

*“Ash unlocked the phone, not thinking twice about the request, and handed it over.” P27*

*“The phone had a password, but Val had been watching Ash entering it.” P2*

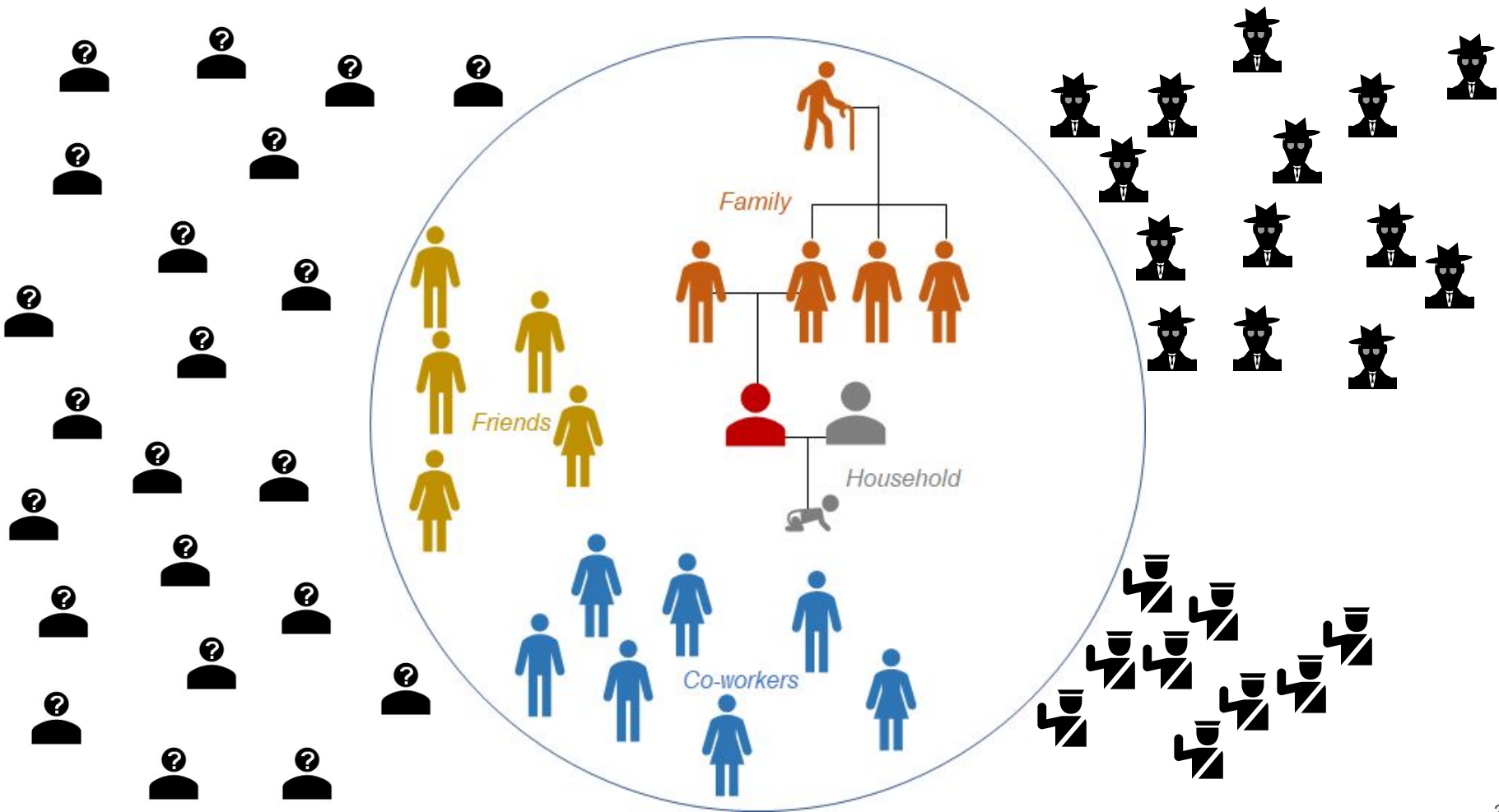
*“After several attempts at memorable dates, Val managed to get into Ash’s phone.” P48*

