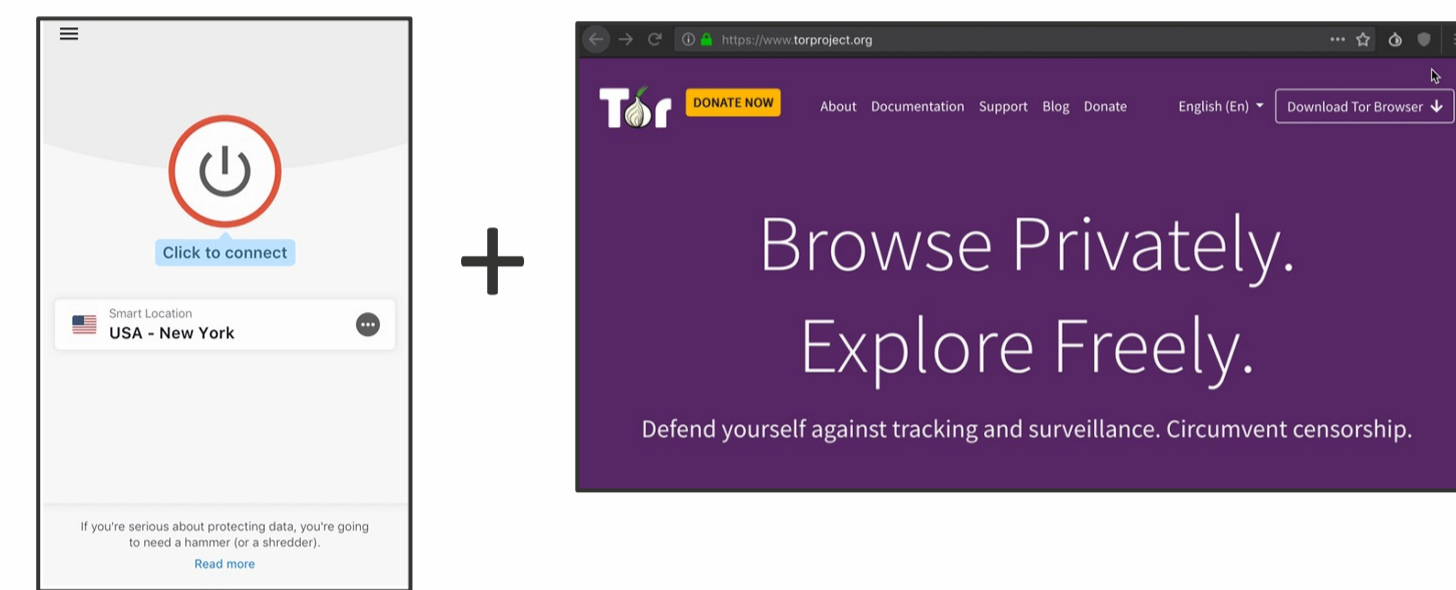


INVESTIGATING SECURITY FOLKLORE: A CASE STUDY ON THE TOR OVER VPN PHENOMENON

Matthias Fassl, Alexander Ponticello, Adrian Dabrowski, Katharina Krombholz

