

Background

- The use of technology is ubiquitous in teens with ASD and their typically developing (TD) peers. (Cohen, 2015)
- Many people with autism spectrum disorder (ASD) are interested in and prefer screen-based activities to other activities (Mazurek, 2012).
- Gaming and video viewing habits have become an important concern to parents. (Kuo, 2015)
- Given that restricted, repetitive patterns of behavior, interests, and activities are diagnostic of ASD, researchers are beginning to investigate the excessive and inappropriate use of screen-based media by people with ASD. (Mazurek, 2016; Engelhardt, 2014)
- Children with autism seem to be particularly vulnerable to bullying (Zablotsky, 2014); however, little research has been conducted on cyber bullying and ASD.

Objectives

- To understand parents' concerns with the video, gaming, and online behavior and safety of their teens with ASD
- To determine whether parents' concerns are different for teens with ASD and typically developing (TD) teens

Methods

- An anonymous 80-question online survey developed in SurveyMonkey; University of Baltimore IRB: Exempt
- Recruited via email to Interactive Autism Network (IAN) Research registry participants, IAN Community (www.iancommunity.org), and Facebook
- Administered September 9, 2015 through October 24, 2015 to parents/guardians of children ages 13–17, with or without ASD, in the US



Table 1. Percentage of Parents Expressing Concerns with Online Behavior

	ASD Low	ASD Normal	TD	Difference between all groups	ASD Normal vs. TD
Inappropriate purchasing and joining	53% (n=19)	35% (n=68)	19% (n=48)	$\chi^2=14.65; p = .023; d.f.=6$	$p = 0.050$
Cyber bullying	15% (n=39)	25% (n=83)	14% (n=73)	no significant difference	not applicable
Comment or posting content	51% (n=39)	44% (n=85)	41% (n=73)	no significant difference	not applicable
Video viewing habits	45% (n=130)	59% (n=126)	35% (n=84)	$\chi^2=13.88; p = .031; d.f.=6$	$p = 0.006$
Gaming habits	27% (n=103)	41% (n=116)	29% (n=70)	$\chi^2=18.61; p = .005; d.f.=6$ (gender male $p = .005$)	no significant difference

Note. Statistical model used Logistic Regression controlling for age, gender, white (vs. non-white), Hispanic (vs. non-Hispanic).

Results

Analysis groups (n=347):

- ASD Low (134; 39%) - Teens with ASD and parent-reported below-normal intellectual ability
- ASD Normal (129; 37%) - Teens with ASD and parent-reported normal or higher intellectual ability
- TD (84; 24%) – Typically developing teens with parent-reported normal or higher intellectual ability

No statistically significant differences between the groups in demographic characteristics (skewed toward higher SES). Gender ratio within expected range.

Almost all teens were using one or more devices (including desktops, tablets, laptops, e-readers, gaming devices, or smart phones):

TD – 100%, ASD Normal – 99%, ASD Low – 98%

Of those, almost all teens going online:

TD – 99%, ASD Normal – 99%, ASD Low – 89%

Results (continued)

Purchasing and signing up online: The TD teens were the most likely to be making purchases and signing up for websites (60%) followed by the ASD Normal (55%), and ASD Low (17%). Of those, the parents of the ASD Low teens were most concerned about inappropriate purchasing or joining, followed by the ASD Normal teens, with a statistically significant difference seen between the ASD Normal and the TD teens (see Table 1).

Gaming habits: A majority of the teens were gaming, with 91% of the ASD Normal, 83% of the TD teens, and 79% of the ASD Low. The difference between the groups was statistically significant ($p = .029$). Many parents expressed concern about their teens' gaming habits, but male gender was the key factor across the groups (see Table 1). A thematic content analysis on parents' concerns revealed the following themes for the ASD groups, in order of frequency: too much time, bad content including games that overexcite, social game problems, frustration with gameplay, and safety.

"He spends far too much time playing games, he's addicted to them. If I take the device(s) away he has a meltdown."

"He plays too much and I don't like the violence."

"We have to limit his time and take devices away so that he will sleep."

Social media: The TD teens were using social media more than the other groups (88%), ASD Normal (67%), and ASD Low (33%). The difference between the groups was statistically significant ($p < .001$). Approximately one half of the parents of all of the groups expressed concern about their children's social media comments and postings and there was no statistically significant difference between the groups (see Table 1).

"In the past she's talked to strangers and watched things she shouldn't. I'm very afraid of predators."

Cyber bullying: The parents of the ASD Normal group having the greatest level of concern at 25%, though the difference between the groups was not statistically significant (see Table 1).

Video Viewing : While nearly all of the teens in our sample viewing videos, and many of the parents were concerned about the viewing habits of their teens, the ASD Normal teens' viewing habits were of the greatest concern (see Table 1). A thematic content analysis on parents' concerns revealed the following themes for the ASD groups, in order of frequency: bad content, too much time, bad judgment, inappropriate purchasing, parental controls and monitoring, and safety.

"He has had problems in the past about looking at porn and we have to be diligent to keep him from those sites."

"He stims. He likes Dora, Blues Clues - young for his age. He will watch a snippet over and over again."

Conclusions

- Parents of teens with ASD were concerned about the time spent using screen-based media as well as the content. Given recent research on the relationship between the excessive use of screen-based media and issues including oppositional behavior and sleep problems in teens with ASD, more research needs to be done to clarify these associations so that interventions can be developed.
- Parents were concerned with their teens' safety and behavior online and wanted better ways to monitor and control that behavior.