## **Non-Stranger Danger**

Diogo Marques, Tiago Guerreiro, Luís Carriço, Ivan Beschastnikh & Konstantin Beznosov







# Are locks effective in deterring non-strangers?

Objective:

- Find a **range** of ways in which locks are not effective

Approach:

- Descriptions of past incidents
- Qualitative
- Online (Prolific.ac)

**Recall a situation where you have either physically accessed a smartphone of someone you know without their permission; or someone you know has physically accessed your smartphone without your permission.**

**Your task is describe that situation in a story format.**

Instead of using real names, use the following characters:

- Ash, the smartphone owner.
- Val, the person who accessed the smartphone without permission.

If there are other characters in your story, use fictional names for them as well. To maintain anonymity, use gender-neutral pronouns such as 'they' instead of 'he' or 'she', or 'their' instead of 'his' or 'her'. Do not include any personally identifiable information.

Your story should include details, such as:

- Where did the situation take place and when?
- What was the relationships between Ash and Val?
- Why did Val wanted to access Ash's smartphone?
- How was Val able to get access to Ash's device?
- What did Val do on Ash's smartphone?
- How, if at all, did Ash ever learn about Val having accessed the smartphone?
- Were there any consequences?

You do not need to answer every question above explicitly, but include enough detail so that a reader could understand the story and retell it to someone else.

Prompt for story

Extra instructions:  
anonymity

Extra instructions:  
writing cues

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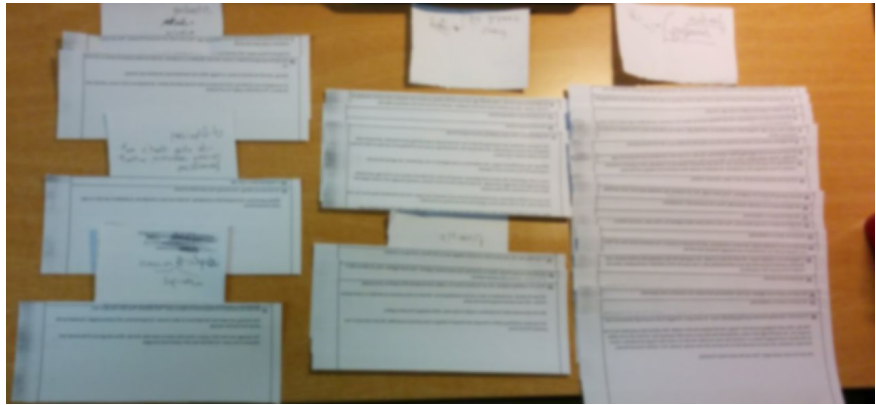
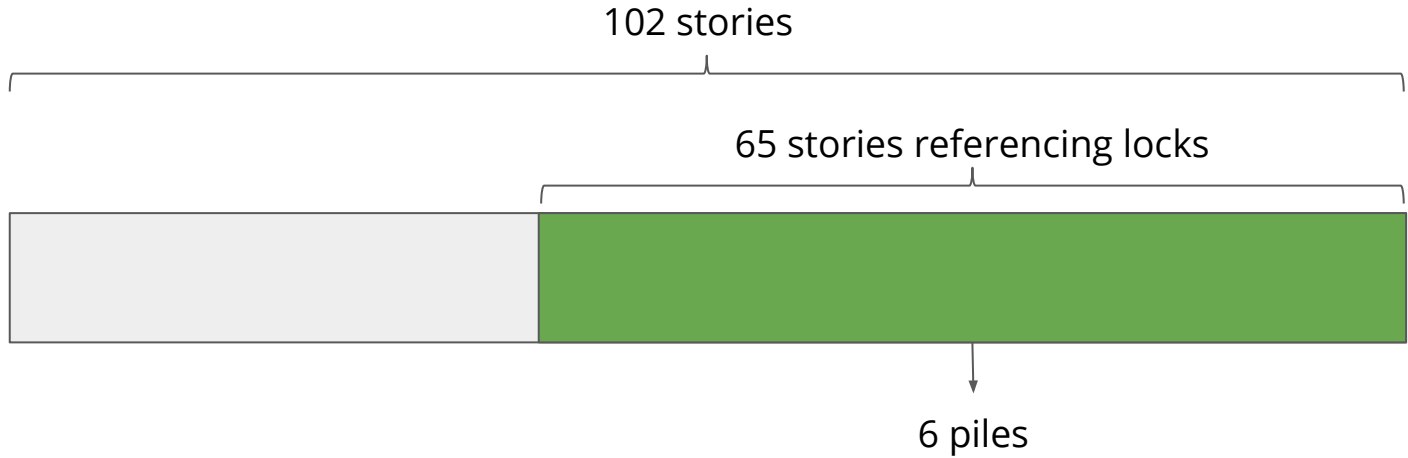
- **Where did the situation take place and when?**
- **What was the relationships between Ash and Val?**
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- **How was Val able to get access to Ash's device?** 
- **What did Val do on Ash's smartphone?**
- **How, if at all, did Ash ever learn about Val having accessed the smartphone?**
- **Were there any consequences?**

