



# THE EXPLOITATION OF MINORS TO GAIN CONFIDENTIAL INFORMATION ©



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# Hello!



Tonya J. Mead CFE, PI, MBA, MA  
and School Psychologist

**Shared Knowledge, LLC**

<http://ishareknowledge.com>  
[tonya@ishareknowledge.com](mailto:tonya@ishareknowledge.com)

Licensed Private Investigations  
and Security Agency



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Beyond the Wrong Answer

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# EXPLOITATION FACTORS

3

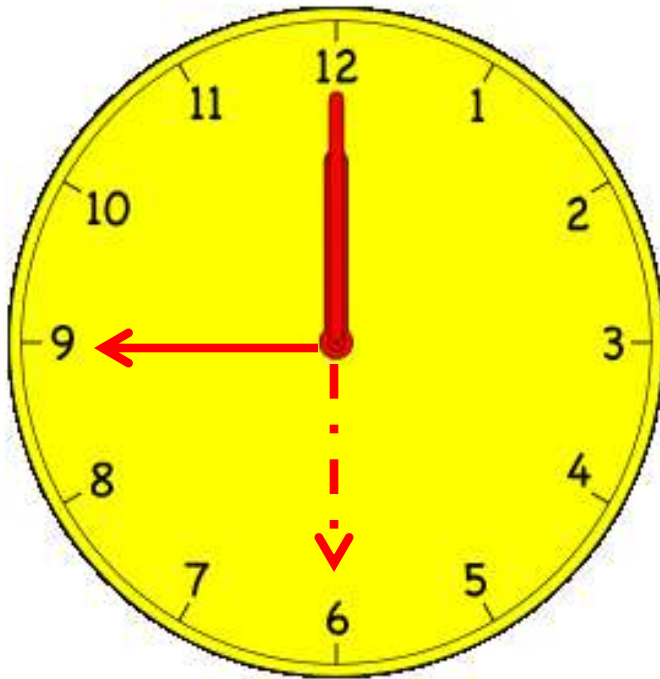
- ❑ **Individual Vulnerabilities**
  - ❑ Adolescent Development
- ❑ **Home Vulnerabilities**
  - ❑ Family Computers & Information
- ❑ **State, District & School Vulnerabilities**
  - ❑ Data-driven & Limited Security Resources



# VULNERABLE BECAUSE OF...

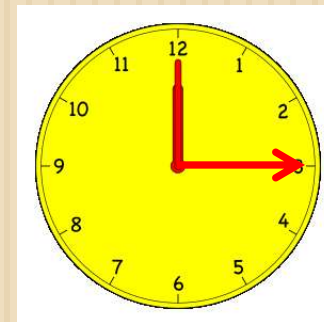
4

**Teen  
Usage**



**Tween Usage**

**Adult Usage 18 >**



Common Sense Media Available at: <https://www.washingtonpost.com/news/the-switch/wp/2015/11/03/teens-spend-nearly-nine-hours-every-day-consuming-media/> ABCNews Australia: Available at: <http://www.abc.net.au/news/2017-02-15/children-now-spend-more-time-online-than-watching-tv/8272708> Geek Wire Available At: <http://www.geekwire.com/2015/nielsen-reports-that-the-average-american-adult-spends-11-hours-per-day-on-gadgets/>

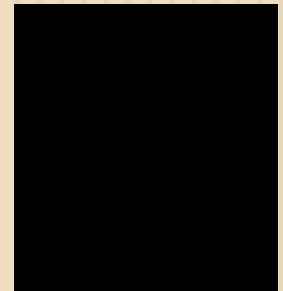
# VULNERABLE BECAUSE OF...

