Cyberbullying, Digital Citizenship, and Youth with Autism: LIS Education as a Piece in the Puzzle

Abstract:

Librarians are beginning to address the lack of services for youth with autism spectrum disorder (ASD) by providing flexible and tailored programming and services. One important need among youth with ASD is a better understanding of how to navigate the online environment safely and responsibly. Due to different engagement styles with social interaction and communication, youth with ASD may be more susceptible to cyberbullying and misinterpretations during online communications than their peers. This paper introduces the idea that librarians can play a critical role in digital citizenship education for youth with ASD, and provides implications for LIS educators preparing future librarians through MLIS curriculum.

Keyword(s): social media; young adult services; curriculum; information literacy; specific populations

Introduction

In the United States, the prevalence of autism spectrum disorder (ASD) is now estimated to be 1 in 59 people (Baio et al., 2018). Youth with ASD often have social, developmental, and communication differences that affect their experiences when engaging in common everyday activities, including both during face-to-face interactions and interacting online (Orsmond & Kuo, 2011).

Though the body of literature is growing, current research on the provision of library services to youth with ASD is limited, made up of a few practitioner books and similar guides for special needs youth programming (Farmer, 2013; Klipper 2014). As the diagnosis of ASD is becoming more prevalent, there is an increased urgency for the development of library services that aid in the intellectual, emotional, and psychological needs of youth with ASD. Librarians are beginning to offer programs such as sensory storytimes for youth on the spectrum, but more work must be done when considering inclusive, educational services.

Like other teens, youth with ASD are active and engaged users of social media, online video games, and discussion boards. These digital platforms offer youth on the spectrum ways to communicate in a manner than may feel more comfortable and more complimentary to their communication styles and needs (Didden et al., 2009). However, young adults with ASD struggle with many of the same dilemmas when going online of their neurotypical peers. Cyberbullying, trolling, and other forms of online harassment are not uncommon in the everyday life of a teen (Pew Research Center, 2014), and for youth with autism one might expect that this would be no different.

In this exploratory study, librarians from across the United States discuss work they are currently doing for youth and teens with autism or with related special needs, and describe their willingness to expand into providing programming for these teens related to digital citizenship.

Significance of Research

This study offers one of the first empirical observations to contribute to the field regarding how librarians are currently working with youth with ASD, and their feelings about expanding services about digital citizenship. Virtual, semi-structured interviews were conducted with seven librarians from across North America currently working with ASD youth over a period of six months. During analysis, areas were discovered that have the potential to be included in MLIS curriculum. These areas are supported by insights gathered during the interviews from participating librarians. Some of these insights include needed guidance on collaboration with schools and school ASD curriculum development, growing demands for more tailored special needs youth programming, information literacy skills for the digital environment, and approaches to conducting outreach to social service agencies and youth organizations.

Literature Review

Overview

Previous exploratory research has shown that young adults with ASD do use libraries, even discussing them in online environments with other ASD youth (Anderson, 2016). This study investigates how librarians might address a crucial information literacy need for members of this population, and examines the ways in which librarians, through empathy, awareness of need, and library services can address concerns of citizenship for digital youth on the autism spectrum.

Library Services And Empathy

Empathy within librarianship has been infrequently studies within library and information science. However, empathy and compassion care is Phillips (2016) introduced empathetic services, "structured activities carried out one-on-one or in groups and everyday unstructured interactions in which the role of the librarian is to provide social, emotional, and psychological support" (p. 17), as an essential component of library work. This is particularly true when considering services to youth with special needs.

Library Services And ASD

Librarians are increasingly offering programming and services for individuals on the autism spectrum, particularly for children. One recent study notes that while sensory practices have long been incorporated into general storytimes:

> the specific and intentional use of the word "sensory" spiked in the late 2000s as an increasing number of libraries began offering "sensory storytimes" for children. These storytimes...provide enriched literacy experiences for sensory-seeking or sensory-challenged children, often on the autism spectrum. (Hickey, Golden, & Thomas, 2018, p. 19)

Sensory storytimes and similar programming not only show that the library is responsive to needs of autistic children, but also provides literacy and communication tools that support lifelong learning and social engagement (Cottrell, 2016b; Ennis-Cole & Smith, 2011). In public libraries around the world, librarians are building connections and partnership with autism organizations in their communities, developing communication tools such as social stories, and and conducting trainings for staff to better understand how to serve children on the autism spectrum (Anderson & Everhart, 2015; Mears, 2017).

