Reimagining Access and Inclusion:

Early Literacy Services for Autistic Children and Their Families in Public Libraries

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Abstract

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Providing programs for diverse populations and strengthening communities in need has been a longtime focus of public libraries (Garmer, 2014). Early literacy services are one way that libraries support their communities, with a particular focus on children's programs (Grimes et al., 2013). Library storytime programs promote early literacy skills in participating children and encourage parents to participate in their children's literacy development by providing them the skills to do so (Albright et al., 2009; ALA 2006). Currently, autistic children are not adequately supported in early literacy development in comparison to neurotypical peers (Westerveld et al.,

2016), with a lack of support at two years old impacting reading at five years old (Davidson & Ellis, 2014). Despite a commitment to serve children of all abilities, library services continue to be inaccessible to autistic children and their families, leaving a sizeable service gap for this community, especially concerning early literacy (Matoushek et al., 2017; Paynter et al., 2020; Prendergast, 2017; Schriar et al., 2016).

There are systemic barriers in libraries that make library early literacy services inaccessible for autistic children and their families, resulting in lower access to library services for these families (e.g. Prendergast, 2016; Broman, 2017; Simpson et al., 2020; Kaeding, Velasquez, & Price, 2017; Copeland, 2011). These include both systemic barriers that impact access in the library context for autistic children and their families, as well as systemic barriers that affect library staff services to autistic children and their families.

The purpose of this study was twofold: The first objective was to develop a conceptual framework identifying the barriers and enablers present for autistic children and their families in public libraries related to early literacy learning experiences; the second objective was to identify components of training and resources youth-serving librarians need to provide autism-inclusive early literacy services. To do this I utilized a critical lens informed by Critical Disability Theory (CDT) and the neurodiversity paradigm. This lens allowed me to identify systemic environmental and social barriers that keep autistic children and their families from needed early literacy experiences and materials in public libraries.

My work is framed within a social constructivist epistemology, aligning with Critical Disability Studies (CDS) which utilizes CDT to focus on the lived experiences of social actors, especially within research and the context of providing counter-narratives to traditionally ableist institutions (Broderick & Ne'eman, 2008; Schwant, 1994). I utilized an instrumental embedded single-case study to understand public early literacy services to autistic children in Washington State through multiple perspectives and extend theoretical findings to practical applications (Patton, 2015; Yin, 2018). Through interviews, focus groups, and Participatory Design (PD) sessions, this study found that autistic children and their families face systemic social and structural barriers in public libraries that limit access to early literacy services and programs. Most prevalent among these barriers are social systemic barriers, which refer to systemic barriers that are informed by social ableism. Social ableism is discrimination, stigmatization, and prejudice that results in social oppression towards the disabled community (Bogart & Dunn, 2019; Billawalla & Wolbring, 2014). These are barriers such as families' fear of judgment by library staff or fellow library patrons, predominantly fueled by community and cultural expectations of patron behavior and libraries as "quiet" spaces.

Additionally, youth-serving library staff experience systemic barriers that impact their ability to utilize autism-inclusive practices to serve these families, including a lack of resources and available training to support autistic children's early literacy needs and address social barriers. Enabling practices identified by families with autistic children included creating a community of inclusion through welcoming environments, inclusive patron expectations, and autism-inclusive early literacy program design. Ultimately, this study found that youth-serving library staff require training and resources that utilize a critical lens to address social barriers. Training needs

to provide information about autism from autistic advocates themselves, and include research-based information and key practices for autism-inclusive early literacy services and programs.

The findings of this study inform theory and practice in the Library and Information Sciences (LIS) field in multiple ways. The first contribution is the development of a conceptual framework for understanding the impact of systemic barriers and enablers in libraries on the early literacy learning experiences of autistic children and their families. Other crucial contributions include a critical reframing of autism in libraries, and key theoretical concepts regarding early literacy services in public libraries for autistic children and their families. Contributions to practice include informing key practices for serving autistic children and their families' early literacy needs, and an early literacy-services training and supportive resources for youth-serving librarians. This study lays the foundation for future work examining and dismantling systemic barriers in public libraries for neurodivergent and underserved communities.

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Chapter 1: Introduction

1. Introduction

Providing programs for diverse populations and strengthening communities in need has been a longtime focus of public libraries (Garmer, 2014). Libraries are invested in providing needed resources and services to their communities, especially in relation to children and families in need. Of 3.5 million programs provided by public libraries in 2013, 61.5 % were designed for children and their families (Grimes et al., 2013). It can be assumed that this trend has persisted, as more libraries continue to focus on youth services programs. Early literacy programs, such as storytimes, are the driving force of early literacy services to children and their families. Early literacy is a general term used in reference to children's precursor literacy skills through kindergarten (NELP, 2008). Library storytime programs promote early literacy skills in participating children and encourage parents to participate in their children's literacy development by providing them the skills to do so (Albright et al., 2009; ALA 2006). Despite a commitment to serve children of all abilities, library services continue to be inaccessible to autistic children and their families, leaving a sizeable service gap for this community, especially concerning early literacy (Matoushek et al., 2017; Paynter et al., 2020; Prendergast, 2017; Schriar et al., 2016).

1.1 A Population in Need

Autism is a neurodevelopmental difference that affects how autistic individuals experience the world around them (ASAN, 2022). Currently, the CDC estimates that 1 in 44 children are diagnosed with autism in the United States (Maenner et al., 2021). Many more children remain undiagnosed due to unequal access to diagnosis (Wiggins et al., 2020). Currently, autistic children are not adequately supported in early literacy development in comparison to non-autistic peers (Westerveld et al., 2016). Autistic children who are not provided with supportive early literacy instruction in preschool do not meet standardized reading goals in kindergarten and beyond (Dynia et al., 2017). In addition to difficulties providing supportive home literacy environments (Marvin, 1994; Light & Smith, 1993; Van der Schuitt et al., 2009), many families with autistic children are unable to afford private learning services (Beuscher, 2014). Availability and exposure to literacy materials in the home and other learning environments directly correlate to children's early literacy development (Justice et al., 2005). This means that autistic children and their families are at a distinct disadvantage when they are unable to access library resources and services. This places a strong impetus on libraries to provide accessible services and early literacy programs to autistic children and their families, as libraries are committed to supporting the lifelong learning of their communities (Garmer, 2014). However, very few studies have investigated early literacy in libraries for children with disabilities (Barker, 2011; Kaeding et al. 2017; Prendergast, 2016). Even fewer have specifically focused on early literacy in libraries for autistic children and their families (Paynter, 2020).

1.1.1 Libraries Are Not Accessible for Autistic Children and Their Families

> "Accessibility is about the ability to reach and navigate a place; the opportunity to participate, use, and enjoy a service or facility; and the right to receive information."

–Yalon-Chamovitz (2009)

Libraries have been working to seamlessly provide accessibility for physical disabilities for decades, and have found some success by implementing rules and best practices informed by both the government and their surrounding communities (Bonnici et al., 2015). A review of the literature regarding children's library services for children with a wide range of disabilities indicates a commitment to improving services for this population (Akin, 2004; Baldassari-Hackstaff, Kerber, Krovontka, & Olson, 2014; Banks, 2004; Grassi, Huth, & Jin, 2013; Klipper, 2013, 2014; Patte, 2002). Research on the effectiveness of this commitment is relatively scarce (Kaeding et al., 2017), and very few studies have investigated early literacy in libraries for children with disabilities (Barker, 2011; Kaeding, 2014, 2015; Prendergast, 2013, 2015; 2017). Even fewer have focused on early literacy in libraries for autistic children and their families specifically (Paynter, 2020).

Despite a commitment to serve children of all abilities, library services continue to be inaccessible to autistic children and their families, leaving a sizeable service gap for this community, especially in relation to early literacy (Matoushek et al., 2017; Paynter et al., 2020; Prendergast, 2017; Schriar et al., 2016). However, interest in the topic of services to autistic patrons has risen in recent years (Schriar et al., 2016). The number of libraries that provide programs that specifically include autistic children and their families has also continued to grow (Matoushek et al., 2017), though preliminary information suggests these programs have had mixed results and relatively scarce attendance (McNeil, 2017). While it is unclear if the impetus to create these programs stems from strategic planning or community needs assessments, many

researchers and libraries have begun to see a need for programs serving autistic children and their families.

Despite their need for early literacy services and programs, libraries are not currently equipped to address the needs of autistic children and their families (Prendergast, 2016; Schriar et al., 2016). While many libraries have added sensory storytimes or "all ability" storytimes, significant barriers exist for families attending those programs. The library's environment itself is not accessible for autistic children, and many parents fear judgment for bringing their children into the library (Prendergast, 2017). Additionally, the programs libraries *do* provide for autistic children are not empirically driven. Librarians rely heavily on social media posts, blogs, and Pinterest for ideas and tips for sensory programs (Hickey et al., 2018; Paynter et al., 2020), and the efficacy of these programs is unknown. Unfortunately, these programs often focus on sensory integration and social skills, rather than early literacy (Matoushek et al., 2017; Baldarassi-Hackstaff et al., 2014). Despite the fact that there is more research investigating literacy practices in the education and autism fields, little library programming is informed by these early studies (Prendergast, 2017). Librarians may already possess the skills needed to provide relevant early literacy programs to autistic children, but they lack the necessary training to confidently meet their needs (Paynter et al., 2020).

1.2 A Lack of Training

While library staff would like to serve the autistic community, they often feel they are not qualified to do so and lack the necessary support from the library system to provide quality

services (Prendergast, 2016; Schriar, Foester, & Pelich, 2016). Professional development regarding serving autistic patrons and providing inclusive early literacy services is inconsistent and often absent for library staff (Kaeding, Velasquez, & Price, 2017; Paynter, 2020; Prendergast, 2016). Librarians often pay their own fees for professional development courses and take them on their own time (Prendergast, 2016). Additionally, current professional development resources utilize a problematic theoretical framing of autism, utilizing what is called a "deficit" or "medical" model.

Professional development often includes access to mentorship opportunities within the organization, especially if formal training is not available. Mentorship can include both formal and informal relationships with knowledgeable library staff who provide guidance and resources regarding library services (ALA, 2014). Currently, most library systems do not have mentorship models for autism-inclusive programs and services (Matoushek et al., 2017; Small, Schriar, & Kelly, 2019). This scarcity of professional development for library staff leads to a lack of autism knowledge and early literacy training that does not cover learning differences, culminating in discomfort in interacting with autistic patrons and facilitating autism-inclusive literacy programs (Prendergast, 2016).

In addition to a lack of training and knowledge about autism and serving autistic children, library staff also report that their schedules do not allow adequate time to plan autism-specific programs or to develop relationships with autistic-serving community partners through outreach (Prendergast, 2016; Schriar, Foester, & Pelich, 2016). This is a systemic structural barrier within the library organization itself and is often exacerbated by a lack of needed money, materials, and time allotted from the library system to staff who wish to provide inclusive programs (e.g.

Hickey, Golden, & Thomas 2018). Inclusive programs are also reported as difficult to provide due to a lack of resources, including funding for materials and access to research-based best practices (Grassi, 2017; Prendergast, 2017). Librarians are often not given access to funding for inclusive programs and find it difficult to apply for grants and other monetary resources (Hickey, Golden, & Thomas 2018; Kaeding, Velasquez, & Price, 2017). In particular, resources such as community partnerships—which have been shown to mitigate a few barriers related to materials, etc.—are often built and sustained at a system level in libraries (Connectedlib, 2018). Problematically, community partnerships are chosen by the priorities of the library. Partnerships with the autistic community often fall outside of those priorities (e.g. Adkins & Bushman, 2015; Copeland, 2011). Other inadequate resources also include access to guidebooks and materials to help library staff develop inclusive offerings, which are often expensive. This lack of resources on a systemic level means that librarians are often unable to offer inclusive programs, specific supports such as sensory kits, and even autism-specific resources for parents (Kaeding, Velasquez, & Price, 2017). It also results in a lack of early literacy programming and resources for autistic children and their families in public libraries (Broman, 2017; Matoushek et al., 2017).

1.3 Critical Lens

If issues of inclusion and accessibility for children of all abilities have been on the minds of practitioners and researchers in the LIS field since at least the early 2000s (e.g. Akin, 2004; Banks, 2004; Patte, 2002), why has so little progress been made? The issue is a matter of how disability is framed in LIS. Current theories of practice regarding serving autistic patrons, in

particular autistic children and their families, are framed heavily by the medical model of disability (Kumbiar & Starkey, 2016). This is problematic because the medical model situates the individual as the sole party responsible for their disability and the barriers they face (Kafer, 2013). It encourages us to respond to autism "as something to be dealt with through medical research and treatment" rather than by addressing barriers in built environments (Kumbiar & Starkey, 2016).

The current framing of autism by the LIS field and library associations has a significant impact on theories of practice for serving autistic patrons, which informs day-to-day service models for libraries (Kaeding, et al., 2017; Kumbier & Starkey, 2016; Lawrence, 2012). This also has an impact on professional development and sensitivity trainings for library staff (e.g. Targeting Autism), including youth-serving staff members who work directly in an early literacy support capacity for families. For example, librarians often feel that in order to provide effective services to autistic children and their families they need to be autism experts (Adkins & Bushman, 2015; Prendergast, 2016).

The framing of this research and proposed conceptual framework utilizes Critical Disability Theory (CDT) to understand and center the lived experiences in libraries of autistic children and their families. CDT provides a framework in which to question society's assumptions about disability and ability. A "member of the critical theory family", CDT emphasizes societal influences which impact how a person's specific difference or condition is conceptualized (Hosking, 2008). CDT rejects society's historically prevalent models of disability as oppressive forces, and emphasizes the negative impact of societal responses on the lived experiences of

disabled individuals (Devlin & Pothier, 2006a, 2006b; Goodley, 2013; Goodley, Hughes, & Davis, 2012; Mladenov, 2015). CDT utilizes a social model of disability, which identifies systemic barriers as the result of societal structures, rather than individual limitations (Mankoff et al., 2010; Baglieri et al., 2011; Reaume, 2014). Current social model practitioners frame disability as a social construction, understanding that disabilities gain meaning in social and cultural contexts while not denying "physiological aspects of impaired function" (Baglieri et al., 2011). This aligns with a "post-modern" understanding of the social model, which acknowledges disability as a collective intersectional experience that also prioritizes an individual's unique lived experiences, such as the need for medical treatment (Mankoff et al., 2010; Baglieri et al., 2011; Siebers, 2019). This places the impetus on society to provide sufficient access, supports, and services for all abilities, rather than expecting individuals to conform to access society (Fisher & Goodley, 2007; Morris, 2001).

A critical framing of autism utilizing CDT posits that autism is a neurological difference (see Chapter 2: Section 2.2 on the Neurodiversity Paradigm) which is defined and contextualized by sociocultural constructions of autism, making autism a "social and cultural construct with multiple and subjective truths and identities" (Meyers, 2019). In the LIS field, CDT offers an underutilized grounding to explore and learn from the lived experiences of autistic individuals and their families (Gibson & Hanson-Balduf, 2019). I aim to utilize CDT to track the impacts of socio-cultural constructions of autism in public libraries on families with autistic children. For example, what barriers are present in libraries due to socially constructed ideals or norms for library use? Libraries are essential community spaces that I posit can more effectively support

autistic children and their families by addressing socially constructed systemic barriers to inform a strengths-based, rather than a deficit model, approach.

1.4 Positionality

I come to this work from the position that inaccessibility and exclusion in public libraries are largely based on social constructs and conceptions regarding disability, ability, and "typical" bodies and minds (Garland-Thomson, 1997; Ne'eman & Pellicano, 2022; Yergeau, 2018). This aligns with a social constructivist epistemology, which emphasizes the intersubjectivity of group knowledge construction (Au, 1998). Because of this, it is important for me to attend to potential biases with the understanding that a researcher's positionality is inextricable from their work (Stake, 1995; Patton, 2015; Yin, 2018).

My personal experiences and identities both limit and broaden my ability to fully comprehend the barriers and needs of autistic children and their families (Kirby, Greaves, & Reid, 2017). I come to this work as an ally with autistic family members and friends. As I am not autistic myself, I do not and cannot claim to fully understand the experiences of autistic children and their families. For this reason, it was important for me to position my work in the expertise and experiences of autistic advocates, and to utilize a critical lens to practice researcher reflexivity (Holmes, 2020). However, as a queer woman from a low socioeconomic background I have experienced systemic barriers and felt the impact of these barriers across many facets of my life. This provides me with a unique understanding of the role of intersectionality in understanding the impacts of systemic barriers on accessibility and inclusion.

My understanding of the specific barriers and needs of autistic children and their families, as well as librarians, is also broadened by my experiences as a children's services librarian. In my work as an MLIS student focusing on early literacy, and then as a children's librarian utilizing early literacy practices (informed by my work on VIEWS2), I saw firsthand the lack of services accessible to autistic children and their families. I personally experienced pushback from library management resulting in a lack of funding and resources to provide autism-inclusive programs. It was at that time that I made it my goal to create the research-based training and resources that children's librarians need in order to 1) convince library systems of the importance of autism inclusion in early literacy services and 2) provide librarians with the resources and training they need to incorporate inclusive practices for autism-inclusion and early literacy. This research, nearly eight years later, stems from that initial goal.

1.5 Definition of Terms

Access

The term 'access' is used broadly to include physical, intellectual, sensory, emotional, and psychological ease of use of public library services by autistic children and their families (e.g. Kaeding, Velasquez, & Price, 2017). A library service is only accessible when patrons are able to utilize the service and participate on a meaningful level (Kaeding, Velasquez, & Price, 2017; Yalon-Chamovitz, 2009).

Autism

Autism is a neurodevelopmental difference that affects how autistic people experience and interact with the world, and is a core part of autistic identity (ASAN, 2022). I will utilize identity-affirming language throughout this dissertation. Identity-first language is preferred by autistic advocates and is supported by new American Psychological Association (APA) bias-free language standards (Robinson, 2019; APA, 2020).

Barrier

For the purposes of this work, barriers are anything in an environment that hinders access, participation, or inclusion (WHO, 2001).

Enabler

For the purposes of this work, enablers are systemic and service beliefs and practices which increase access to library services for autistic children and their families by removing barriers, and build the capacity of librarians to provide inclusive services (e.g. Beyene, 2017; Johnston, 2014).

Early Literacy

Early literacy is a general term used in reference to the precursor skills and conventional literacy skills of children through kindergarten (NIL, 2008). These skills include alphabet knowledge, phonological awareness, rapid automatic naming (RAN) of letters, digits, and objects, decoding, and more.

Early Literacy Learning Experiences

I utilize Every Child Ready to Read's (ECRR) framing for the significant factors that inform early literacy learning experiences. ECRR recognizes three major areas that influence children's early literacy development: the home environment, early literacy engagement, and library literacy services (such as storytimes) (Neuman et al., 2017). Early literacy experiences within these environments include the following activities related to literacy development: reading, writing, talking, singing, and playing (Neuman et al., 2017).

Individual Context

The individual contexts of autistic children and their families are informed by individual differences of both autistic children and their parents (Georgiades et al., 2013; Happé et al., 2006; Lombardo et al., 2016), as well as by an ecological systems model (Bronfenbrenner, 1979) taking into account developmental and support differences related to different aspects of the ecological system in which the autistic child lives: including location, socioeconomic status of parents, past experiences, and parent's access to outside resources in their exosystem (Prendergast, 2017). Individual differences are defined here as both the well-documented heterogeneity in autistic traits and needs (e.g. Georgiades et al., 2013; Lombardo et al., 2016) as well as differences related to being an individual. Like all children, autistic children display individual differences in their likes and dislikes (Happé et al., 2006), social motivation (Brown et al., 2007; Burnette et al., 2011), and behaviors (Schwartz et al., 2009). Individual differences also include children's gender and racial identities as well as other aspects inherent to that specific child, such as whether or not they experience CAPD or may have co-occurring anxiety or dyslexia (e.g. Lombardo et al., 2019; Roux et al., 2015).

Interventions

For the purpose of this research, interventions include professional development training, seminars, and resources related to serving autistic children and their families. Interventions, such as library staff training specific to serving autistic patrons, are key to mitigating library service barriers that limit the early learning experiences of autistic children and their families. Common intervention methods include autism awareness training, which refers to professional development materials and courses for library staff that focus on knowledge of autism including diagnostic characteristics, behaviors and behavior management, development, and the sensory needs of autistic library users (e.g. Anderson & Everhart, 2015; Small, Schriar, & Kelly, 2019).

Library Service

A library service is anything the library provides for its patrons, including access to information (i.e. books, databases, reference services), library programs (i.e. storytimes, book clubs, puppet shows), and resources (i.e. early learning kits, museum tickets, technology) (ALA, 2015).

Service Barrier

Library service barriers are aspects of the library facility, resources, and programs that obstruct autistic children and their families' access to them. As previously defined, a barrier can be anything in an environment that hinders access, participation, or inclusion (WHO, 2001).

Systemic Barrier

Systemic barriers are defined here as unequal access or inclusion present in libraries due to management policies, practices, procedures, and attitudes across the library system (e.g. Burke et

al., 2020; Hirano et al., 2018). These also include architectural, environmental, and other design elements present in libraries as informed by system-wide management policies and practices. While a barrier can be anything in an environment that hinders access, participation, or inclusion (WHO, 2001), systemic barriers are inherent to and perpetuated by a particular organization (Abella, 1984).

1.6 Empowering Librarians to Serve Autistic Children's Early Literacy Needs

The purpose of this research is twofold: The first objective is to develop a conceptual framework identifying the barriers and enablers present for autistic children and their families in public libraries related to early literacy learning experiences; The second objective is to empower youth-serving librarians to provide early literacy services to these families in need. My research questions seek to understand and explain the present circumstance of early literacy services to autistic children and their families in public libraries, both from the perspectives of parents and caregivers as well as from the perspectives of youth-serving library staff. To do this I utilize a critical lens informed by CDT to identify systemic barriers that lead to isolation and exclusion from libraries for autistic children and their families, and as a result, keeps them from needed early literacy experiences and materials.

My objectives and research questions are the following:

OBJECTIVE 1: Develop a conceptual framework identifying the barriers and enablers present for autistic children and their families in public libraries related to early literacy learning experiences

In order to address Objective 1, my research questions seek to understand not only the perspectives of families with autistic children, but also those of public youth-serving librarians and library staff. These questions aim to uncover the underlying systemic issues that inform barriers experienced by autistic children and their families:

RQ1: What barriers do families with autistic children experience that limit their inclusion in early literacy activities in public libraries?

a. What early literacy resources and services do autistic children and their families need in relation to public libraries?

RQ2: What barriers do youth-serving librarians experience that limit their early literacy services to families with autistic children?

a. What autism-specific accessibility considerations, professional practices, and programming are currently utilized by libraries to serve autistic children and their families' early literacy needs?

OBJECTIVE 2: Empower youth-serving librarians to provide early literacy services to autistic children and their families by identifying key components of training and resources

In order to address Objective 2, I seek to understand what specific support youth-serving librarians require to provide early literacy services to autistic children and their families. The following question aims to uncover the nature of these supports, informed by the barriers that youth-service librarians experience as answered by RQ2:

RQ3: What autism-specific professional development tools and resources are needed to enable libraries to address barriers for autistic children and their families in early literacy programming and library services?

1.7 Conceptual Framework

Autistic children and their families experience a lack of acceptance in libraries (Schriar, Foester, & Pelich, 2016). Few families with autistic children visit the library, and those who do visit attend early literacy programs less often than families with neurotypical children (Prendergast, 2016; Simpson et al., 2020). Though autism is the most common disability that libraries are asked to support, with impetus for inclusive programs most often coming from parent's requests, library programs and key early literacy services remain inaccessible to autistic children and their families (Adkins & Bushman, 2015; Kaeding, et al., 2017; Matoushek et al., 2017; Prendergast, 2016).

We know that current library environments, policies, and procedures act as significant barriers for families with autistic children to access these resources (Kaeding et al., 2017; Matoushek et al., 2017; Prendergast, 2017; Shriar et al., 2016). In order to address the barriers that prevent autistic children and their families from accessing early literacy learning experiences and resources at the public library, we need to conceptualize these barriers and understand the relevant components at work. This is the role of the following conceptual framework.

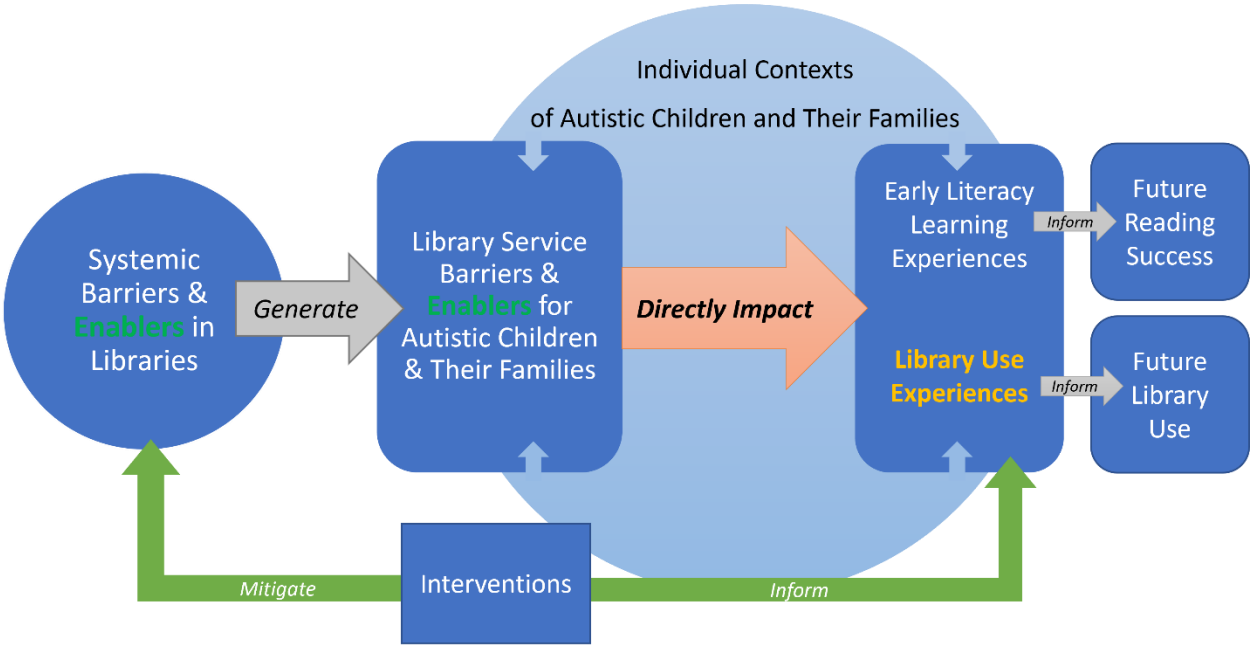

Figure 1: Conceptual framework for understanding the impact of systemic barriers and enablers in libraries on the early literacy learning experiences of autistic children and their families

There are systemic barriers in libraries that combine to manifest library service barriers for autistic children and their families, resulting in lower access to library services for these families (e.g. Prendergast, 2016; Broman, 2017; Simpson et al., 2020; Kaeding, Velasquez, & Price, 2017; Copeland, 2011) (see Figure 1). These include both systemic barriers that impact access in the library context for autistic children and their families, as well as systemic barriers that affect library staff services to autistic children and their families. I use the term 'access' broadly to include physical, intellectual, sensory, emotional, and psychological ease of use of public libraries by autistic children and their families. A library is only accessible when patrons are able to effectively utilize the library and also participate on a meaningful level (e.g. Kaeding, Velasquez, & Price, 2017). Systemic barriers are defined here as unequal access or inclusion present in libraries due to management policies, practices, procedures, and attitudes across the

library system (e.g. Burke et al., 2020; Hirano et al., 2018). These also include architectural, environmental, and other design elements present in libraries as informed by system-wide management policies and practices. While a barrier can be anything in an environment that hinders access, participation, or inclusion (WHO, 2001), systemic barriers are inherent to and perpetuated by a particular organization (Abella, 1984).

