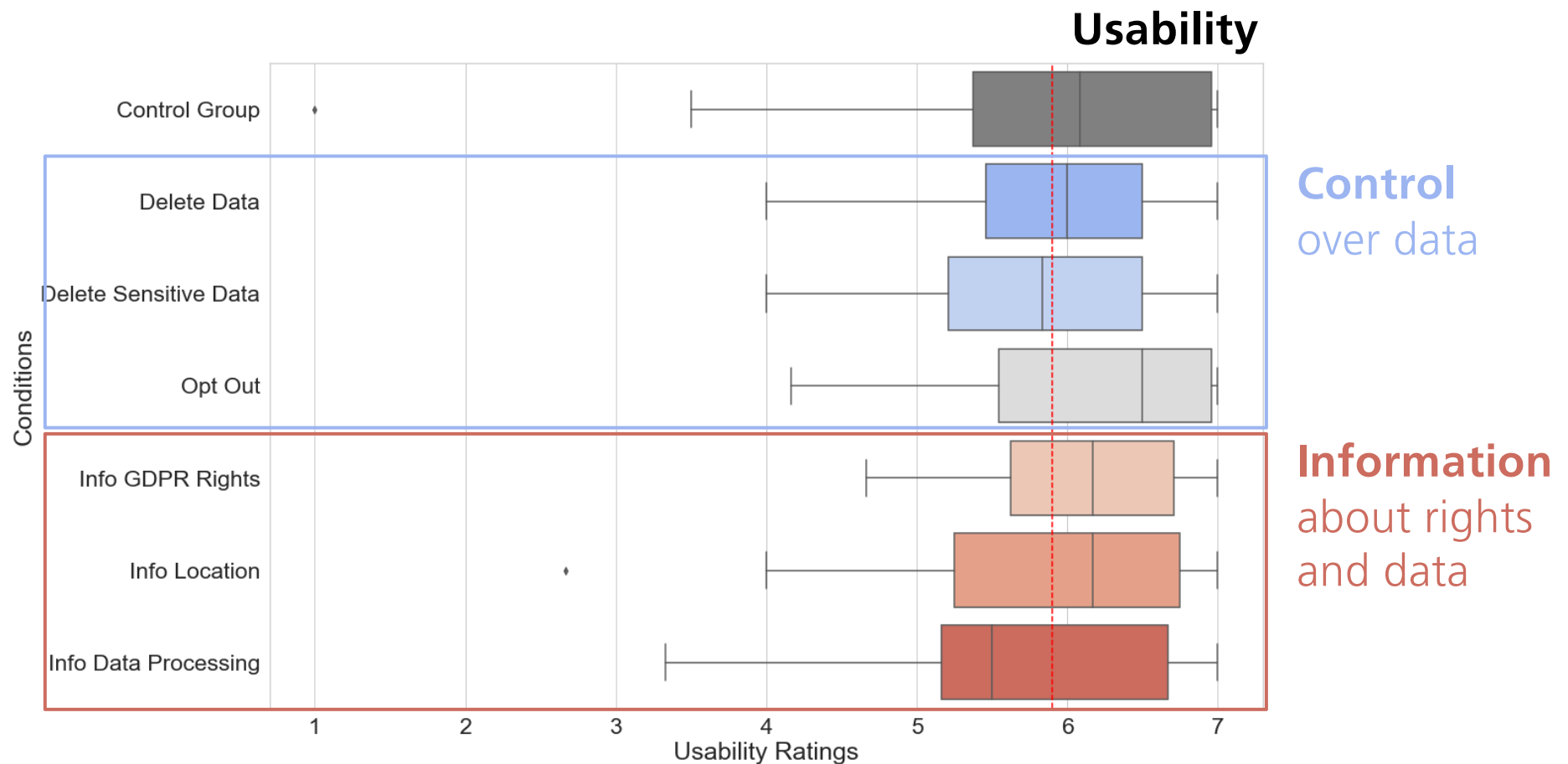


Does conversational privacy affect **user perceptions**?