**You do not need to answer every question above explicitly, but include enough detail so that a reader could understand the story and retell it to someone else.**

Prompt for story

Extra instructions:  
anonymity

Extra instructions:  
writing cues





## **The 6 piles:**

No lock

Borrowing

Code sharing

Shoulder-surfing

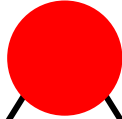
Guessing secrets

Beating the time-out

## **The 6 piles:**

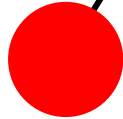
No lock  
Borrowing  
Code sharing  
Shoulder-surfing  
Guessing secrets  
Beating the time-out

**Trust**

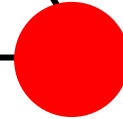


No lock  
Borrowing  
Code sharing  
Shoulder-surfing  
Guessing secrets  
Beating the time-out

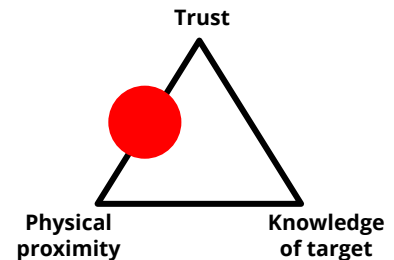
**Physical  
proximity**



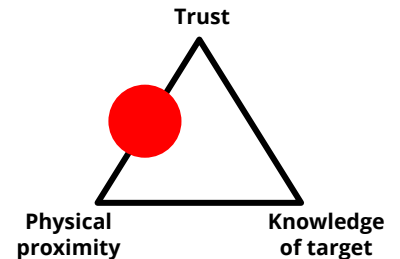
**Knowledge  
of target**



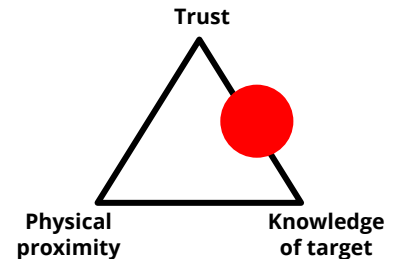
*“Ash had left the phone on the kitchen counter of their flat. Ash was only stepping away for a moment to attend to another matter. Val, the flatmate, was able to get access to Ash’s phone, as it had been left unlocked, and Ash trusted Val enough to not betray them in this way.” P45*



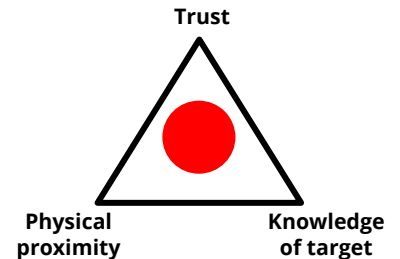
*“Val had watched Ash for some time entering a pattern type password, which Ash changed regularly, but made sure to remember it.” P75*