I propose that systemic barriers and enablers in public libraries generate either library service barriers or enablers for autistic children and their families. For the purposes of this work, barriers are anything in an environment that hinders access, participation, or inclusion (WHO, 2001). This framework conceptualizes both *systemic* barriers and *library service* barriers. As further described in the following section, *systemic* barriers are physical elements (i.e. the library environment) and social elements (i.e. staff biases) which limit library use for families with autistic children. A *library service* barrier impacts access to a specific library service, such as library programs or reader's advisory. I use the term 'access' broadly to include physical, intellectual, sensory, emotional, and psychological ease of use of public library services by autistic children and their families. A library service is only accessible when patrons are able to utilize the service on a meaningful level (e.g. Kaeding, Velasquez, & Price, 2017).

- In this framework, *enablers* are systemic and service beliefs and practices which increase access to library services for autistic children and their families by removing barriers, and build the capacity of librarians to provide inclusive services (e.g. Beyene, 2017; Johnston, 2014).

- Barriers and enablers have a direct negative or positive impact on the early literacy learning and library use experiences of autistic children and their families. This impact and its resulting effect on experiences are informed by the *individual contexts* of autistic children and their families. All of these experiences inform two key areas that public libraries target in their goals and mission statements: future reading success and future library use.

Specific interventions can both mitigate systemic barriers for autistic children and their families, and inform early literacy learning and library use experiences through meeting the early literacy service needs of autistic children and their families and reducing barriers to library use.

This conceptual framework was developed and refined by this study, following Eisenhardt's (1989) protocol. This conceptual framework can be applied to better understand how systemic barriers in libraries impact early literacy library services to autistic children and their families. Understanding how specific elements act as barriers to early literacy learning experiences, or as enablers to them, is key to understanding inclusive services situated in the unique context of public libraries.

1.8 Overview of Methods

In order to understand the needs of both autistic children and their families, as well as the librarians and library workers serving them, I employed an interpretive qualitative approach to gain insights from the narratives of my participants. I framed this work within a social

constructivist epistemology, aligning with Critical Disability Theory (CDT) which focuses on the lived experiences of social actors, especially within research and the context of providing counter-narratives to traditionally ableist institutions (Broderick & Ne'eman, 2008; Schwant, 1994). I did this by selecting data collection techniques that incorporated methods to reposition power to my participants and their narratives, including semi-structured interviews and focus groups, and the use of Participatory Design (PD) sessions (Kamberelis & Dimitriadis, 2013; Kerschbaum & Price, 2017). I then used the perspectives and priorities of my participants to guide and inform the evidence-based theories and practices I developed as a result of this research (e.g. Cridland et al., 2015; Lyons et al., 2013; Teachman et al., 2018).

Case study methodology allowed me to study the phenomenon of early literacy library services to autistic children and their families in ways that prioritized the experiences of those involved (Yin, 2018).

In this study, I utilized an instrumental embedded single-case study to understand library services to autistic children and their families through multiple perspectives, and to extend theoretical findings to practical applications (Patton, 2015; Yin, 2018). The purpose of this case study was for the conceptual framework, findings, and culminating Toolkit to be used beyond these specific Washington state libraries, making this an instrumental-use case study (Stake, 2006). I aim for these findings to inform research-based decision-making in public library systems nationwide and in professional practice (Patton, 2015).

This study was an embedded single-case study. The phenomenon was early literacy library services to autistic children and their families, and the case was Washington state. The units of analysis were 1) Parents and caregivers of autistic children and 2) Youth-serving library staff

members in Washington state. The embedded single-case study design was suitable for this research due to it being a common case, which allows for strong transferability of theoretical findings important for an instrumental case study (Stake, 2003). An embedded single-case study also has important strengths to consider versus a holistic single-case study. Multiple units of analysis bolster the findings from a single case by adding "significant opportunities" for deep analysis (Yin, 2018). In this case, an embedded design was chosen to understand the phenomenon of early literacy library services to autistic children from the perspectives of the two key populations involved: families and librarians.

Case study research does not have one fixed method for data analysis, but rather case study analysis relies on sufficient evidence and deep consideration of alternative interpretations of the data through the analysis method researchers find most fitting (Yin, 2018). For this case study, and to meet the specifications outlined by Yin, I utilized directed qualitative content analysis to interpret the content of the transcriptions and design artifacts. This approach allowed me to utilize my initial conceptual framework to guide content analysis by validating and extending previous concepts from the literature, while an inductive approach allowed themes and patterns to be observed and utilized to iterate the conceptual framework. This approach is one way to guide a dialectic relationship between the conceptual framework and our data (Hsieh & Shannon, 2005). This approach is also an important technique to capture latent meaning in participant narratives. As social systemic barriers are not an obvious phenomenon to measure, the ability to capture latent meaning through inductive analysis was important to this study. Thus, I completed this directed qualitative content analysis following Miles & Huberman's (1994) interactive model of content analysis employing inductive and deductive coding. I also utilized Saldaña's

analytic memoing process (2016), both of which are detailed in Qualitative Data Analysis: A Methods Sourcebook (Miles, Huberman, & Saldaña, 2020). Reflexivity was an important part of the data analysis process.

1.9 Contributions

This study aimed to advance our theoretical understanding of early literacy library services and practices in relation to autistic children and their families. The results of this dissertation inform both theory and practice in the Library and Information Sciences (LIS) field. First, findings from this study informed the refinement of a conceptual framework for understanding how systemic barriers (and enablers) inform service barriers (and enablers) for autistic children and their families in libraries, impacting early literacy learning experiences and library use. This research makes crucial contributions to LIS theory and practice, reframing autism in libraries utilizing a critical lens informed by CDT, the social model, and the neurodiversity paradigm to center the needs of the autistic community. This study provides key theoretical concepts regarding early literacy services in public libraries for autistic children and their families utilizing this lens. These findings have extensive practical contributions as well, informing key practices for serving autistic children and their families' early literacy needs, as well as an early literacy-services training and supportive resources for youth-serving librarians.

Additionally, this research contributes a critical reframing of early literacy for autistic children that can be utilized by the education field and beyond. This research provides a greater understanding of the early literacy environment of storytime programs, how to develop specific access and neuroinclusive practices, and how to support parent engagement in home literacy

practices for autistic children and neurodivergent children more broadly. Ultimately, the contributions of this work have broad theoretical and practical implications.

Chapter 2: Literature Review

1. Introduction

Purpose of Literature Review

Public library programs and key early literacy services remain inaccessible to autistic children and their families (Matoushek et al., 2017; Schriar et al., 2016). Current library spaces, social environment, policies, and procedures act as significant barriers for families with autistic children to access library services and resources (Kaeding et al., 2017; Matoushek et al., 2017; Prendergast, 2017; Shriar et al., 2016). To address the barriers that prevent autistic children and their families from accessing early literacy learning experiences and resources at the public library, we need to identify these barriers and understand how they are formed. I draw on an interdisciplinary approach to better understand this phenomenon. My work is uniquely situated in both Autism research and Library and Information Science, and pulls from the fields of Critical Disability Studies (CDS) and Education. In this chapter, I will review and synthesize relevant literature from these areas to identify the factors that create barriers to public library access and early literacy learning experiences for autistic children and their families. These will be framed in the contexts of relevant theories from the fields of Critical Disability Studies (CDS), Education, and Library and Information Science (LIS).

In this chapter, I will describe the critical theoretical underpinnings of my work, and provide a review of relevant information on literacy and early literacy. I will describe how libraries support early literacy, the current landscape of early literacy services for autistic children and their families in libraries, and how the conceptualization of autism in LIS informs that landscape.

Then in my final section I will present a conceptual framework, developed through a critical synthesis of the literature, for understanding the impact of systemic barriers in libraries on the early literacy learning experiences of autistic children and their families. This conceptual framework theorizes that systemic barriers in public libraries adversely impact the early literacy learning experiences of autistic children and their families.

2. Critical Theoretical Framing

My work in this dissertation is informed by a critical lens developed utilizing CDT, the social model of disability, and the neurodiversity paradigm. This critical lens will be utilized throughout this chapter as I synthesize and present important knowledge and concepts from the fields and disciplines informing my work. I will utilize the following critical lens to frame concepts around early literacy and public library services for autistic children and their families. Below I describe the critical theoretical grounding that informs my work in this dissertation.

2.1 Critical Disability Theory

The framing of this dissertation and proposed conceptual framework utilizes Critical Disability Theory to understand and center the lived experiences in libraries of autistic children and their families. Critical Disability Theory provides a framework in which to question society's assumptions about disability and ability. A "member of the critical theory family," CDT emphasizes societal influences which impact how a person's specific difference or condition is conceptualized (Hosking, 2008). CDT rejects society's historically prevalent models of disability as oppressive forces, and emphasizes the negative impact of societal responses on the lived experiences of disabled individuals (Devlin & Pothier, 2006a, 2006b; Goodley, 2013; Goodley, Hughes, & Davis, 2012; Mladenov, 2015).

CDT draws on multiple critical discourses to frame and question socio-political and sociocultural constructions of disability, acknowledging the necessity of an intersectional lens. An intersectional lens highlights the ways systems of inequality overlap and interact in the lives of individuals who belong to multiple oppressed groups. These critical discourses often include critical race theory, queer theory, and feminist theory to conceptualize the intricacy of the lived experiences of disabled individuals (Sleeter, 2010). One important construct related to disability is normalcy. CDT questions what constitutes normalcy or "abnormalcy," and seeks to generate knowledge about how societal attitudes about diversity intersect with disability issues, including how race, gender, and sexual orientation shape the experience of disability (Baglieri et al., 2011). In this way, CDT views normalcy as context-dependent (e.g. Davis, 1997). What is considered "normal" is a social construction, informed by historical methods of determining authority and power, which defines "disabled," along with categories associated with race, gender, and sexuality, as abnormal (Garland-Thomson, 1997; Ne'eman & Pellicano, 2022; Yergeau, 2018).

The concept of normalcy in our society creates a bias towards "the norm," or in this case, a neurotypical bias. A neurotypical bias is the assumption that neurotypical behaviors and interests are the standard, and autistic behaviors and interests are pathologized (Patten Koenig, 2019). Neurotypical bias is a manifestation of social ableism. Social ableism is discrimination, stigmatization, and prejudice that results in social oppression towards the disabled community (Bogart & Dunn, 2019; Billawalla & Wolbring, 2014). This includes stereotypes and biases that directly and negatively impact the lives of disabled individuals through social interactions (Bogart & Dunn, 2019). Institutionalized ableism is social ableism that has been adopted on the organizational level and is characterized by ableist policies, practices, and organizational social and cultural norms. These directly inform how actors within an organization will react to and

interact with the disabled community, especially in education-related institutions (e.g. Lalvani & Broderick, 2013). In this way, ableist policies are a network of biases and practices that create a systemic standardization of reifying internal and external prejudices against disability (Campbell, 2001). Ableism "privileges ability over disability in organizational, structural and individual practices"(Lyons, 2013).

In the library context, social ableism informs institutionalized neurotypical bias through the assumption that all library users are neurotypical, and/or that all autistic behaviors require a high level of support and are difficult to accommodate (e.g. Koenig et al., 2014). One key concept that informs this is the belief that there is a "normal" or "average" library user, and that this user is in fact the majority of users (Lawrence, 2013).

A neurotypical bias in libraries centers the needs of the neurotypical library community member above more specific needs for autistic users or inclusive practices. This societal framing of normalcy is particularly problematic when reified in library systems: Program and resource allocations are primarily approved for library programs and outreach that serve neurotypical populations, and inclusive programs are viewed as more expensive and difficult to facilitate (e.g. Adkins & Bushman, 2015; Kaeding, Velasquez, & Price, 2017). Because of the pathologization of autistic behaviors and interests, library trainings that reify a neurotypical bias by focusing on addressing "problematic" behaviors (e.g. the Targeting Autism training) can make librarians feel they are not equipped to provide services to autistic children. Children's librarians do not feel prepared to serve children with developmental disabilities such as autistic children (Prendergast, 2016).

2.1.1 Models of Disability

The presence of neurotypical bias in library systems hints at the use of the medical model of disability in libraries to frame services to autistic children. The medical model focuses on how disability affects an individual's body, maintaining the disability as separate from the individual, with the aim of using medical intervention to correct or diminish the disability (Fisher & Goodley, 2007). A medical model narrative for communities with disabilities, especially autism, puts heavy emphasis on medicine and interventions for disabled individuals, and tends to "uphold professional boundaries and hierarchies" that make a need for accessibility supports invisible (Fisher & Goodley, 2007). Disability in the medical model is characterized as a health, safety, or technical issue, resulting in prejudice and discrimination due to disability often being overlooked or misrepresented (Baglieri et al., 2011). Utilizing a CDT framing it becomes clear that the medical model of disability has been the dominant paradigm of disability in America (Bradley, 2008), and has negatively shaped our perception of autism. This is as true in libraries as it is widely in society, as I will discuss further in Section 4.2 of this literature review (Gibson, Bowen, and Hanson, 2021).

The medical model has been especially influential on the dominant narratives surrounding autistic children (Biklen et al., 2005). There are frequent assumptions in the literature that autistic children have lower intelligence quotients and face severe learning impairments related to mental retardation, but meta-analysis reveals that the majority of these claims are not based on current empirical evidence (Edelson, 2006). These deficit-oriented accounts have created a narrative for autistic children that assumes an impairment in intelligence without needing proof (Broderick & Ne'eman, 2008). For example, autistic children's difficulties "in speech and performance are presumed to be based in impaired minds" (Biklen et al., 2005).

A CDT lens calls for framing autism outside of deficit models. One such model utilized is the social model. While the current framework in libraries, the medical model, focuses on the role of individuals in moderating their disabilities, the social model highlights the role of social actors in the creation of disability and inaccessibility (Fisher & Goodley, 2007). The social model views disability as the discrimination and prejudice faced by those with impairments that create barriers for them in their day-to-day lives. In this model, impairments are intrinsic to the individual, and disabilities are those created by societal structures and norms that do not make space for impairments in their construction of normalcy (Morris, 2001). This situates disability as a function of environment and as something that manifests in social contexts, rather than a feature intrinsic to the individual (Shakespeare & Watson, 1997). This places the impetus on society to provide sufficient access, supports, and services for all abilities, rather than expecting individuals to conform to access society (Fisher & Goodley, 2007; Morris, 2001).

The social model is one of the most prominent models utilized in Disability Studies and, while it has come under scrutiny in CDT for the dichotomies it presents, remains a core aspect of CDT (Reaume, 2014). Critics of the social model assert that disabilities are not only physiological or social in origin, but rather a collective experience of both (Shildreick, 2012). However, social model practitioners frame disability as a social construction, understanding that disabilities gain meaning in social and cultural contexts while not denying "physiological aspects of impaired function" (Baglieri et al., 2011). This aligns with a "post-modern" understanding of the social model, which acknowledges disability as a collective intersectional experience that also prioritizes an individual's unique lived experiences, such as the need for medical treatment (Mankoff et al., 2010; Baglieri et al., 2011). This is distinct from the early social model which views disability as solely constructed by societal structures and norms (Mankoff et al., 2010;

Shakespeare & Watson, 1997). For the purposes of this dissertation, when I refer to the social model I am referring to this post-modern perspective of the social model.

CDT is now used more widely in relation to autism specifically. It has successfully informed studies in sociology for autistic adults (Baker, 2007; Biklen et al., 2005), but has primarily been used in relation to autistic children through the field of Critical Disability Studies (CDS) and Critical Disability Studies in Education (CDSE). In this study, I draw on the field of CDS as a model for utilizing the CDT lens to investigate the barriers present for autistic children and their families in libraries.

2.1.2 Critical Disability Studies

Starting with the disabled activists' movement in the 1970s (which resulted in the ADA, and later the Individuals with Disabilities Education Act [IDEA]), CDS represents multiple disciplines and involves both academic research and activism. While a relatively new field, CDS draws from the robust history and literature of Disability Studies (DS) and provides it with an additional framework of critical theory and humanism (Goodley, 2013). CDS encourages research, pedagogy, and practice from a new stance regarding disability that includes deep reflection on conditions of dominance. Specifically, how dominant ideologies of disability devalue the disabled and, simultaneously, justify disablism and ableist frameworks (Goodley, 2013).

CDS focuses on the lived reality of disabled individuals, especially as is related to societal power relations, challenging models and frameworks that pathologize mental, sensory, and physical differences (Reaume, 2014). It seeks to rewrite the historical depictions and conventional stereotypes of disabled individuals as "charity cases," or people with "tragic circumstances" who

need to adjust to the world around them through medical or behavioral intervention (Reaume, 2014).

The research and counter-narratives of CDS follow a social constructivist epistemology, which focuses on the lived experience of social actors (Schwandt, 1994). Social Constructivism states that reality is historically situated and created through processes of social exchange, and thus the emphasis of constructivist research is on the intersubjectivity of group knowledge construction (Au, 1998). The idea that disability is a social construct is central to CDS but has been questioned by scholars who disagree that physical disabilities could be socially constructed. As Baglieri et al. writes:

> The idea that disabilities having an obvious physiological referent (e.g., anatomical structure, vision, hearing) are socially constructed also strikes many as nonsensical. It seems ridiculous because it appears to deny that some people cannot walk, see, or hear. To be clear, the fact that some people cannot walk, hear, or see is not what is being questioned. What is being questioned is the significance or meaning that we, as educators, place on those biological differences (2011).

CDS thus utilizes a constructivist approach, paired with critical theory, to question the meaning that social actors place on biological differences. Utilizing CDT as a lens for inquiry, CDS rejects deficit models such as the medical model of disability, which centers a person's condition as abnormal, lacking, or stricken and subject to correction through medical diagnosis and treatment (Reaume, 2014). Instead, CDS emphasizes the cultural and political impacts systems of power and oppression have on disabled people, and characterizes disability as a natural variance that does not change a person's inherent value (Goodley, 2014; Reaume, 2014). While a similar approach to using CDT is gaining traction in LIS theory and practice regarding autism

(e.g. Anderson; 2021; Kaeding, Velasquez, & Price, 2017; Prendergast, 2018), deficit models still prevail in services to autistic children and their families (see Section 4.2).

CDS provides us with a critical framing of autism which can be utilized in LIS. This critical frame posits that autism is a neurological difference (see Section 2.2 on the Neurodiversity Paradigm) which is defined and contextualized by socio-cultural constructions of autism, making autism a "social and cultural construct with multiple and subjective truths and identities" (Meyers, 2019). In the LIS field, this lens offers an underutilized grounding to explore and learn from the lived experiences of autistic individuals and their families (Gibson & Hanson-Balduf, 2019). This situates autistic experiences and narratives at the center of research, focusing on outcomes defined and contextualized by participants in the pursuit of improving the lives of autistic individuals (Chown et al., 2017) I have chosen to follow a CDS approach and utilize CDT and social constructivism for this work because it best aligns with autistic advocates' own framing of autism, and provides a framework to question ableist assumptions which have prevailed in LIS (Gillespie-Lynch, 2017). I aim to utilize this critical lens to track the impacts of socio-cultural constructions of autism in public libraries on families with autistic children.

Following Baglieri's conceptualization of Disability Studies for Education (DSE) (2011), I utilize the social model of disability and neurodiversity paradigm to reconceptualize autism in the following ways:

- Frame autism as a neurological difference that is met with social and cultural contextually created barriers;
- Reconceptualize the role of libraries as a physical space, understanding access in libraries as determined by environmental limitations the library space imposes;

- Reconceptualize the role of libraries as a social space, understanding the limitations imposed by sociocultural conceptions of a) the library, and b) the "average" library user;
- Seek self-reflexivity to promote ethical decision-making in LIS research and practice.

2.2 Neurodiversity Paradigm

In direct conversation with constructs of normalcy is the neurodiversity paradigm. The neurodiversity paradigm challenges dominant narratives of autism as a neurological deficit (Odell et al., 2016). Neurodiversity is a perspective of autism posited by many autistic self-advocates, which frames autism as a natural neurological variance. Sociologist and autistic-self advocate Judy Singer first proposed the neurodiversity paradigm to "transcend the construction of binary oppositions such as 'medical model vs. social model,'" and build upon positive elements from both models (Singer, 1999; 2016). The use of the term neurodiversity in the wider autism community is relatively new, but has proliferated widely (Broderick & Ne'eman, 2008; Ne'eman & Pellicano, 2022).

Autistic individuals typically have conceptions of autism that align with those of the neurodiversity paradigm, describing autism as a positive or neutral biological difference (Gillespie-Lynch, 2017). However, it is important to mention here that there are many divisions between parents of autistic children and autistic self-advocates, including over identity-first language and neurodiversity (Broderick & Ne'eman, 2008).

Autism advocacy organizations, such as the Autistic Self Advocacy Network (ASAN), utilize the neurodiversity paradigm to fight for access and autism acceptance (Broderick & Ne'eman, 2008). In the past two decades, special education researchers and practitioners have begun to

advocate for the neurodiversity paradigm and utilize a strengths-based perspective in relation to disability, teaching, and learning (Trent, Artiles, & Englert, 1998). This strengths-based framing for special education first utilized the field of Disability Studies to inform new models of practice like Universal Design for Learning (UDL), and now incorporates some aspects of Critical Disability Studies (CDS) in order to make a true systemic shift in relation to serving children with disabilities, including autistic children (Baglieri et al., 2011; Shyman, 2016).

While an increasing number of researchers are beginning to frame autism from a strengths-based perspective rather than simply a deficit (e.g. Pellicano & Stears, 2011; Westerveld, 2021), few are utilizing a strengths-based approach in relation to autistic children in libraries (Westerveld, 2021). Using the medical model in libraries places the impetus on behavioral interventions versus changing public spaces to be less challenging for autistic children (Lawrence, 2013). Libraries are essential community spaces that can more effectively support autistic children and their families by utilizing a neurodiversity paradigm and encouraging strengths-based approaches.

My study utilizes the neurodiversity paradigm in tandem with CDT to reconceptualize library services to autistic children and their families outside of a deficit model framework, and center a strengths-based perspective for serving the early literacy needs of autistic children and their families.

2.3 Summary of Critical Theoretical Framing

In this section, I defined the critical lens I will utilize throughout this chapter to synthesize and present important knowledge and concepts from the fields and disciplines informing my work. I will utilize CDT, emphasizing societal influences that impact how a person's specific difference

or condition is conceptualized (Hosking, 2008), placing the impetus on society to provide sufficient access, supports, and services for all abilities, rather than expecting individuals to conform to access society (Fisher & Goodley, 2007; Morris, 2001). I will follow CDS and use a constructivist approach in my critical lens, paired with the critical theory of CDT, to emphasize the cultural and political impacts systems of power and oppression have on autistic individuals (Goodley, 2014; Reaume, 2014).

This critical lens directly informs a critical conceptualization of barriers and enablers present in early literacy public library services for autistic children and their families. Using the critical lens developed in this section, I conceptualize barriers for autistic children and their families in public libraries as stemming from larger systemic barriers. I define systemic barriers as unequal access or inclusion present in libraries due to management policies, practices, procedures, and attitudes across the library system (e.g. Burke et al., 2020; Hirano et al., 2018). These also include architectural, environmental, and other design elements present in libraries as informed by system-wide management policies and practices. While a barrier can be anything in an environment that hinders access, participation, or inclusion (WHO, 2001), systemic barriers are inherent to a particular organization and perpetuated by it (Abella, 1984).

Using this lens, systemic barriers are conceptualized in my conceptual framework as manifestations of social and institutionalized ableism. Social ableism is discrimination, stigmatization, and prejudice that results in social oppression towards the disabled community (Bogart & Dunn, 2019; Billawalla & Wolbring, 2014). This includes stereotypes and biases that directly and negatively impact the lives of disabled individuals through social interactions (Bogart & Dunn, 2019). Institutionalized ableism is social ableism that has been adopted on the organizational level and is characterized by ableist policies, practices, and organizational social

and cultural norms. These policies directly inform how actors within an organization will react to and interact with the disabled community, especially in education-related institutions (e.g. Lalvani & Broderick, 2013). In this way, ableist policies are a network of biases and practices that create a systemic standardization of reifying internal and external prejudices against disability (Campbell, 2001). Ableism "privileges ability over disability in organizational, structural and individual practices"(Lyons, 2013).

In my conceptual framework I break systemic barriers into two separate types: *social*—referring to barriers informed by social ableism—and *structural*—referring to barriers informed by institutionalized ableism.

Table 1: Summary of Critical Theoretical Framing: Key Constructs

Construct	Definition
Structural Systemic Barriers	Systemic barriers which are the product of institutionalized ableism. This is social ableism which has been adopted on the organizational level and is characterized by ableist policies, practices, and environments (Lalvani & Broderick, 2013).
Social Systemic Barriers	Systemic barriers which are informed by social ableism. Social ableism is discrimination, stigmatization, and prejudice that results in social oppression towards the

	disabled community (Bogart & Dunn, 2019; Billawalla & Wolbring, 2014).

I will provide more information regarding the systemic barriers present in public libraries for autistic children and their families in Section 4.