However, library services for older youth with ASD (ages 12-18) are often neglected. As one article about library programs states, "(e)ven though therapies and activities for young children with autism are starting to grow, programs for teens and young adults are still scarce" (Cottrell, 2016a, para. 5). This issue is not restricted to libraries; there is a lack of literature and engagement for pre teens, teens, and adults on the spectrum in general. As stated by Charlie Remy, a librarian on the autism spectrum, there is a "continued societal focus on children with autism, although this is slowly changing" (Eng, 2017, para. 35).

Youth With ASD And Online Engagement

Teens with ASD are no different from peers in that they seek out social media platforms for support, understanding, and information seeking (Davidson, 2008). Kuo and colleagues report:

> adolescents with ASD who used computers for social purposes reported more positive friendships than those who used computers for other purposes. Notably, peers were the companions with whom adolescents with ASD most frequently engaged in these computer activities. (Kuo, Orsmond, Coster, & Cohn, 2013, p. 922)

Yet, this growth in social media use opens up a potential for cyberharassment, specifically cyberbullying (Network of Autism Training and Technical Assistance Programs, 2017).

Digital Citizenship in Library Services

Digital citizenship is one effort in which teens might be educated about responsible participation online. Digital citizenship is defined by Common Sense Media as "the ability to think critically, behave safely, and participate responsibly in the digital world" (Common Sense Media, 2015, para. 2). In a Pew Research Center study of American teens who use social media, when asked if their peers are kind or unkind to each other online, "...88% of teens have seen someone be mean or cruel to another person on a social network site" (Lenhart, Madden, Smith, Purcell, Zickuhr, & Rainie, 2011, p. 3). Digital citizenship education is a means to help address these issues through education (Oxley, 2011). By applying concepts such as ethics, responsibility, health and wellness to online behaviors, digital citizenship provides teachers (including librarians) have a platform for guiding youth towards positive online interactions.

Schools are beginning to introduce digital citizenship into their curricula, and some school librarians are now offering courses or one shot instruction for students (Krueger, 2017). In the United States, two states, Washington and Utah, have recently passed legislation that requires digital citizenship to be included as part of K-12 education (Stratton & Stephenson, 2015; Liias et al., 2017). However, instructional gaps remain (Vandebosch, Poels, & Deboutte, 2015).

Librarians are one community resource that has received scant research attention regarding digital citizenship, though more work is beginning to be conducted. As information literacy advocates and digital citizenship instructors, librarians provide youth with resources and programming on ethical and responsible online behavior (Phillips, 2014).

Methods

The researchers selected semi-structured interviews to better understand the experiences and perceptions of public librarians regarding services to youth on the spectrum, particularly when considering online safety and digital citizenship. The flexibility of the interview questions provide the researchers with the ability to delve deeper into how library services are currently beginning provided in public libraries and ways in which digital citizenship education could be incorporated into existing programming.

Participants

In total, seven public librarians and library staffers completed interviews. These interviews took place over Skype and Google Hangout ranging from 30 minutes to one hour in length. These participants have held a variety of positions in public libraries including Director, Teen Librarian, Programming Librarian, Youth Services Specialist, and Children and Youth Programming Assistant. Additionally, the library workers range in library experience from MLIS students to nearing retirement. The diversity of participants offered the researchers an opportunity for exploring the variation in perspectives regarding serving digital youth on the spectrum.

The librarians who responded to the call for participation demonstrated had some interest in the area of working with youth on the autism spectrum and/or digital literacy. This was not a random sample; instead, the population was determined by librarians who themselves used social media, as they were recruited from Twitter, Facebook, and other online venues, and were interested enough in the topic to agree to an interview. Though all librarians had different backgrounds and experiences, they all had a general understanding of working with youth with diverse abilities.

