

Exploring the Cyber Behaviors of Temporary Work-From-Home (TWFH) Employees

A research project funded by the RAPID grant program of the National Science Foundation

Research Team

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Far-reaching Implications of COVID-19



**Physical Health
&
Well-being**

Far-reaching Implications of COVID-19



**Financial
Well-being**

Physical Health
&
Well-being

Far-reaching Implications of COVID-19



**Entertainment
& Leisure**

Financial
Well-being

Physical Health
&
Well-being

Far-reaching Implications of COVID-19



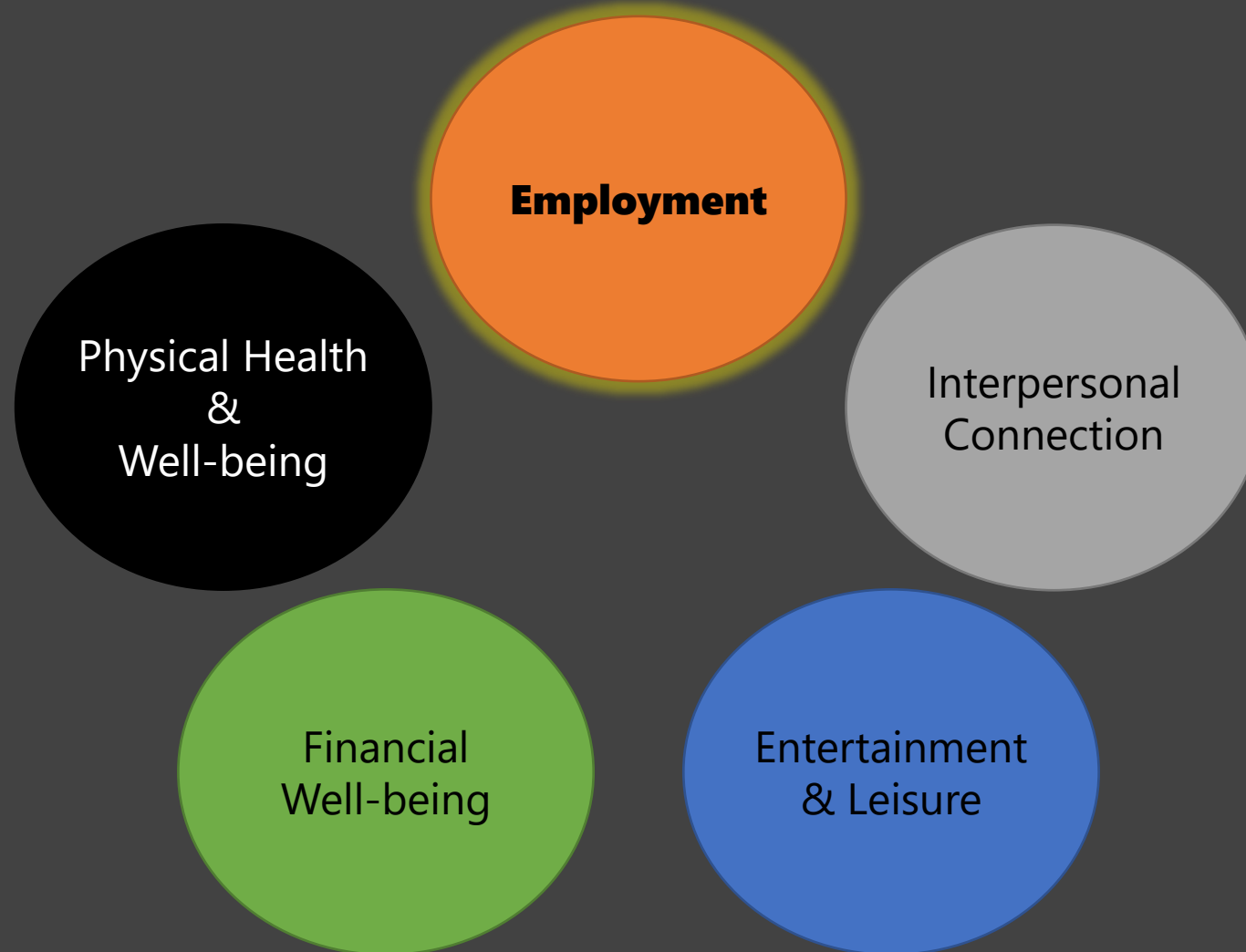
**Interpersonal
Connection**

Entertainment
& Leisure

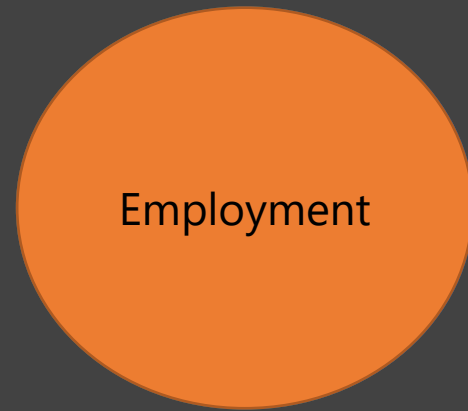
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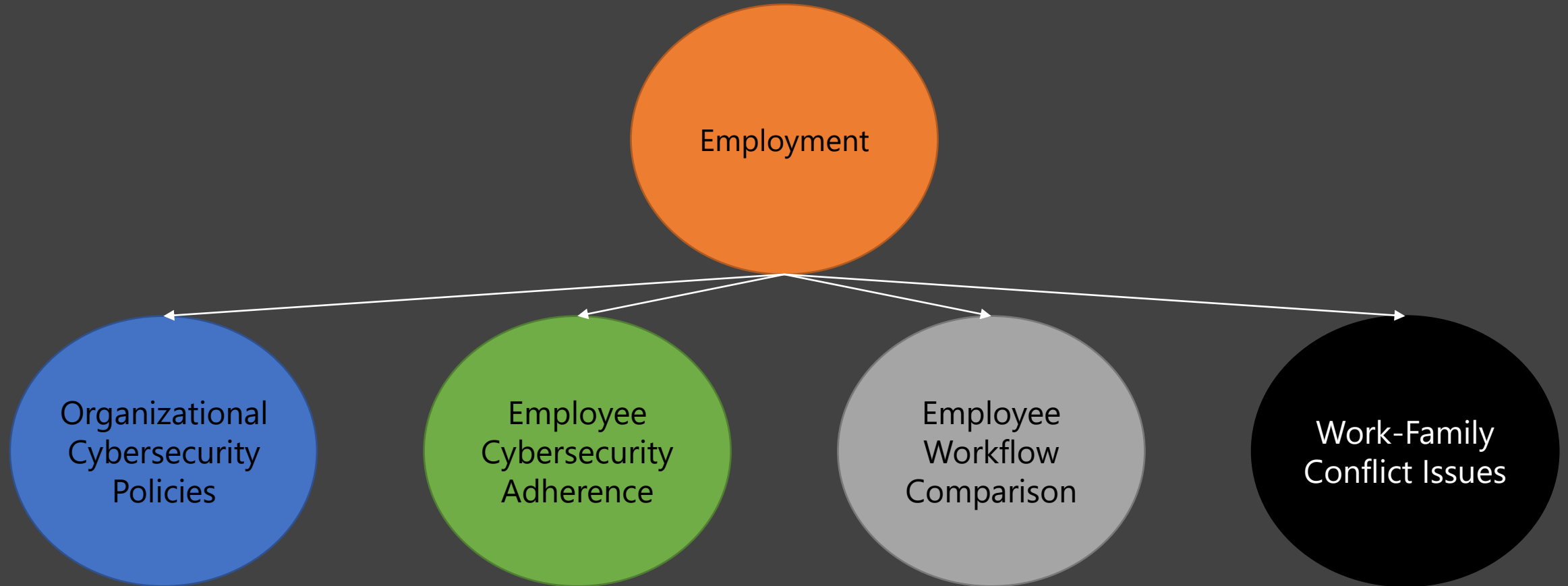
Far-reaching Implications of COVID-19