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## Mobile Device, Computer and Game Console Time



Parents and  
Teacher Time



USA Today Available at: [www.today.com/video/kids-spend-more-time-on-digital-devices-than-with-parents-or-teachers-557966915594](http://www.today.com/video/kids-spend-more-time-on-digital-devices-than-with-parents-or-teachers-557966915594)



# VULNERABLE BECAUSE OF...

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- ❑ **Stages of Adolescent Development**
  - ❑ Morality
  - ❑ Right versus Wrong
- ❑ **Know-it-All-itis**
- ❑ **Habit of Multi-tasking**



# HOME VULNERABILITIES



# THREAT TO SAFETY

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## □ Child Exploitation

■ Is the act of using a minor child for profit, labor, sexual gratification, or some other personal or financial advantage.



Source: Legal Dictionary Available at: <https://legaldictionary.net/child-exploitation/>



# THREAT TO PRIVACY

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## □ Social Engineering

- The psychological manipulation of people into performing actions or divulging confidential information.



Source: Wikipedia Available at: [https://en.wikipedia.org/wiki/Social\\_engineering\\_\(security\)](https://en.wikipedia.org/wiki/Social_engineering_(security))

# THREAT TO PRIVACY

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- ❑ **Hackers** can install malware on the family PC
- ❑ Obtain credit card data and bank logins
- ❑ Steal identities and sell on the black market
- ❑ Use webcam to spy on you and your family
- ❑ Extort you and your loved ones
- ❑ Block access to your computer, and
- ❑ Force you to pay a ransom



Source: Huffington Post: The Blog Available at: [http://www.huffingtonpost.com/david-kennedy/new-hacker-threat\\_b\\_4101584.html](http://www.huffingtonpost.com/david-kennedy/new-hacker-threat_b_4101584.html)

# THREAT TO PRIVACY AND SAFETY

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## TOP CONCERNS FOR PARENTS

**1 in 3** parents say they have had concerns about their child's technology use in the last year

### Privacy/ Safety



**72%** worry their child will reveal inappropriate information to strangers online

### Bullying



**72%** of teens report being cyberbullied in the last year

### Sleep Deprivation



**4 in 5** teens sleep with phone within reach. Most get less than 8 hrs sleep a night.

### Minimal Physical Activity



Teens average **only 42 mins** of physical activity a day



Rawhide: The Digital Diet of the American Teen Available At: <https://www.rawhide.org/blog/teen-issues/teens-digital-diet/>

# COMMON EXAMPLES

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**Social  
Engineering**



**Adults**

- ▣ Phishing
- ▣ Pretexting



# COMMON EXAMPLES

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**Data  
Breaches  
Child  
Exploitation**



**Children**

- Free File Sharing
- Malware- Mobile Apps
- Hack Toys for Ransom
- Store Audio & Video for Resale



Source: FTC Available at: <https://www.consumer.ftc.gov/blog/gamers-avoid-phishing-hook> Breitbart Available at: <http://www.breitbart.com/tech/2017/03/01/report-hackers-held-voice-recordings-from-cloudpets-toys-for-ransom/> and Koando Available at: Source: <http://www.komando.com/happening-now/337372/updated-major-data-breach-puts-hundreds-of-thousands-of-children-at-risk/>

# COMMON EXAMPLES

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## Social Engineering Child Exploitation



### Children

- Phishing
  - Games- Loss of points, status and credentials when gaming
  - Social media- verify contacts or click link appears to be from friend



Source: FTC Available at: <https://www.consumer.ftc.gov/blog/gamers-avoid-phishing-hook> Breitbart Available at: <http://www.breitbart.com/tech/2017/03/01/report-hackers-held-voice-recordings-from-cloudpets-toys-for-ransom/> and Koando Available at: Source: <http://www.komando.com/happening-now/337372/updated-major-data-breach-puts-hundreds-of-thousands-of-children-at-risk/>

# HELLO KITTY AND MY MELODY

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Source: Wired Available at: <https://www.wired.com/2015/12/hello-kitty-hack/> and CSO Online Available at: <http://www.csoonline.com/article/3155528/security/hello-kitty-database-leaked-to-the-web-3-3-million-fans-affected.html>