USING A VPN TO ACCESS THE TOR NETWORK : A QUESTIONABLE PRACTICE

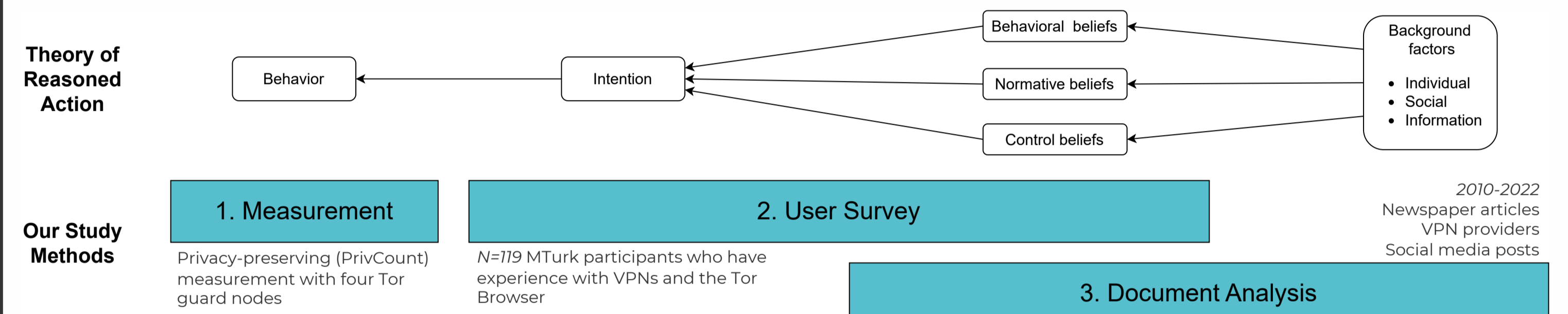


Tor over VPN – in general – without clear security benefits

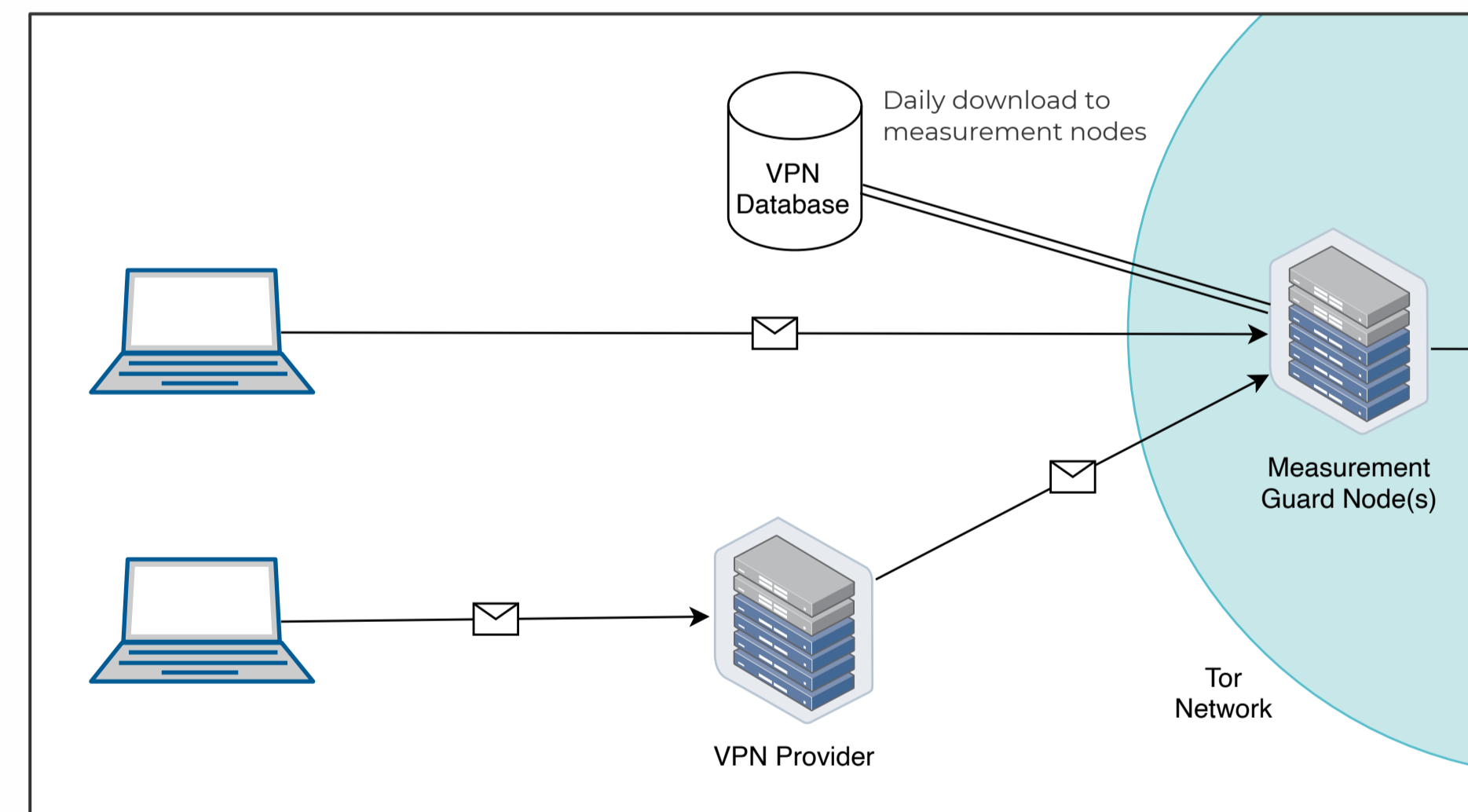


→ So, why are people using it?