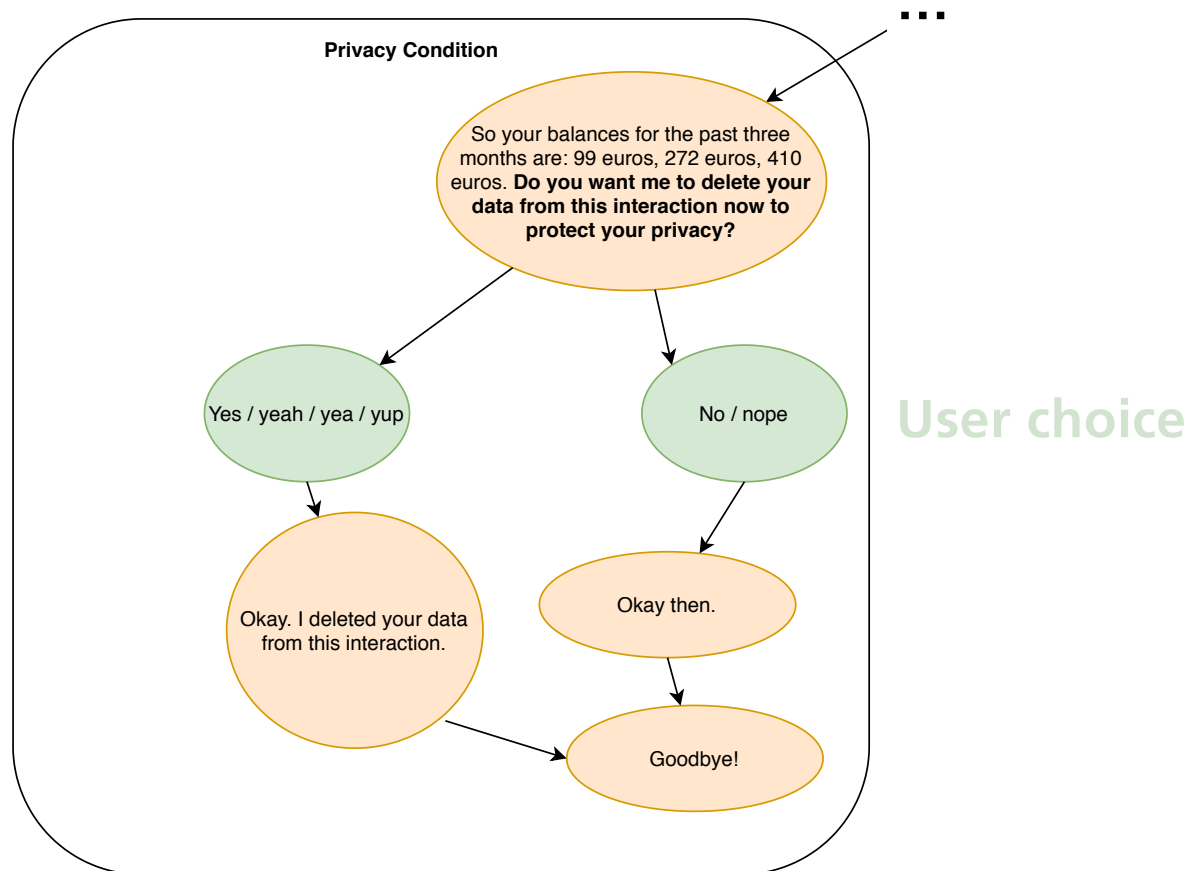




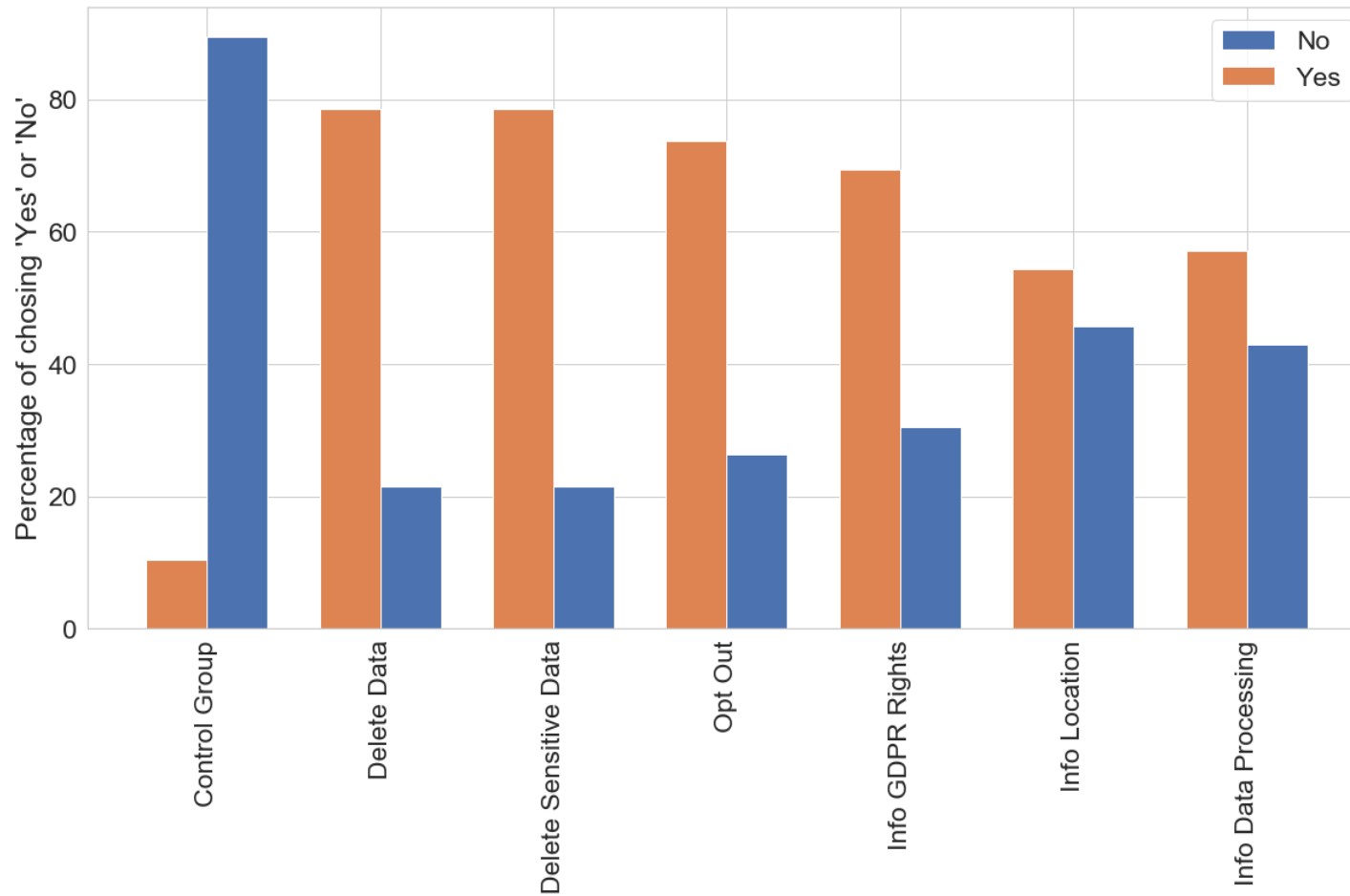
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## Does conversational privacy affect **user choices**?