3. Literacy, Early Literacy, and Autistic Learners

In this section I draw on the fields of CDS and Disability Studies in Education (DSE) to conceptualize early literacy skills and development for autistic learners to inform our investigation of inclusive early literacy. However, it is important to first address the concept of literacy, and reconceptualize literacy for autistic children utilizing current critical discourses in DSE. This then will guide a discussion of early literacy and its associated goals and skills relevant to autistic learners.

3.1 Defining Literacy & Early Literacy

Colloquially literacy is defined as "the ability to read and write," (NELP, 2008). Literacy has been defined by dominant voices as skill-centered and functional. International organizations such as UNESCO all largely define literacy as the functional ability to understand and generate printed text. Specifically, UNESCO states that literacy is "the ability to identify, understand, interpret, create, communicate, and compute using printed and written materials associated with varying contexts" (UNESCO, 2004; 2017). Definitions such as these are problematic for those who may not read and write in conventional ways, such as autistic children with co-occurring learning or communication disabilities. Additionally, common definitions of literacy reify social

conceptions of normalcy (i.e. “typically developing” children will develop literacy in one way, and if a child does not follow this path they are “delayed”). This is problematic, as these reified social conceptions lead to reading interventions for autistic children and other children with disabilities that focus on participating in society (i.e. following written instruction) (Browder et al., 2006; Ruppar, 2017), rather than promoting authentic and joyful literature engagement (Kleekamp, 2020). This results in segregated reading programs in schools for disabled students which focus on “reading readiness” and decoding simple words and phrases (Copeland & Keefe, 2007). This is in contrast to reading engagement and socially situated literacy practices, such as meaningful group literacy activities, which promote social learning and literature engagement (Justice et al., 2005; Keefe et al., 2018).

Like many dominant definitions of literacy, early literacy has typically been referred to as the concepts and skills developed by preliterate children regarding communication, language, reading, and writing which have been found to lead to “conventional” reading and writing (Teale & Sulzby, 1986; Whitehurst & Lonigan, 1998). However, scholars in the education field are moving towards a holistic conception of early literacy by reconceptualizing literacy as utilizing multiple methods of accessing and understanding print or image media (Browder et al., 2009). These scholars still call for a focus on components that promote early literacy development (Copeland & Keefe, 2007). These skills are well established in neurotypical children and include alphabet knowledge, phonological awareness, rapid automatic naming (RAN) of letters, digits, and objects, print awareness, decoding, and pretend reading and writing (NELP, 2008). Early literacy skills serve as a foundation for fluent reading and comprehension since they include code-related skills (such as alphabet knowledge, print awareness, and phonological awareness),

as well as meaning-related skills (such as vocabulary, grammar, and story comprehension) (Westerveld et al., 2016).

In a meta-analysis and related study, D.M. Browder et al. found that children with significant learning disabilities can be supported in developing early literacy skills by engaging in meaningful literacy-related activities (2006; 2008). These meaningful early literacy activities included book reading with visual supports and prompts and social activities. Social activities are especially important for early literacy as there is a strong social component to early literacy development (Keefe et al., 2018). The social nature of early literacy means that children learn best when instruction is embedded in meaningful activities with peers (Keefe et al., 2018). Children acquire these skills through social interactions, observations of adults and peers, and engaging in activities relevant to oral language and literacy. Reading, writing, and oral language develop complementarily from these interactions and observations (Justice et al., 2005). In fact, socially situated literacy means that early literacy can often occur within social interactions children have every day (Barton et al., 2000). This is because language comprehension is predictive of later literacy skill (Justice & Sofka, 2010; Lucas & Norbury, 2015).

As such, recent literacy research has expanded definitions of literacy past the conventional functional ability to understand printed text, to include multifaceted understandings of literacy such as embodiment (e.g., Enriquez, 2014), multimodality (e.g., Dalton & Grisham, 2013), and critical literacy and pedagogy (e.g., Labadie et al., 2012). For the purposes of this dissertation, I will focus on definitions of literacy and early literacy which broaden conceptions of reading and writing to encompass multiple methods of accessing, using, and communicating about print or image media (Downing, 2005). I will also utilize the framework developed by Keefe and

Copeland (2011, p.97), who synthesized multiple definitions of inclusive literacy and proposed the following core principles for students with significant literacy needs:

> "1. All people are capable of acquiring literacy.
>
> 2. Literacy is a human right and is a fundamental part of the human experience.
>
> 3. Literacy is not a trait that resides solely in the individual person. It requires and creates a connection (relationship) with others.
>
> 4. Literacy includes communication, contact, and the expectation that interaction is possible for individuals; literacy has the potential to lead to empowerment.
>
> 5. Literacy is the collective responsibility of every individual in the community; that is, to develop meaning making with all human modes of communication to transmit and receive information."

This definition expresses literacy as a continuum, rather than a strict set-in-stone definition. Keefe & Copeland's model also suggests communication, contact, and interaction are necessary components of literacy learning for all children (2011, p.97). Including these core principles of literacy, while defining reading and writing more broadly to incorporate multiple methods of representation, creates possibilities for all children to engage in meaningful and social literacy and early literacy activities, including autistic children with individual support needs.

Following Downing (2005) and Keefe and Copeland's framework for literacy (2011, p.97) described above, this dissertation will define early literacy aligned with broadened conceptions of reading and writing. Early literacy thus encompasses the precursor skills that lead children to access and understand print or image media through multiple methods. I will utilize this

definition specific to autistic children to encompass the diverse ways in which autistic children engage in early literacy development.

3.1.1 Early Literacy and Autism

There is a lack of research regarding early literacy development for autistic children, particularly studies that utilize a CDT lens to reconceptualize literacy for autistic children (e.g. Keefe & Copeland, 2011). For this literature review, I will utilize the critical lens defined in Sections 3.1 and 3.2 to synthesize relevant research regarding early literacy development for autistic children, as existing work primarily utilizes a deficit model of autism. I will do this by emphasizing a strengths-based approach to early literacy development (Jones et al., 2018; Lopez & Louis, 2009; Kleekamp, 2020).

Autistic children often struggle with developing "conventional" reading and writing skills, and are identified in school to have persistent reading difficulties and lag behind their neurotypical peers (Brown et al., 2013; Henderson et al., 2014; Westerveld et al., 2016; 2018). Up to 50% of school-age autistic children are identified as having reading challenges (Arciuli et al., 2013; Nation et al., 2006; Westerveld et al., 2018). However, this is likely due to how children with significant support needs are segregated from their peers and from meaningful early literacy activities, such as those which promote authentic and joyful literacy engagement (Katims, 1994; Keefe & Copeland, 2007; Koppenhaver & Erickson, 2003; Mirenda, 2003; Ryndak et al., 1999), as well as due to how literacy skills are measured (Barton et al., 2000). However, we do know that autistic children who are not provided with adequate early literacy instruction in preschool

struggle to meet standardized reading goals in kindergarten and beyond (Dynia et al., 2017), and that a lack of support at two years old predicts reading performance at five years old (Davidson & Ellis, 2014). Despite evidence for the importance of early literacy activities in relation to future reading success, early literacy for autistic children is a severely neglected research area (Westerveld et al., 2018). Instead, studies regarding autism and literacy focus on school-age literacy and word-level reading comprehension (Koppenhaver & Erickson, 2003). These studies maintain that overall reading comprehension in autistic children is impaired, based on using measurements for conventional reading (Nation et al., 2006; Westerveld et al., 2016). This is despite consistent findings which show that drawing meaning solely from written words, rather than words paired with images, is difficult for autistic children (Davidson & Ellis, 2014; Westerveld et al., 2017).

We also know that the availability and exposure to literacy materials in the home and other learning environments directly correlate to children's early literacy development (Justice et al., 2005). This is no less true for autistic children (Rosenberg, 2008). However, research has found that children with cognitive and language impairments—such as autistic children—have far less exposure to literacy materials and activities than neurotypical children (Marvin, 1994; Light & Smith, 1993). Children require ample opportunities to interact with literacy materials and their caregivers in meaningful ways. Pretend play with literacy materials, pretend writing, and shared book reading with caregivers are among many literacy activities that build children's skills in print awareness, phonological awareness, and verbal language skills (Justice et al., 2005).

For many parents, the key to successfully providing early learning for their autistic child is the availability of high-quality, easily accessible information paired with a strong peer network

(Gibson, Kaplan, & Vardell, 2017). Unfortunately, research suggests that parents may not have easy access to information on autism, nor the skills to successfully navigate misinformation. One study found that parents had few sources for information on autism, and preferred local information sources—of which there were even fewer (Gibson, Kaplan, & Vardell, 2017). I'll focus more on the importance of parent literacy engagement in the next section (Section 3.3), but it is important to mention here concerning the factors that are often overlooked in research regarding early literacy and autistic children.

3.1.2 Early Literacy Skills and Autism

Researchers are also still in the early stages of establishing early literacy skill profiles for autistic children (Westerveld et al., 2016). While this research is limited, the research we do have suggests that the early literacy skills that promote literacy for non-autistic children also promote literacy for autistic children. For example, research has shown that phonological awareness is a significant predictor of later decoding for autistic children, which implies that phonological awareness may be predictive of reading for autistic children (Dynia et al., 2017). Further, phonological awareness monitoring assessments demonstrate reliability, validity, and sensitivity to change for autistic preschoolers (Martini, 2017). Current research has also demonstrated the benefits of phonological awareness for autistic children and its connection to their early literacy skills (Hudson et al., 2017).

As mentioned in Section 3.2, the components that promote early literacy skill development for neurotypical children are crucial to include to provide meaningful literacy instruction for *all*

children (Browder et al., 2006; Copeland & Keefe, 2007). For this reason, it is important to engage autistic children in meaningful early literacy activities that focus on the components that inform effective methods of literacy instruction (i.e. phonological awareness, alphabet knowledge, rapid automatic naming, etc.). However, definitions for these literacy predictors are still situated in conventional ableist models of literacy, reliant on functional methods and oral language. Utilizing my critical theoretical framework, I propose the following aspects and definitions for the purposes of this research:

Table 2: Early Literacy Skill Critical Definitions

	Conventional Definition	Critical Definition
Phonological Awareness	The "conscious awareness" of the phonemes that make up words, including being able to identify the sounds in words (phonemes) and verbally blend them together (Gillon, 2018).	The understanding that words are made up of sounds (phonemes) that blend together. The child can identify and blend phonemes by pairing them verbally, visually, with Augmentative Alternative Communication (AAC) assistance, or with other methods that represent phonemic groupings.

Alphabet Awareness/Letter Sound Knowledge	The ability to identify and name characters in the alphabet, and verbally pair the letter with its corresponding sound (Gillon, 2018).	The ability to identify characters in the alphabet and pair the letter with its corresponding sound, utilizing the child's preferred communication methods (i.e. verbally, through AAC, or visually).
Rapid Automatic Naming (RAN)	Verbally identifying familiar items quickly, such as pictures, toys, etc. involves memory of phonological sequences (Bishop, McDonald, Bird, & Hayiou-Thomas, **2009**).	Identifying familiar items by pairing them with their names verbally, with AAC assistance, or visually (with written names).
Name Writing	The ability to write one's name with a physical instrument (i.e. pen). This has been linked to learning print concepts such as identifying letters in books and understanding directional reading (i.e., left to right for English) (Cabell, Justice, Zucker, & McGinty, **2009**).	The ability to write or represent one's name with a preferred tool—including but not limited to physical instruments like crayons, typed on a tablet, or formed with a visual representation of the alphabet.

The critical definitions above utilize Keefe and Copeland's core principles, focusing especially on the following: a) that early literacy includes communication, contact, and the expectation that interaction is possible for all learners; b) early literacy can be developed through any method of communication to transmit and receive information (2011). For example, changes have been made in the critical definitions I propose to represent early literacy as developed through children's preferred mode of communication. To do this I utilize Downing's (2005) critical framing of literacy to conceptualize these skills as accessible through multiple methods, not just verbal expression. For example, additions have been made to conventional definitions where early literacy predictors are limited to a single method of communication. Alphabet Awareness/Letter Sound Knowledge is one example of an early literacy predictor previously defined by functional methods and oral language. In the table above, this conventional definition has been critically redefined to include pairing characters with sound through "preferred communication methods" rather than "verbally" pairing (e.g. Downing, 2005; Keefe and Copeland, 2011).

Framing these early literacy predictors with a CDS lens not only honors communication differences, but enables early literacy "in multimodal ways with assistive technologies, such as Augmentative Alternative Communication (AAC) and devices such as Picture Exchange Communication Systems (PECS)," (Hernández-Saca, 2020). Moving forward, the LIS field must recognize and use autism-inclusive early literacy skills in both research and practice contexts. As I will describe further in Section 3.4, libraries play a key role in supporting early literacy development. In the following sections, I will utilize this reconceptualization of early literacy to center a multi-modal and strength-based perspective for serving the early literacy needs of autistic children and their families.

3.1.3 A Strengths-Based Approach to Early Literacy for Autistic Children

Utilizing the individual strengths of autistic children in learning is called a "strengths-based" approach (Jones et al., 2018). A strengths-based approach focuses on the skills and interests that children already have and uses those to promote learning in new areas, rather than targeting deficits (Lopez & Louis, 2009). While early literacy interventions for autistic children primarily target perceived deficits in literacy development (e.g. Hudson et al., 2017), utilizing autistic children's strengths provides an opportunity for developing literacy congruent with their diverse neurotype (Kleekamp, 2020). Providing strengths-based literacy instruction increases participation in literacy development activities (Kleekamp, 2020).

An important aspect of a strengths-based approach to early literacy for autistic children is first assuming that all children are capable of developing literacy. Underlying implementing children's strengths into effective early literacy development activities (such as dialogic reading), is the expectation that literacy learning is possible for all learners (Keefe & Copeland, 2011). This is what CDS and DSE scholars have termed "presuming competence." Presuming competence is the belief that all learners can engage with and understand key concepts, and that all learners can contribute their own strengths and personal competencies (Biklen & Burke, 2006). Presuming competence also leads to utilizing the individual strengths of children in their early literacy learning, rather than focusing on their deficits (Keefe & Copeland, 2011; Kleecamp, 2020). An example of this is providing nonspeaking learners with opportunities to communicate complex ideas through AAC, rather than assuming that because they are nonspeaking they are delayed or otherwise incapable. In terms of early literacy learning,

presuming competence positions learners as expressive thinkers and contributors to social literacy learning (Kliewer & Biklen, 2007).

After presuming competence, the next step in a strengths-based approach is to identify and utilize the skills and interests autistic children already have. Autistic children have a wide range of individual and diverse skills and interests that can support their learning through personally relevant stimuli (Wilson et al., 2017). Many autistic children are sensory learners, especially regarding visual learning (Kern et al., 2006; Mottron et al., 2006). Autistic self-advocates have described thinking in pictures and utilizing different ways of knowing and categorizing (Dakin & Frith, 2005; Grandin, 2009).

One way to utilize a strengths-based approach for autistic children is to use visual supports. As many autistic children exhibit strengths in visual processing and visual thinking skills (Dakin & Frith, 2005), visual supports, schedules, scripts, and models may be helpful supports for autistic children's early literacy learning (Whalon & Hart, 2011). One particularly effective visual support identified by the Education field is visual activity schedules. Visual schedules are typically a series of images used to visually describe a specific sequence of events, usually in a first-then manner. The purpose of these schedules is to visually prepare and prompt autistic children for the next step or activity (Knight, Sartini, & Spriggs, 2015). An evidence-based practice, visual schedules are often used as autistic children acquire new skills in a variety of settings (Knight, Sartini, & Spriggs, 2015).

In the education field, strengths-based approaches to learning also pay particular attention to autistic children's interests. One way to do this is through play, or naturalistic learning. Many autistic children show increased engagement and ability when engaging with naturalistic teaching (Kasari, Paparella, & Freeman, 2008; Koppenhaver & Erickson, 2003). Naturalistic

teaching involves modeling new concepts and skills through play and the utilization of children's interests. For example, using imaginary play to facilitate social learning (Barton & Wolery, 2010). When provided natural learning opportunities, autistic children are more engaged in early literacy development such as book exploration and mimicking reading and writing (Koppenhaver & Erickson, 2003).

Ultimately, utilizing the areas of strength that autistic children have related to early literacy learning provides opportunities to engage them in effective literacy learning, whereas deficit focuses have excluded them from meaningful literacy activities in the past (Browder et al., 2006; 2008; Keefe & Copeland, 2011). Building early literacy learning off of the individual strengths and skills of learners helps to re-envision the multitude of ways that autistic children might participate in early literacy activities (Kleekamp, 2020). This is of prime importance to the LIS field. As such, I utilize a strengths-based approach in this study to investigate how librarians can better include autistic children and their families in early literacy development services, including library programs and parent literacy engagement.

3.2 Importance of Parent Literacy Engagement

In the LIS field, parent literacy engagement refers to information communities (such as libraries) engaging parents and families in literacy learning, including teaching literacy development skills to parents, and providing activities that parents can use at home (Celano & Neuman, 2015; Campana et al., 2016). In the education field, parent literacy engagement encompasses behaviors that support children in, and provide experiences for, literacy learning. These behaviors include purposeful, interactive, and encouraging activities and environments (Sheridan et al., 2011). For the purposes of this dissertation, I will be referring to the *support* of parents in providing literacy

experiences for their children as “parent literacy engagement,” and to the ways in which parents and families support their children’s literacy learning as the “home literacy environment”.

Parent literacy engagement helps to model practices that parents can bring into their own homes. This has a significant impact on children’s learning environments due to the importance of social interactions in early literacy development (Bowman, Donovan, & Burns, 2001). Literacy-rich home environments in early childhood afford children opportunities to engage in meaningful literacy activities, including reading aloud, encouraging children to explore books, and writing independently (Smith, Brady, & Clark-Chiarelli, 2008; Van Kleeck & Vander Woude, 2003). Studies suggest that parents’ level of involvement in early literacy learning greatly impacts literacy performance (Dearing et al., 2006).

However, children with cognitive and language differences—such as children with autism—have far less exposure to literacy materials and activities in the home than neurotypical children (Marvin, 1994; Light & Smith, 1993). Autistic children’s home literacy environments may play a significant role in their exposure to literacy materials and activities, which are extremely influential for children’s early literacy development (Edwards, 2007; Griffin & Morrison, 1997; Hood, Conlon, & Andrews, 2008). While research on the impact of home literacy environments for autistic children is relatively sparse, there is strong evidence that it is just as important for their early literacy development as for neurotypical peers (Dynia et al., 2014; Griffin & Morrison, 1997).

Research into promoting strong home literacy environments for autistic children and their families has primarily focused on improving shared book reading (Fleury et al., 2014). These interventions have shown an increase in book-reading activities in the home, and higher interest in reading from autistic children (Boyle, McNaughton, & Chapin, 2019; Fleury et al., 2014;

Whalon et al., 2015). Literacy engagement is an important aspect of facilitating early literacy skill learning for autistic children during shared book reading (Bean et al., 2020; Fleury et al. 2014; Fleury and Schwartz 2017; Hudson et al. 2017; Whalon et al. 2015).

Paynter et al. identified five key features from these interventions that have been used in recent research including:

> "1) frequent exposure to book-related language (i.e. words a child may not encounter in everyday conversations, e.g. giraffe, exhausted);
>
> 2) encouraging engagement and joint attention;
>
> 3) being responsive to the child's interests;
>
> 4) explicit teaching of early print- and language-related skills; and
>
> 5) providing correct language models during shared book reading" (2020, pg. 498).

These features were included in intervention trainings both for parents, as well as for librarians with excellent results (Westerveld et al., 2020; Paynter et al., 2020). These features are a needed addition to early literacy library programs to help support parent literacy engagement.

3.3 The Role of Libraries in Early Literacy Learning

Libraries have a long history of providing early literacy services to non-autistic children and their families. Librarians first began to emphasize using storytimes to support the literacy of young children in the mid-1950s (Albright, Delecki, & Hinkle, 2009). Storytimes continue to be an extremely popular library program for young children and their families, providing a pillar for multiple types of learning from early literacy to STEM, nearly 70 years later. Research suggests that libraries' early learning services support typically developing children and families in ways

that promote these early literacy skills (Albright et al., 2009), providing needed services to families who may be unable to access them elsewhere. The positive impact of libraries' early literacy services is widespread, with more and more programs incorporating evidence-based practices for early learning (Campana et al., 2016).

Early literacy services include library programs that promote early literacy development, such as storytimes, in addition to a wide range of supportive resources for both children and their families. These supportive resources include reader's advisory services, early learning book kits, and take-home resources such as booklists and tips and tricks for parents to promote early literacy development (Albright et al., 2009; ALA 2012).

Early literacy programs, such as storytimes, are the driving force of early literacy services to non-autistic children and their families. Storytime programs promote early literacy skills in participating children and encourage parents to participate in their children's literacy development by providing them with the skills to do so (Albright et al., 2009; ALA 2012). Supercharged Storytimes, a pilot training project funded by IMLS and OCLC, provides evidence-based best practices librarians can use in storytime to foster early literacy (Campana et al., 2016). Library programs such as Every Child Ready to Read (ECRR) focus heavily on parent literacy engagement. Adopted by over 6,000 libraries, early literacy programs utilizing ECRR have been proven to significantly increase the engagement of parents in the literacy learning of their children (Neuman et al., 2017).

In this way libraries provide a key information ground for families with young children, with wide benefits for parents who attend storytimes (Albright et al., 2009; Campana et al., 2016). An information ground is a temporary social environment that fosters information sharing (Pettigrew, 1999), such as library storytimes, and programs can be evaluated with the synergistic

outcomes of information ground theory (Fisher et al., 2004). Before and after storytimes, families can interact and share new information and experiences. There are opportunities to learn new early literacy techniques from one another, as well as share information about new books, songs, or games for their children (i.e. "information sharing" Pettigrew, 1999). This is one way that libraries support families and their children through informal learning.

Informal learning has been well documented in public libraries, as library programs and services provide many spaces and opportunities for self-paced learning (Goulding, 2006; Meyers, Erickson, & Small, 2013). Informal learning refers to any learning that occurs outside of traditional forms of education, such as schools (Coombs et al., 1973; Falk, 2001). Libraries support parent literacy engagement, as well as the early literacy learning of their children, through the informal learning opportunities provided by library programs and spaces. Informal learning relies on social interactions and context, which are all informed by the resources provided by the environment (Coombs et al., 1973; Falk, 2001). This means that the welcoming and social environment of library storytimes is an integral part of parent literacy engagement and the sharing of information across families. When a family does not feel safe interacting and sharing new information and experiences with others, storytimes may no longer provide the same informal learning benefits.

Additionally, this means libraries already provide services and programs that could support the early literacy needs of autistic children and their families. As such, I will investigate how librarians can create welcoming spaces that enable families with autistic children to take full advantage of key early literacy services that promote both a) effective informal early literacy learning and b) parent engagement in home literacy practices.

3.4 Summary of Literacy, Early Literacy, and Autistic Learners

In this section I presented key information and concepts which I utilize to frame and understand early literacy for autistic children and their families in this study. Most importantly, future reading success for autistic children directly relies on high-quality early literacy learning experiences (Dynia et al., 2017). Currently, autistic children are often unsupported in early literacy development, are at an increased risk of persistent reading difficulties, and are given fewer opportunities than non-autistic peers (Brown et al., 2013; Henderson et al., 2014; Westerveld et al., 2016; 2018). Support for autistic children's early literacy development needs to utilize a critical re-conception of literacy and early literacy for autistic children and their families (Keefe & Copeland, 2011), and apply enabling practices to meet early literacy development goals.

Another key concept presented in this chapter that I utilize is the importance of early literacy learning experiences both outside of the home, and within the home. Home literacy experiences and parent literacy engagement are strong indicators of literacy learning (Dearing et al., 2006). Currently, libraries play a significant role in cultivating literacy engagement and providing informal learning environments that positively affect literacy skill development, including the ECRR program which has proved to significantly increase the engagement of parents in the literacy learning of their children (Neuman et al., 2017; Roman et al., 2010).

Because of the importance of high-quality early literacy learning experiences both within and outside of the home, I conceptualize early literacy learning experiences in my conceptual framework (Section 5) by utilizing Every Child Ready to Read's (ECRR) framing for the significant factors that inform literacy learning experiences. ECRR recognizes three major areas that influence children's early literacy development: the home environment, early literacy engagement, and library literacy services (such as storytimes) (Neuman et al., 2017). This is

congruent with key research presented in this section which highlights the same major areas of influence for autistic children's early literacy development (Dynia et al., 2017; Brown et al., 2013; Henderson et al., 2014; Westerveld et al., 2016; 2018).

Table 3: Concepts and Sub-Concepts Present in Conceptual Framework

Concept	Sub-Concepts
Early Literacy Learning Experiences	Home literacy experiences, literacy engagement, and library early literacy service use

4. The Current Landscape of Public Library Services to Autistic Children and their Families

Providing programs for diverse populations and strengthening communities in need has been a longtime focus of libraries (Garmer, 2014). Of 3.5 million programs provided by public libraries, 61.5 % were designed for children and their families (Grimes et al., 2013). While there is no more current information to support this, it can be assumed that this trend has continued as 91.2% of all public libraries now have dedicated children's services staff (PLA, 2022). Unfortunately, these same programs are not widely accessible to autistic children and their families (Matoushek et al., 2017; Paynter et al., 2020; Prendergast, 2017; Schriar et al., 2016).

As mentioned previously, we know that autistic children are not adequately supported in early literacy development in comparison to non-autistic peers (Westerveld et al., 2016). We also know that autistic children who are not provided with adequate early literacy instruction in

preschool struggle to meet standardized reading goals in kindergarten and beyond (Dynia et al., 2017). In addition to difficulties providing adequate home literacy environments (Marvin, 1994; Light & Smith, 1993; Van der Schuitt et al., 2009), many families with autistic children are unable to afford private learning services (Beuscher, 2014). This means that autistic children and their families are put at a distinct disadvantage when they are unable to access library resources. This places a strong impetus on libraries to provide accessible services and early literacy programs to autistic children and their families.