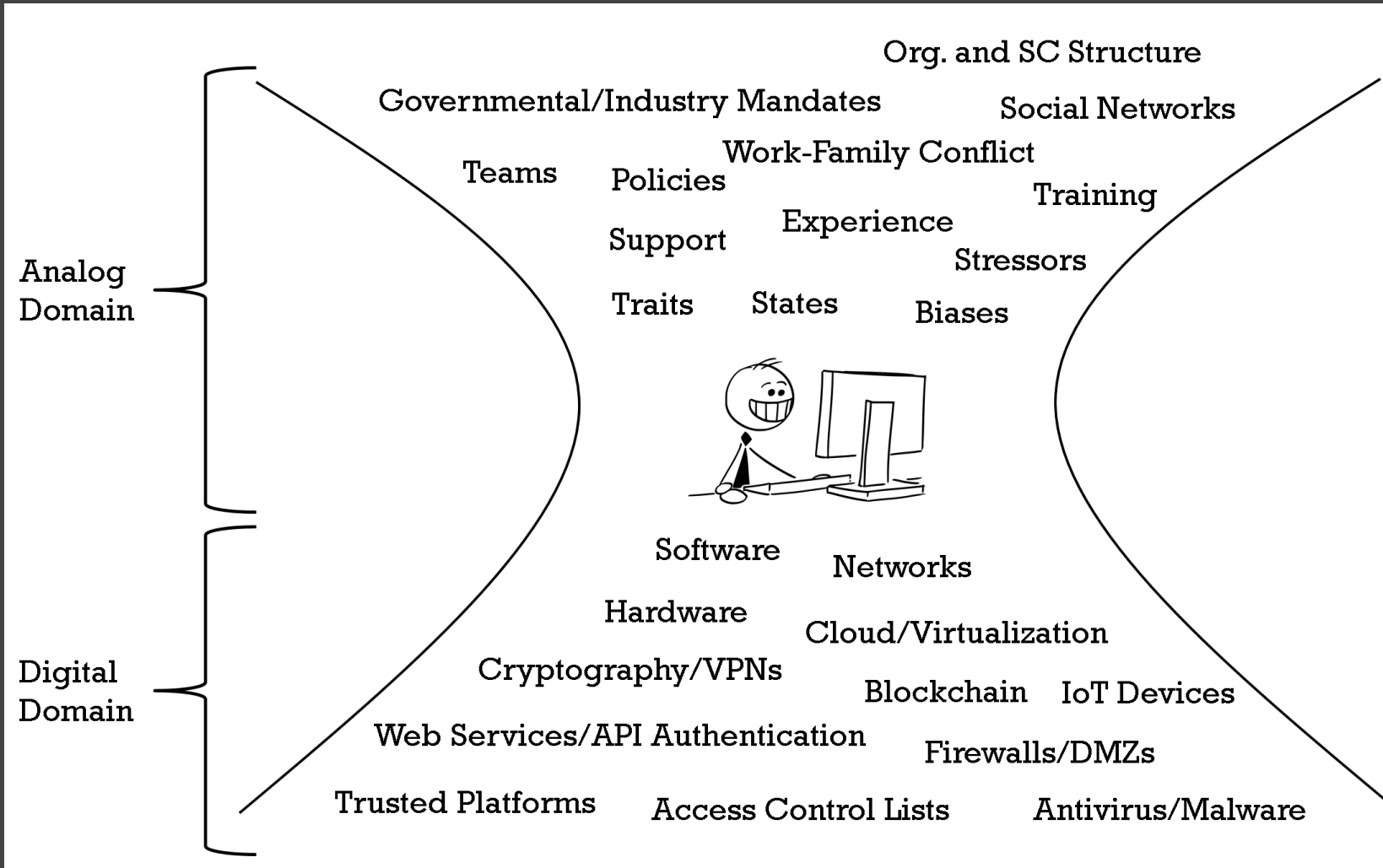
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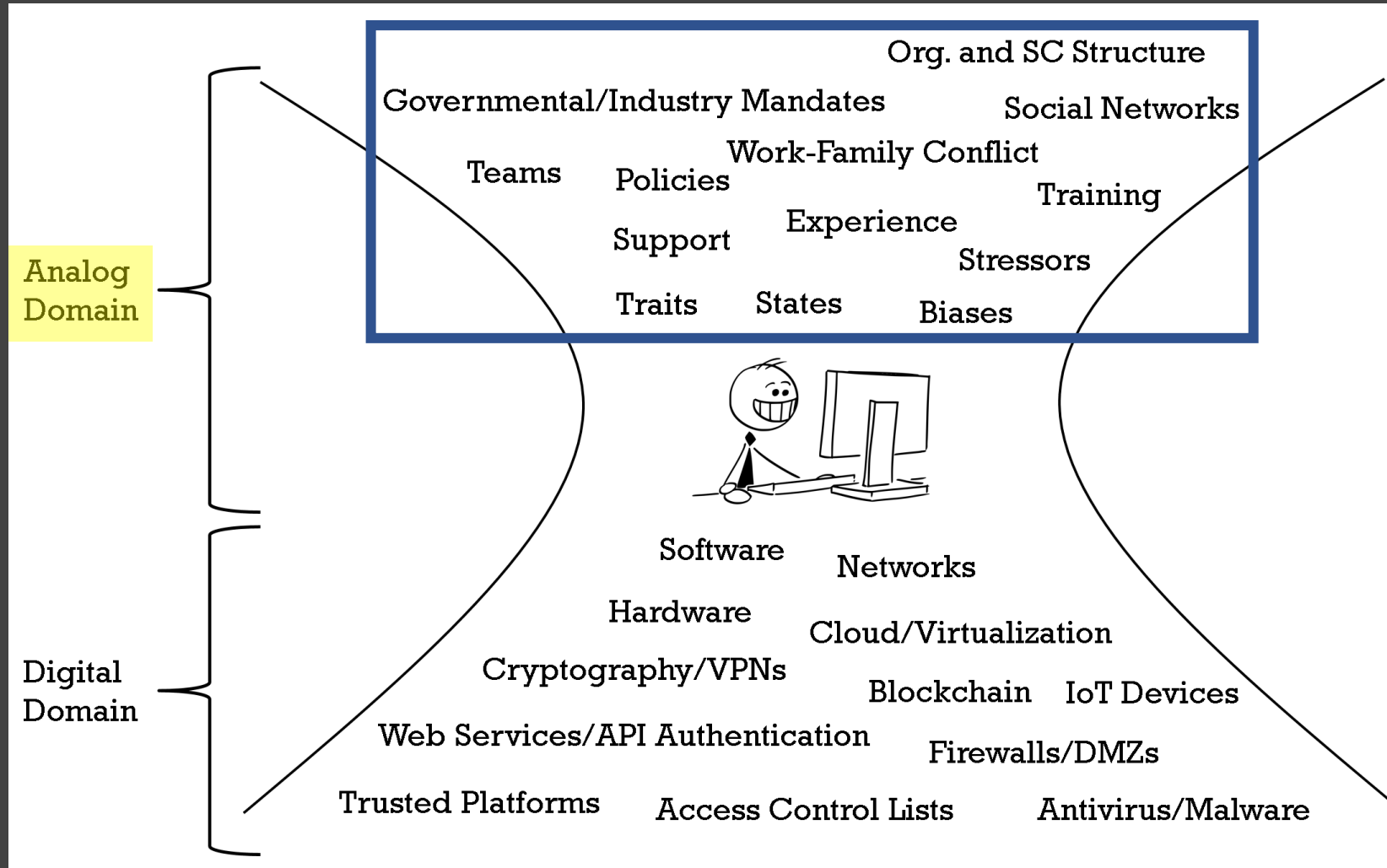
COVID-19 & Employment