## Does conversational privacy affect **user choices**?



Are user perceptions affected by **privacy priming**?

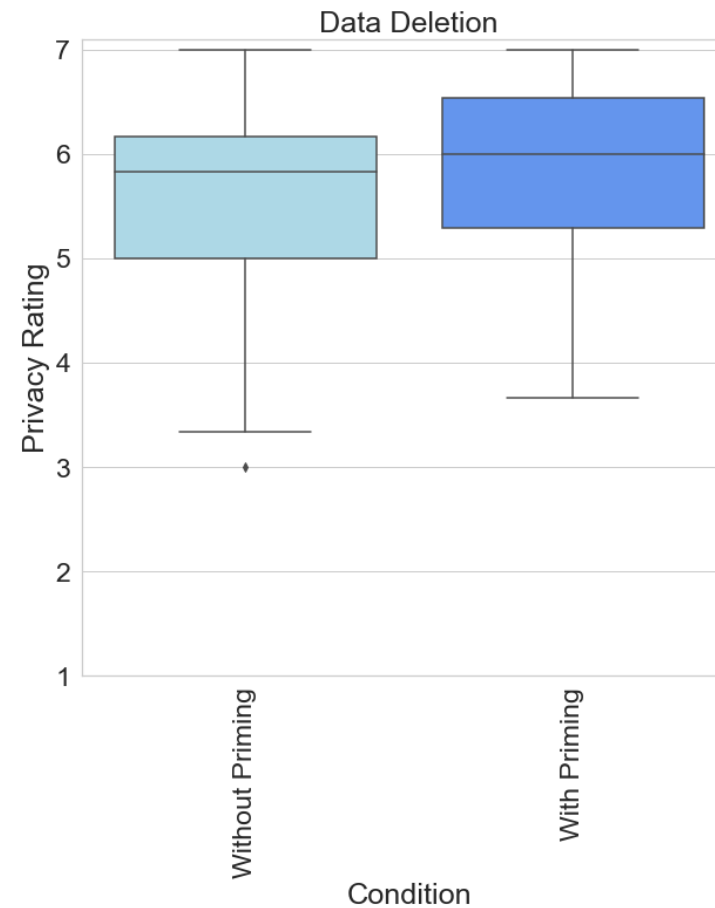
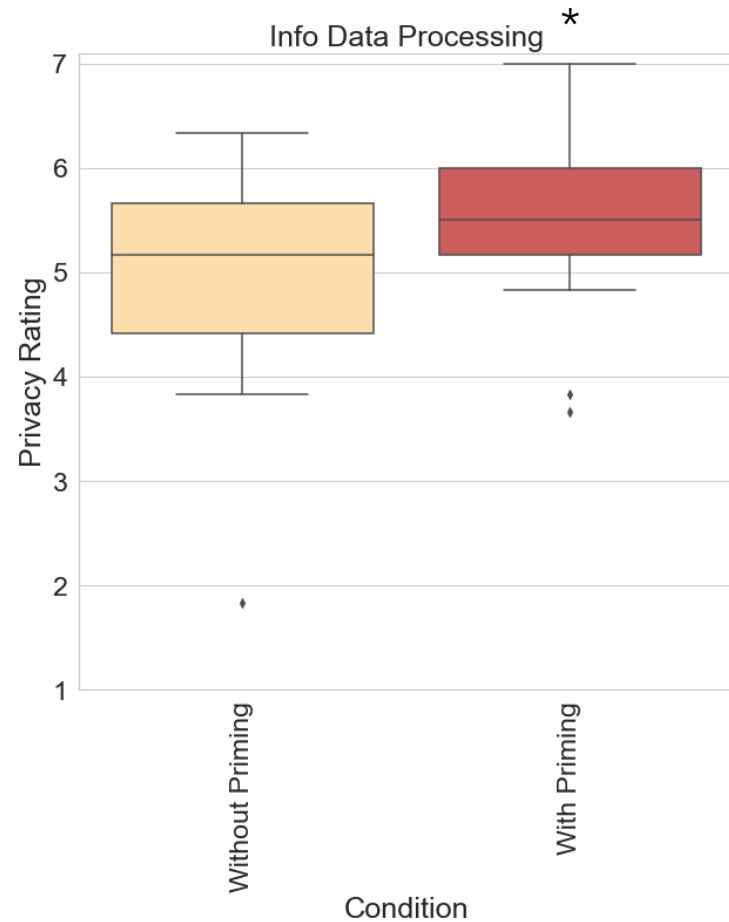
Do you want to know how your data is processed?