*“Unable to unlock the device without Ash’s fingerprint at first, Ash’s sibling was able to guess the passcode.” P63*



*“A quick swipe was all it took to open the contents within. Ash never used a password at home.” P37*



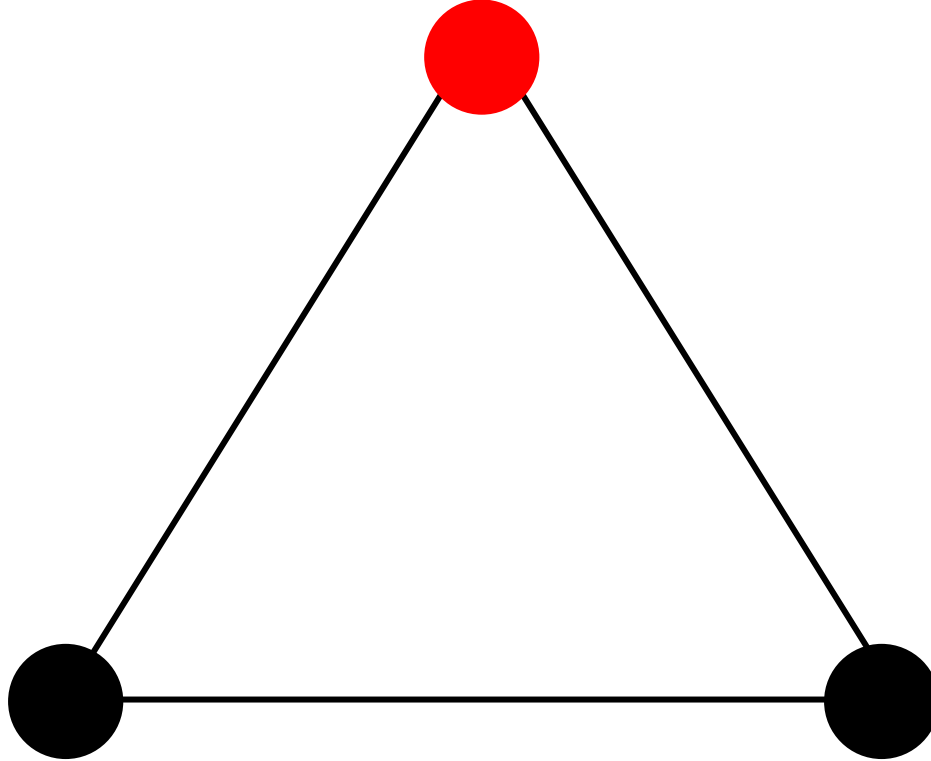
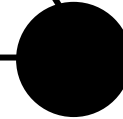
**Trust**



**Physical  
proximity**



**Knowledge  
of target**





What is *trust*?

# Non-Stranger Danger

## Examining the Effectiveness of Smartphone Locks in Preventing Intrusions by Socially-Close Adversaries

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# Extras

## Screening question:

*In the past, have you had at least one of the following experiences?*

- *I have, without permission, accessed a smartphone belonging to someone I know.*
  - *Someone I know, without permission, has accessed my smartphone.*
- 
- Ⓐ Yes, I have had at least one of these experiences
  - Ⓑ No, I have not had any of these experiences
  - Ⓒ Rather not say / Not applicable

} Neutral language;  
role plausibly deniable.

## Advert:

### ***Write a story: experiences with smartphones***

*You are eligible for this study because you answered a screener indicating that you had at least one of the following experiences:*

- *I have, without permission, accessed a smartphone belonging to someone I know.*
- *Someone I know, without permission, has accessed my smartphone.*

*Your task is to write an anonymous story, with fictional characters, recounting such an experience.*