Our approach to cybersecurity



Our approach to cybersecurity



Primary Research Questions

1. What are the cybersecurity ramifications to organizations due to so many TWFH workers?
2. What new stressors are placed on TWFH employees that could impact their work processes and, ultimately, their cybersecurity-related actions?



Our Research Project



- Qualitative Study [completed]
 - Phone interviews with a number of TWFH employees across numerous industries

- Quantitative Study [to begin shortly]
 - Longitudinal (daily diary) design to allow us to test empirically whether the patterns that emerged in the qualitative study are supported in a much larger and general sample of TWFH employees

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Qualitative Study: **Recruitment**



- Recruited participants via social media (e.g., Facebook, LinkedIn)
 - 18 years or older
 - Not self-employed
 - Must have made a *transition* to WFH due to COVID-19
 - Organizational cybersecurity policies
- Compensation: \$40 Amazon Gift Card

Qualitative Study: **Sample**



- 36 participants
- Various industries represented (i.e., software/technology, education, healthcare, retail, telecommunications, state/local government, energy/utilities, etc.)
- Mean Organizational Tenure: Approximately 4.5 Years (ranged from just 2-3 months to 27 years)
- Gender: 17 (47.2%) women and 19 (52.8%) men

Qualitative Study: **Procedure**



- Semi-structured phone interviews (approximately 20-30 minutes)
 - Recorded and transcribed for further qualitative analysis
- Interviews were comprised of four main sections
 1. Demographics
 2. Individual's Response to COVID-19
 - a. Personal Response
 - b. Professional/Work-related Response
 3. Organization's Response to COVID-19

Interview: Demographics



- Part-Time/Full-time Status
- Organizational Tenure
- Industry
- Job Role/Title
 - Information Systems/Information Security?
- Job Satisfaction
- Years of Professional Experience
- Others in home environment (e.g., spouses/partners, children)

Interview: Overall Perspective

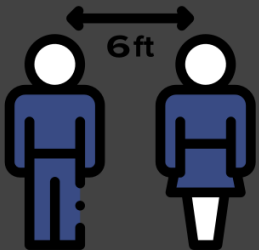


- Positive and negative things about following organization's cybersecurity policies
- "Is protecting your organization from cybersecurity threats one of your responsibilities?" Why or why not?
- "Does your organization provide training on cybersecurity?"
 - What does it involve? Is it beneficial?
 - Do you believe they should? Why or why not?