Do you want to know how your data is processed **to be more informed about your data**?

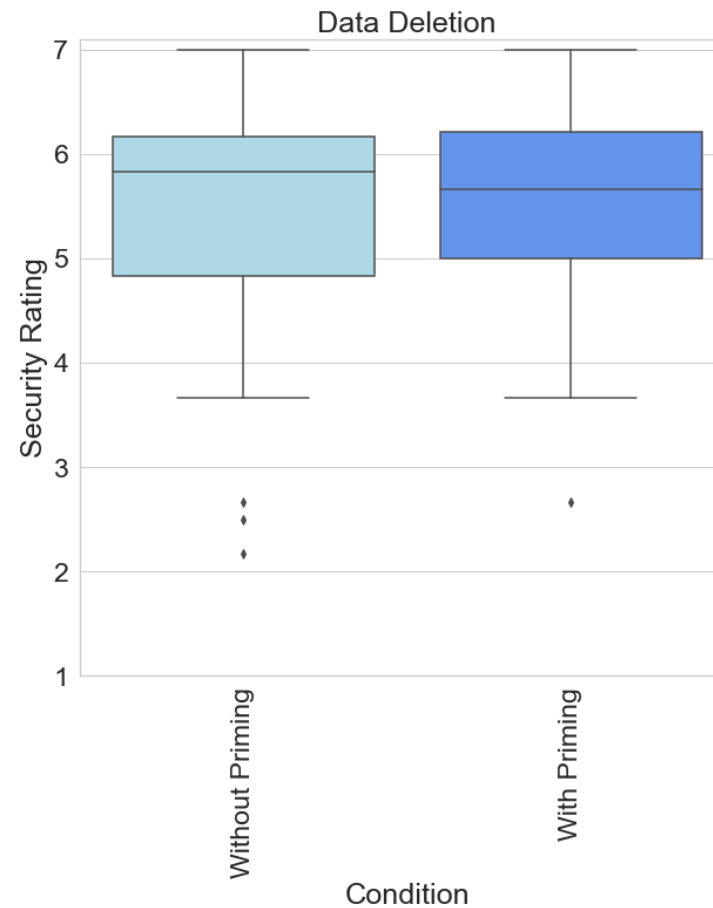
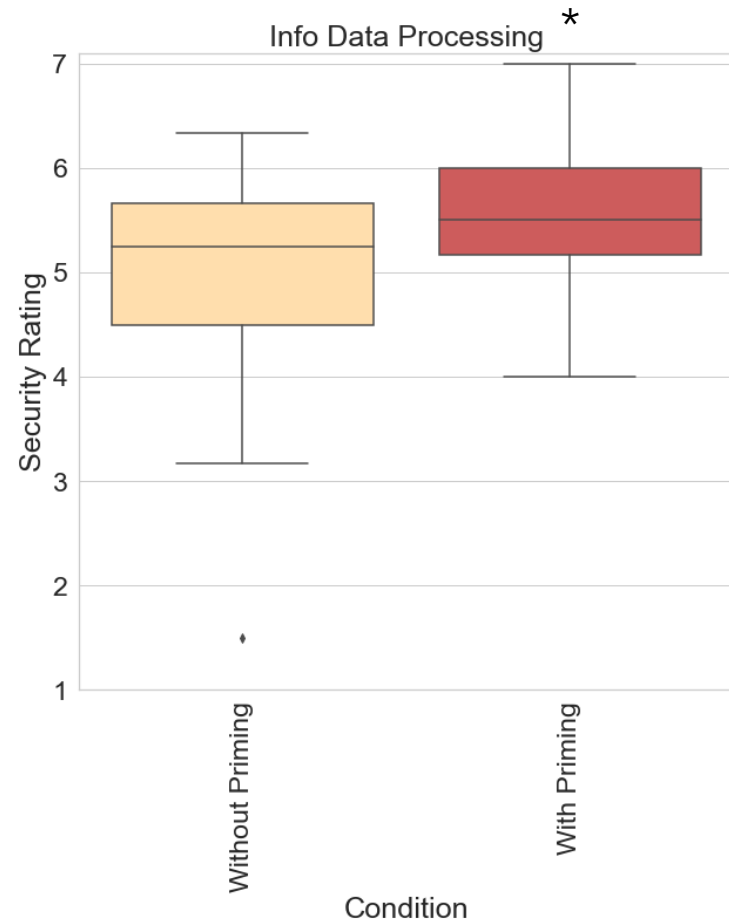
Do you want me to delete your data from this interaction now?