Data Collection

Data collection took place from May through November of 2017. The researchers contacted public librarians and library staff working with youth across the United States through list-servs (e.g. Young Adult Library Services Association (YALSA), Association of Library

Services to Children (ALSC), state library associations, and social media postings to established library-specific groups.

In these postings, a simple participation invitation was shared: "We would like to invite you to participate in a research study we are conducting to explore how librarians can better prepare youth with Autism Spectrum Disorder (ASD) to navigate online communications." From responses to this call, seven participants were generated who met the sampling criteria and were interested in participation.

Data Analysis

Transcripts were coded following Saldaña's (2015) approach to qualitative research. Due to the uniqueness of the research topic, this style of coding allowed for discovery of emergent themes. Both researchers participated in multiple instances of coding the interviews, focusing on theme development. These themes will be further investigated in the findings below.

Findings

Findings: Parent Involvement

One striking finding from our interviews is the degree to which parents are involved in not only their teens involvement but the actual structuring of the programming. Due largely to the active communities of parents with ASD youth, these already in action groups worked in partnership with the library as collaborators. Input from the parents was purposefully sought as indicated by one librarian:

> "The Thursday night group was, the older teen boys wanted something just for them, so I started it. And I started just with video games. And then I said, ok well, what else would you like? I asked the parents, not the kids. I asked the parents, what else would you like, they don't want me to do anything but video games. Because they use that as leverage. If they don't finish their homework, they don't get to come to video game night."

Additionally, participation allowed opportunities for parents to socialize themselves with other parents of children with ASD or other special needs. One of the librarians in our study (a mother of a children with ASD) discussed a group she has been a part of During the interviews, our participants mentioned groups of parents with ASD youth within their community who regularly connected to one another. Outside of school events, the library was an additional outlet for these parents to get together and engage with one another.

Findings: Inclusive Programming

Librarians conveyed a need for inclusive programming that was not strictly focused on ASD youth but those both with other special needs and without. In many cases, for a youth on the spectrum, these are the same youth that they are spending time with on a regular basis (e.g. going to school, community events, church). Separating youth with ASD into programing specifically for them did not appear to be a necessary element in young adult programming. In fact, including ASD youth in standard youth program was method to provide similar experiences for all youth As described by one librarian,

> "Well there's actually one member of [our group] who is on the spectrum, but they're just a normal part of the group. Let's see, we do make accommodations for some of the games that we play, like the question game, where you need to, like each person has to ask a question and if you pause too long then you go on to the next person. And it's not her favorite game but she's happy to say if the person is taking too long. Otherwise we just give her longer to answer, or…It's really just natural and it's the kids she goes to school with the other students and it's just a normal thing, I guess."

Another librarian explained the challenges of providing targeted programming for youth on the spectrum:

> "It's hard because I've tried programs for teens at another library, and it was just for teens on the spectrum and I didn't really get any kind of response…I think I would just be looking for programs where teens with, teens on the spectrum, where they're likely to come because that's their special interest and they would just be there with other kids, other quote unquote typical kids, just hanging out and having fun. But they would feel welcome and included and they'd just blend in, blended programs. I don't really see myself doing any extra programs just for that, just for kids on the spectrum"

Again, the emphasis is on what this librarian refer to as "blended programs". Programs that not only included neurotypical teens but youth on the spectrum and with other youth special needs provide an environment where they can "blend in". The librarians interviewed recognized this need and worked to include it into program planning.

Findings: Peer Mentors

Related to inclusive programming is the need for youth with ASD to regularly engage with neurotypical youth. These peer mentors are included in activities both in and outside of the library. At one library, peer mentors are matched up with a youth on the spectrum for the course of a year. These peer mentors include their mentees in activities both in and outside of the library. As opposed to placing youth in designated groups within the library's programming, peer

mentors and general young adult programing as an approach to serving special needs youth that occurred frequently during interviews.