4.1 Public Library Services to Autistic Children & Their Families

As S. Yalon-Chamovitz writes when describing accessibility, "Accessibility is about the ability to reach and navigate a place; the opportunity to participate, use, and enjoy a service or facility; and the right to receive information," (2009). Currently, the American Library Association (ALA) "Core Values of Librarianship" (2006) identifies access as a core value, stating that all information sources should be readily available and equitably accessible to all library users. This value suggests that all information and resources should be accessible to all patrons, but is largely understood and put into practice as "accommodations" for physical disabilities only, for example braille collections and large print items (Kumbier & Starkey, 2016). Libraries have been working to improve accessibility for physical disabilities for decades, and have found some success by implementing rules and best practices informed by both the government and their surrounding communities (Bonnici et al., 2015). A review of the literature regarding library services for children with a wide range of disabilities indicates a commitment to improve services for this population (Akin, 2004; Baldassari-Hackstaff, Kerber, Krovontka, & Olson,

2014; Banks, 2004; Grassi, Huth, & Jin, 2013; Klipper, 2013, 2014; Patte, 2002). Research on the effectiveness of this commitment is relatively scarce (Kaeding et al., 2017), and very few studies have investigated early literacy in libraries for children with disabilities (Barker, 2011; Kaeding, 2014, 2015; Prendergast, 2013, 2015; 2017). Even fewer have focused on early literacy in libraries for autistic children and their families specifically (Paynter, 2020).

Despite a commitment to serve children of all abilities, library services continue to be inaccessible to autistic children and their families, leaving a sizeable service gap for this community, especially in relation to early literacy (Matoushek et al., 2017; Paynter et al., 2020; Prendergast, 2017; Schriar et al., 2016). However, interest in the topic of services to autistic patrons has risen in recent years (Schriar et al., 2016). The number of libraries that provide programs that specifically include autistic children and their families has also continued to grow (Matoushek et al., 2017), though preliminary information suggests these programs have had mixed results and relatively scarce attendance (McNeil, 2017). While it is unclear if the impetus to create these programs stems from strategic planning or community needs assessments, many researchers and libraries have begun to see a need for programs serving autistic children and their families. The creation of development tools for libraries serving autistic children, such as Project PALS (Anderson & Everhart, 2015), has also been gaining traction, though there is still very little available. The vast majority of programs provided to autistic children and their families consist of sensory storytimes (Broman, 2017). Other programs libraries provide for autistic children include sensory play and accessible browsing hours (Hickey et al., 2018; Peet, 2016).

4.2 Early Literacy Library Programs for Autistic Children and Their Families

In response to the unique needs of autistic children and their families, a few libraries nationwide (Salt Lake City Public Library, Anne Arundel County Public Library, Frederick County Public Library, and Baltimore County Public Library) have moved to provide early literacy programs for children with autism, such as sensory storytimes. Unfortunately, sensory storytimes face many challenges due to a lack of research on programs in libraries for autistic patrons (Matoushek et al., 2017). Sensory storytimes and other early literacy programs are often created using best practices from other libraries or by borrowing research from the education field (Anderson, 2021; Klipper, 2014). Currently, librarians rely heavily on social media posts, blogs, and Pinterest for ideas and tips for sensory programs (Hickey et al., 2018; Paynter et al., 2020). Online articles also depict best practices for sensory storytimes, often with very few references included. The efficacy of these best practices is unknown. They are not based on research or evidence-based practices for autistic children specific to libraries, nor do they "address the specific challenges faced by libraries in the form of funding and professional development." (Hickey et al., 2018). Only one study has attempted to provide professional development in relation to early literacy and autism to library storytime providers (Paynter et al., 2020). Despite the fact that there is more research investigating literacy practices in the education and autism fields, little library programming is informed by these early studies (Prendergast, 2017). For example, studies suggest that phonological awareness and dialogic reading early literacy interventions are more effective at increasing early literacy skills for autistic preschoolers (Hudson et al., 2017). Since these methods are used in typical library storytimes by librarians across the country, it suggests that librarians may already possess the

skills needed to provide relevant early literacy programs to autistic children (Paynter et al., 2020). However, recent research suggests that librarians' lack of necessary training impacts their confidence in providing early literacy elements in literacy programs for autistic children (Paynter et al., 2020).

Importantly, even when libraries provide these programs to autistic children and their families they focus on library familiarity and social skills, rather than early literacy (Matoushek et al., 2017; Baldarassi-Hackstaff et al., 2014). This is due to the same reified social conceptions that lead to reading interventions in formal education for autistic children that focus on participating in society (i.e. following written instruction) (Browder et al., 2006; Ruppar, 2017), rather than promoting authentic and joyful literature engagement (Kleekamp, 2020). Additionally, these programs are provided for autistic children specifically, rather than provided as inclusive programs. This removes autistic children from the social learning and literature engagement benefits of typical storytimes, including socially situated literacy practices such as meaningful group literacy activities, in an integrated environment (Justice et al., 2005; Keefe et al., 2018). Problems with these programs are not identified outside of a lack of attendance, as most sensory storytime programming is assessed through informal feedback rather than pre- and post-storytime surveys to assess satisfaction and perceived learning (Baldassari-Hackstaff et al., 2014).

One reason cited by many parents of autistic children for not attending programs is the library environment itself, which I will describe further in the following sections of my conceptual framework (Prendergast, 2017). Libraries are not currently equipped to address the needs of

families with autism in relation to the library environment, despite several recent efforts to improve access (Schriar et al., 2016). Current research in the LIS field regarding serving autistic children and their families in libraries focuses primarily on physical access for autistic patrons, including increasing information access and assistive technology efforts. These projects include increasing information access for the autism community (e.g. Targeting Autism; University of North Carolina at Chapel Hill), and assistive technology efforts to support the autism community (e.g. Spectra kits; Targeting Autism). The Leeds Public Library and Information Service in England is another example. Working with the Autism Education Trust, their library is dedicated to promoting inclusive and effective education and public library services for children and young people with autism (Autism Education Trust, 2013). However, there is a need to better understand the barriers that exist outside of physical access and the enabling practices that can foster more welcoming interactions. Additionally, more empirical work is needed overall to develop and assess autism inclusion training for librarians nationwide, particularly related to early literacy services (Prendergast 2027; Schriar et al., 2016).

5. Conceptualizing Systemic Barriers and Enablers for Autistic Children and Their Families in Public Libraries

In order to examine the systemic barriers limiting access to early literacy services to autistic children and their families, I propose a conceptual framework that highlights how social conceptions of autism (reviewed in section 5.1.1) impact services to autistic children and their families, and in turn limit library early literacy learning experiences. To do so I incorporate a

critical lens informed by CDT (as detailed in Section 2.2) to analyze the specific factors that create barriers both for families with autistic children, as well as for public library children's staff themselves which limit their capability to serve this population. I draw on the fields of Education, LIS, and Autism studies to ground this conceptual framework in the relevant literature and describe the phenomenon of inaccessibility in libraries for autistic children and their families. I also utilize best practices identified across these fields to conceptualize enabling practices in this framework that can mitigate these barriers. This conceptual framework was developed with extensive feedback and contributions from Dr. Hala Annabi and Dr. Michelle Martin as the foundation for the Autism-Ready Libraries project grant, and has been validated and iterated in pilot interviews and focus groups (see Chapter 3).

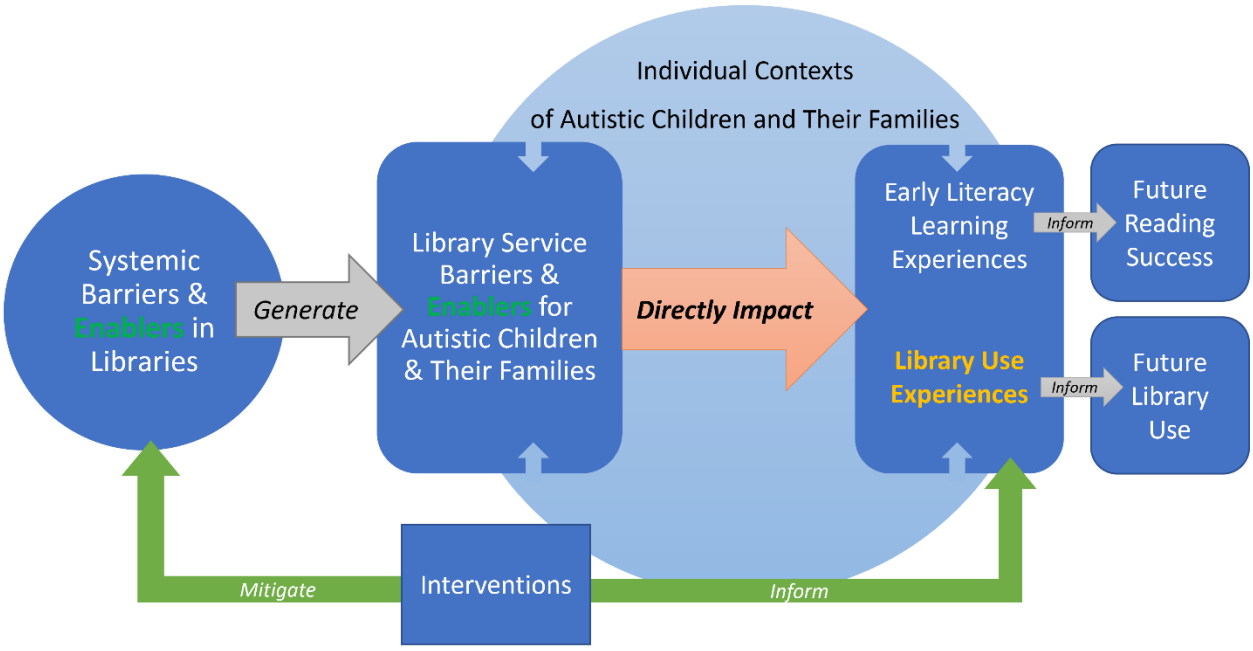

Figure 1. Conceptual framework for understanding the impact of systemic barriers and enablers in libraries on the early literacy learning experiences of autistic children and their families

Conceptual Framework Overview

As shown in Figure 1, I propose that systemic barriers and enablers in public libraries generate either library service barriers or enablers for autistic children and their families. For the purposes of this work, barriers are anything in an environment that hinders access, participation, or inclusion (WHO, 2001). This framework conceptualizes both *systemic* barriers and *library service* barriers. As further described in the following section, *systemic* barriers are physical elements (i.e. the library environment) and social elements (i.e. staff biases) which limit library use for families with autistic children. A *library service* barrier impacts access to a specific library service, such as library programs or reader's advisory. I use the term 'access' broadly to include physical, intellectual, sensory, emotional, and psychological ease of use of public library services by autistic children and their families. A library service is only accessible when patrons are able to utilize the service on a meaningful level (e.g. Kaeding, Velasquez, & Price, 2017).

- In this framework, *enablers* are systemic and service beliefs and practices that increase access to library services for autistic children and their families by removing barriers, and building the capacity of librarians to provide inclusive services (e.g. Beyene, 2017; Johnston, 2014).

- Barriers and enablers have a direct negative or positive impact on the early literacy learning and library use experiences of autistic children and their families. This impact and its effect on experiences are informed by the *individual contexts* of autistic children

and their families. All of these experiences inform two key areas that public libraries target in their goals and mission statements: future reading success and future library use.

- Specific interventions can both mitigate systemic barriers for autistic children and their families, and inform early literacy learning and library use experiences through meeting the early literacy service needs of autistic children and their families and reducing barriers to library use. In this framework, the scope of this change includes refining current systems to increase access by addressing barriers and informing new practices.

Each of the components of my conceptual framework are detailed further below, alongside a comprehensive review of the literature relevant to each component. This is broken into the following sections: Systemic Barriers and Enablers in Libraries; Library Service Barriers and Enablers for Autistic Children and Their Families; Individual Contexts of Autistic Children and Their Families; Early Literacy and Library Use Experiences; and Interventions.

5.1 Systemic Barriers and Enablers in Libraries

Autistic children and their families experience a lack of acceptance in libraries (Schriar, Foester, & Pelich, 2016). Few families with autistic children visit the library, and those who do visit attend early literacy programs less often than typically developing children (Prendergast, 2016; Simpson et al., 2020). Though autism is the most common disability that libraries are asked to accommodate, with the impetus for inclusive programs most often coming from parent's

requests, few libraries are accessible to autistic children and their families (Adkins & Bushman, 2015; Prendergast, 2016).

There are systemic barriers in libraries that combine to manifest library service barriers for autistic children and their families, resulting in lower access to library services for these families (e.g. Prendergast, 2016; Broman, 2017; Simpson et al., 2020; Kaeding, Velasquez, & Price, 2017; Copeland, 2011) (see Figure 1). These include both systemic barriers that impact access in the library context for autistic children and their families, as well as systemic barriers that affect library staff services to autistic children and their families. I use the term 'access' broadly to include physical, intellectual, sensory, emotional, and psychological ease of use of public libraries by autistic children and their families. A library is only accessible when patrons are able to physically attend the library and also participate on a meaningful level (e.g. Kaeding, Velasquez, & Price, 2017).

However, several methods may disrupt the negative impact of systemic barriers, mitigating negative experiences for autistic children and their families. These are depicted in the conceptual framework as *Systemic Enablers*. I will describe these practices in more detail throughout this section.

5.1.1. Systemic Barriers Affecting Autistic Children and Their Families Library Access

As described in Section 2.3, systemic barriers are unequal access or inclusion present in libraries due to management policies, practices, procedures, and attitudes across the library system (e.g. Burke et al., 2020; Hirano et al., 2018). These also include architectural, environmental, and other design elements present in libraries as informed by system-wide management policies and

practices. While a barrier can be anything in an environment that hinders access, participation, or inclusion (WHO, 2001), systemic barriers are inherent to a particular organization and perpetuated by it (Abella, 1984).

Following a CDT approach, systemic barriers are conceptualized in this framework as manifestations of social and institutionalized ableism. In this way systemic barriers in libraries can be broken into two separate types: *social*—referring to barriers informed by social ableism—and *structural*—referring to barriers informed by institutionalized ableism. There is overlap between these two types of systemic barriers as structural barriers reify social ableism to produce ableist practices, buildings, and environments. However, the distinction between social systemic barriers and structural systemic barriers highlights the role that organizational ableism plays in producing inaccessible library services and environments.

5.1.1.1 Social Systemic Barriers

Families with autistic children face multiple social barriers that impact numerous areas of an autistic child's experience in the library space. Autistic children often experience heightened anxiety, social stress, sensory stress, and difficulty communicating in public spaces due to overwhelming sensory stimuli, and utilize movement and other behavioral differences to self-regulate as a response to this stress (Baron, 2006; Darkin & Frith, 2005; Gillot, Furniss, & Walker, 2001). These movement differences and behavior differences are often not met with understanding from library staff and community members (Prendergast, 2016; Kaeding, Velasquez, & Price, 2017; Copeland, 2011), leading families with autistic children to limit their

time in libraries due to concerns about how their children's behavior will be perceived (Broman, 2017; Prendergast, 2017). This fear of judgment greatly impacts their ability to access resources (Bagby, Dickie, & Baranek, 2012). Parents with autistic children often feel scrutinized and judged by library staff, and do not feel comfortable approaching library staff to ask for supports (Prendergast, 2016).

This means sociocultural norms regarding libraries act as a barrier for these families. This is exemplified by feedback from families of autistic children who feel that library norms are not welcoming to their children (Broman, 2017). This is due specifically to the social expectation of the library as a quiet space, which makes parents feel disruptive for bringing autistic children (Broman; 2017; Grassi, 2017). Ultimately the compounding social stress of the library being a traditionally quiet space, paired with scrutiny from library staff and other patrons, takes a heavy toll on parents with autistic children (Bagby, Dickie, & Baranek, 2012).

This cultural perception of autism is mirrored in library staff attitudes. Currently, the deficit framing of autism in the library places pressure on autistic children and their families to overcome sensory barriers and meet social expectations in order to access and use library services (Lawrence, 2013). Library staff attitudes and sensitivities are a major barrier to library inclusion, as autistic children and their families often have negative experiences with library staff who don't understand autism (Ghuloum & Alyacoub, 2017; Kaeding, Velasquez, & Price, 2017; Prendergast, 2016). This combination of staff's implicit and explicit biases regarding autism, as well as the social conception of libraries as quiet spaces, leads to the isolation and exclusion of families with autistic children. Many autistic children experience isolation due to other's

reactions to their sensory or movement differences (Baron, 2006; Bauminger, Shulman, & Agam, 2003), and families report feeling isolated and excluded in libraries due to the non-normative behaviors of their children (Prendergast, 2016).

Negative perceptions of autism have been identified as a major barrier for libraries implementing programs (e.g. Schriar, Foester, & Pelich, 2016). Supportive and respectful service for autistic children and families is one of these challenges librarians have identified, specifically referring to difficulty accommodating non-normative behaviors (Paynter et al., 2020; Prendergast, 2016). As previously discussed in Section 4.2, library staff's implicit and explicit biases are informed and confirmed by the deficit framing of autism present in LIS research and practice (Lawrence, 2013). These biases relate to a lack of training and knowledge about autism, which I will discuss further below as a structural systemic barrier.

5.1.1.2 Structural Systemic Barriers

Structural systemic barriers include environmental barriers which negatively impact autistic children and their family's physical access to the library space and services, as well as barriers relevant to the structure of the library system itself (i.e. the management structure, lack of time for training library staff, etc.) in how institutionalized ableism is encapsulated in libraries and reified in library practices (e.g. Lyon, 2013). Structural systemic barriers such as environmental barriers exist due to institutionalized ableism, which is propagated by a problematic framing of autism in theories of practice for public libraries. The current framing of autism by the LIS field and library associations has a significant impact on theories of practice for serving autistic

patrons, which informs day-to-day service models for libraries (Kaeding, et al., 2017; Kumbier & Starkey, 2016; Lawrence, 2013).

Current theories of practice regarding serving autistic patrons, in particular autistic children and their families, are framed heavily by the medical model of disability (Kumbiar & Starkey, 2016). It encourages libraries to respond to autism "as something to be dealt with through medical research and treatment, drawing on the resources of individual and familial support networks," (Kumbiar & Starkey, 2016). Theories of practice framed in the medical model do not encourage library associations to reimagine access, or libraries to focus on library inclusivity of autistic children and their families.

Systemic Library Environment Barriers

Library environment barriers exist for many autistic children, including sensory barriers due to fluorescent lighting, large groups, and echoing open spaces in the library environment (Kaeding, Velasquez, & Price, 2017; Prendergast, 2016). Few libraries utilize natural lighting, light dimmers, or acoustic panels (Kaeding, Velasquez, & Price, 2017). This sensory environment has a negative impact on participation in community activities such as library programs (Chien, Rodger, & Copley, 2017; Schaaf et al., 2011), with families of autistic children participating in fewer community activities as a family (Bagby, Dickie, & Baranek, 2012).

One reason cited by many parents of autistic children for not attending programs is the library environment itself (Prendergast, 2017). Few services are available in libraries to support autistic children and their families, including a lack of sensory kits, quiet spaces (Grassi, 2017; Schriar, Foester, & Pelich, 2016), and lack of accessible toys and fidgets (Kaeding, Velasquez, & Price,

2017). Other adaptive supports are also missing, including a lack of visual supports in key areas of the library (Schriar, Foester, & Pelich, 2016) which makes navigating the library, and finding library resources, difficult for many autistic children and their families (Broman, 2017). However, the compounding environmental barriers are only one part of a complex system of structural barriers. On top of the physical environment, economic barriers to libraries exist for families with autistic children, including fees and fines for books that are returned late or with damage, and limited transportation options in rural communities (Kaeding, Velasquez, & Price, 2017).

Systemic Library Service Model and Staff Support Barriers

While library staff would like to serve the autistic community, librarians are constrained in their service to autistic children and their families by the narrow definition of their role in library service models (e.g. Adkins & Bushman, 2015: Copeland, 2011). Librarians often feel that to provide effective services to autistic children and their families they need to be autism experts (Adkins & Bushman, 2015; Prendergast, 2016). They also lack the necessary support from the library system to provide quality services (Prendergast, 2016; Schriar, Foester, & Pelich, 2016). Professional development regarding serving autistic patrons and providing inclusive early literacy services is inconsistent and often absent for library staff (Kaeding, Velasquez, & Price, 2017; Paynter, 2020; Prendergast, 2016). Librarians often pay their own fees for professional development courses and take them on their own time (Prendergast, 2016). This scarcity of professional development for library staff leads to a lack of autism and early literacy knowledge, culminating in discomfort in interacting with autistic patrons and facilitating autism-inclusive literacy programs (Prendergast, 2016).

Library staff are also severely under-resourced, reporting that inclusive programs often do not receive funding for materials, or time allotted for program planning (Grassi, 2017; Hickey, Golden, & Thomas 2018; Prendergast, 2017). They also find it difficult to apply for grants and other monetary resources (Hickey, Golden, & Thomas 2018; Kaeding, Velasquez, & Price, 2017).

This lack of resources on a systemic level means that librarians are often unable to offer inclusive programs, specific supports such as sensory kits, and autism-specific resources for parents (Kaeding, Velasquez, & Price, 2017). This creates a lack of early literacy programming and resources for autistic children and their families in public libraries (Broman, 2017; Matoushek et al., 2017).

Systemic Structural Barriers Sustain Social Barriers

Structural barriers directly influence social barriers such as staff's implicit and explicit biases towards autistic children and their families. A lack of staff training to prepare libraries serving autistic children and their families exacerbates explicit and implicit biases that inform staff reactions and communications (e.g. Kaeding, Velasquez, & Price, 2017). Most librarians have no formal specific training for librarians serving children with disabilities, including autism (Edwards, 2018; Prendergast, 2016). Research has found that people with varying experience and knowledge of autism often hold stereotypes of autism (John, Knott, & Harvey, 2018). Previous research indicates that librarians lack the knowledge, skills, and sensitivity to provide effective programs and resources to people with disabilities (Nelson, 1996; Small, Snyder & Parker, 2009), with current research affirming that this is the case for serving autistic children and their families (Prendergast, 2016; Small, Schriar, & Kelly, 2019). Autistic patrons and parents of autistic children have also reported that staff do not have the training to communicate

effectively with autistic patrons (Adkins & Bushman, 2015; Grassi, 2017; Kaeding, Velasquez, & Price, 2017; Prendergast, 2016).

Untrained staff can respond negatively to certain autism-specific requests and needs (Adkins & Bushman, 2015; Grassi, 2017; Kaeding, Velasquez, & Price, 2017; Prendergast, 2016), and knowledge of autism-specific resources is also impacted due to training inadequacies (Schriar, Foester, & Pelich, 2016).

These structural barriers are especially salient in their role in informing library service barriers for autistic children and their families, as I will discuss in Section 5.2.

5.1.2 Systemic Enablers Mitigating Barriers for Autistic Children and Their Families

In addition to systemic barriers, there are a variety of best practices in use by libraries that *enable* access to library services for autistic children and their families. These are referred to as enablers in this conceptual framework. Enablers are anything provided by the library environment or by its staff members that mitigate the impacts of systemic barriers (Beyene, 2016; Johnston, 2014). Previous research has provided recommendations for enabling practices in libraries for disabled children and their families (Kaeding, Velasquez, & Price, 2017; Prendergast, 2017), and best practice guides have compiled enabling practices specifically for autistic children and their families in libraries (Farmer, 2013; Klipper, 2014; Anderson, 2021).

Many of these enablers were identified by participants in my study, and are present in best practices guides for library staff (e.g. Farmer, 2013; Klipper, 2014; Anderson, 2021) as well as outputs from previous research (e.g. Schriar et al., 2016; Targeting Autism; Project ENABLE). The conceptual framework has been iterated to include the mitigating effects of best practices in

libraries that enable services for autistic children and their families. These include *social* enablers, as well as *structural* enablers.

5.1.2.1 Social Enablers

Social enablers refer to practices that mitigate the impact of social barriers. As mentioned above, social structural barriers constitute the most insidious and present barriers for autistic children and their families. Unfortunately, these are also the barriers that best practice guides and current training focus on the least (Kaeding, Velasquez, & Price, 2017). In present literature and best practices, social enablers primarily surface in guidance for customer service interactions between library staff and families with autistic children (e.g. “Autism and Libraries: We’re Connected”, 2014). These refer to best practices for library staff interacting with autistic children and their families when providing services or communicating library expectations and policies.

Previous research has found that families with autistic children prefer interactions with friendly library staff. These friendly interactions include patience with behavioral differences, inclusion in activities, and acts of goodwill (i.e. holding a family's books during checkout, etc.) (Prendergast, 2016). Inclusion in community spaces is particularly important to families with autistic children, and is present across the literature regarding community engagement and informal learning centers, such as museums and libraries (Bagby, Dickie, & Baranek, 2012; Broman, 2017; Matoushek et al., 2017; Mulligan et al., 2013; Prendergast, 2017). Five common aspects influence inclusion, including autism training, direct communication with autistic children, eliciting trust, knowledge of common behaviors, and knowledge of the individual child

(Falkmer et al., 2015). Parents of autistic children who have had positive library experiences in libraries similarly attribute these experiences to library staff who are friendly, patient, and flexible to their children's needs (Broman, 2017; Matoushek et al., 2017; Prendergast, 2016). As such, providing autism sensitivity training to staff members is a significant enabler for families with autistic children (Grassi, 2017).

5.1.2.2 Structural Enablers

Structural enablers refer to best practices that mitigate the impact of structural barriers such as the sensory environment. Enablers that mitigate physical or sensory library barriers for autistic children and their families are the primary focus of best practices guides, professional development resources, and other guidance targeted to children's librarians (e.g. Farmer, 2013; Klipper, 2014; Anderson, 2021; Targeting Autism; Project PALS; etc.). The primary structural enabler is environmental access supports, which refer to any change or augmentation to support access to the library, or to remove a sensory barrier for autistic children. This is often referred to in the literature as an "accommodation," which is problematic due to its ableist framing (Bottema-Beutel et al., 2021). Providing a sensory-friendly environment, such as utilizing natural lighting, and limiting loud noises (i.e. hand dryers in the restroom) is a common request from families with autistic children (Grassi, 2017).

Another environmental enabler for autistic children and their families is the availability of a sensory kit. A sensory kit is often a bag that commonly includes headphones, sunglasses, and fidget toys (Mustey, 2019). Sensory kits are utilized widely in museums and other informal

learning environments (Mulligan et al., 2013; Mustey, 2019), but are less available in public libraries (Broman, 2017; Kaeding Velasquez, & Price, 2017; Prendergast, 2017). Sensory kits can be used to mitigate disruptive noises, painful lights, and other sensory overwhelm in non-inclusive sensory environments. Additionally, remote library services such as online catalog browsing, placing holds online, and reader's advisory via webform or phone may be enablers for families with autistic children who experience sensory barriers (Prendergast, 2017). Preliminary findings suggest that taking library programs online during the pandemic has been incredibly beneficial to autistic children and their families, as online storytimes gain popularity. For example, one library system in Australia gained over 100,000 views of its 170 online storytime sessions (Cowell, 2021).