Do you want me to delete your data from this interaction now **to protect your privacy**?

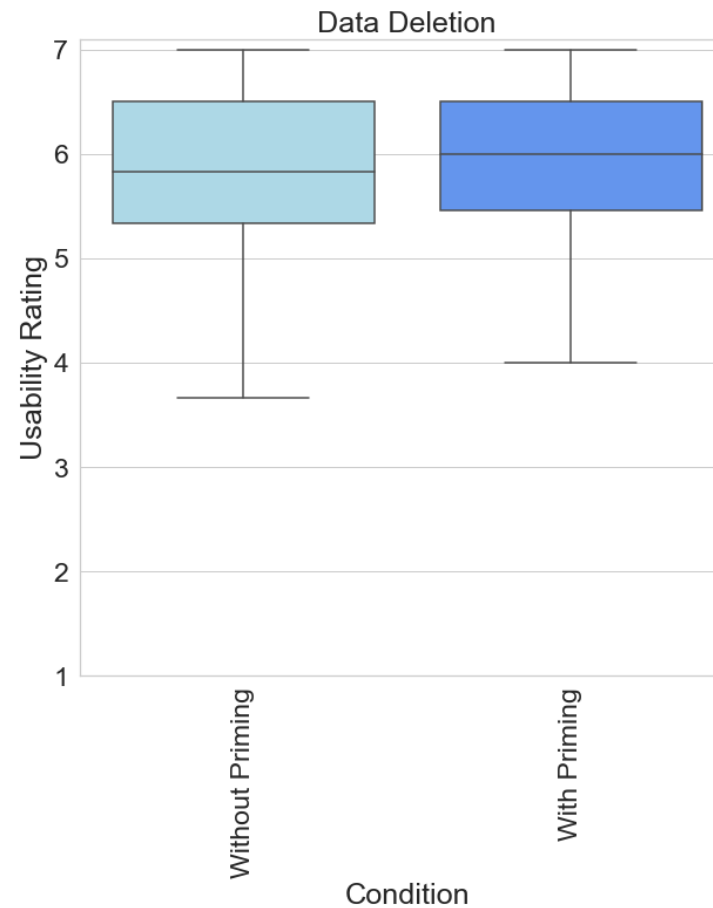
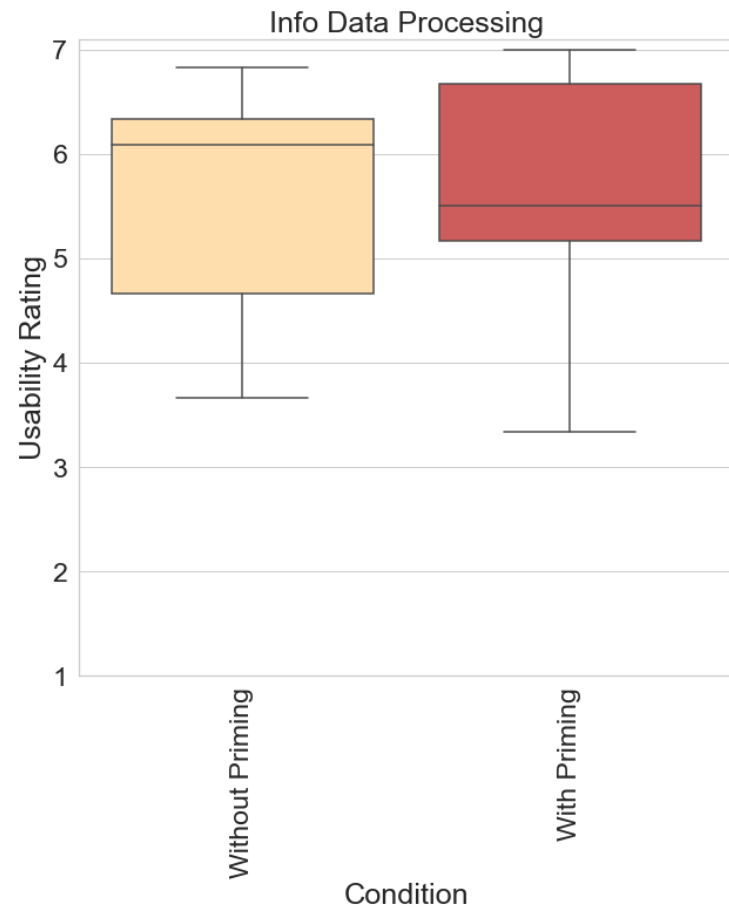
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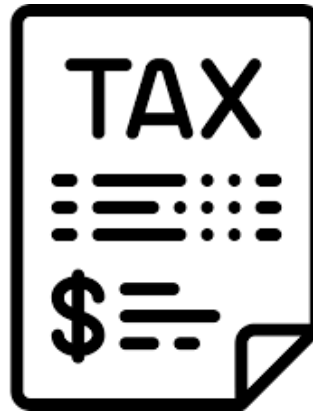