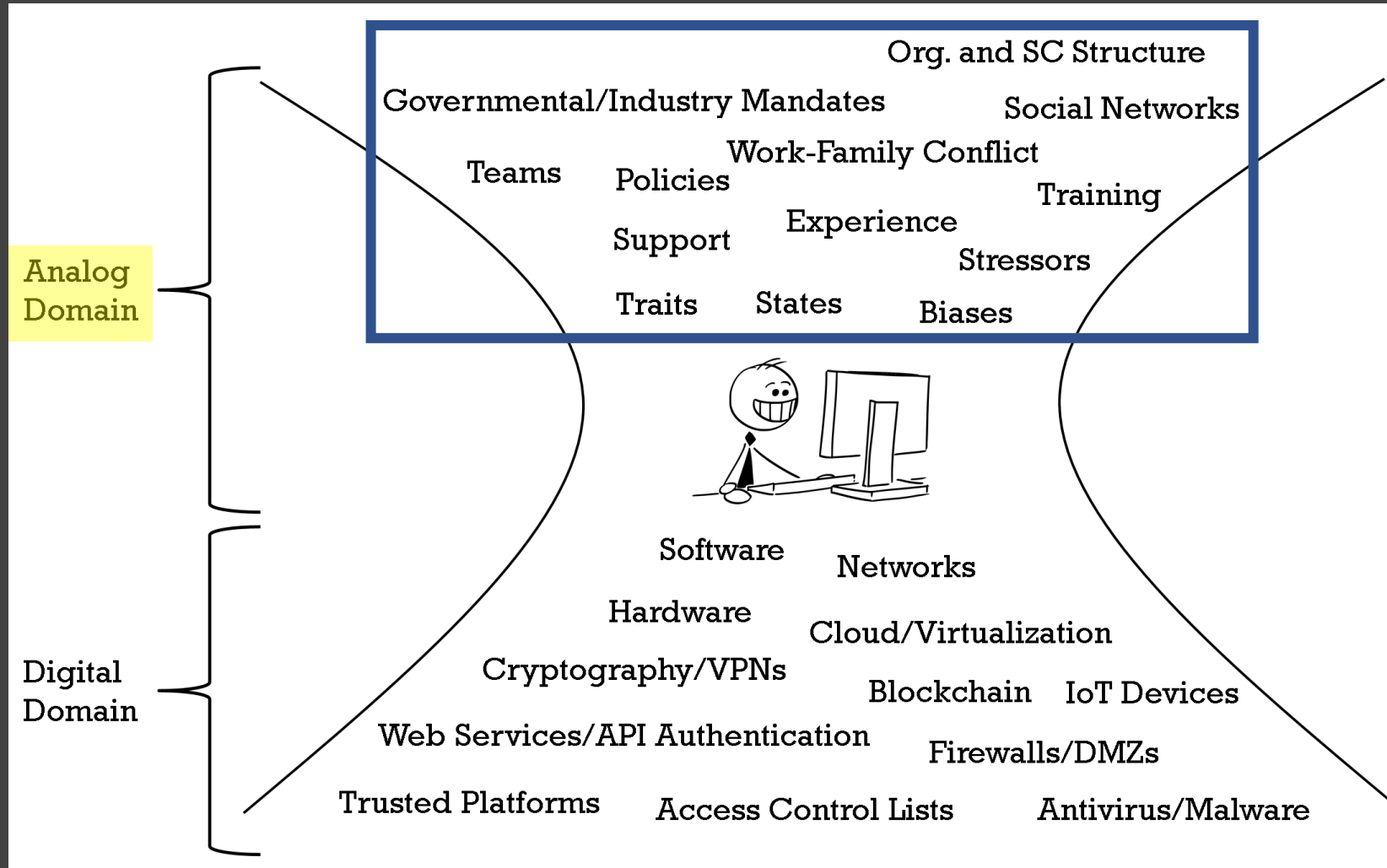
Interview: Personal Response to COVID-19



During the COVID-19 pandemic, have you adopted local and national health (e.g., CDC) guidelines?



Factors Affecting Stanley's Cybersecurity Adherence



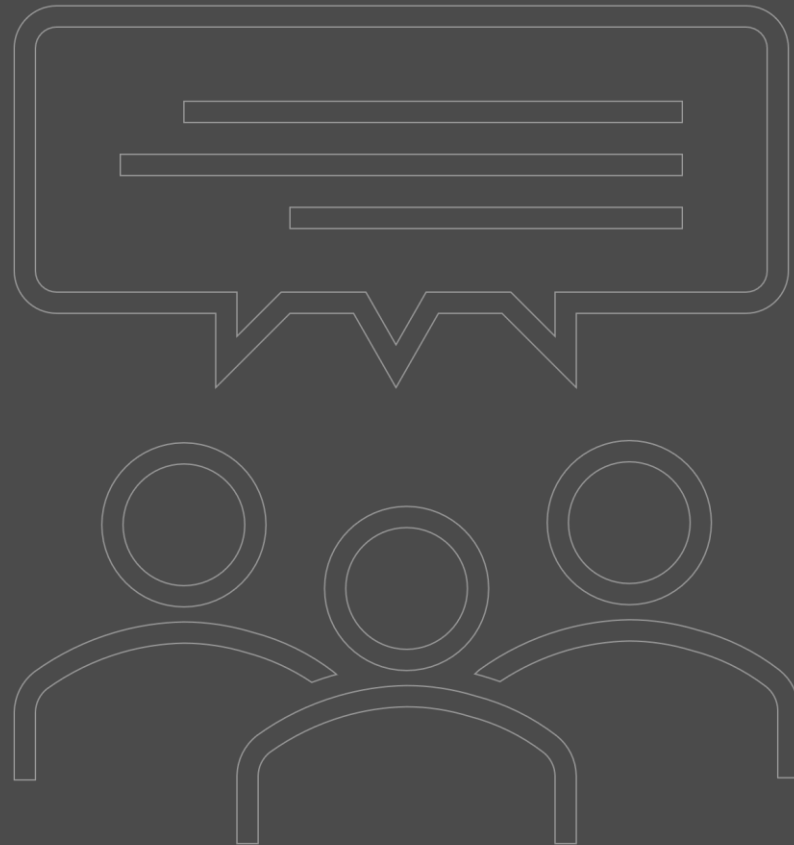
Interview: Personal Response to COVID-19