> "Each special needs child is paired up with one or two teens and they stay together for the entire year. So if Jimmy is paired with George, they are together the entire year. So they build a relationship. And it's worked, this is the third year that we're doing it so I know that some of the kids do have relationships outside of the library time. So they go places, they go to the movies together they have each other over at the houses. I can tell you at my own end, my son has invited his friend, his special needs friends over, and he also invited his typical buddies to come over. And they come over to the house to hang out, to watch a movie, play pool, you know, on the weekend they come over. So they do develop a friendship."

This librarian illustrates the ways in which mentorship goes beyond more common youth programming (e.g. crafts, video games) and expands into the school and personal life of a special need young adult. Supporting the development of a strong relationship between neurotypical and neurodiverse youth is seen as an important role for the library to play. This role requires that a librarian step beyond the normal confines of the library walls and push even further into the community.

Findings: Librarian Knowledge of ASD

Librarians demonstrated an understanding of the needs of youth with ASD as well as a comfort developing programming for special needs youth. While the researchers' call for study participants geared itself to librarians already providing or considering providing services to these youth, a few of the interviewees have children or young adults with ASD. As exhibited in the quote below from one librarian:

> "So we've always run a Monday night special needs program, for the last 14 years. Because my son was 3 years old. And that came from the fact that, just talking to other parents and we would say, there's no place to take these kids… so I created the program here… And 14 years later, we're still doing it."

This provided a unique perspective regarding how library programming can be constructed for these youth. Not only are librarians and library staff knowledgeable about ASD but some have personal experience as parents of youth with ASD. This may influence how programming is conceived and implemented. This librarian places library programming within the context of her experience as a parent.

Additionally, libraries are seeking out training to provide for staff that goes beyond the perceived norm of librarian professional development. They are responding to an increased demand for serving patrons of a range of disabilities including mental illness and differently abled patrons. One librarian describes training her library has offered:

> "We've had training for people with different, people with disabilities. We've also had, we've had mental health issue training at this particular branch, and it is offered in our system too, and so I think we're more aware of that. So there's already an acceptance of doing that kind of programming for different needs here."

The acceptance she refers to reflects a greater understanding and increased knowledge of the variety of patron needs. Not only do patrons, particularly youth, have needs that are not being met through other community resources but this librarian articulates the lack of a welcoming and understanding environment. Though it is often assumed that librarians are comfortable working with all populations, interview participants reveal that this is not always the case.

> "Before I started, the children's librarian, I don't think she felt comfortable with children with special needs, and I do. So I made it a point to go introduce myself to the teacher and ask if she wanted me to do a storytime or anything special."

This librarian, a former special needs teacher, sensed a discomfort from the previous children's librarian regarding working with special needs youth. This librarian took the initial step to reach out to a local teacher to demonstrate the library services that could be introduced into her classroom. As will be discussed more, the strong connection between public libraries and schools is considered important within these conversations, particularly when working to support youth on the spectrum or with other needs.

Findings: Collaboration and Supplement to Schools

Trust is a key between libraries and schools, librarians and teachers is a notable finding. Collaboration between schools and libraries extends the support of special needs youth. While some school districts may have little interactions with their local library system, the librarians interviewed in this study acknowledged the benefit that this positive relationship can have youth with ASD. A reflection below by one librarian highlights this need:

> "I would ask the school district if they had somebody they could recommend for a teacher. I like to use people from the district because I know them and they know me and they know the kids and I trust that they're reliable."

However, one librarian expressed criticism regarding the district her library serves. The concern about a buddy program offered within the school and contrast with the buddy program provided by the library where she works is evident. Once again, this librarian demonstrates an increased knowledge about youth with ASD such as specific needs, approach to interaction, and continued connection between the buddy pairs. By comparing how her library program is structured to what is offered in her local schools, she reveals a perceived disconnect between the school and library.

> "The (buddy program) that we do have in the district it leaves a lot to be desired. The kids aren't with the same buddy all the time, and what happens is special needs kids stay on one side of the room and typical kids stay on the other side of the room and they don't really interact that much."