METHODS ALIGNING WITH THEORY OF REASONED ACTION

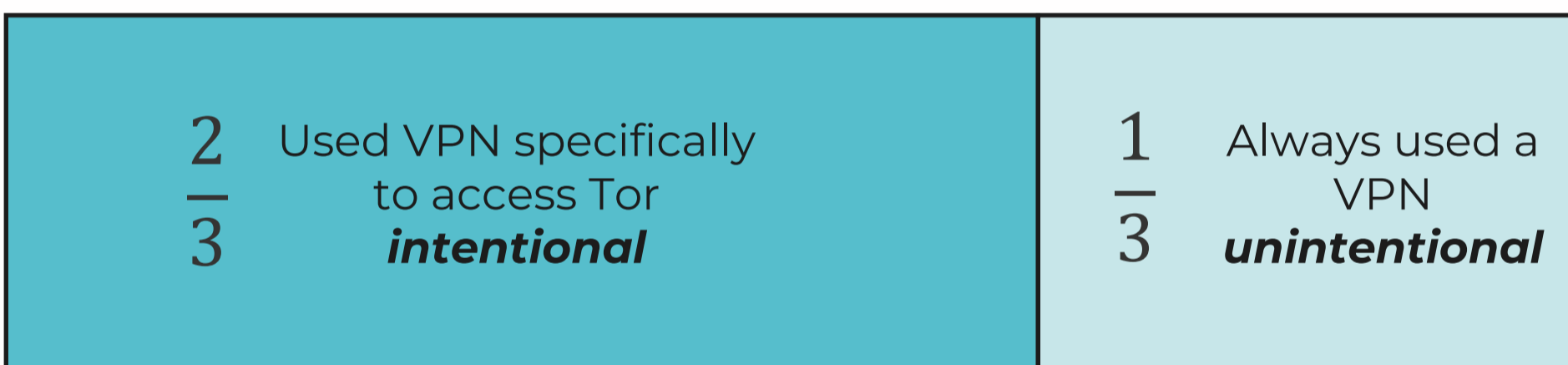


1. MEASURING BEHAVIOR



- We controlled 1% of Tor's entire guard bandwidth for our measurement (1.46Gb/s)
- 5 - 6% of connections to the Tor network come from VPN servers (est. 140,000 daily users)

2. SURVEYING SECURITY BELIEFS



NORMATIVE BELIEFS

"After conducting some research, I found it improves your privacy and security" (P74)

