

# Interactive Visualization based Mobile Security Education for Next-gen Cyber Aware Workforce

SaTC: EDU: Collaborative: Interactive Visualization and PracTice basEd Cybersecurity Curriculum and Training (InviteCyber) Framework for Developing Next-gen Cyber-Aware Workforce

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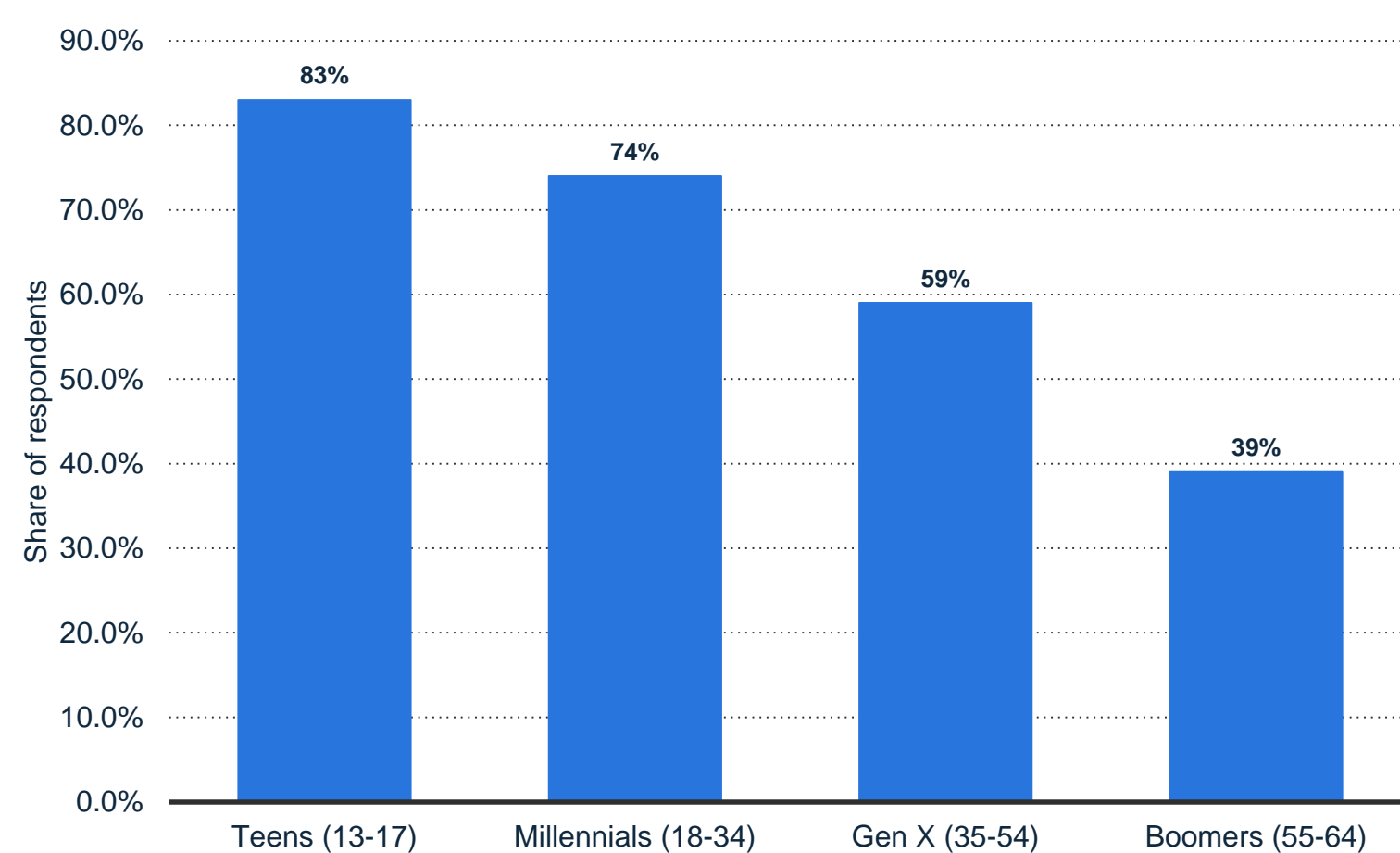
## Cybersecurity challenges

- Lack in the expertise that organizations need to tackle current cybersecurity challenges
- Many high school and middle school students are becoming cybercrime victims
- The usage of smart devices motivates cybercriminals to target teens by launching attacks through these devices
- With the increased time spent online, teens frequently encounter cyberbullying or other unpleasant experiences

