

Content warning: harassment will be discussed

An Investigation of Teenager Experiences in Social Virtual Reality from Teenagers', Parents', and Bystanders' Perspectives

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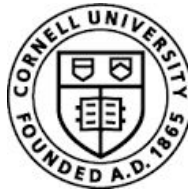
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What is Social Virtual Reality?

Social VR refers to virtual reality platforms designed to facilitate **social interactions** between **multiple users**.



Users' **real-life** motions and actions are **mirrored** in the virtual environment through their **avatars**,

Children and the Virtual World

- **17% of children age 8 to 18** report having a VR headset
n = 1306 (Common Sense Media, 2022)
- 22% of tweens (ages 8 to 12) and 27% of teens (ages 13 to 18) have ever **tried virtual reality** (Common Sense Media, 2022)

- **VRChat** has currently approximately **190.7k** players daily in the US (MMO STATS, 2022)
- **Rec Room** has currently approximately **23.5k** players daily (MMO STATS, 2022)



Multi-Stakeholder Perspectives

Teenagers



NEWS **B B C**

Metaverse app allows kids into virtual strip clubs

February 23, 2022

Parents



NEWS **B B C**

Meta to let parents limit teenager's virtual-reality exploration

March 17, 2022

Bystanders



 **NEWS**

Virtual Reality Puts Adults in a Child's World

July 16, 2023

Research Questions

RQ1

What threats are teenagers exposed to in social VR from the perspectives of teenagers, bystanders, and parents?

RQ2

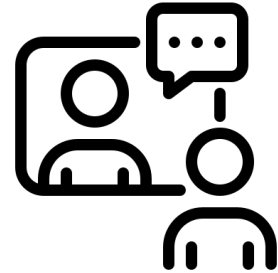
What are the similar perspectives and tensions among teenagers, bystanders, and parents regarding social VR threats?

RQ3

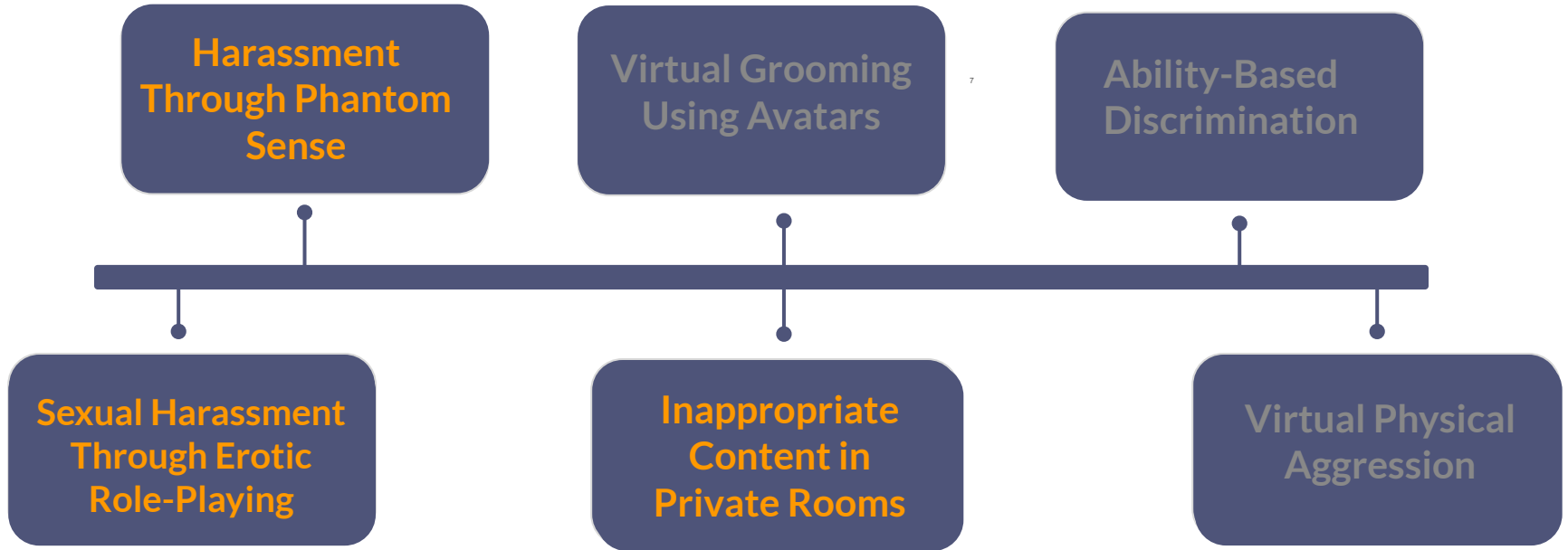
What features do teenagers, bystanders, and parents desire to combat safety threats in social VR?