FISSEA- NIST March 14-15, 2017



# PLAY STATION AND X BOX GAMERS

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Login Register Subscribe Rewards | Video

**The Telegraph** HOME | NEWS | SPORT | BUSINESS | ALL SECTIONS

## Technology

News | Reviews | Opinion | Internet security | Social media | Apple | Google

🏠 > Technology

### Hackers steal 2.5 million PlayStation and Xbox players' details in major breach

 share   

 0 Comments



Source: The Telegraph Available at: <http://www.telegraph.co.uk/technology/2017/02/01/hackers-steal-25-million-playstation-xbox-players-details-major/>

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# HELLO BARBIE

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*hello.*  
"Hello Barbie"  
talks to  
children,  
records the  
conversations,  
then sends it  
to servers  
where it gets  
analyzed!



*Barbie*  
"Not only can  
Barbie now be  
your best  
friend, she's  
probably a  
better listener  
than most of  
your real  
friends, too!"

"Hello Barbie asks many questions that would elicit information about a child, her interests, and her family, which could be of great value to advertisers." - Angela Campbell, Esq, Director of Communications and Technology Clinic, Georgetown Law



WHAT'S YOUR MIDDLE NAME?

WHAT'S YOUR NAME?

WHAT'S YOUR FAVORITE MOVIE?

WHAT'S YOUR FAVORITE RESTAURANT?

SO, WHAT'S YOUR FAVORITE SUBJECT AT SCHOOL?

ARE THERE ANY BABIES IN YOUR FAMILY RIGHT NOW?

HELLO  
HELLO  
HELLO

#HellNoBarbie

All quotes from Hello Barbie script accessed 11/3/15



Source: Time.com Available at: <http://time.com/4204791/mattel-smarttoy-hacker-fischer-price/>

FISSEA- NIST March 14-15, 2017

# ADORABLE TEDDY BEAR

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Source: Motherboard Available at: [https://motherboard.vice.com/en\\_us/article/internet-of-things-teddy-bear-leaked-2-million-parent-and-kids-message-recordings](https://motherboard.vice.com/en_us/article/internet-of-things-teddy-bear-leaked-2-million-parent-and-kids-message-recordings)

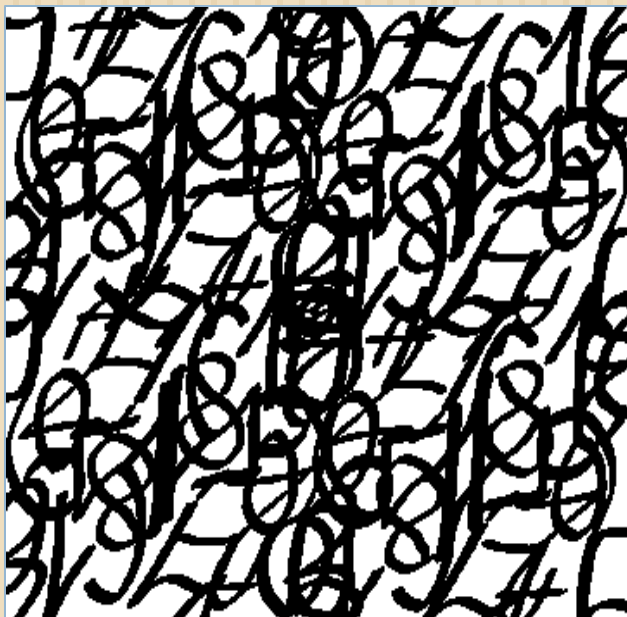
# VTECH

19



Source:: <http://www.komando.com/happening-now/337372/updated-major-data-breach-puts-hundreds-of-thousands-of-children-at-risk/2>

# WHY DOES IT MATTER?



# BREACHES

21

- ❑ Can yield anything that is stored
  - ❑ Photos
  - ❑ Chat logs
  - ❑ Audio recordings