"To what extent do you feel a sense of community and a desire to help others around you because of and since the pandemic?"



Interview: Personal Response to COVID-19



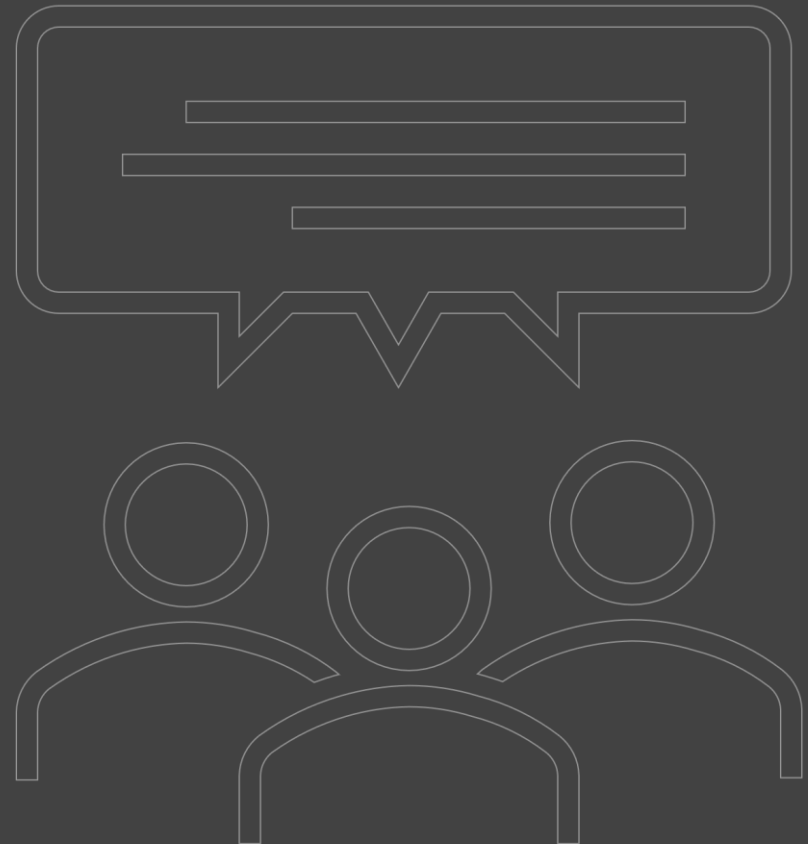
- Higher Sense of Community
 - “That desire has increased with time. The longer it’s gone on, the more I feel a responsibility to help the community and others.”
 - “Stuff like this can really bring people together if done positively... it has for me.”

Interview: Personal Response to COVID-19



- Lower Sense of Community

- "Being inside, a lot more isolated, has definitely... made you feel disconnected from the community."
- "I feel like I have to protect myself from the community."
- "I really see a lot of this Facebook stuff calling it a hoax or things like that. That really frustrates me, and I've actually posted on Facebook about mask-wearing. I even lost a couple of friends over it."



2020...stressful??? No way!



Interview: Professional Response to COVID-19



- Percentage WFH Pre-COVID
- Percentage WFH Post-COVID
- From where in your home do you typically work?
- To whom do the digital devices you use for work belong?
- Do you expect to go back to your physical work environment after the pandemic, or is your work-from-home situation likely to be the norm for your job once the pandemic has subsided?

10%



95%

Interview: Professional Response to COVID-19



How does your daily workflow (i.e., how and when you complete your work tasks) differ in your home environment vs. your physical environment before the pandemic?



Interview: Professional Response to COVID-19



Workflow Comparison



Interview: Professional Response to COVID-19



Less Efficient

"I find it is harder to focus... there is no separation between my room for relaxing and... working. I find myself getting distracted in my work environment here."

"I have far more distractions, such as watching streaming videos on TV, using my computer to play games."

"I know, for example, not everyone is online... at the time I need them; whereas, if it was in a work environment, I can go right to their desk or... go talk to them."

More Efficient

"There's less distractions from other people that I was normally interacting with at the office."

"I spend less time, or zero time commuting"

"When you work from home you get up. You do your breakfast and go straight to a computer, eat a little lunch, go straight to the computer, and since you do not really have that, "Oh, I have to get out, pick up the kids, go do dinner," you do not have that cut-off time. So, you just keep going."