Neutral, priming for storytelling



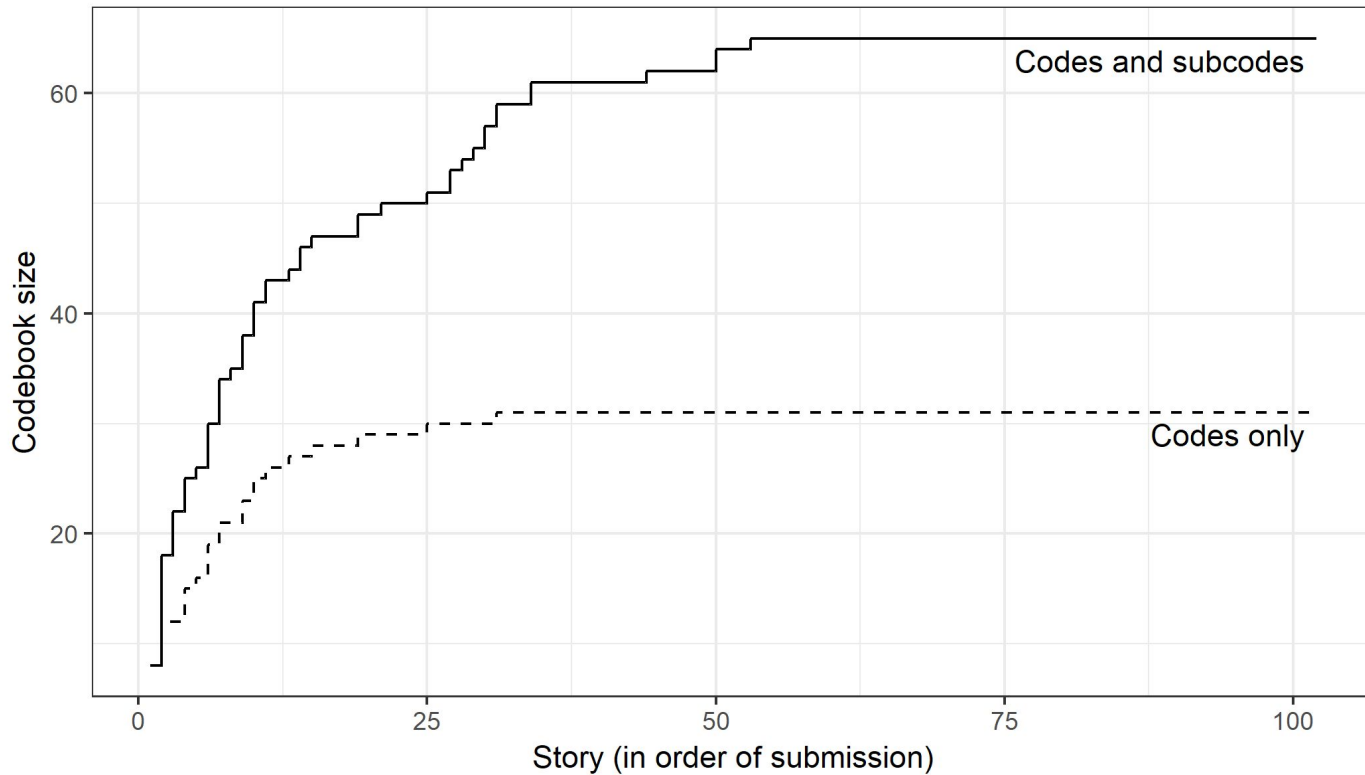
Inclusion criteria reminder



Prompt preview

# Participants

- Total n = 102
- Gender identity:
  - 60% female
  - 39% male
  - 1% other gender identity
- Age:
  - 30% 18-24 years old
  - 63% 25-44 years old
  - 8% 45-64 years old
- Participant locations: United Kingdom (48), United States (16), Portugal (13), Italy (7), Greece (3), Canada (2), Germany (2), Japan (2), Spain (2), Czech Republic (1), Finland (1), Netherlands (1), Poland (1), Tunisia (1)
- Average task completion time of 9.4 minutes (SD = 5.5), for 921 words (SD = 638)



Cumulative count of codes and subcodes in codebook.

Reliability: 95% agreement between two raters for first 35 stories (Cohen's Kappa = 0.91) prior to consensus.