5.2 Library Service Barriers & Enablers in Libraries for Autistic Children and their Families

Systemic barriers directly impact early literacy learning experiences for autistic children and their families by limiting access to key library services. This limitation is referred to as a *library service barrier* in this conceptual framework. A library service is anything the library provides for its patrons, including access to information (i.e. books, databases, reference services), library programs (i.e. storytimes, book clubs, puppet shows), and resources (i.e. early learning kits, museum tickets, technology) (ALA, 2015). Library service barriers are generated by the interplay between social and structural systemic barriers. For example, if a librarian views autism as a deficit, they may be less likely to provide library programs that autistic children and their families can attend (Kaeding, Velasquez, & Price, 2017). This is one example of how a neurotypical bias can create a library service barrier. On the other hand, systemic enablers also directly inform library service *enablers* as well. For example, if the same librarian is provided

autism inclusion training, that librarian may feel more comfortable providing storytime to autistic children and their families (Paynter et al., 2020).

5.2.1 Library Service Barriers

The systemic barriers present in libraries generate a plethora of library service barriers for autistic children and their families. These library service barriers are created when the social and structural systemic barriers come together to limit library services' accessibility. Library service barriers are additionally influenced by the individual contexts of autistic children and their families (see Figure 1). Library service barriers are aspects of the library facility, resources, and programs that obstruct autistic children and their families' access to them. As previously defined, a barrier can be anything in an environment that hinders access, participation, or inclusion (WHO, 2001). Multiple studies have reported service barriers to other institutions, including museums and formal education (e.g. Cassady, 2011; Kulik & Fletcher, 2016; Langa et al., 2013; Mulligan, 2013; Mustey, 2019; Pellicano, Bolte, & Stamer, 2018;). Less research exists specific to the library context (e.g. Adkins & Bushman, 2015; Broman, 2017; Grassi, 2017; Kaeding, Velasquez, & Price, 2017; Prendergast, 2016; Schriar, Foester, & Pelich, 2016), however there are common themes present in the literature regarding library use by autistic children and their families.

5.2.1.1 Library Programs Are Inaccessible

Storytimes and other programs are the most impacted by library service barriers. Unfortunately, typical library literacy programs such as storytimes are not accessible to autistic children and

their families (Broman, 2017; Matoushek et al., 2017; Prendergast, 2016). This is due to a combination of systemic barriers including sensory barriers, a lack of supports, and negative judgment from library staff or other families in these programs (Broman, 2017; Matoushek et al., 2017; Prendergast, 2016). As mentioned previously there is also a lack of education for library practitioners to provide these programs, especially in relation to early literacy (Paynter et al., 2020; Prendergast, 2017). This often results in library programs that are unpredictable for autistic children and their families, with no clear indication (such as a visual schedule) of what the activities will be or their sequence (Broman, 2017). Unpredictability is a significant barrier for autistic children and their families (Bagby, Dickie, & Baranek, 2012; Chien, Rodger, & Copley, 2017; Schaaf et al., 2011).

A very limited number of libraries actually provide programs accessible to autistic children and their families (Adkins & Bushman, 2015; Kaeding, Velasquez, & Price, 2017), and few are advertised as such to the public (Adkins & Bushman, 2015). Those that are advertised are poorly marketed and rely on word of mouth, resulting in low attendance (Adkins & Bushman, 2015; Broman, 2017; Matoushek et al., 2017).

5.2.1.2 A Lack of Information Resources

Resources for early literacy are limited for autistic children and their families. There is a distinct lack of reliable information sources for parents on autism and literacy (Prendergast, 2016; Schriar, Foester, & Pelich, 2016), and support for finding the information a library does have is limited (Prendergast, 2016). This is often due to a lack of readers' advisory available specific to

autistic children and their needs (Broman, 2017), with very few librarians trained to provide literacy resources to autistic children (e.g. Paynter et al., 2020). Library staff are often unaware of autism-specific resources such as books, relevant online sources such as webpages, or community organizations (Kaeding, Velasquez, & Price, 2017; Prendergast, 2016).

Many libraries are unaware of the service needs of autistic children and their families, as they rarely conduct needs assessments for this population (Kaeding, Velasquez, & Price, 2017). Service needs are often identified by libraries through a community needs assessment, which often asks community organizations about the services their population requires most (Scott Brown, 2020). Those few libraries that have conducted needs assessments have made small steps to mitigating library service barriers to the autistic community widely, but have not focused on autistic children and their families' literacy needs (Baldassari-Hackstaff et al., 2014; Broman, 2017; Grassi, 2017).

5.2.2 Library Service Enablers

Enabling library service practices refer to methods and tools used by the library to mitigate library service barriers. In this framework library service enablers include customer service enablers, as well as library program enablers such as inclusive program design. These enablers are often referred to in the profession as best practices. A few best practice guides focus on customer service specific to library services (e.g. Bloomquist, 2005; Edwards, 2018; Farmer, 2013; "Libraries and Autism: We're Connected," 2014; Project PALS). These early literacy services include library programs, reader's advisory, and meeting families' information needs.

However, library programs are the primary focus of most best practice guides, blogs, and social media guidance for enabling library services to autistic children and their families (Hickey et al., 2014) (e.g. Klipper, 2014; Anderson, 2021; Waring, 2012; and many more). From sensory-friendly activities, seating, and engagement (Anderson, 2021) to utilizing UDL in storytimes (Pebly, 2019), librarians have been focused on sharing best practices for storytimes to autistic children for a long time (Hickey et al., 2014). While many customer service enablers and library program enablers have been proposed by best practice guides and social media, there is relatively little information that has been shared that has been tested empirically in the library space (Hickey et al., 2014; Matoushek et al., 2017; Paynter et al., 2020; Prendergast, 2016; Schriar, Foester, & Pelich, 2016;). In this section I will focus on enablers identified empirically specific to public libraries.

5.2.1.1 Customer Service Enablers

Customer service enablers refer to best practices for library staff interacting with autistic children and their families when providing early literacy services or communicating library expectations and policies. I refer to these enablers as adaptive customer service. Adaptive customer service includes interactions that utilize techniques and tools (i.e. visual representation, alternative communication methods) to support and enable communication with autistic children and their families, and/or provide multiple methods of representing library policies and expectations (Kaeding, Velasquez, & Price, 2017; Small, Schriar, & Kelly, 2019). Visual representation is particularly enabling for autistic patrons and their families to navigate the library, including social stories that present how to use the library and what to expect (Broman, 2017; Schriar,

Foester, & Pelich, 2016). Another customer service enabler is to meet families' information needs: including library staff members who have the knowledge to provide reader's advisory services (Broman, 2017), as well as providing collections with accurate information and resources related to autism (Schriar, Foester, & Pelich, 2016).

5.2.1.2 Library Program Enablers

Library program enablers refer to best practices for mitigating or removing library program barriers for autistic children and their families. As mentioned above, these barriers primarily include inflexible program facilitation (i.e. the inclusion of sensory barriers, and the lack of knowledge to remove them), unpredictable or inaccessible program schedules or activities, as well as limited scheduling of inclusive library programs (i.e. programs only offered in the morning, or once a month). Many enabling practices refer to the design of the program itself. For instance, a program that is highly structured, predictable, and utilizes visual supports (i.e. visual schedules), promotes accessibility and engagement for autistic children and their families (Baldassari-Hackstaff, 2014; Broman, 2017; Hickey et al., 2018; Prendergast, 2017).

Enabling practices for program design come through the integration of Universal Design for Learning (UDL) techniques. UDL is a process of removing barriers for learners by providing multiple methods of participation, engagement, and representation along with flexibility to meet individual student needs (Rose & Meyer, 2002). Learning environments that utilize UDL provide multiple ways for learners to represent their understanding, express themselves, and engage (CAST, 2018). Widespread use of this framework is reported in the education field (Browder et

al., 2009; Coyne et al., 2012), and specifically for use in inclusive classrooms (Coyne et al., 2012; Marino et al., 2014; Milton, Martin, & Melham, 2016; Zehner, Chen, & Aladsani, 2017). UDL aims to decrease potential barriers to learning while increasing opportunities to learn, with the core belief that designing for diverse learners results in better learning outcomes for all individuals (Coyne et al., 2012). As there is such a wide variety in the way autistic children interact with literacy learning (Westerveld et al., 2018), this is especially useful.

Other enabling practices include removing sensory barriers by utilizing natural lighting, limiting the number of participants, and providing a quiet escape in the room for children who need it (Broman, 2017; Prendergast, 2016). Providing sensory elements to the storytime, such as sensory bags with fidget toys, can also increase engagement in the storytime for autistic children (Baldassari-Hackstaff, 2014; Hickey et al., 2018).

However, the largest enabler for families attending library programs with autistic children is a friendly environment that fosters inclusion (Prendergast, 2017). This is an enabler that mitigates social systemic barriers. Inclusion is promoted by expectations set by facilitators which allow children to move, wiggle, and make noises during the program (Baldassari-Hackstaff et al., 2014; Broman, 2017).

5.3 Individual Contexts of Autistic Children and Their Families

The individual contexts of autistic children and their families inform the severity of library service barriers, and how they will impact their children's early literacy learning experiences—as well as the families' overall library experiences. The individual contexts of autistic children and

their families vary widely, informed by individual differences of both autistic children and their parents (Georgiades et al., 2013; Happé et al., 2006; Lombardo et al., 2016), as well as by an ecological systems model (Bronfenbrenner, 1979) taking into account developmental and support differences related to different aspects of the ecological system in which the autistic child lives: including location, socioeconomic status of parents, past experiences, and parent's access to outside resources in their exosystem (Prendergast, 2017).

5.3.1 Individual Differences

Autistic children express many individual differences in their development (Georgiades et al., 2013; Happé et al., 2006; Lombardo et al., 2016). Individual differences are defined here as both the well-documented heterogeneity in autistic traits and needs (e.g. Georgiades et al., 2013; Lombardo et al., 2016) as well as differences related to being an individual. Like all children, autistic children display individual differences in their likes and dislikes (Happé et al., 2006), social motivation (Brown et al., 2007; Burnette et al., 2011), and behaviors (Schwartz et al., 2009). Individual differences also include children's gender and racial identities as well as other aspects inherent to that specific child, such as whether or not they experience CAPD or may have co-occurring anxiety or dyslexia (e.g. Lombardo et al., 2019; Roux et al., 2015).

An intersectional lens is particularly important when considering the barriers that autistic children face in relation to their individual differences. The individual differences of autistic children and their families inform how barriers in the library environment, and in interactions with library staff, will impact their experiences in the library space and with library resources or programs. Individual differences also can inform the specific barriers that autistic children and their families face in libraries, including what aspects of the environment might cause sensory

harm (Baron, 2006; Darkin & Frith, 2005; Gillot, Furniss, & Walker, 2001). Individual differences also may inform the efficacy of certain library service enablers.

This conceptual framework utilizes intersectionality to understand how other social categories (i.e. gender/race), as well as age, individual support needs (i.e. communication needs), and socioeconomic status may inform how systemic barriers impact and inform the library service barriers of individual families (e.g. Cascio, Weiss, & Racine, 2020). Many factors might impact families' access to inclusive resources at the library, including knowing that their child is autistic. Currently many autistic children do not have formal diagnoses (Wiggins et al., 2020). There are documented inequities in access to autism diagnosis based on families' class, race, and ethnicity (Begeer et al. 2009; Di Pietro and Illes 2014; Durkin et al. 2010; Liptak et al. 2008; Mandell et al. 2007; Mandell et al. 2009; Pierce et al. 2014). For example, many autism diagnoses are delayed for black and Latinx families (Zukerman et al., 2014). BIPOC children overall are less likely to receive formal diagnoses and supports from schools than white children (Kalyanpur et al., 2000; Magaña et al, 2013; Sullivan, 2013). Additionally, Latinx families with autistic children feel less empowered to find special education information outside of school (Burke et al., 2020). This highlights the importance of accessible early literacy services in libraries for autistic children and their families.

5.3.2 Ecological System Context

The ecological system of autistic children and their families also determines the library service barriers that will surface during a library visit or while using online library resources. In my

framework, the ecological system context of a family refers to how the world around the family, and their individual circumstances, shape their experiences and needs. This system context refers to social-ecological factors that can impact children's literacy development (Anderson et al., 2018). Social-ecological factors include such things as family, school, healthcare resources, parent's socioeconomic status, resources accessed by parents, and the attitudes and ideologies of a family's culture as it informs and impacts their perception of autism (Kim, 2012). For example, when parents can access library resources they might bring home picture books to influence their child's early literacy development (e.g. Albright et al., 2009; Neuman et al., 2017). Previous research has utilized Bronfenbrenner's Ecological Systems Theory to conceptualize how barriers in libraries impact the literacy experiences of disabled children (Prendergast, 2016). Overall, ecological systems theory can effectively illustrate the complex systems that inform the needs of an autistic child and their family in the library context.

5.4 Early Literacy Learning Experiences & Library Use Experiences

In this conceptual framework, library service barriers (or enablers) directly impact and inform early literacy learning and library experiences. Early literacy learning experiences, and library use experiences, have a direct impact on future reading success and the library use of autistic children and their families. For example, we know that library early learning programs and resources have a positive, direct impact on neurotypical children's early literacy development and their families engagement in their literacy learning (Albright et al., 2009; Campana et al., 2016; Dearing et al., 2006; Neuman et al., 2017). This is directly related to the early literacy learning experiences autistic children and their families have in libraries (Campana et al., 2016;

Neuman et al., 2017). We also know a lack of access to library services directly and negatively impacts the early literacy learning experiences of autistic children and their families (Matoushek et al., 2017; Prendergast, 2016; Schriar et al., 2016).

Future reading success for autistic children directly relies on early literacy learning experiences (Dynia et al., 2017). In addition, future library use by autistic children and their families is often decided by the positive and/or negative experiences that autistic children and their families have in public libraries (Prendergast, 2016). As lifelong learning programs and supports and library use are especially important to public libraries and included in many libraries' strategic areas of focus (e.g. SPL, 2012), future library use is an important part of assessment regarding inclusive library programs and services.

I conceptualize early literacy learning experiences in this Framework by utilizing Every Child Ready to Read's (ECRR) framing for the significant factors that inform literacy learning experiences, as described in Section 3.4. ECRR recognizes three major areas that influence children's early literacy development: the home environment, early literacy engagement, and library literacy services (such as storytimes) (Neuman et al., 2017). Each of these three areas are highly influenced by enabling practices for autistic children and their families, as well as negatively impacted by library service barriers present in libraries.

5.5 Professional Development Interventions

In this conceptual framework, interventions, such as library staff training specific to serving autistic patrons, are key to mitigating barriers and informing early literacy services for autistic

children and their families. Limited research shows training increases librarians' confidence in providing a supportive environment for autistic children, and their sensitivity when observing non-normative behaviors (Paynter et al., 2020). However, there is a lack of interventions specific to autistic children and their families and even fewer professional development interventions that are based on research specific to public libraries (Paynter, 2020; Prendergast, 2016). Many of the intervention methods developed for public libraries are best practices that are utilized by some library staff in libraries to offer inclusive programs and resources (e.g. Small, Schriar, & Kelly, 2019; Paynter et al., 2020) but have not yet been validated by empirical assessment by autistic users or their families. Additionally, current professional development trainings for librarians have not been evaluated for efficacy (with the exception of Paynter et al., 2020) or formally assessed by stakeholders (e.g. Targeting Autism; Project PALS).

Unfortunately, nearly all available intervention methods suffer from problematic characteristics related to the framing of autism in the LIS field. The majority of autism sensitivity trainings are deficits-based, meaning that the training or resource overemphasizes the perceived deficiencies and limitations of autistic children and provides methods to intervene rather than utilize strengths to support their learning (Dinishak, 2016; Urbanowicz et al., 2019). Additionally, interventions tend to be limited to *only* autism awareness, with the goal of increasing autism identification rather than directly informing inclusion and anti-ableist practices such as addressing stereotypes and biases (Silberman, 2012).

Common interventions currently in use include:

- Autism awareness training: Professional development materials and courses for library staff that focus on knowledge of autism including diagnostic characteristics, behaviors

and behavior management, development, and the sensory needs of autistic library users (e.g. Anderson & Everhart, 2015; Small, Schriar, & Kelly, 2019).

- Customer service trainings: Share best practices for providing support and advisory services for autistic children and their families. Include guidance for effective interactions with autistic children and their families by utilizing visual supports, non-verbal communication strategies such as whiteboards, and simpler/slower language (Anderson & Everhart, 2015; Farmer, 2013; Libraries and Autism, 2008; Small, Schriar, & Kelly, 2019). Often focus on preventing "disruptive behavior" (Anderson & Everhart, 2015).

Needed interventions identified by the literature include:

- Autism acceptance training: Many autistic advocates recommend utilizing autism *acceptance* training as an alternative to autism awareness. This refers to changing perceptions towards autistic individuals and stigmatized autistic behaviors through empathy training and the dispelling of myths and stereotypes regarding autism (Jones, DeBrabander, & Sasson, 2021). Autism acceptance training that includes factual information and narratives from autistic self-advocates reduces biases and stigma toward autistic individuals (Jones, DeBrabander, & Sasson, 2021).
- Sensory needs training: Provides awareness of autistic patron's sensory needs, with suggestions for changing elements of the library space such as limiting fluorescent lighting, reducing audio and visual distractions, and providing quiet spaces (Anderson & Everhart, 2015; Farmer, 2013; Klipper, 2014; Small, Schriar, & Kelly, 2019).
- Inclusive library programs training: Specific guides for library programs that include activities, list materials, and suggest additions after the program such as social time or crafting (Anderson, 2021; Klipper, 2014; Paynter et al., 2020; Small, Schriar, & Kelly,

2019). These also include best practices to engage autistic children during programs such as using visual schedules, puppets, and flannel board activities (Klipper, 2014; Paynter et al., 2020; Small, Schriar, & Kelly, 2019).

- Technology support training: Offers strategies to facilitate technology assistance for autistic children and their families, including communication methods utilizing AAC devices (Anderson & Everhart, 2015; Small, Schriar, & Kelly, 2019). This includes guidelines for assisting autistic children and their families to use the computer station, printing, and checkout stations (Anderson & Everhart, 2015; Small, Schriar, & Kelly, 2019).
- Outreach services interventions: Training specific to engaging autistic community members and families who are non-library users, infrequent users, or underrepresented/underserved in library programs and services (ALA, 2012; Small, Schriar, & Kelly, 2019). These trainings provide guidance for collecting data regarding the long-term goals and service needs of the library's autism community, and examples of general organizations and businesses to reach out to (Small, Schriar, & Kelly, 2019).

6. Conclusion

The purpose of this chapter was to summarize important concepts in the literature regarding serving autistic children and their families in the public library. To do this I utilized key concepts from the fields of LIS, Critical Disability Studies (CDS), Autism Studies, and Education. In this section I synthesized these key theoretical perspectives and concepts to provide background context, as well as a critical lens, for my conceptual framework. This conceptual framework can

be used to understand how structural barriers and enablers create specific library service barriers and enablers for autistic children and their families. Additionally, this framework conceptualizes how library service barriers interact with the individual contexts of these families, and impact autistic children's early literacy learning experiences and future reading success. The critical lens and conceptual framework presented in this chapter contribute to LIS theory and practice regarding services to autistic children and their families in public libraries.

This conceptual framework informed the research design of this study, including research questions and methods which I will describe in the next chapter. Throughout this study, this conceptual framework was utilized and refined to better understand how systemic barriers in libraries impact early literacy library services to autistic children and their families. Understanding how specific elements of library environments, their staff, and their services act as barriers to early literacy learning experiences, or as enablers to them, is key to disrupting systemic barriers for autistic children and their families in libraries. This study utilizes this conceptual framework to advance our theoretical understanding of early literacy library services and practices in relation to autistic children and their families.

Chapter 3: Methods

1. Introduction and Overview

In this chapter I present the research design for my study, describing the methodology, data collection techniques, and procedures utilized to address my research questions. I will first outline my study objectives and research questions, and then describe how my study design is informed by my critical theoretical framework, utilizing a social constructivist approach and centering participant perspectives and voices to prioritize their lived experiences. I then describe the case study method and its suitability to answer my research questions, as well as the case study protocol that I followed. I outline my research design, including units of analysis, data sources and collection techniques, recruitment, and procedure. I also detail the data analysis technique used and address research quality. Finally, I address the limitations of the study and the methods used to enhance the quality of my research.

In Chapter 2 I synthesized the relevant conceptual and theoretical foundations for this study, including a critical lens utilizing Critical Disability Theory (CDT) and a critical reframing of autism-inclusive early literacy library practices using this lens, and concluded by presenting a conceptual framework that illuminates the impact of systemic barriers and enablers in libraries on the early literacy learning experiences of autistic children and their families (see Ch 2, Section 5 for the conceptual framework). Of particular importance to the design of this study are the following highlights from my conceptual framework:

1. There are systemic barriers in libraries that combine to manifest library service barriers for autistic children and their families, resulting in lower access to library services for

these families (e.g. Prendergast, 2016; Broman, 2017; Simpson et al., 2020; Kaeding, Velasquez, & Price, 2017; Copeland, 2011). Following a CDT approach, systemic barriers are conceptualized in my framework as manifestations of social and institutionalized ableism. Social ableism is discrimination, stigmatization, and prejudice that results in social oppression towards the disabled community (Bogart & Dunn, 2019; Billawalla & Wolbring, 2014).

2. Autistic children and their families face barriers in public libraries as the result of social ableism such as discrimination and prejudice, and institutionalized ableism such as ableist policies and practices (Bogart & Dunn, 2019; Campbell, 2001). These are conceptualized in my framework as systemic social and structural barriers. Social systemic barriers include: Library staff's implicit and explicit biases towards autistic children and their families; and community and cultural expectations regarding autistic individuals and library use. Structural systemic barriers include: Inaccessible sensory and physical environments; and library service model barriers.
3. Youth-serving library staff are constrained in their services to autistic children and their families by barriers including a lack of system-wide training and resources for serving this population. These barriers include systemic social and structural barriers. Social systemic barriers faced by library staff are informed by management's implicit and explicit biases relevant to autistic children and their families, particularly neurotypical bias. Structural systemic barriers include a lack of library system support, including training and resources such as time and funding to design autism-inclusive programs.

1.1 Study Objectives and Research Questions

While public libraries' strategic plans focus on promoting early literacy learning and parent engagement for neurotypical children and their families, this same focus has not been extended to the autistic community (Davis & Fullerton, 2015; Prendergast, 2017). Currently very few early literacy library services are accessible to autistic children and their families (Matoushek et al., 2017; Schriar et al., 2016; Prendergast, 2017). As previously described in my literature review in Chapter 2, there are multiple systemic and service barriers rooted in institutionalized ableism that limit public library services to autistic children and their families, as well as families' ability to access them. These systemic barriers are informed by neurotypical bias and sociocultural constructions of autism, particularly of autism as a deficit. Importantly, these systemic barriers also impact librarians' confidence in providing services to this population, as the medical model framing of autism in libraries assumes services can only be performed by autism experts (Adkins & Bushman, 2015; Prendergast, 2016). The objectives of this study were to address limitations in LIS theory and practice including: 1) a problematic theoretical framing of autism and services to autistic children and their families in LIS research and pedagogy, and 2) a lack of research-based interventions for serving the early literacy needs of autistic children and their families.

OBJECTIVE 1: Develop a conceptual framework identifying the barriers and enablers present for autistic children and their families in public libraries related to early literacy learning experiences

To address Objective 1, my research questions sought to understand not only the perspectives of families with autistic children, but also those of public youth-serving librarians and library staff.

These questions aimed to uncover the underlying systemic issues that inform barriers experienced by autistic children and their families:

RQ1: What barriers do families with autistic children experience that limit their inclusion in early literacy activities in public libraries?

b. What early literacy resources and services do autistic children and their families need in relation to public libraries?

RQ2: What barriers do youth-serving librarians experience that limit their early literacy services to families with autistic children?

b. What autism-specific accessibility considerations, professional practices, and programming are currently utilized by libraries to serve autistic children and their families' early literacy needs?

OBJECTIVE 2: Empower youth-serving librarians to provide early literacy services to autistic children and their families by identifying key components of training and resources

In order to address Objective 2, I needed to understand what specific support youth-serving librarians require to provide early literacy services to autistic children and their families. The following question aimed to uncover the nature of these supports, informed by the barriers that youth-service librarians experience as answered by RQ2:

RQ3: What autism-specific professional development tools and resources are needed to enable libraries to address barriers for autistic children and their families in early literacy programming and library services?

Guided by my research questions per Yin (2018), the study investigated the phenomenon of early literacy public library services to autistic children and their families. I bound this phenomenon to the following types of early literacy library services regularly offered by public libraries:

- Providing families with access to early literacy related materials including, but not limited to: print materials such as books; technology-related materials such as learning tablets or apps; multi-media materials such as CDs and DVDs with music or language development focuses; and toys or physical manipulatives which can be used to engage children in early literacy engagement (see Chapter 2 for more details on early literacy and early literacy engagement).
- Providing families with information services, including but not limited to: reader's advisory; "ask a librarian" services; compilations or lists of early literacy resources (such as booklists); early literacy information; autism information; access to catalogs and databases to support information seeking.
- Providing families with early literacy supporting programs, including but not limited to: storytimes; book clubs; summer reading programs; build and play programs that utilize early literacy elements (such as phonics or alphabet blocks); early literacy engagement programs (i.e., oral storytelling; puppet shows, author visits); arts and STEM programs that use directions or written elements.
- Providing families with parent literacy engagement supports, including but not limited to: modeling early literacy engagement techniques in programs or during information services; providing written information (i.e., bookmarks, handouts) with early literacy engagement tips; supporting home literacy engagement through outreach programs (i.e., home visits, bookmobile services).

1.2 Linking Theory to Study Design

In order to understand the needs of both autistic children and their families, as well as the librarians and library workers serving them, I employed an interpretive qualitative approach to gain insights from the narratives of my participants. I framed this work within a social constructivist epistemology, aligning with Critical Disability Theory (CDT) which focuses on the lived experiences of social actors, especially within research and the context of providing counter-narratives to traditionally ableist institutions (Broderick & Ne'eman, 2008; Schwant, 1994). I did this by selecting data collection techniques that incorporated methods to reposition power to my participants and their narratives, including semi-structured interviews and focus groups, and the use of Participatory Design (PD) sessions (Kamberelis & Dimitriadis, 2013; Kerschbaum & Price, 2017). I then used the perspectives and priorities of my participants to guide and inform the evidence-based theories and practices I developed as a result of this research (e.g. Cridland et al., 2015; Lyons et al., 2013; Teachman et al., 2018).