Interview: Workflow shifts



Working from home during COVID, I...			
Have more non-work distractions/interruptions now	19	Have fewer non-work distractions/interruptions now	0
Have more work distractions/interruptions now	0	Have fewer work distractions/interruptions now	9
Have less structure	1	Have more structure	6
Have less flexibility	0	Have more flexibility	12
Am less efficient	7	Am more efficient	1
Am less productive	11	Am more productive	15

Interview: Organizational Response to COVID-19



- Was WFH required by your organization?
- General thoughts about employee monitoring



Interview: Organizational Response to COVID-19



Did your organization already have a work-from-home cybersecurity policy established before the pandemic or was it formed in response to the pandemic?



Formed before COVID: **18 (50%)** Formed due to COVID: **14 (38%)**

Policy altered during COVID YES: **14 (38%)**
Policy altered during COVID NO: **16 (44%)**

So what?



How did TWFH
employees respond to
their organizations'
cybersecurity policies?

Interview: Organizational Response to COVID-19



Less Difficult to Follow

"It's easier for me to have an office at home to be able to protect my information there."

"I think there might have also been a kind of push toward a little bit more self-service... like allowing employees to [access] things on their own rather than needing approval for every single access."

More Focused

"So, there are certain things that they like push out to make sure we're aware, and that is making it a bit more top of mind."

"Yes, they have made us more aware. So, it makes us be more vigilant."

"I think so since during this whole COVID pandemic, the cyber-attacks have increased."

"I recognize that there is an extra layer of vulnerability there."

Less Invasive

"I'd say less invasive because... I have been more relaxed... They have stayed the same. My perception of it has kind of gone down. I guess I am just relaxed about it... it doesn't mean the company is, but I certainly have been."

"They are not trying to be pushy in trying to gather information about us personally. They definitely have not made me feel uncomfortable when implementing these policies."

Interview: Organizational Response to COVID-19



More Difficult to Follow

"We have extra steps that we have to go through at home, like VPN and things like that that you don't have when you're in the office on their networks."

"If I was having technical troubles, if I were in the office, it might be a quicker fix, because the IT department is also in the building, whereas now, I would have to call or try to figure it out online. "

Less Focused

"...for us, it is a very simple service just, I guess, to follow by just turning on the VPN and making sure certain information is not being used on the home network. And other than that, it is very simple to run in the background and just turn on and forget."

"I have so many other things to focus on." ... "Plus my kids have been using my computer, my work computer."

More Invasive

"I had to download the thing that checks on my phone."

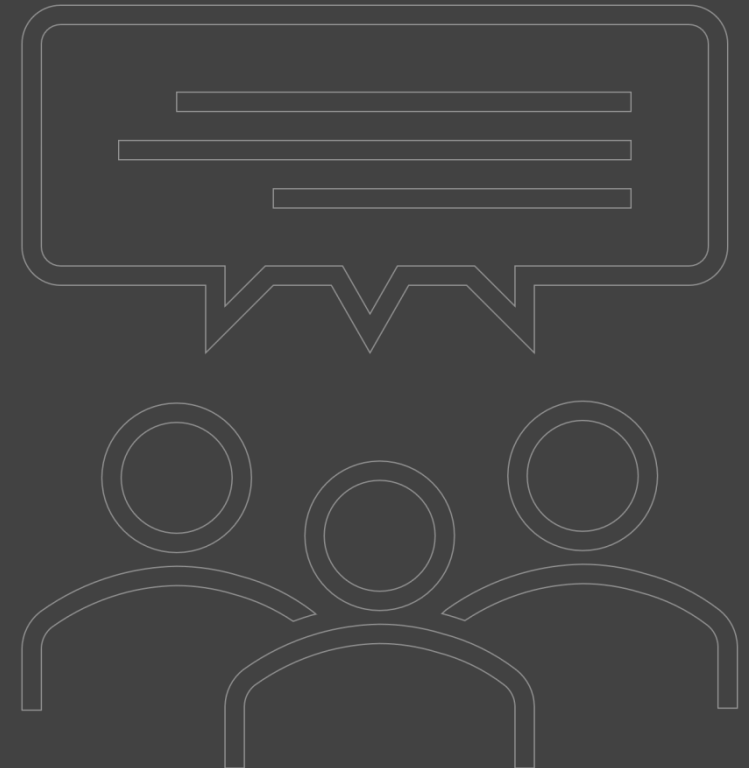
"...they are doing more laptop monitoring... just sort of keeping an eye on the metrics of everybody's work."

"The only thing that's a bit of a nuisance is they've discussed with us to mute or unplug any smart devices – smart devices being like Alexa or Siri or Google Home."