# MALWARE

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- ❑ **Access information from devices**
  - ❑ Phone and email contacts
  - ❑ Call logs
  - ❑ Data about the device's location
  - ❑ Internet data
  - ❑ Calendar data



Source: FTC Available at: <https://www.consumer.ftc.gov/articles/0018-understanding-mobile-apps> and Wikipedia Available at: [https://en.wikipedia.org/wiki/Social\\_engineering\\_\(security\)](https://en.wikipedia.org/wiki/Social_engineering_(security))



# FILE SHARING

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- ❑ **Makes any information on the family's hard drive accessible**
  - ❑ Online banking & Financial information
  - ❑ Tax returns
  - ❑ Medical records
  - ❑ Family trees and life events
  - ❑ Insurance and asset inventories



Source: First Commonwealth Bank Available at: <https://www.myfcb.com/7-practices-safer-computing.htm>

# DEVICES USED FOR SPYING

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- ☐ **Baby monitors**
- ☐ **Barbie dolls**
- ☐ **Game console**
- ☐ **Educational toys**
- ☐ **Computer webcam**
- ☐ **Mobile phone**



Source: UK Daily Mail Available at: <http://www.dailymail.co.uk/news/article-3420182/Hackers-target-baby-monitors-Warning-cybercriminals-spying-children-accessing-devices-networks-transmitting-noises-scare-them.html>

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# STATE, DISTRICT AND SCHOOL VULNERABILITIES



# EXPLOITATION FACTORS

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- Student and parent complete names
- Social security numbers
- Birth date, Disability status, Health record
- Current and previous addresses, Phone and Contact Information
- Parents' employment, Emergency contacts
- Income, Copies of Utility Receipts
- School history, Disciplinary Records



# EXPLOITATION FACTORS

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- Schools and universities spend almost **\$12 billion** on **information** technology each year



Source: Center for Digital Education, Folsom, CA, May 22, 2015. Available: <http://www.centerdigitaled.com/higher-ed/US-Education-Institutions-Spend-66-Billion-on-IT-in-2015.html>

# EXPLOITATION FACTORS

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- The greatest security weakness of school districts is a **lack of IT resources**
- Compounded by pressures to provide **greater access** to the network
- School systems tend to spend less on sophisticated protections than large corporations, making **targets** for penetration[144, p.22]



Source: Fraud in Education:: Beyond the Wrong Answer Available at: <http://amazon.com/author/tonyajmead>

# EXPLOITATION FACTORS

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- The National Cyber Security Alliance, studied educator perceptions finding less than 25 percent of the respondents felt comfortable advising students on self protection against cyber predators, bullies, and identity theft [29]