Case study methodology allowed me to study the phenomenon of early literacy library services to autistic children and their families in ways that prioritized the experiences of those involved (Yin, 2018). Case studies are also pertinent for work framed by social constructivist epistemology, as case study method aims to elicit and understand how research participants construct their individual and shared meanings around particular phenomena (Stake, 1995; Au, 1998). An advantage of a constructivist case study is the focus on participant narratives as well as on the collaboration between researcher and participant, which enables a deeper understanding of participant narratives and the phenomena in question (Baxter & Jack, 2008). This exploratory approach is particularly important when working with underserved communities as it positions

participant narratives at the center of the work, rather than the perspectives and priorities of dominant structures and voices (Lyons et al., 2013).

2. Case Study Method

Case studies are used by researchers who wish to understand the dynamics of a particular phenomenon (Yin, 2018), and are a well-established method in LIS (Choemprayong & Wildemuth, 2017; Wildemuth, 2018). Case study method was suited to my work as I focused on a contemporary phenomenon situated within its current context (Yin, 2014). As barriers to library use for families with autistic children are rooted deeply in sociocultural ableism within the library space and without, the boundaries between the phenomenon (early literacy library public services to autistic children and their families) and the context of systemic biases and inequity regarding autistic children's early literacy needs are not "clearly evident" (Yin, 2003). I explored this specific phenomenon in a way where deeper facets of services to autistic children and their families in public libraries could be revealed and understood from multiple participant perspectives (Stake, 1995). This use of multiple data sources, and collecting data from multiple participants who are stakeholders in different aspects of the phenomena, aligned well with a constructivist approach (Yin, 2018). The use of multiple data sources also enhanced study credibility (Patton, 2015; Yin, 2018).

A case study allowed for the building of theory, in this case a conceptual framework, utilizing key aspects and findings of the phenomenon (Eisenhardt, 1989). Because of its flexibility, rigor, and ability to provide rich information for the development of theoretical and conceptual

frameworks and interventions, the case study approach was identified as the best methodology for this study.

2.1 Instrumental Embedded Single Case Study

In this study I utilized an instrumental embedded single-case study to understand library services to autistic children and their families through multiple perspectives, and to extend theoretical findings to practical applications (Patton, 2015; Yin, 2018). The purpose of this case study was for the conceptual framework, findings, and culminating Toolkit to be used beyond these specific Washington state libraries, making this an instrumental-use case study (Stake, 2006). I aim for my findings to inform research-based decision-making in public library systems nationwide and in professional practice (Patton, 2015).

This study was an embedded single-case study. The phenomenon was early literacy library services to autistic children and their families, and the case was Washington state. The units of analysis were 1) Parents and caregivers of autistic children and 2) Youth-serving library staff members in Washington state. The embedded single-case study design was suitable for this research due to it being a common case, which allows for strong transferability of theoretical findings important for an instrumental case study (Stake, 2003). An embedded single-case study also has important strengths to consider versus a holistic single-case study. Multiple units of analysis bolster the findings from a single case by adding “significant opportunities” for deep analysis (Yin, 2018). In this case, an embedded design was chosen to understand the

phenomenon of early literacy library services to autistic children from the perspectives of the two key populations involved: families and librarians.

2.2 Case Selection

My research questions focused on barriers and enablers to early literacy services for families with autistic children in public libraries. These questions also included the barriers and enablers experienced by youth-serving librarians providing early literacy services for this population, including the specific interventions that inhibit/support providing these services. I chose Washington State libraries as my case study to understand the phenomena of early literacy services to autistic children and their families. I selected this case for the following practical and theoretical criteria:

1. Washington State provides sufficient access to the data

One of the purposes of this selection was practical. This case selection was the most likely to have available data sources due to proximity and ability to utilize contacts in WA state for participant recruitment (Yin, 2018). Practical case selection is important to this case study because I needed sufficient access to both librarian and family member participants for deep analysis of my case, which was not available to me elsewhere (Yin, 2018).

2. Washington State has representation of families with autistic children

This state was also chosen as a representative case, as an estimated 23,000 to 48,000 autistic children currently reside in Washington State according to the Washington State Department of Health (2021). The number of diagnosed autistic children in this state is representative of other

states (Kogan et al., 2018). However, it is important to note that this number may be low, as many autistic children are not diagnosed or may have been diagnosed with another condition such as ADHD (Wiggins et al., 2019). To put this in perspective, 11% of students in WA state are eligible for special education, which equates to 143,000 students (OSEP, 2020). This means that there may be a much larger number of autistic children in WA state than what is reported.

3. Washington State is an average case for autism resources

WA sits at the national average for state resources available for families with autistic children (Ning et al., 2019). This means that there are few state-funded resources outside of formal education available to families to support their autistic children's early literacy development, unlike states with a high number of resources such as Colorado (Ning et al., 2019). This situates WA as a "theoretically useful" case related to my conceptual framework, because it provides a typical case scenario to understand the dynamics of autistic children and their families' library use to support their learning (Eisenhardt, 1989).

4. Washington State libraries are representative of urban and rural libraries

The size and scope of the state's library systems supports bounding the case to WA state libraries. Washington State libraries serve urban, suburban, and rural counties with highly diverse populations. Within the case I selected Pierce County Library and King County Library (KCLS) systems as representative library systems. These two county library systems, chosen for their size and the diversity of their patrons, are the most populous counties in Washington State, and consist of urban, suburban, and rural library branches serving socio-economically and ethnically diverse populations (KCLS, 2022; Pierce County Library, 2021). Together these library systems consist of nearly 70 libraries. Furthermore, both library systems offer a wide

range of early literacy programs and resources, though few to none of these are advertised as autism inclusive. Additionally, in order to sample from systems outside of King and Pierce County, I also selected youth-serving library staff from WA state at large (i.e. any system or branch outside of King and Pierce County Systems). More information about each WA state library system is provided below:

KCLS

This library system was chosen because of the large number of rural and suburban libraries in the King County service area. KCLS is made up of 50 separate library branches, with roughly 1,400 staff members, serving a population of 2,190,200. These branches serve a large ELL and bilingual population and provide storytimes in Spanish, Mandarin, French, Arabic, Romanian, and Japanese (KCLS, 2022). King County also includes a moderate number of disabled persons under 65 years, about 6.4% (US Census Bureau, 2021). KCLS was also chosen as it provides extensive outreach services including Library2Go mobile library vans as well as KidReach to bring library materials to small child-care centers, low-income housing, and community neighborhoods each week. KidReach also delivers book boxes to school-aged children in childcare centers and home childcare businesses.

Pierce County

This library system was chosen because of the high number of persons under 65 years of age with disabilities in their service area, roughly 10% in Pierce County (US Census Bureau, 2021). Pierce County Libraries serves 1,800 square miles including a large western Washington county and fifteen annexed cities and towns, including urban, rural, and suburban areas with a total population of 891,299. It has 20 separate branches across the area, with 394 staff members, and 362,779 library cardholders (Pierce County Library, 2021). The library system provides a wide

variety of services, including storytimes for babies, toddlers, and preschoolers, Baby Books to Go bags with board books and activities, Ready for Books outreach programs to bring library materials to childcare centers and home childcare businesses, early learning newsletters for parents, online song, rhyme, and video libraries, and booklist recommendations.

Washington State Librarians at Large

Washington state encompasses many library systems that are city-specific (i.e. SPL), or standalone library branches in small towns. Washington State has three main regions including: Western Washington, Central Washington, and Eastern Washington. Central and Eastern Washington in particular include many rural libraries, and also serve a large Latinx population (US Census Bureau, 2021). Participants across the state were included in order to provide the perspectives of youth-serving library staff in these areas outside of large county library systems.

2.3 Units of Analysis

The latent nature of the systemic and service barriers experienced by families with autistic children, particularly socioculturally situated barriers, and the systemic barriers faced by youth-serving library staff, required this study to take a multi-faceted approach to understanding these phenomena. To this end, two units of analysis were identified with which to explore the case. These units of analysis were comprised of the main stakeholders in the phenomenon of early literacy services to autistic children and their families, including parents and caregivers, as well as youth-serving library staff. These two units of analysis provided important participant narratives from which to guide and inform the evidence-based theories and practices I developed

as a result of this research (e.g. Cridland et al., 2015; Lyons et al., 2013; Teachman et al., 2018). The decision not to include autistic children themselves in this study was made in order to focus on parents' and caregivers' decisions to utilize, or not utilize, public library early literacy services, especially as these decisions are made under high social pressure. Future work will focus on co-designing library early literacy services and programs with and for autistic children and other autistic stakeholders.

Utilizing these two units of analysis--parents and caregivers and youth-serving library staff—I structured this case study as an embedded single case, bound within Washington State (see Figure 2):

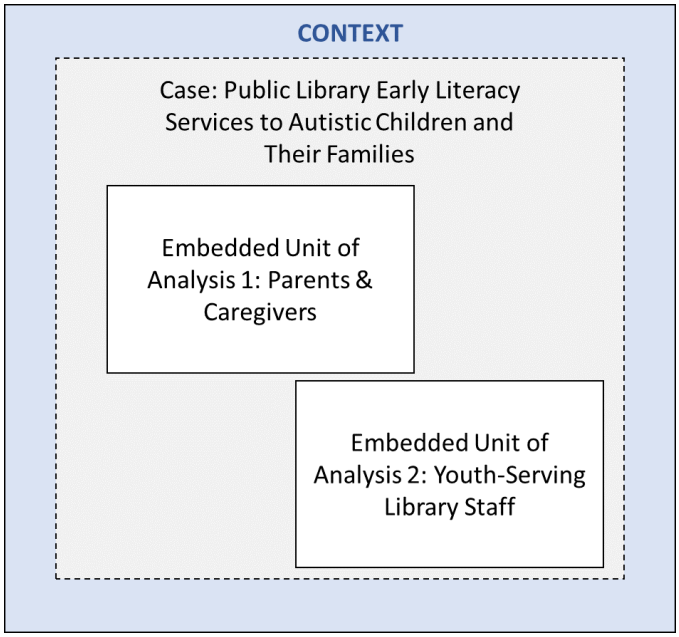

Figure 2: Adapted from Yin's "Basic Types of Designs for Case Studies" (2018)

For Embedded Unit of Analysis 1: Parents & Caregivers, I recruited parents and caregivers across the state, and I will detail participant recruitment further in Section 3.2.1.

For Embedded Unit of Analysis 2: Youth-Serving Library Staff, I chose three groups to represent youth-serving library staff in WA state. These groups included two large county library systems with a mix of rural, urban, and suburban libraries serving diverse populations: King County Library System (KCLS) and Pierce County Libraries. These two library systems are our partnering libraries for the study. A third group of librarians who were not affiliated with these two systems was also chosen in order to provide additional feedback from diverse libraries across the state.

2.3.1 Recruitment and Selection Criteria

Participants were recruited for the study utilizing purposive and snowball sampling as is appropriate for case study methodology (Patton, 2015; Yin, 2018). Purposive sampling allowed me to select individual groups who would best provide me with information related to my research questions (Patton, 2015; Sargeant, 2012). Additionally, it was important to actively engage the intended users and other stakeholders of this specific case for my instrumental case study (Patton, 2015). This was particularly important in order to focus on the lived experiences of my participants, especially within the context of a traditionally ableist institution (Broderick & Ne'eman, 2008; Schwant, 1994). Parent and caregiver participants were recruited through a variety of autism-related organizations in WA, including Seattle Children's Autism Center, ARC of King County, and ARC of Pierce County, and multiple schools and daycares that serve autistic children and their families. This recruitment occurred by sending a call for participation letter and flyer to management and staff at these organizations to share with their clients. Parent and caregiver recruitment efforts were also made over social media such as autism-related

Facebook groups, and through word of mouth. The study's partnering library systems KCLS and Pierce County Library also shared the flyer for the study with their patrons during curbside pickup.

Parent and caregiver selection criteria included: a) being a parent or caregiver of an autistic child; b) being 18 years of age or older; c) fluent in the English language; and d) residing in Washington State. Parent and caregiver participants did not have to have children with a formal autism diagnosis, or have a child of a particular age.

Youth-serving library staff members were recruited through my library partners' youth services managers, who shared the call of participants with their staff. Additional recruitment of librarians in the state outside of KCLS and Pierce County Libraries was conducted utilizing my previous network of librarians in the state, as well as over social media (Facebook and LinkedIn) and through word of mouth as I encouraged participants to share the call for participation with others at their library system. Other recruitment efforts included contacting library systems and branches across the state and requesting they share their call with their youth services staff.

Youth-serving library staff selection criteria included: a) working in a public library in Washington State; b) being 18 years of age or older; c) working with children aged 0-13; and d) being fluent in the English language. Youth-serving library staff did not need to have any previous experience working with autistic children and their families, or any knowledge of autism.

3. Research Procedure

In this section I further describe the details of my research procedure and strategies that I utilized for my case study protocol. This research procedure was the "blueprint" for my case study protocol, describing what data was relevant (i.e. how I bounded my case study), what data I collected, and how I managed this data for data analysis (Philliber, Schwab, & Samloss, 1980). I also detail my data collection techniques and their connection to the case study methodology, as well as my data collection procedure including data management and chain of evidence (Yin, 2018).

3.1 Case Study Protocol

Adapting Eisenhardt's (1989) protocol for developing theory from case study research, I followed the protocol presented below in Table 4. I chose to utilize Eisenhardt's protocol because the process for developing theory from case study research is instrumental to the development of my conceptual framework. Eisenhardt's protocol is also flexible to allow the integration of multiple data collection techniques for case studies. I adapted Eisenhardt's protocol to include the construction of my initial conceptual framework. In Table 4 I present the adapted stages, the activities I pursued for each stage, and how I utilized the protocol as well as the key choices I made for each stage (i.e., selecting single case design). The flexibility of this protocol allowed me to develop a research design uniquely suited to answer my research questions in order to "understand the phenomena under investigation" (Eisenhardt, 1989). In particular, the development of my initial conceptual framework utilized an iterative loop of Eisenhardt's first four stages, "getting started"; "selecting cases"; "crafting instruments and

protocols"; and "entering the field." I've captured some of this with my addition to the protocol of "Constructing initial conceptual framework" in Table 4.

Table 4: Adapted Case Study Protocol: Process of Building Theory from Case Study Research (Eisenhardt, 1989)

Stage	Activities	Usage Notes
Getting started	• Literature review • Defined objectives and possible research question(s) • Possible initial constructs	Grounding of my initial questions and conceptual framework within the relevant literature across disciplines.
Selecting cases	• Specified population • Purposive snowball sampling	Focused effort on "theoretically useful" case bound by Washington State. Common single case useful for generation of theory.
Constructing initial conceptual framework	• Literature review • Proof of concept testing • Iteration of research questions and constructs	Construction of initial conceptual framework that informed research questions, preliminary coding scheme, and protocols.
Crafting instruments and protocols	• Multiple data collection methods: Interviews, focus groups, and PD sessions • Qualitative research design	Triangulation utilizing three different qualitative data collection methods to capture multifaceted participant narratives.

Entering the field	• Iterative data collection and analysis • Flexible opportunistic data collection: utilization of synchronous and asynchronous distributed data collection	Instruments and protocols informed iteratively by data collection in the field. Iterative data collection further informed constructs and coding scheme. Flexibility to participant needs re: COVID-19 called for distributed data collection methods.
Analyzing the data	• Within units of analysis and across units of analysis	Gained familiarity with data in each unit of analysis and formed preliminary themes across units.
Shaping hypothesis	• Iterative tabulation of evidence for each construct • Search for the cause	Coding scheme and conceptual framework iteratively improved with construct definitions and internal validity measures.
Enfolding the literature	• Comparison with conflicting literature • Comparison with similar literature	Comprehensive review of the literature utilized at multiple points throughout the study to iterate conceptual framework and coding scheme.
Reaching closure	• Theoretical saturation when possible	Theoretical saturation was met through iterative data collection utilizing multiple methods.

My research took place in the following phases:

Phase 1:

The first phase of this study was to formulate the groundwork for the rest of the case study. This included the stages of "getting started"; "selecting cases"; and "constructing initial conceptual framework" as outlined in Table 4. The goal of this phase was to develop my research questions and to identify initial constructs for a conceptual framework to meet the first two objectives. I began this phase with an in-depth review of the relevant literature to identify common themes across services to autistic children and their families in the public library. This review of the literature also included and was informed by two small-scale proof-of-concept explorations with interviews of 5 families with autistic children, and a participatory design session with 2 librarians who previously provided sensory storytimes at a local library system. These explorations provided information that helped me to focus my literature review and develop relevant research questions to meet the study objectives. This focused literature review informed the selection of relevant theory for this research (as provided in more detail in Chapter 2), which led to identifying initial constructs for a conceptual framework. The creation of the initial conceptual framework was guided by faculty researchers on the research team, who provided critical review and guidance.

The literature review and initial conceptual framework then guided the selection of a research method to sufficiently answer the research questions, as well as the selection of the case and the units of analysis. Following Miles, Huberman, and Saldaña (2020) I utilized the conceptual framework as supported by the literature review and previous explorations to generate a coding

scheme to perform deductive and inductive analysis following Miles & Huberman's interactive model of data analysis (Miles & Huberman, 1994).

Phase 2:

The second phase of the study focused on identifying the systemic and service barriers present for families with autistic children in libraries, as well as on the barriers and needs experienced by youth-serving library staff in serving this population. This included the stages of "crafting instruments and protocols"; "Entering the field"; "analyzing the data" and "enfolding the literature" as outlined in Table 4. As further detailed in Section 3.3, I utilized interviews and focus groups with caregivers and youth-serving library staff members separately to answer my research questions. Interview and focus group protocols were constructed iteratively, with interviews informing focus group protocols (Creswell & Poth, 2018; Patton, 2015). Preliminary data analysis of interview and focus group transcripts was done in order to inform PD protocols for Phase 3's PD sessions with caregivers and youth-serving library staff members. Reviews of the relevant literature took place as an important aspect of the initial data analysis (Miles, Huberman, & Saldaña, 2020).

Phase 3:

The third phase of the study focuses on identifying best practices for providing early literacy services and resources to autistic children and their families, as well as on families' and librarians' particular needs in relation to a) accessing early literacy programs and services or b) providing early literacy programs and services. This phase yet again included the stages of "crafting instruments and protocols"; "entering the field"; and "analyzing the data." It also included the stages of "shaping hypothesis" and "enfolding the literature" as outlined in Table 4.

As further detailed in Section 3.3, I utilized PD sessions with caregivers and youth-serving library staff members separately to co-design the initial elements of the Autism-Ready Libraries Toolkit, and to continue to answer my research questions and attend to Objective 2. Utilizing the data collection techniques in Phases 2 & 3 allows for triangulation of my data.

Phase 4:

The fourth phase of the study focused on comprehensive data analysis and the creation of a holistic Toolkit to empower youth-serving library staff to provide inclusive early literacy services and resources for autistic children and their families. This phase included the stages of "analyzing the data"; "shaping the hypothesis"; "enfolding the literature"; and "reaching closure" as outlined in Table 4. Initial themes and patterns, which emerged in Phases 2 and 3, were compared to the relevant literature, with iteration of the conceptual framework and coding scheme occurring through this comparison and intercoder reliability measures. All data was then analyzed again to gain a comprehensive understanding of the phenomenon, with triangulation across data sources (Yin, 2018). This analysis culminated in the development of a toolkit of autism-specific early literacy training, inclusive program plans, and adaptive resources guided by the co-design sessions in Phase 2.

3.2 Data Collection Techniques

I utilized multiple sources of evidence for my case study to provide a deep and contextual understanding of early literacy services to autistic children and their families in WA state (Yin, 2018). Multiple sources also ensure a deeper understanding of my participants narratives (Baxter

& Jack, 2008). As one of the purposes of this study was to develop a conceptual framework, triangulation was an important aspect of this case study as I continually iterated my conceptual framework and coding scheme. Triangulation helps to strengthen the construct validity of a case study, with the multiple sources of evidence providing "multiple measures of the same phenomenon" (Yin, 2018). To achieve triangulation through multiple sources of evidence I utilized three separate data collection techniques: Interviews, Focus Groups, and Participatory Design (PD) Sessions. These data collection techniques all focus on collecting participant narratives, and in the case of PD provide an opportunity for co-design, both of which are instrumental to a study that implements Critical Disability Theory (CDT) and utilizes a constructivist lens.

3.2.1 Interviews

Interviews were the primary data collection technique for parent and caregiver participants, because "we interview people to find out from them those things we cannot directly observe and to understand what we've observed" (Patton, 2015). I utilized interviews as a data collection technique for this case study so that I could collect targeted and insightful participant narratives related to my study's research questions and conceptual framework, as well as understand perceptions, attitudes, and experiences related to my case (Yin, 2018). I utilized semi-structured interviews utilizing open-ended questions with parents and caregivers for this study, as case study interviews should "resemble guided conversations" as the researcher pursues case-specific inquiries (Yin, 2018). This approach to using open-ended questions in the form of a semi-structured interview was purposeful to reposition power in the interview process to my

participant and their narrative (Kerschbaum & Price, 2017). The semi-structured interview approach allowed a conversational tone for the interview to build rapport and trust with my participants, which was important for my parent and caregiver participants (Patton, 2015). Interviews were 60 minutes long, and took place online in order to provide flexibility to the participants and to comply with COVID-19 restrictions. Interviews were synchronous and utilized a video chat service (Zoom) to allow for face-to-face conversations.

My interview protocol began with a researcher introduction and information about the study, as well as a description of the consent process. I then asked a few warm-up questions to help the participant feel comfortable and to build rapport (Patton, 2015). Questions were written utilizing critical incident technique to help participants recall key experiences and details of their library use (Byrne, 2001). Questions included detailing their library use with their child(ren), reporting on any benefits from library use that they've experienced, and any challenges or negative experiences they have had in libraries. Questions also included specifics relating to experiences with library programs and asking participants to describe how libraries could best support their access to library services and programs, as well as the type of early literacy programs they would like to see for their children. These questions were developed utilizing my research objectives and questions, and informed by the relevant literature.

3.2.2 Focus Groups

Focus groups were the primary data collection technique for library staff participants. Focus groups were chosen as an elicitation technique for this case study in order to capture both

individual participant narratives, as well as group narratives as participants built off of each other's responses. Focus groups provide a space for discussion with reduced power relations between researchers and their participants (Kamberelis & Dimitriadis, 2013), which was important in this research as discussing institutional challenges can be uncomfortable. The research team utilized open-ended questions in the semi-structured focus groups, derived from literature and the research questions, that were designed to elicit responses regarding experiences with autistic patrons or patrons that library staff perceived to be autistic. Focus group facilitation with these questions was semi-directive, with a goal to draw out discussion from participants while leading them through a series of questions and eliciting specific examples (Kamberelis, Dimitiradis, & Welker, 2018). I met this goal by following up on key themes and challenges and asking for elaboration on barriers, needs, and beneficial practices.

The focus group protocol began with a researcher introduction and information about the study, as well as a description of the consent process. I then asked participants to introduce themselves and asked a few warm-up questions to help build comfort and rapport among the participants and myself (Patton, 2015). The questions in the focus group protocol were used to prompt discussion rather than consensus and follow-up questions were used to generate deeper answers (Barbour, 2007). In addition to focus group techniques, I used critical incident technique (Byrne, 2001) to help elicit responses about specific interactions with autistic patrons. Questions in the protocol related to experiences serving families with autistic children, the training they were provided as youth-serving library staff members, and the needs, challenges, and barriers participants faced within their library branch or system relating to serving this population. Questions also focused specifically on systemic barriers and support participants experienced at their libraries and

library systems. Questions were developed with close attention to my research questions and the relevant literature.

Focus groups were conducted similarly for parent and caregiver participants. Originally, focus groups were chosen as the primary data collection technique for these participants in order to generate new ideas and delve deeper into specific needs, barriers, and enablers (Kamberelis et al., 2018). However, due to low participation, interviews were utilized to more flexibly meet parent and caregiver's needs as many were homeschooling due to the COVID-19 pandemic.

The questions in the parent and caregiver focus group protocol were similar to the interview questions, with a few changes to make some questions less personal for participant comfort.

All focus groups were conducted online in order to provide flexibility to the participants and in accordance with COVID-19 restrictions. Focus groups lasted 90 minutes, with group sizes ranging from two to twelve participants.

The complete protocols for my focus groups can be viewed in Appendix I.

3.2.3 Participatory Design Sessions

I utilized Participatory Design (PD) as a data technique to reveal new information and facets about early literacy services to autistic children and their families in libraries that other methods are not able to surface (Penuel & Gallager, 2017). PD is a data collection technique that utilizes collaboration between participants and researchers, bringing together researchers and key stakeholders to draft a solution to a particular challenge (Kensing & Blomberg, 1998; Muller, 2002). While popular in the Human Computer Interaction (HCI) field for the design of user

interfaces and interactions, PD has gained increasing popularity as a qualitative method in the LIS field (Clarke, Mills, & Potter 2019; Lee et al., 2020; Young & Brownotter, 2018). This ensures that designs for new tools, processes, and resources will meet the needs of library stakeholders, including library staff members and patrons (Young & Brownotter, 2018).

I utilized Participatory Design (PD) sessions to co-design enabling practices with families of autistic children, and to identify the tools that youth-serving librarians need in order to effectively provide early literacy services to autistic children and their families. This process was an important way to empower families to identify enabling practices and elements of access outside of the current cultural conception of what libraries and learning programs should look like (Cridland et al., 2015; Lyons et al., 2013; Teachman et al., 2018). I created PD session protocols utilizing initial findings from interviews and focus groups with parents and librarians. Interviews and focus groups elicited conversations in both groups regarding enablers for early literacy services to autistic children and their families. PD session protocols were designed to delve deeper into enabling practices identified in Phase 2, while continuing to explore barriers and their impacts. Enabling practices explored in the PD sessions included specific enabling service practices for families with autistic children, and enabling elements to address a lack of training and resources for youth-serving library staff. The design for my PD protocol was also grounded in my literature review and conceptual framework developed in Phase 1. PD sessions were successful in generating and testing multiple ideas with participants, including soliciting specific needs and design specifications for training and resources to support youth-serving library staff's services to autistic children and their families.

Due to considerations for the COVID-19 pandemic, I utilized two different PD techniques in order to increase participation and collect sufficient data for the design of the toolkit. These included both *synchronous* distributed PD sessions, and *asynchronous* distributed PD sessions.