Adherence to Cybersecurity Policies



- The vast majority indicated that they adhered to these policies 100% of the time.
- Reasons for not adhering included:
 - Mindlessness
 - Ignorance
 - Policies are too cumbersome
 - Limited Resources/Access to Necessary Resources
 - To complete component(s) of one's job

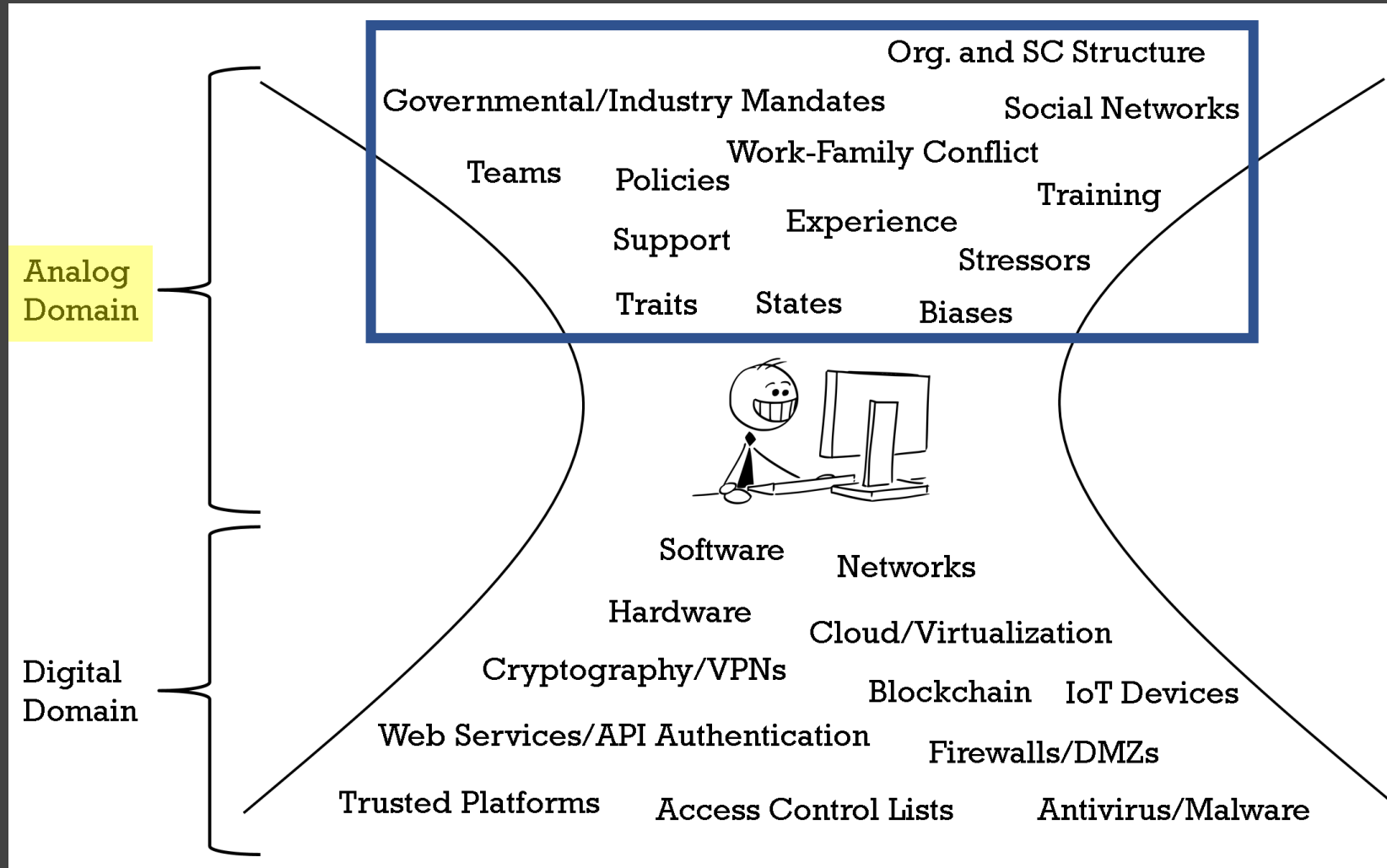


Qualitative Study Takeaways



- TWFH employees provide a great context to examine work-to-family and family-to-work conflict.
- TWFH employees work from a variety of locations in the home
- “Time Chunking” appears to be a very big issue for TWFH employees
- There is significant variation in workflow while WFH compared to pre-COVID
 - There seems to be a tradeoff
- Organizations with BYOD policies may be asking for trouble
 - Many devices are being shared in the home

Factors Affecting Stanley's Cybersecurity Adherence



Going Forward...



Quantitative Study

- Longitudinal
- Daily Survey
 - Work-related Stressors
 - ISP Adherence





Thank you.

Now, it's your turn to ask
the questions.