In contrast, another librarian expanded the possibilities of demonstrating how library services can support and expand upon what is already taught in classrooms. As she remarked:

> "Our school districts are going one-to-one with technologies in general, where the high school students are getting Chromebooks or iPads to take home. So, you know, what we do in the library is an extension of supporting what goes on in our school. So how can we support not only the teens, but the teachers as well…"

In this quote, the presence of support is already acknowledged by the librarian, yet is perhaps not as recognized by the teachers or school administrators. From interviews with the public librarians, an effort is being made towards collaboration with schools and teachers. There a desire to connect with what is going on in the school districts. By doing so, these librarians are building upon what can be done for neurotypical and neurodiverse students and their parents.

Findings: Sense of Role and Responsibility

Libraries serve communities, and youth with ASD are a part of that community. One librarian articulately discusses the need to demonstrate this:

> "Well, I mean, they're part of our community, just like people who come in who speak different languages or people who come in and are from different parts of the country and they have questions about what goes on in the community. I think just because people on the spectrum, the numbers are, they're saying the numbers are going up as far as people being diagnosed… So we need to accept their needs, understand them, they're part of the community. There's still people who are going to be not understanding or prejudice, but as librarians we need to accept and meet their, find them what they need help with, as

best we can, and if we can't then try to have someone help us to meet their needs. They're a part of the community."

When thinking about the day to day work in a public library, the interviewees reveal much in the way of roles and responsibilities of librarians. This finding, in particular, describes a deeper understanding of community as one that is inclusive and reflective of the entire community a library serves.

Discussion

From this sample, it is clear that some librarians are excited to explore opportunities in better supporting youth on the autism spectrum, though providing opportunities in digital citizenship specifically has largely been untouched. Librarians stress the importance of collaboration at all levels, from within the school to their local communities and beyond. Some imagine digital citizenship as situated within life skills programming in general. Librarians who are interested in this area, and those who are particularly confident in moving forward with more targeted programming, seem to be interested for individual reasons and have personal connections to youth with different needs. Finally, librarians in this study express concern about both capturing and sustaining the attention of youth on the spectrum.

Librarians are Eager to Dive in

Librarians in this small sample reflect a interest in providing services for neurodiverse youth, and are already working hard to address their perceived needs. While only a few years ago the idea of a sensory storytime seemed groundbreaking, now librarians are going above and beyond to provide programs and services for a greater range of library users on the autism spectrum. Yet, within this growing pool of services, online safety is not included. Librarians are largely unaware about the need for providing digital literacy programs for youth on the spectrum, or are unsure or wary about how to provide such programs or services.

However, it is not for lack of interest. Librarians in this study were excited to discuss the possibility of expanding programming to include online safety, especially if given training and resources to help guide them through the process. There is an untapped market of librarians who are interested in expanding programs and services for digital youth with ASD - they range from simply needing a slight nudge of suggestion to get started to a formal training session or a subject matter expert being invited in. No matter the barrier they may encounter, or spark they need, the librarians in this study were interested in providing these programs or services with varying levels of additional support.

Collaboration is Key

Public librarians in this study continually described collaborations both within and outside of the library - with coworkers, with schools, with community members, and most of all with parents. Involving parents and families has long been a strategy for engaging youth, and is often effective (Lopez, Caspe, & Simpson, 2017). In serving youth or adults with intellectual disabilities, involving their parents or caretakers can be seen as one strategy to bolster participant numbers and garner participation. However, youth of all intellectual abilities can be on the autism spectrum, and are often able to speak for and advocate for themselves - at least to the extent that any other youth can. In planning programs and services for youth with ASD, parents should be consulted to the extent that they are for any other teen library program - no more, no less.

Collaboration with schools and teachers is also described as a method for generating teen engagement, particularly when the library fills a gap in the curricula. This is particularly evident when considering digital citizenship which is often included in information literacy instruction taking place within a school library (Oxley, 2010). As suggested by the passage of state legislation requiring schools incorporate digital citizenship in school curricula, there is an increased awareness of the need for online safety education.