## Scientific Impact

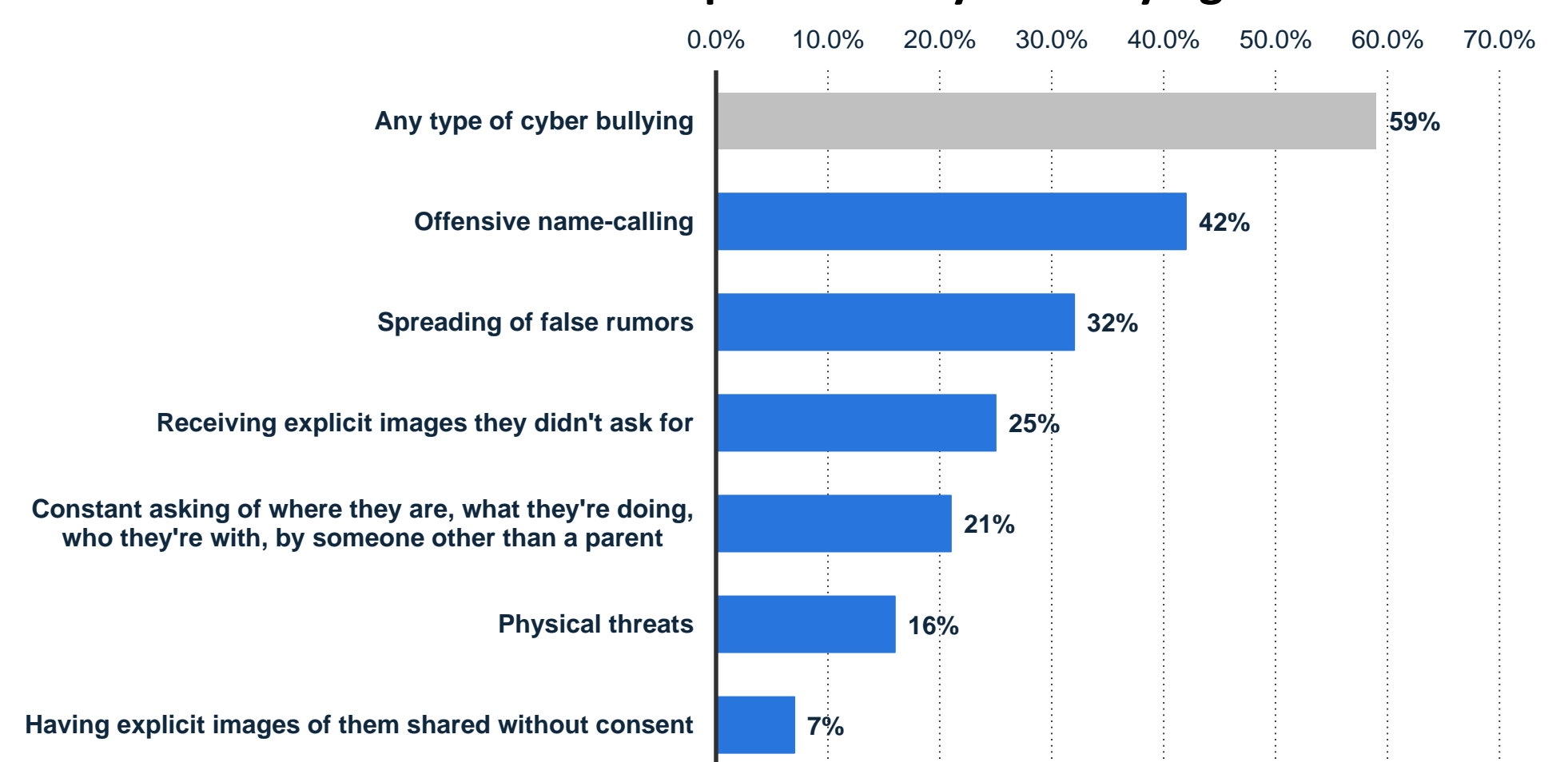
- Integration of smartphone app development tools and cybersecurity risks associated with smartphone apps in high-school cybersecurity curriculum
- Interactive visualization-based smartphone labs and will develop interest in newer technologies to solve cybersecurity problems
- Data gathering regarding student learning from hands-on experience through interactive visualization-based cybersecurity modules

Monthly app download rate 2018 by age in the US<sup>1</sup>

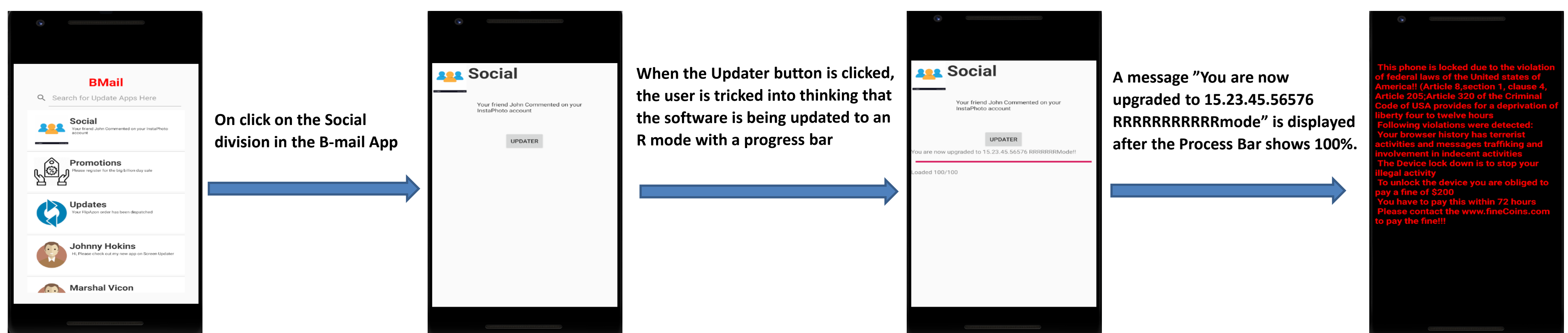


1. <https://www.statista.com/statistics/243794/us-adult-cell-phone-owners-who-have-downloaded-apps-by-age-group/>  
2. <https://www.statista.com/statistics/189327/percentage-of-us-teens-who-have-experienced-cyberbullying/>

U.S. teens who have experienced cyber bullying 2018<sup>2</sup>



## Interactive Visualization-based Smartphone Labs



## Impact on Society

- Spread best cyber-hygiene practices among teens regarding smartphone usage
- Develop a cyber-aware and cyber-mindful workforce to combat against cyberattacks
- Address the national shortage of cybersecurity professionals

## Education and Outreach

- Interactive visualization tools for cybersecurity education
- Transform cybersecurity curriculum through interactive and visual representation of problems
- Recruit next generation of learners in STEM
- Nationwide application