Method: 23 interviews

- ❖ Participants:
 - Teenagers aged 13-17 (n=8)
 - Bystanders aged 18 and above (n=9)
 - Parents (n=6) (non-familial)
- ❖ Recruitment: Reddit, Discord, snowball sampling
- ❖ Platforms: Rec Room, VRChat, Gorilla Tag, Bigscreen, Altspacevr
- ❖ Method: Thematic analysis



Finding: What Are the Safety Threats Teenagers Face in Social VR?



Finding: Potential Threats in a Private Room

- ❖ Users can create or join private rooms, which are invitation-only spaces.
- ❖ Only the creators of private rooms are responsible for the safety of the platform.



*“ I've seen it [adult content] quite a few times on Big Screen. Adults will ask a child to join them in a private room and send a link to it. Or they'll open a room, then **make it private when you're in there** [...] I've seen porn movies in open rooms in Bigscreen. They're supposed to be safe so children don't see them. But they're not.” Parent 23 (53, male)*

Finding: “Feel” Virtual Harassment Through Phantom Sense

- ❖ The user's brain creates the illusion of touch, blurring the lines between the physical and virtual realms.
- ❖ Unwanted touches and being harassed



*“ I have **phantom sense** on my arm, forehead, and nose too. It's **not good** to have it though. I regret mentioning I had it. If people know about it, a lot of them will **abuse me**. It feels like someone is scratching me, it's itchy ... I took off my headset like it makes me feel **uncomfortable** when they get close.” -Teenager 8 (17 years old, female)*

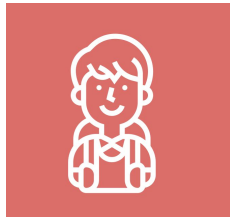
Finding: Sexual Harassment Through Erotic Role-Playing Avatar (ERP)

- ❖ Performed mostly or exclusively for sexual behavior and intentions
- ❖ Some people use avatars with sexual connotation in public places
- ❖ Available to teenagers through 3rd party platforms

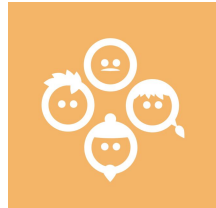


*“ I think he was just a 15-year-old who reached out to someone who did ERP [through Discord], and he released his age to the person in the ERP but still went through it. **They allowed him to have some sort of ERP, even knowing his age** ” - Bystander 11 (21 years old, male)*

Comparisons: Teenagers engagement in ERP-related activities in social VR

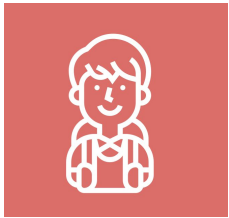


Teenagers were not aware of ERP



- Parents reported teenagers faced ERP avatars in public world (e.g., lap dancing)
- Bystanders reported there is easy access to ERP through Discord channel

Comparisons: The transition from teenage victims to unintentional predators in social VR



Teenagers described phantom sense as a cool experience



Bystanders reported some teenagers unintentionally exploited the phantom sense, resulting in harassing behavior towards other users

Discussion: Lack of social norms in social VR

- ❖ Social VR mirrors the complexity of our physical world, encompassing diverse users, events, and activities.
- ❖ The norms governing our physical world may not seamlessly apply to social VR settings
 - Example: Drinking alcohol in a virtual bar.

Discussion: Technological limitations and barriers

- ❖ Moderators were not readily available in private rooms where safety threats were quite common.
 - Privates places can unwittingly foster harmful activities like grooming and bullying among teenagers
- ❖ The avatar creation and customization
 - Social VR platforms lacked control over third-party tools and lacked effective mechanisms to filter customized avatars

Design Recommendations for Social VR

Age-matching
mechanism



Teenager prefer to
interact with peers

Emergency
button



Moderators and
parents should be
notified when this
feature is activated
by teenagers

Educate non-tech
savvy parent



Offering short lessons
about teenager safety
in social VR.

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