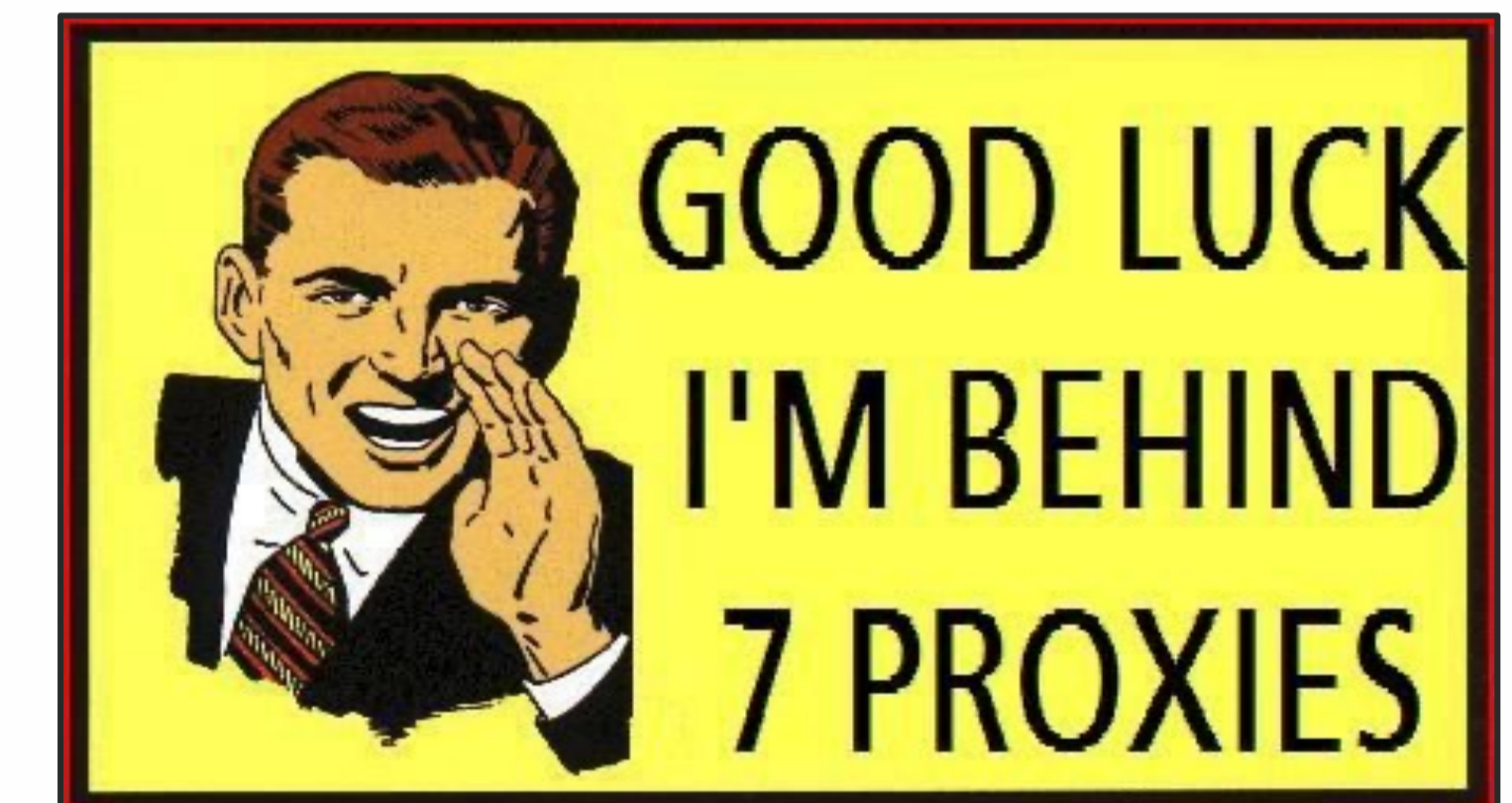
BEHAVIORAL BELIEFS

Protection from "unsavory characters" (P102) on the Tor network

CONTROL BELIEFS

"I might as well set up as many safeguards as I can" (P73)

3. ANALYSING ONLINE INFORMATION

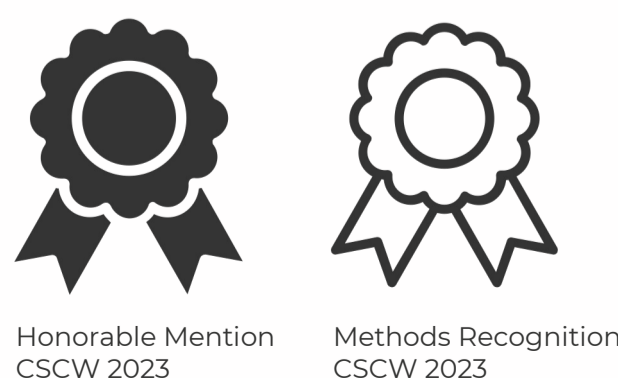


DESCRIPTIVE SOCIAL NORM: THE COOL KIDS ARE ALREADY USING TOR OVER VPN 😎

For people who are "very serious about browsing anonymity" (VPN43:2)

"Pretty sure most Tor users do [use both at the same time]" (Reddit708:6)

"is popular among computer-savy circles" (News913:2)



This poster is based on prior work published at CSCW 2023:

M. Fassl, A. Ponticello, A. Dabrowski, and K. Krombholz, "Investigating Security Folklore: A Case Study on the Tor over VPN Phenomenon," Proc. ACM Hum.-Comput. Interact., no. CSCW2, 2023.

Check our blog post <https://medium.com/acm-cscw/4d2db91bfec6>