Young adults can be a challenging audience to reach for a public library (Jones & Shoemaker, 2001), and any successful measure to get them in can feel like a victory for a librarian. Collaborating with parents and schools in order to obtain active participation and engagement is a common strategy described by interview participants, and a successful one, but collaboration should not come at the cost of sacrificing the input and opinions of the youth themselves. *C*ollaborations also need to include the youth themselves, taking into account their needs and ideas as services are designed specifically for them. Not all teens - neurodiverse or neurotypical - have a strong parent advocate; services designed for teens need to be designed based on their need, not the needs as perceived by a parent or caregiver speaking for them.

Life Skills

Programming to support life skills is gaining traction in libraries, and frequently came up during interviews. “Life skills” has become a popular term in recent years for teen and young adults programming, with classes developed to help with the transition to adulthood ranging from managing money to relationship development (Lucas, 2017; Ford, 2018). Life skills courses are being offered in multiple formats including online and through formal institutions, and librarians have taken notice. Though this term was not introduced by the interviewers, it was mentioned unprovoked and independently in multiple interviews by librarians. Incorporating an element of digital citizenship into life skills programs could be one way in which librarians could offer this programming as part of a larger approach. Additionally, life skills programs are typically designed to be inclusive of all members of the teen population, not just singling out

those on the autism spectrum. Librarians can use this to suit their needs, depending on their library and the population they serve - a series of programs could be offered under the life skills umbrella in which digital citizenship is just one theme of many, perhaps reaching a broader audience with this on-message branding. This is a way to provide training that is beneficial especially for teens on the spectrum, but inclusive and important for all teens.

Librarian Knowledge and Personal Experience Matters

Librarians come to the field from a variety of backgrounds and with various experiences, both professional and personal, that shape who they are and how they operate professionally. Librarians who participated in this study were largely called to action in their own workplace based on personal backgrounds and influences. Though the researchers and the participants feel a push to explore this work, it is likely that those who do not have experience or a background in neurodiversity will feel a sense of urgency in creating, promoting, and conducting digital literacy programs for this population. Instead, it is those who are already attuned to their needs and experiences who are likely to focus here; this is logical, given there are a variety of areas in which librarians might focus their attentions. Of course, a librarian's personal experiences and preferences will shape where their attention and efforts lie. It is important, then, for those librarians who are passionate about working with teens on the spectrum to make replication easy. Creating and packaging ready-to-go content, made especially for implementation in public libraries, is one way for librarians to assist their peers in providing digital citizenship programs for youth with ASD. Those with personal knowledge of ASD understand the need for more tailored digital citizenship programming; it is important to educate their peers on the value here as well.

Education is important. Even study participants who already had some interest in the area demonstrated increased interest as interviews proceeded. It was an "aha" moment for some of the participants, as they talked through the possibilities at their own libraries. Multiple librarians mentioned that they did not consider digital citizenship training as important for their patrons on the spectrum until the interview, at which point comments ranged from wanting to talk with parents about the possibility for programming, to incorporating messaging on their social media page, to applying for local grant funding to support ongoing programming. Planting the seed of this type of program lit a spark for librarians already familiar with working with this population; similar conversations need to take place to introduce the idea to those with less background in the area to introduce the need.

As youth are not required to attend events at the public library, introducing educational programming needs to be approached with particular care. Not only do the lessons need to be informative, but they need to be engaging enough to capture the attention of teens. Based on the findings in this study, success might be found with short lessons incorporated into larger programs or events. In this way, neurodiverse teens are able to interact and engage with

neurotypical teens during programs, whether through inclusive programming or a more formal buddy system. It is also important that staff are educated and comfortable with the services and education they will be providing. That level of education and comfort will range from librarian to librarian, and could consist of simply understanding that the topic is important and bringing in a cyber safety local expert, or conducting workshops him or herself for library patrons. No matter the approach, librarian knowledge about neurodiversity and the need for digital citizenship education is a crucial first step.

Bringing Them in the Doors

No matter what is offered, it is important that it fits the needs of the population and is engaging such that teens on the spectrum want to attend, want to engage with the content, and want to learn. It is not enough to only create new services or programming; teens also need to be interested in attending. Public libraries are at a disadvantage compared to schools who offer training and courses in digital literacy where attendance is voluntary. School coursework is required, and digital citizenship lessons can be built into existing lesson plans.