Are these results **use-case-dependent**?

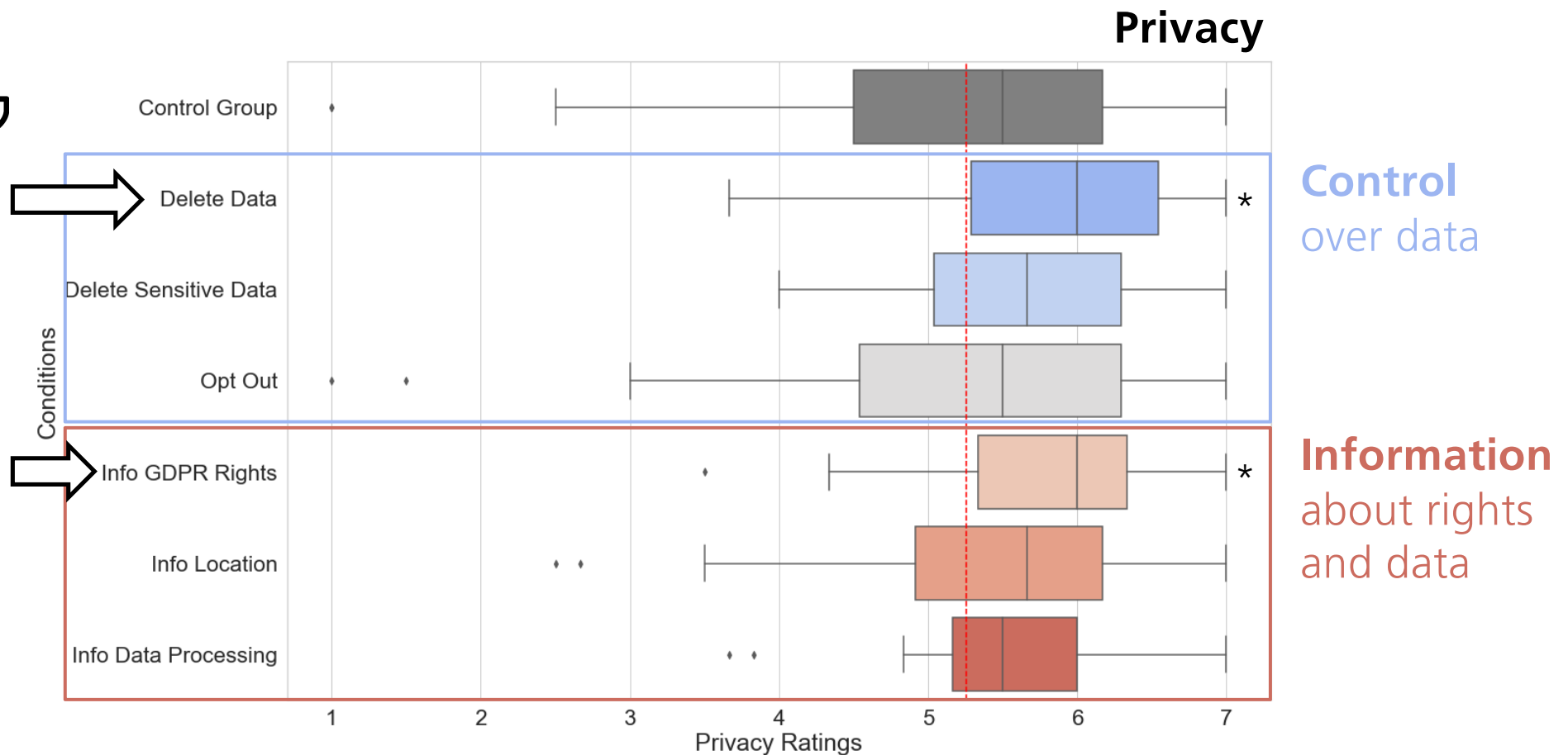




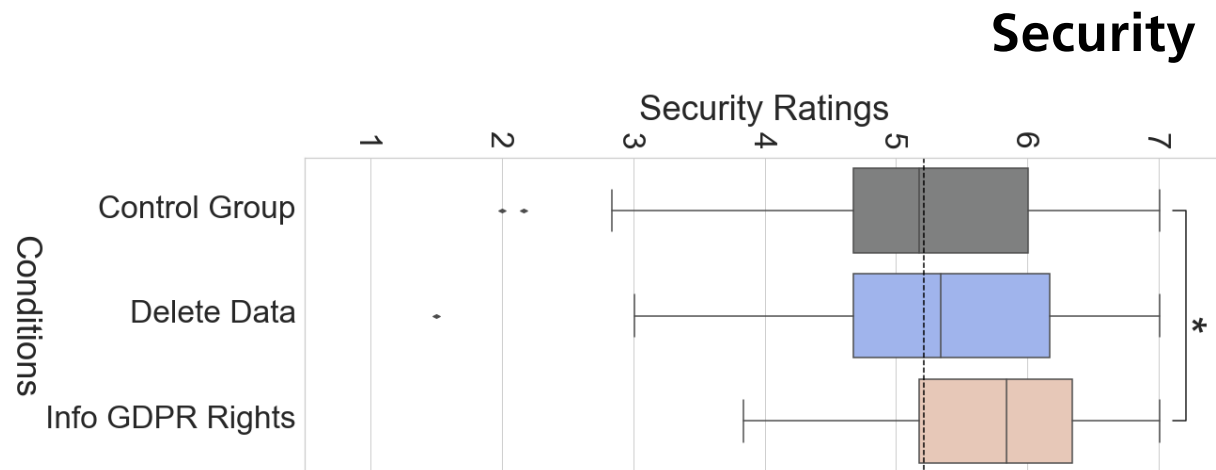
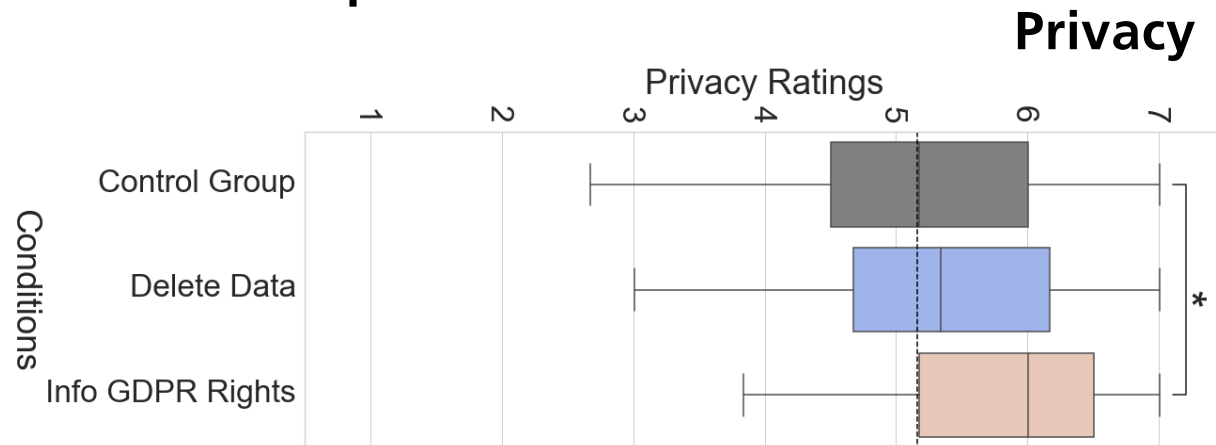
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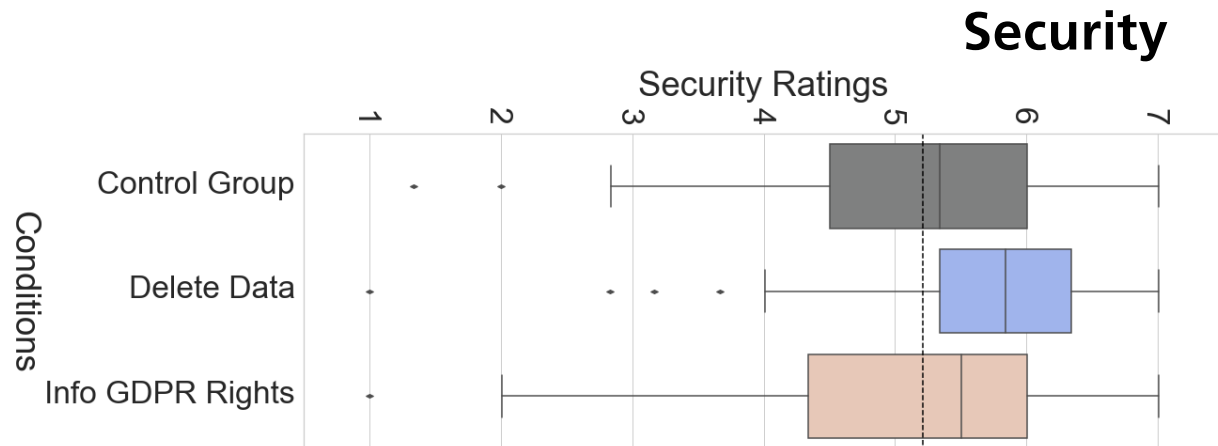
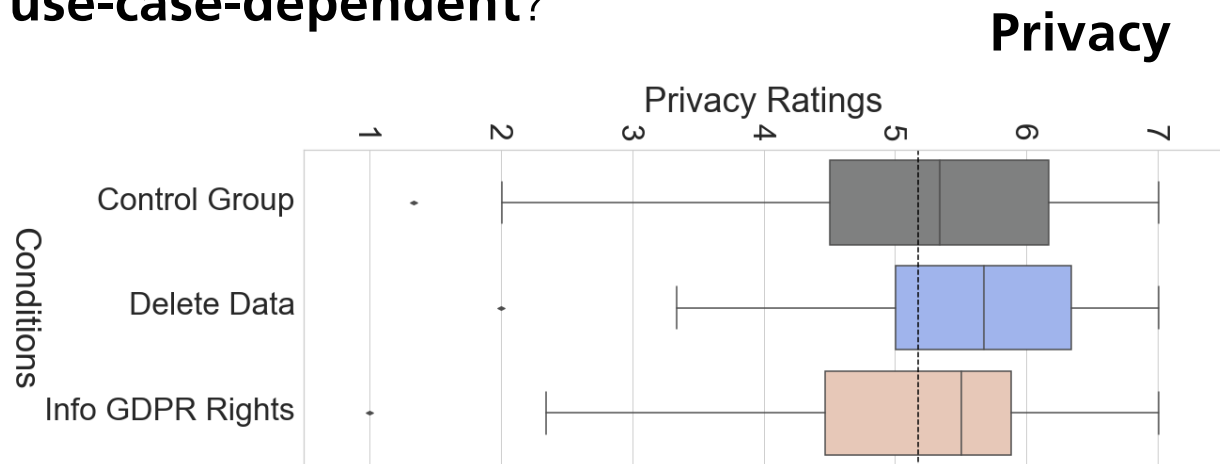
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Are these results **use-case-dependent**?



# Conclusions

Does conversational privacy affect **user perceptions**?

There is **no negative effect** of conversational transparency.

Some messages **significantly improve privacy and security perceptions**.

# Conclusions

Does conversational privacy affect **user choices**?

Users are **more likely to accept** an offer of privacy control or information than a generic offer for help.

# Conclusions

Are user perceptions affected by **privacy priming**?

There is **no negative effect** of privacy priming.

For some messages privacy priming may **significantly improve privacy and security perceptions**.

# Conclusions

Are these results **use-case-dependent**?

**Use-case-dependent differences** in user perceptions **exist**.

**Some positive effects** of privacy and security perceptions **prevail** across use cases.

**User choices** are similar across use cases. Users prefer specific privacy control options and information to generic offers of help.



# Limitations

Findings may be **language**-dependent.

Findings may be **interface**-dependent.

Findings may be **task**-dependent.

**Long-term use** was not investigated.

Users **do not have a real privacy stake** in the interaction data.

Thank you for your attention.