3.2.3.1 Synchronous Distributed PD Sessions

Synchronous distributed PD sessions took place online, during 90-minute sessions, with both parents and caregivers and library staff participants as separate groups. I conducted sessions with each of these groups utilizing separate PD protocols. Each PD session included 2-12 participants, with the goal of 6-12 in alignment with the ideal number of participants for a focus group (Patton, 2015). However, PD has no ideal group size, though small groups are considered best for facilitation. As PD is a relatively new method in LIS and related fields, there were few examples of PD sessions being conducted synchronously in an online (distributed) environment. PD is traditionally utilized in face-to-face interactions where participants and researchers can manipulate design artifacts in a collaborative environment. However, the COVID-19 pandemic generated new research that utilized co-design in synchronous online environments. To develop the synchronous distributed PD protocols for each of my participant groups I utilized Lee's (2021) conceptual model of conducting synchronous participatory design with children online. Though created for co-design sessions with children, the conceptual model is flexible enough to apply to PD with adults as well. Important aspects of this conceptual model included determining the appropriate online design technique and digital tools to use with participants as informed by the need for improvisation, individuals' technology access and infrastructure, and the ability to interact online in ways where participants have autonomy and are able to interact collaboratively.

Another particularly important aspect of distributed PD is the accessibility of the tool that is used for co-design (Harrington & Dillahunt, 2021).

Synchronous distributed PD sessions took place over Zoom, in order to provide a synchronized platform for discussion and a sense of connectedness to help facilitate social creative thinking (e.g. Harrington & Dillahunt, 2021; Lee, 2021). Design activities utilized Google Slides as a low-barrier digital tool that did not require participants to create an account and could facilitate collaboration.

The complete protocols for my PD sessions can be viewed in Appendix I.

3.2.3.2 Asynchronous Distributed PD Sessions

In order to meet the needs of our participating library partner, KCLS, I developed an asynchronous PD protocol to facilitate co-design with their youth-serving library staff. Asynchronous distributed PD sessions are much more common than synchronous distributed sessions (Dunbar et al., 2016). One method for asynchronous distributed PD is the Asynchronous Remote Community (ARC) method. This method utilizes web-based focus group discussions and design activities through message boards, group chats, and collaborative tools (Dunbar et al., 2016). ARC allows for participants to engage in co-design activities and discussions at their convenience. However, spontaneous social creativity and idea generation are less likely to occur with this method than with traditional in-person co-design, and is a known limitation. I attempted to mitigate this limitation by incorporating the design activities and discussion into a

collaborative online tool where participants could interact with one another and share visuals to inspire social creative thinking.

I utilized Padlet as the tool to facilitate the asynchronous distributed PD and created an online "workbook" for participants. Padlet met considerations outlined by Dunbar et al. (2016) for the ARC method, including participant privacy as well as ease of access to activities. I utilized password protection for each page within the Padlet workbook, and participants were able to participate anonymously without needing to sign into an account. Participants had one month to complete the workbook. I introduced the workbook and provided a preliminary walkthrough during a virtual youth-services meeting to guide the use of the workbook and to answer any questions participants might have. This workbook included video introductions to the project, relevant findings including barriers and best practices, and instructions for using Padlet and for participating in each activity. Each of the activities, as well as the discussion, had its own pages within the Padlet. Participants had the opportunity to answer the guiding questions for the design activities in writing or by attaching visual files, and to comment on each other's designs. The design activities themselves were the same ones provided in the synchronous distributed sessions for library staff. Activities, guiding questions, and discussion questions remained the same to address concerns regarding usability of the data collected with this method. Additionally, in order to further bolster findings from the asynchronous distributed PD workbook with KCLS, I recruited librarians from Washington State libraries at large to participate in further asynchronous PD with a complete copy of the same workbook. Two of these librarians completed all of the activities and the discussion in the asynchronous distributed PD workbook.

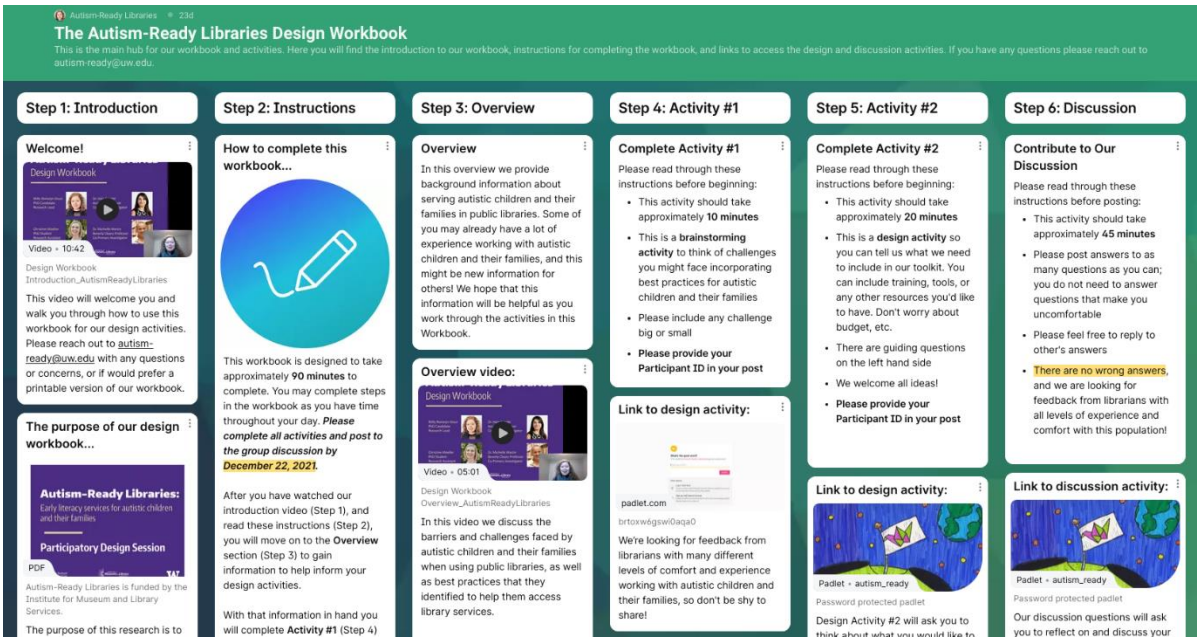

Image: Tool used for asynchronous distributed PD

3.3 Data Collection Procedure

Data was collected from participants utilizing multiple data collection techniques in order to generate multiple sources of evidence. This triangulation was essential for this case study in order to get a holistic description of the phenomenon from both parents and caregivers, as well as youth-serving library staff members in Washington State (Yin, 2018). Additionally, including PD as a data collection technique allowed me to collect another source of evidence in the form of design artifacts to help inform the creation of a toolkit to empower youth-serving library staff to provide early literacy services and resources, including the identification of enabling elements for inclusive early literacy programs.

Data collection began with focus groups with parents and caregivers, which quickly transitioned to interviews with individual parents and caregivers to provide additional flexibility for participants. I ran focus groups with library staff members concurrently with the interviews with parents and caregivers. Figure 3 shows a breakdown of the total number of participants from each group by data collection method.

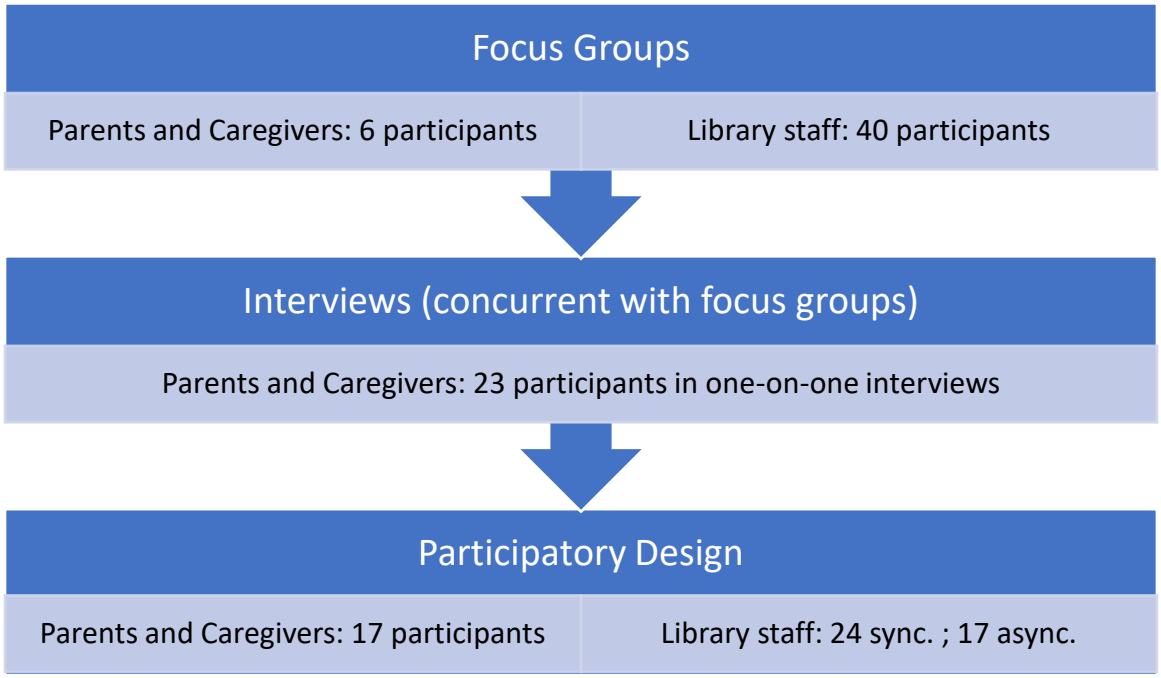

Figure 3: Data Collection Series

Participants for Phase 2:

Phase 2 was comprised of interviews and focus groups with 29 parents and caregivers of autistic children. The table below provides a breakdown of the number of participants per technique and per focus group. As described in my selection criteria, this group included both regular library users (n=11) and infrequent library users (n=18). I also included non-library users, though there were few parents or caregivers who did not use library services at some point (n=2). Of these

families, the majority of them had autistic children aged 3-6 (n=10), with just over half of all children being boys (n=16).

Number of Participants	Data Collection Technique
29	2 focus groups of 3 and 3
	23 individual interviews

Phase 2 also was comprised of focus groups with 40 youth-serving library staff. The table below provides a breakdown of the number of participants per focus group. These library staff were spread out across KCLS, Pierce County, and WA libraries broadly. Each focus group was comprised of librarians from only one system. Each system took part in 2 focus groups, for a total of 6 focus groups.

Library System	Number of participants
King County Library System	19 in 2 focus groups of 14 and 5
Pierce County Library System	11 in 2 focus groups of 7 and 4
WA Regional librarians	10 in 2 focus groups of 4 and 6

Following the completion of data collection in Phase 2, I completed a preliminary data analysis of the interview and focus group data to generate the PD protocol for Phase 3. This preliminary

analysis provided the framing for the guiding questions, activities, and the discussion in the PD protocol. For example, the identification of specific barriers and enablers gave library staff PD participants sufficient background knowledge to design elements of training, tools, and resources that would support their use of the best practices identified in Phase 2.

Participants for Phase 3:

Phase 3 was comprised of 5 PD sessions with a total of 17 parents and caregivers of autistic children. The table below provides a breakdown of the number of participants per session. As described in Ch.3 in my selection criteria, this group included both regular library users (n=5) and infrequent library users (n=11). I also included non-library users, though there were few parents or caregivers who did not use library services at some point in this group (n=1). Of these families, the majority of them again had autistic children aged 3-6 (n=8), with just over half of all children being boys (n=9). This group also had a majority of children with sensory needs relating to hypersensitivity (n=11).

PD Session	Number of Participants
Session 1	5
Session 2	2
Session 3	3
Session 4	2
Session 5	5

Phase 3 also was comprised of PD sessions with 41 youth-serving librarians and library staff. These PD sessions took place both synchronously over Zoom and asynchronously using Padlet.

Below is a table with the total youth-serving librarian participants per system, and the number of staff who participated asynchronously.

Library System	Number of Participants
King County Library System	17 in 1 PD session of 2 (15 asynchronous)
Pierce County Library System	14 in 2 PD sessions of 6 and 8
WA Regional Librarians	10 in 2 PD sessions of 4, with 2 asynchronous

3.3.1 Data management

I created a formal process to manage the case study data (Yin, 2018). For this study I tracked participants and their participation in research activities in a series of Excel spreadsheets within a larger project folder. The larger project folder was password-protected and encrypted on OneDrive. Each participant was assigned an ID which was used to anonymize their identities in transcripts and design artifacts, which was tracked in this same Excel file. Interviews, focus groups, and PD session transcripts were saved in their raw form as Word documents within the project folder, and included in a data management database in Atlast.ti. Design artifacts were saved in this folder as well and included as images within the text of their respective transcripts, which were uploaded to Atlas.ti. The transcript and design artifacts were then analyzed within this same program, Atlas.ti, utilizing its qualitative data analysis software.

3.3.2 Chain of evidence

Yin (2018) also recommends keeping documentation of data collection and analysis to trace case study findings to the raw case study data, in this case the transcriptions of my interviews, focus groups, and PD sessions. I utilized Atlas.ti to link and track all of my data analysis to the transcriptions, as well as to link analytic memos and notes which documented my analysis process and iteration of the coding scheme and conceptual framework. I followed this process to increase the dependability of my qualitative study (Thomas & Magilvy, 2011). Data displays (networks and tables) generated for data analysis were also linked and stored in this same project file within Atlas.ti. The chain of evidence documented in the project file in Atlas.ti increases the reliability of this case study, as all findings can be traced to the raw data (i.e. transcriptions) (Yin, 2018).

4. Data Analysis

Case study research does not have one fixed method for data analysis, but rather case study analysis relies on sufficient evidence and deep consideration of alternative interpretations of the data through the analysis method researchers find most fitting (Yin, 2018). For this case study, and to meet the specifications outlined by Yin, I utilized directed qualitative content analysis to interpret the content of the transcriptions and design artifacts. This approach allowed me to utilize my initial conceptual framework to guide content analysis by validating and extending

previous concepts from the literature, while an inductive approach allowed themes and patterns to be observed and utilized to iterate the conceptual framework. This approach is one way to guide a dialectic relationship between the conceptual framework and our data (Hsieh & Shannon, 2005). This approach is also an important technique to capture latent meaning in participant narratives. As social systemic barriers in particular are not an obvious phenomenon to measure, the ability to capture latent meaning through inductive analysis was important to this study. Thus, I completed this directed qualitative content analysis following Miles & Huberman's (1994) interactive model of content analysis employing inductive and deductive coding. I also utilized Saldaña's analytic memoing process (2016), both of which are detailed in *Qualitative Data Analysis: A Methods Sourcebook* (Miles, Huberman, & Saldaña, 2020). Reflexivity was an important part of the data analysis process. Data analysis processes are influenced by not only epistemological, ontological, and theoretical assumptions but also deeply informed by assumptions that are cultural and institutional (Mauthner & Doucet, 2003). As I do not identify as autistic, it was particularly important for me to attend to reflect on my positionality and utilize researcher reflexivity to address potential biases (see Chapter 1, section 1.4). Researcher reflexivity took place through the following methods: analytic memoing (Saldaña, 2016), dedicated time for reflexivity prior to each analysis setting, and research team meetings to facilitate discussion of emerging themes and concepts.

Prior to the coding process, categories based on my initial conceptual framework were developed to guide data analysis through the creation of a coding scheme. This coding scheme included indicators, definitions, and examples for each concept from the conceptual framework, as well as their subconcepts, as identified by my extensive review of the literature. This coding scheme was the groundwork for my data analysis and was extensively discussed with the Autism-Ready

Libraries research team to validate the concepts, subconcepts, and their relevant indicators in order to address internal validity.

Once the coding scheme was in place, the coding process began with defining the coding units, or basic unit of text, that was labeled with codes during content analysis. For the purposes of this study, the coding unit consisted of text from the interview, focus group, or PD session transcription that presents a single thematic unit related to my research questions. In the case of the design artifacts, each artifact constituted a single thematic unit. This is referred to in other work as using "theme" as a coding unit (e.g. Minichello et al., 1990; Zhang & Wildemuth, 2017). These thematic units can be assigned to text of any size one sentence or larger, as long as it constitutes a single thought significant to my research questions (Zhang & Wildemuth, 2017). Coding units were not selected any smaller than one sentence to prevent fragmentation and loss of context (Elo et al., 2014). Coding units could overlap with one another, allowing for particular themes to be fully captured in their contexts for accurate coding. Additionally, thematic units were assigned multiple codes as the indicators were not mutually exclusive but rather together exemplified overarching concepts and themes from the conceptual framework (Zhang & Wildemuth, 2017). To limit oversaturation, thematic units relating to individual differences were only applied once. For instance, a thematic unit regarding an individual difference such as "age" was only applied once per participant, per document. For internal reliability, coding units were applied consistently and tested for accuracy during the iteration of the coding scheme and conceptual framework, and underwent additional testing during intercoder reliability.

Then I completed the first cycle of coding, utilizing a coding scheme generated from my initial conceptual framework. During this cycle I marked inductively generated codes to capture and label any relevant idea expression not already fully conceptualized by the conceptual framework

and current coding scheme (Hsieh & Shannon, 2005). Next, I completed the second cycle of coding, which included grouping related codes into categories of similar codes, and breaking categories into *themes* that express an "underlying meaning" present in two or more categories (Erlingsson & Brysiewics, 2017). I compared these themes with the conceptual framework, and with the relevant literature, and included inductively derived themes into the coding scheme throughout the course of analysis in an iterative process (Miles & Huberman, 1994). I utilized tables and relationship charts to display my data and aid data analysis, following Miles & Huberman's (1994) interactive model of content analysis (see Fig. 4 below).

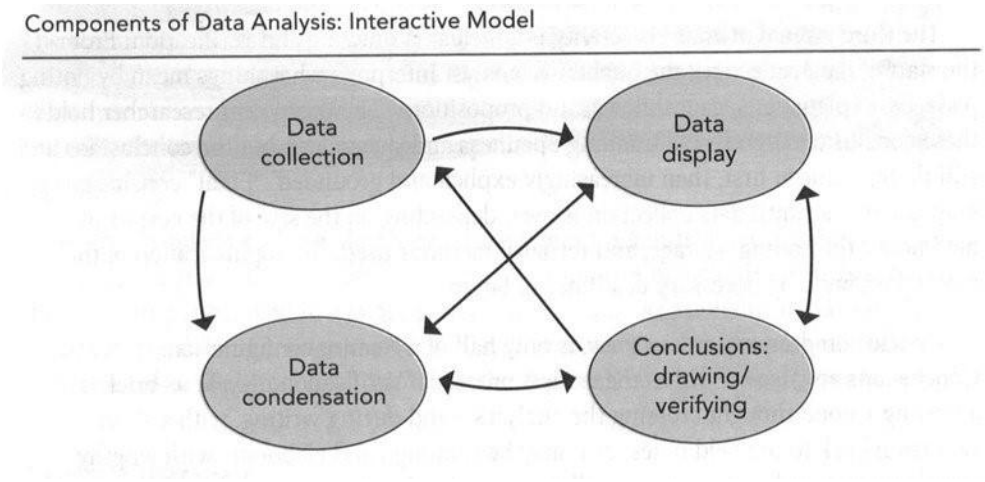

Figure 4: Interactive model of data analysis (Miles & Huberman, 1994)

I also utilized data analysis functions in Atlas.ti to further visualize the number of times each code was applied to a coding unit or "quote" and to generate percentages relating how often that code was applied in relation to other indicators. I did this both within participant groups (units of analysis) and across participant groups. Atlas.ti also provided a mind-mapping tool that assisted me in the visualization of patterns and themes. Preliminary conclusions that I drew throughout the process were verified with the literature as available, and through group process with the research team.

4.2 Creation of Content Analytic Framework

I utilized my conceptual framework to create a content analytic framework to guide my investigation of the research questions specified above, provided in Appendix II. As depicted in Table 5, this coding scheme included indicators, definitions, and examples for each construct from the conceptual framework, as well as their subconstructs, as identified by extensive review of the literature.

Table 5: Example of Coding Scheme

Construct	Sub-Construct	Sub-Construct Definition	Indicators	Indicator Definition	Example
The specific over-arching concept from the Conceptual Framework (i.e. Structural Systemic Barrier)	The individual facets making up the construct (i.e. Library Environment)	A clear and concise description of each individual facet	How each facet presents itself so that it may be captured in the data (i.e. Inaccessible sensory environment)	A clear and concise description of the indicator	A relevant quote from the transcript that captures the essence of the indicator

I used this content analytic framework to conduct deductive and inductive analysis of data collected in Phases 2 and 3 in order to identify specific barriers autistic children and their families face in libraries that limit their inclusion in early literacy activities (RQ1). I also

identified specific barriers that limit youth-serving librarians ability to serve autistic children and their families (RQ2). As a result of this analysis I further refined my conceptual framework and coding scheme to capture essential constructs.

4.1.2 Refinement of Conceptual Framework

Revisions to the framework were made during two processes, the first being the initial coding process where new constructs emerged and additions were identified through inductive coding. Additions were made after five separate utterances by participants related to a new concept or aspect related to my study. These additions were refined through group process with my research project team which included two faculty and two graduate students. Additions were then checked against the literature, before undergoing additional synthesis and group process. This first process was repeated with each phase of my data collection. The second process occurred during intercoder reliability, where changes were made to the codebook, including definitions refined, during the initial calibration phase to clarify each indicator's purpose and definition (Lombard, Snyder-Duch, & Bracken, 2002; O'Connor & Joffe, 2020). Both processes were informed by Eisenhardt's protocol for developing theory from case study research, by "shaping hypothesis" and "enfolding the literature" and iteratively improving the conceptual framework and construct definitions through internal validity measures (1989). A full description of my additions and refinements is presented in Chapter 4.

5. Research Quality

In order to ensure the trustworthiness and quality of my study I utilized both Lincoln and Guba's Evaluative Criteria (1985) and Yin's (2018) criteria for judging the quality of research designs. While these two criteria have many areas of overlap, I acknowledge that there are some areas of tension due to ontological and epistemological positions. For example, Lincoln and Guba propose alternatives for assessing the quality or trustworthiness of a study, citing questions of validity as quantitative, rather than qualitative, measures of trustworthiness (Lincoln & Guba, 1985).

However, I found it important to utilize criteria attending to the trustworthiness of qualitative studies broadly in ways that aligned with the constructivist framing of this study (Lincoln & Guba, 1985), as well as the criteria for the quality of case studies specifically with a focus on internal and external validity (Yin, 2018). For this reason, I will refer to some criteria using both terminologies.

5.1 Credibility/Internal Validity

In order to address issues of credibility and internal validity in my study, I utilized three methods. First I designed the study to optimize triangulation through the use of multiple data sources within the case and across units of analysis (Baxter & Jack, 2008; Stake, 2006; Yin, 2014). I utilized two units of analysis—parents and caregivers and youth-serving library staff members—and multiple data sources including interviews, focus groups, and PD sessions. Triangulation is one method I used to address credibility (Lincoln & Guba, 1985). Secondly, I attended to researcher reflexivity through continual alertness to my own biases and subjectivity

through reflexivity journaling and keeping reflexivity memos during the data analysis process. By reflecting on my stance as a researcher, my potential biases as someone who is not autistic, and my experiences as a library practitioner, I attended to my potential biases to improve the data collection and analysis process (Stake, 2006). An additional step to ensure credibility of my inferences and to support researcher reflexivity was through the use of critical peers, or peer debriefing (Lincoln & Guba, 1985). I met weekly with my research team and discussed all aspects of the study, including the creation of the conceptual framework, coding scheme, data analysis process, and reporting of the initial findings. And finally, I addressed credibility and internal validity through explanation building, pattern matching, and addressing rival explanations during data analysis (Yin, 2018).

5.2 Transferability/External Validity

Transferability, or external validity, refers to the issue of "generalization" of the findings (Patton, 2015; Lincoln & Guba, 1985). In this case, external validity refers to analytic generalization rather than statistical generalization, meaning that the conceptual framework and theory developed is transferable to other cases, while the case-specific findings are not (Yin, 2018). Important to transferability and external validity are the form of the research questions and the theory utilized to develop those questions (Yin, 2018). Do the research questions speak to a larger phenomenon outside of the case? Are they theoretically grounded? In order to develop my research questions, I utilized an extensive review of the literature and performed small exploratory pilot interviews and a PD session. I grounded my research questions utilizing CDT and the fields of LIS, Education, and CDS.

To increase the transferability of my study I also utilized additional PD sessions with librarians outside of WA state. I did this to make sure that my findings in this instrumental case study, and the resulting early literacy services toolkit, were applicable outside of WA state.

5.2.3 National Librarian PD Sessions for Verification

National PD sessions were utilized to increase the transferability of my case study through the verification of preliminary findings. These PD sessions built upon previous participatory design sessions with WA state librarians. I conducted PD sessions with 55 librarians nationwide between April and June 2022. National librarians were selected with purposive sampling from representative states in each census region. Figure 5 represents the total number of librarian participants by state, showing representation from 36 states. Importantly, participants hailed from states in West, Midwest, South, and Northeast census regions. Within these regions, urban, rural, and suburban libraries were represented in participating staff's library systems.

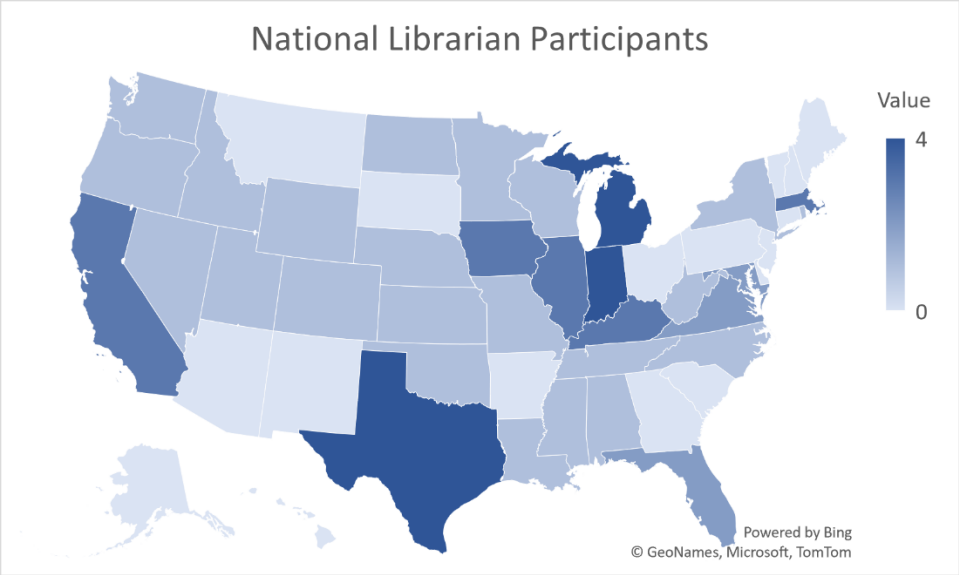

Figure 5: National Librarian Participants by State

Following my synchronous PD protocol, these PD sessions lasted 90 minutes and took place over Zoom to provide a platform for discussion and a sense of connectedness to help facilitate social creative thinking (Harrington & Dillahunt, 2021; Lee, 2021). The design activity utilized Padlet. Preliminary toolkit designs were presented for feedback during the design activity, with participants able to make collaborative additions and comments. These toolkit designs included descriptions and outlines for both the autism-inclusive early literacy services training, and each of the resources. Then, participants debriefed in a focus group discussion. This modified PD session allowed for the verification of my preliminary findings and early literacy services toolkit designs. Overall, national librarians agreed with the key themes, findings, and needed training and resources identified by WA state library participants. This is discussed further in Chapter 4.