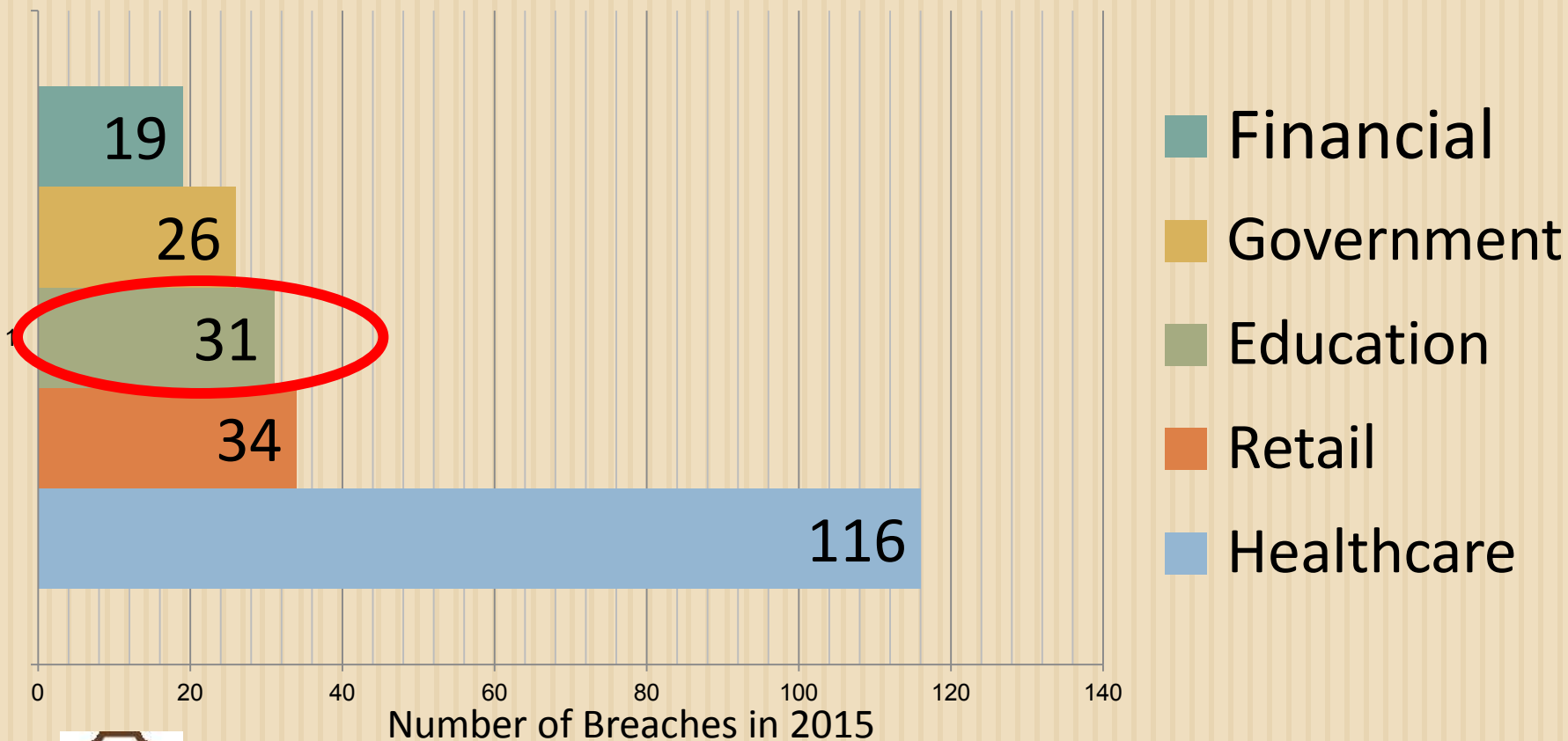


Source: Fraud in Education: Beyond the Wrong Answer Available at: <http://amazon.com/author/tonyajmead>



# DATA BREACHES BY SECTOR

30



Source: "Top Trending Education Targets in 2015," *Surfwatch Labs*. 2015. Available at: [https://www.surfwatchlabs.com/?gclid=CKXqwZ\\_0xMUCFVKQHwodTAYAhQ](https://www.surfwatchlabs.com/?gclid=CKXqwZ_0xMUCFVKQHwodTAYAhQ)

# IDENTITIES EXPOSED

31

Education Sector  
1,359,190



Source: K. McCarthy, "Five Colleges with Data Breaches Larger Than Sony's in 2014," *Huffington Post*. Available: [http://www.huffingtonpost.com/kyle-mccarthy/five-colleges-with-data-b\\_b\\_6474800.html](http://www.huffingtonpost.com/kyle-mccarthy/five-colleges-with-data-b_b_6474800.html)

# REASONS FOR VULNERABILITY

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↓ Discovery risk

↓ Enforcement risk

↓ Prosecution risk

↑ Undisciplined data use

↑ Threat of Exploits

↑ Threat of Exploits

↑ Threat of Exploits

↑ Threat of Exploits

Source: Fraud in Education: Beyond the Wrong Answer Available at: <http://amazon.com/author/tonyajmead>





**THANKS FOR YOUR TIME**



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