Schools have a captive audience; public libraries do not share that advantage. Libraries are offering voluntary programs so it is not enough to be educational - it has to be engaging and inviting too. Some librarians might consider building snippets of digital citizenship lessons into regularly scheduled programs, whether for neurodiverse or inclusive audiences, to provide educational information for teens prior to a big ticket event such as a gaming night. These quick tips could be included in special needs programming, teen programming, computer courses, and more and could reach not just those with ASD but all digital users with broad but applicable information.

Partnering youth on the spectrum with neurotypical peers has potential for success in that teens might be more likely to participate, as one interview participant described. The teens with ASD appreciated having a buddy, and the neurotypical teens reported that it was fulfilling - so much so that they chose to come in to the library with their buddies instead of taking a week off for spring break. In some instances, when library programming was developed by interviewed librarians, it received little interest from parents or youth. The youth were instead more interested in "hanging out, messing around, and geeking out" especially with new media (Ito et al., 2009, p. 17). For these youth, they want to be included within the rest of the group. Having a partner or a buddy system for diverse youth has been shown to be successful in some settings (Bass and Mulick, 2007); perhaps by incorporating educational sessions into an already established peer mentoring or "buddy" situation both neurodiverse and typical teens could be interested in attending, while simultaneously benefitting from the information.

Implications for LIS educators

LIS educators can contribute to the preparation of future librarians in supporting youth with ASD, particularly considering information literacy and digital citizenship. The findings and discussion points discovered in this early study should be further examined as LIS educators evaluate the services being created for youth on the autism spectrum, particularly when thinking about the digital habits and experiences of these youth.

LIS educators have long provided guidance for outreach to underserved populations, youth advocacy, and special needs program development (Curry, 2005; Jones & Shoemaker, 2001; Jones, 2007). These findings suggest that a combination of education is needed for both new librarians and more established librarians to feel prepared to support youth on the autism spectrum in the library. Comfort and knowledge are key for getting librarian buy-in to provide tailored programming to support teens with ASD's digital lives.

To help prepare upcoming graduates, LIS programs should consider incorporating or enhancing instruction to support digital literacy skills, particularly for special populations. In this way, librarians will be familiar with the area upon graduation and prepared to incorporate the knowledge gained in their coursework with the population they serve. For librarians in the position to supervise or train staff, a thorough evaluation of library services for youth with ASD and other neurodiverse youth is critical. Given the prevalence of autism in the general population, it only makes sense that all librarians anticipate and plan for providing supportive services for these members of their communities.

Conclusions

Digital citizenship education and encouragement of healthy online behaviors is necessary to aid in the prevention of cyberbullying, online harassment, and other harmful online experiences among all youth. However, as indicated in this paper, youth on the spectrum are a unique population which is frequently underserved in meaningful ways in the library. As this study is an early step into a larger discussion around digital citizenship education for youth with autism spectrum disorder, there is much more to be uncovered. One direction for future research is to speak with neurodiverse teens themselves to determine not only if they feel that support in this area would be helpful, but also if they are in fact open to the idea of attending digital literacy programming at the library.

The conversations highlighted in this study could be turned into a number of action items, which might be tailored to best meet the needs of any library community. Some of these items might include: creating inclusive digital citizenship programs for all teens; incorporating digital citizenship programs into neurodiverse groups librarians are already working with; offering digital citizenship as part of a more broad life skills program; or including brief messaging on social media accounts for teen users.

Librarians are questioning how to meet the burgeoning needs of a digital public. And, while doing so, discovering gaps in MLIS curriculum. One of these gaps is a lack of training and

education on supporting special needs youth. There has been a slow increase in inclusive library programming and outreach children and youth with ASD.

This paper does not attempt to describe the best approach, but instead to begin the conversation. Librarians are already providing programming for diverse youth, often for youth on the spectrum, addressing gaps in the curriculum. Offering programming and education for youth in digital citizenship, particularly to include those on the autism spectrum, is a logical next step, and one which would have great benefit for the communities libraries serve.

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