5.3 Dependability/Reliability

In order to address dependability and reliability, I developed a case study protocol utilizing Eisenhardt's framework for developing theory from case study research (1989). I also utilized a case study database (Atlas.ti) to organize transcripts and all relevant data analysis information including analytic memos, notes, and connections to documents in my encrypted project file, which includes raw files such as recordings and design artifacts and tracks study participants and their connections to the anonymized transcripts and materials. This also constituted my chain of evidence, as connections were made and maintained between data analysis, findings, and all raw transcriptions and design artifacts (Yin, 2018).

Additionally, I employed intercoder reliability measures throughout my data analysis process, first on interviews and focus group data, and again during analysis of PD sessions. The intention of this process was to both increase reliability of my results, and to attend to research reflexivity by practicing peer debriefing and addressing rival explanations (Lincoln & Guba, 1985; Yin, 2018). To do so, I utilized the following process:

1. Assess reliable use of the coding scheme informally during an initial calibration meeting with my intercoder (Lombard, Snyder-Duch, & Bracken, 2002)
2. Formally assess reliability in a pilot test of 1 transcript (~30 code units), using this information to improve the reliability of the intercoder as well as to iterate the coding scheme to improve its reliability (Lombard, Snyder-Duch, & Bracken, 2002; O'Connor & Joffe, 2020). I also used this information to identify potential researcher bias, and improve reflexivity during my primary analysis.
3. Formally assess reliability during coding of the full sample (15% of transcripts) (O'Connor & Joffe, 2020). During this time I calculated agreement with the goal to reach 80% intercoder agreement (Baker-Brown et al., 1990).

4. Resolve any discrepancies by iterating the coding scheme and conceptual framework to clarify descriptions and definitions of key concepts and indicators.

During this process I achieved 76% agreement with my graduate student intercoder on my interview and focus group transcripts. However, I achieved 84% agreement with this same intercoder during the intercoder analysis of my PD sessions for parents and caregivers, as well as both WA state librarians and National librarians. While 80% agreement was not achieved for the first group of transcripts, this process helped to refine the coding scheme by clarifying concept definitions. Once these concepts were clarified for the intercoder the next rounds of intercoder reliability achieved over 80%. This process aligns with the recommendation by Lincoln and Guba (1985) regarding utilizing inquiry audits to increase dependability.

5.4 Confirmability/Construct Validity

Confirmability or construct validity is questioned regularly in qualitative research as researchers' past experiences, knowledge, and potential bias can shape all aspects of the study (Mills et al., 2010). I minimized my bias through researcher reflexivity and through regular discussion with outside sources regarding study design, data analysis, and findings (Lincoln & Guba, 1985; Yin, 2018). Many aspects of confirmability and construct have already been described above, including practices to maintain researcher reflexivity, the use of triangulation through multiple sources of evidence, and the use of an intercoder reliability process. I also utilized member checking in the form of confirming my understanding of participant narratives during interviews, focus groups, and PD sessions. I did this by verifying I was interpreting my participant's

meaning correctly through regularly rephrasing participant responses back to them and checking for their confirmation (Gubrium et al., 2012; Patton, 2015).

6. Summary of Methods

In this chapter I described the overall research design applied to address my research questions and objectives for this study. Utilizing a social constructivist approach informed by a critical theoretical lens based in CDT, I employed a qualitative single instrumental embedded case study design to explore the phenomenon of my case study. This lead to the further development of my conceptual framework and the future toolkit I designed utilizing findings from this work. I used data source triangulation from three data collection techniques: interviews, focus groups, and PD sessions. I then applied directed qualitative content analysis to uncover preliminary findings, which led to the continued development of my initial conceptual framework and will guide the development of a toolkit to empower librarians to provide early literacy services for autistic children and their families.

Chapter 4: Findings

1. Introduction

As previously described in the literature review in Chapter 2, there are multiple systemic and service barriers rooted in institutionalized ableism that limit public library services to autistic children and their families, as well as families' ability to access them. This study examined the following research questions:

RQ1: What barriers do families with autistic children experience that limit their inclusion in early literacy activities in public libraries?

a. What early literacy resources and services do autistic children and their families need in relation to public libraries?

RQ2: What barriers do youth-serving librarians experience that limit their early literacy services to families with autistic children?

a. What autism-specific accessibility considerations, professional practices, and programming are currently utilized by libraries to serve autistic children and their families' early literacy needs?

RQ3: What autism-specific professional development tools and resources are needed to enable libraries to address barriers for autistic children and their families in early literacy programming and library services?

This chapter reports on the findings of this research and is organized by research question. Section 1.1 provides an overview of the refinement made to the Conceptual Framework. Section 2 provides findings related to the barriers experienced by families with autistic children in public libraries (RQ1). Section 3 provides findings related to enablers for autistic children and their families, including specific practices, resources, and programs (RQ1a). Section 4 describes findings regarding barriers experienced by youth-serving library staff that limit their ability to serve this population (RQ2). Section 5 presents findings related to the enabling practices librarians currently use to meet autistic children and their family's early literacy needs (RQ2a). Section 6 offers a comparative analysis across findings from both participant groups. Section 7 describes findings regarding the specific professional development trainings and resources required for library staff to address barriers for autistic children and their families. And finally, Section 8 concludes the chapter.

Please note that in this chapter I describe the findings of this study utilizing both qualitative and numerical representations of the data to illustrate the nature and prevalence of concepts and themes. While I used a qualitative interpretive approach for this study, I include numerical data (percentages) to show the relative emphasis of each construct in my participants' narrative and design artifacts in interviews and focus groups (Morgan, 2022). The use of quantitative representation is intended to be illustrative, showing what was most emphasized by each participant group while not ignoring nuanced themes or aspects. This is a pragmatic choice which allows representation of the signal strength of each concept and theme across groups. While controversial among qualitative researchers, this inclusion of numerical data makes the chain of evidence back to my participants' narratives clear, grounding these findings in their experiences and improving the verifiability of the results (Maxwell, 2010; Chivanga, 2016).

1.1 Refinement of Conceptual Framework

To better understand systemic barriers facing families and librarians I developed a conceptual framework synthesizing the key relevant literature. Using deductive and inductive data analysis I continued to refine the conceptual framework.

As described in Chapter 3, revisions to the framework were made during two processes: the initial coding process, and the intercoder reliability process where definitions were refined to clarify each indicator's purpose and definition (Lombard, Snyder-Duch, & Bracken, 2002; O'Connor & Joffe, 2020). Additions were made after five separate utterances by participants related to a new concept or aspect related to my study, verified through group process with my research team, and against the literature following the protocol for developing theory from case study research (Eisenhardt, 1989).

1.1.1 Conceptual Framework Additions

Overall, the data analysis revealed 26 new indicators through inductive analysis. These new indicators pertained to systemic and service barriers (7 additions), systemic and service enablers (11 additions), and individual context (7 additions). You can view all additions to my content analytic framework in the table below, with full descriptions and reasoning available in Appendix III.

Table 6: Additions to Conceptual Framework

Construct	Indicator/Sub-indicator	Short Description
Systemic barrier	Unclear expectations	Policies, instructions, or guidance in the library which are difficult to understand or not clearly advertised.

	Parent/caregiver fear of judgment	The unease of parents or caregivers of autistic children in the library space related to outside perception of their children.
	Limited interactions	Library staff rarely acknowledge or proactively provide customer services to families with autistic children.
	Physical inaccessibility (library program)	A library program takes place in a problematic space with physical barriers present in the built environment.
	Negative program experience	A specific instance where a library program results in discomfort for the autistic child or their parent/caregiver.
	Information service inaccessible	A service or tool provided by the library to meet patron information needs is unable to be used by parent/caregiver.
	No adaptive early literacy support resources	The library does not provide early literacy resources adapted for co-occurring conditions (i.e. dyslexia).
Individual contexts	Nonspeaking	Child primarily communicates without speaking through the use of AAC and/or sign language.
	Minimally-speaking	Child speaks but may prefer to use an AAC device or ASL part of the time, and/or started using spoken language later in life.
	Early reading experience challenge	Child experienced a lack of adequate support related to developing early reading/literacy skills.

	Homeschooling	The majority of the child's education is provided at home by their parents/caregivers.
	Public school	The majority of the child's education is provided by a public school.
	Private school	The majority of the child's education is provided by a private school or charter school.
	Specialty program	The child is enrolled in a specialty program, outside of typical special education resources.
Early literacy learning experiences	Library use benefit present	Positive outcomes of library use, especially as they pertain to early literacy learning and development.
Systemic enabler	Multi-media outreach	Information about inclusive programs and services shared through web-based platforms, newsletters, etc.
	Remote/online	Web-based services such as early literacy programs provided over platforms such as Zoom or YouTube.
	Environmental access supports	Any change or addition made to support accessibility to the physical environment of the library for autistic children.
	Provide compassionate service	The understanding and acceptance by library staff members of autistic behaviors.
	Create welcoming environment	Using forms of communication and body language which support a sense of comfort and belonging for autistic children.

	Community inclusion	Community members in the library include or otherwise demonstrate support of autistic children and their families.
Service enablers	Adaptive customer service	Customer service interactions that utilize techniques and tools to support and enable access for autistic children and their families.
	Meet information needs	Library staff help families find the resources they are looking for by providing individualized information advisory.
	Inclusive program design	The program design utilizes techniques which promote accessibility and engagement for autistic children.
	Foster inclusivity	Library programs have inclusive expectations set by the facilitators that are flexible to meet the needs of autistic children.
	Diversity of offerings	Library programs are provided at a variety of times and incorporate a wide array of themes or topics.

Critical Additions

Preliminary thematic analysis of interviews and focus groups with parents and caregivers revealed new systemic barriers. Most prominent of these was the addition of the "fear of judgment" indicator to social systemic barriers, under the sub-construct of Community Expectations/Cultural expectations. Fear of judgment was at the heart of the decisions made by

families of autistic children related to which library services to use, and which to avoid, if they chose to use the library at all.

The nuances of this systemic barrier are discussed further in this chapter, but it is important to note the significance of this addition as it was an undercurrent present in nearly all aspects of families' library use. For example, one parent described how fearing judgment in the library exacerbated other barriers already present for their family:

> "There's a lot of judgment, there's a lot of misunderstanding, and when a child cannot communicate their needs, it's just as frustrating for a parent who wants to understand that child's needs without the fear of judgment from the librarian, or from the other guest who's trying to listen to story time, or find their toddler the perfect board book, or whatever. My kid has a right to be there too."

This analysis also revealed *enablers,* which were identified as essential to removing systemic and service barriers and improving access for autistic children and their families. Enablers were captured in conversations where parents and caregivers shared ideas for ways libraries could be more accessible to their children. For example, one parent detailed how interactions with library staff could be improved by detailing how she would like her child to be treated:

> "With patience and understanding and just knowing that he's not being noisy or disruptive because he's trying to be noisy and disruptive, but it's just really hard for some kids to control those things. And as parents, we're not trying to bring undue stress into the library, but just to know that we're welcome, even if our kids are noisy and disruptive, would be just huge."

Enablers were also captured regarding families' past and present library use, where participants described interactions with "friendly and compassionate" library staff who were "flexible to their child's needs." As more enablers were identified in data analysis across both parent and caregiver data and youth-serving library staff, the importance of the theme of "enabling practices" and their ability to mitigate systemic and service barriers became clear. Enablers were then added to the conceptual framework where:

- Each barrier type (systemic or service) also had corresponding enablers
- Systemic enablers also informed service enablers
- Interventions both mitigate barriers and inform enablers

1.1.1 Conceptual Framework Changes

The process of data analysis also informed changes to the existing conceptual framework, such as splitting indicators and sub-constructs to capture multiple facets of a concept, and refinements to sub-construct and indicator labels to better represent concepts. These changes pertained to *Individual Differences* (5 changes), *Systemic Barriers* (2 changes), and *Service Barriers* (1 change). The majority of these changes were made to reflect the complexity of needs and barriers experienced by autistic children and their families as they relate to their individual contexts. These refinements are detailed in the table below, with full descriptions and reasoning available in Appendix III:

Table 7: Changes to Conceptual Framework

Construct	Indicator/Sub	Change made	Short Reasoning

Individual difference	Sensory need: Hypersensitivity	Previously labeled "sensory need"	The indicator "sensory need" was split into three separate sensory need profiles to better capture the individual needs expressed by my participants.
Individual difference	Sensory need: Hyposensitivity	Previously labeled "sensory need"	Same as above.
Individual difference	Sensory need: Self-regulatory	Previously labeled "sensory need"	Same as above.
Individual difference	Child Characteristics	Previously sub-construct "family and child characteristics"	The previous sub-construct "family and child characteristics" was split to better reflect the separate parent/caregiver and child characteristics presented by my participants.
Individual difference	Family Member Characteristics	Previously sub-construct "family and child characteristics"	Same as above.
Systemic barriers	Library staff Implicit & Explicit Biases	Previously "Library staff attitudes"	This sub-construct was renamed to better reflect the deeper biases held by library staff which inform outward attitudes towards autistic children and their families (Kaeding, Velasquez, & Price, 2017).
Service barriers	Lack of parent literacy	Previously "Lack of	The previous indicator "lack of autism-specific resources" was reworked to focus specifically on early

	engagement resources	autism-specific resources"	literacy resources, and split to better capture two specific types of early literacy resources: a) parent literacy engagement resources; b) early literacy support resources.
Service barriers	Lack of early literacy support resources	Previously "Lack of autism-specific resources"	Same as above.

2. What barriers do families with autistic children experience that limit their inclusion in early literacy activities in public libraries? (RQ1)

Families with autistic children experience deeply rooted barriers which impact their ability to access public library early literacy services. To answer RQ1, I will discuss how systemic barriers in libraries for families with autistic children result in specific service barriers. I will do this by providing a summary of systemic barriers experienced by families with autistic children, followed by a description of service barriers that exist as a result in the context of the conceptual framework.

2.1 Systemic Barriers

Findings from this study confirmed that families with autistic children experience acute systemic barriers which, as identified in the conceptual framework, impact their early literacy learning

experiences. In particular, the data revealed that systemic social barriers may be the greatest contributor to service barriers experienced by autistic children and their families.

Figure 6 demonstrates that, in their interview and focus groups narratives, parents emphasized more social barriers (such as community expectations/cultural expectations) than structural barriers (such as the library environment). Sixty-eight percent of their discussion of systemic barriers emphasized social barriers while only 32% of their discussion emphasized structural barriers, suggesting that social barriers more acutely impact their early literacy learning experiences. In the following subsections I elaborate on the nature of these barriers and their impact on families.

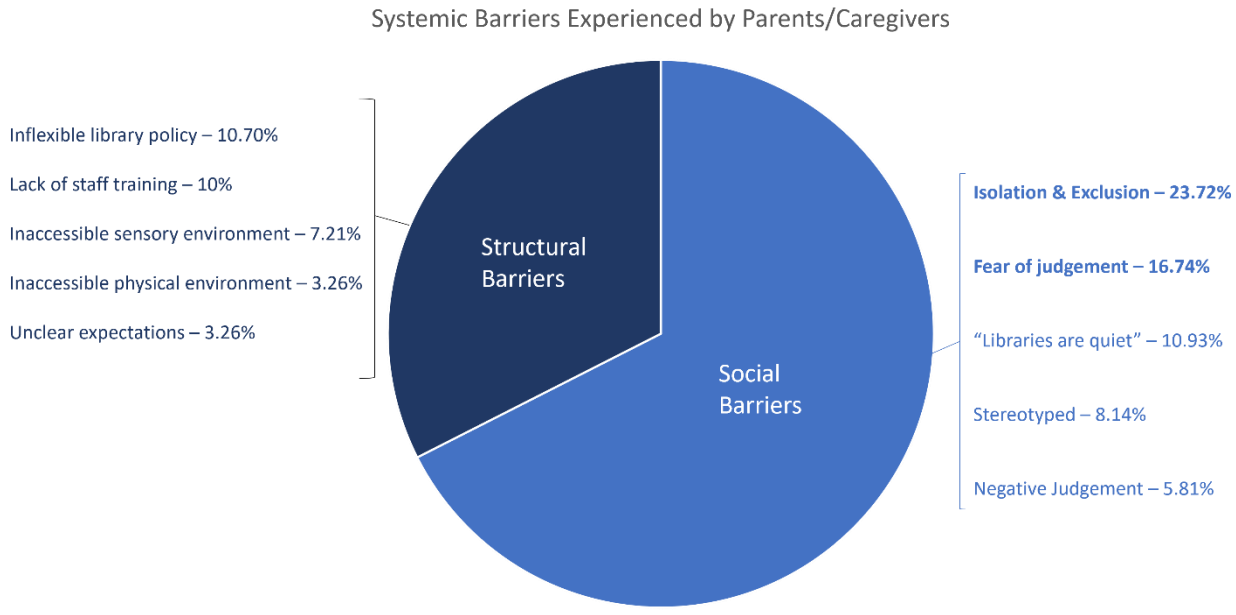

Figure 6: Systemic Barriers Experienced by Parents/Caregivers

2.1.1 Systemic Social Barriers Severely Limit Library Access for Families with Autistic Children

Parents and caregivers reported that systemic barriers inhibit their family's access to library services, limiting their library use and their children's early literacy learning experiences at the library. Most prevalent among these barriers were social systemic barriers such as discrimination, stigmatization, and prejudice that result in social oppression towards the disabled community (Bogart & Dunn, 2019; Billawalla & Wolbring, 2014). These are barriers such as cultural expectations of patron behavior and libraries as a "quiet" space, which result in families' fear of judgment by library staff or fellow library patrons. Systemic barriers were one of the main topics of conversation among parent participants, with 23.7% of those conversations focusing on feelings of isolation and exclusion, and 16.7% focusing on fear of judgment.

Families reported not attending the library with their autistic children due to fear of judgment (16.7%), feeling that their child would not be welcome in a quiet library (10.9%), or that stereotypes regarding autism and their children's behavior would lead to negative attention from other patrons and from library staff (8.1%). Due to fear of judgment, parents would isolate themselves from the library by removing themselves, as one parent explains:

> "If she started getting too loud, we would leave. We would shorten our time periods there, instead of... When I saw that she was starting to get bored, or she was starting to get loud then we would shorten the time period there."

An important aspect of this for parents and caregivers was autism as an "invisible disability." Participants mentioned that "most of the time you don't necessarily know they have it. They just look like a kid [acting out]." Another mentioned the feeling of constant judgment from patrons and library staff, detailing the feeling of judgment: "The tone. They glare at you. They look really displeased."

Feelings of isolation and exclusion were often reported by parents who felt that they were being disruptive by attending the library with their children, so would limit their time there or not bring their children at all. This was a method used by parents and caregivers to limit the possibility of negative experiences. As one participant describes:

> "And then honestly, we just limit our time. We're not going to go into the library and spend the entire afternoon there, which is something that I as a child would have done, just because he can only kind of keep it together for so long, especially in a place that's going to be restricting the way he is naturally."

Another participant followed up with: "I don't want other people to come to the library and not be able to enjoy it because of us, and I don't want us to not be able to enjoy the library because of other people."

Families' isolation and exclusion were often compounded by social expectations that libraries should be quiet, which was mentioned 10.9% of the time by our parents and caregivers. This points to a community or cultural expectation that libraries are quiet, which kept families from using the library. Most participants mentioned libraries being "quiet" at least once, as one parent described:

> "As a mother with children on the spectrum, the library's just not a place where you think, "This is where I'm going to take my kid," so I can see how it is difficult to reach those families, because the library's seen as a quiet place."

The prevalence of systemic social barriers indicates that families with autistic children do not feel welcome in libraries (65%). This suggests that *social expectations* are the primary access barrier faced by families with autistic children as soon as they set foot in the library. This

systemic barrier then permeates through service barriers for these families, making them less likely to seek out information services and attend early literacy library programs to support their children's early literacy development.

2.1.2 Library spaces limit families' access to early literacy services and resources

The environment of the library was also a concern for families with autistic children, though it was less discussed than social barriers (7% of the conversation on systemic barriers). Parents and caregivers consistently reported that the sensory environment of the main library space was not accessible for their children, leading to sensory overwhelm. Parents and caregivers also mentioned that they had already asked for changes to the sensory environment, to no avail:

> "Dim the lights. I swear to God. We complain about this all the time. Their lights are so bright… I just feel like he's always blinking a lot because the lights are so bright."

Family members reported leaving their children at home and/or ordering materials online so they could pick them up as quickly as possible. For some families, the physical space of the library was inaccessible as well, either because of the layout of the library being difficult to navigate, or because of concerns such as wheelchair accessibility (3.3% of the conversation on systemic barriers). While this was a small percentage of the conversation on systemic barriers, this issue was particularly salient for family members with physical disabilities. For parents and caregivers who had children in wheelchairs, or were in wheelchairs themselves, this was a particular problem:

> "But I would say that's a huge problem, is that the aisles aren't even big enough. And that's brand new, that was built last year, the whole place is not big enough for a

> wheelchair. And then there's a couple other libraries that don't have enough [accessible parking] stalls... If one person is there, that's it, and some of them are super busy."

The compounding effects of physical inaccessibility and an inaccessible sensory environment are important to note, particularly for autistic children or family members with co-occurring conditions. While a small focus of conversation, an inaccessible library environment heightened feelings of isolation and exclusion for families with mobility differences.

2.2 Service Barriers: Systemic Barriers Have a Deep and Lasting Impact on Library Services for Autistic Children

As discussed above in the section on systemic barriers, two prevalent systemic barriers (social systemic barriers and structural systemic barriers) interact to generate service barriers for families with autistic children, negatively impacting their library use and their child's early literacy learning experiences.

Findings from this study reveal that there are multiple compounding service barriers experienced by families with autistic children. Figure 7 represents how service barriers for families with autistic children obstruct their access to early literacy services, including a lack of outreach and advertisement to this community (12.4% of the conversation), a lack of accessibility supports (14.8% of the conversation), negative interactions (8.8% of the conversation), and a lack of early literacy support resources (13.46% of the conversation), which do not directly impact story time inclusion but do directly impact the home literacy environment. Finally, even if families with autistic children navigate the barriers present at the library to attend a library program, that program will not be autism-inclusive (40.4% of the conversation). Below I describe each of these barriers and their impacts on families' access.

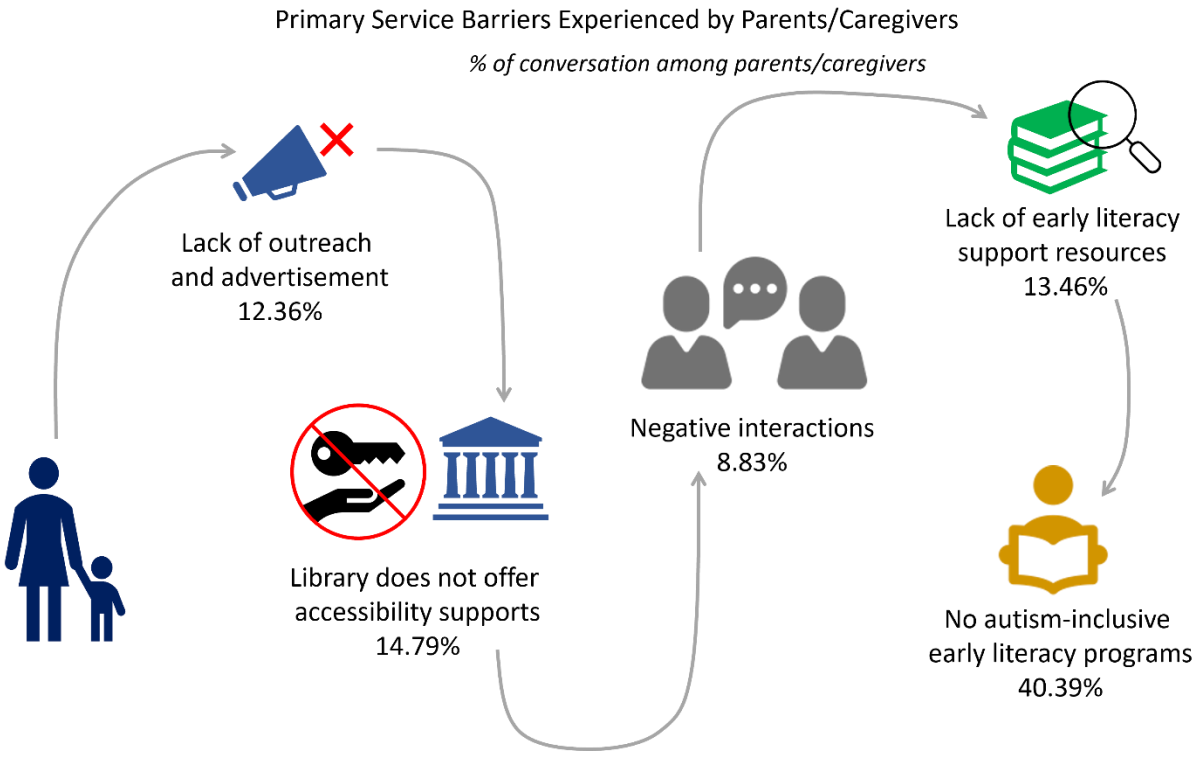

Figure 7: Primary Service Barriers Experienced by Parents/Caregivers

2.2.1 There are a lack of accessibility supports available for families with autistic children

For families, the primary service barrier discussed outside of inaccessible early literacy programs was a lack of accessibility supports for their autistic children (14.79% of the conversation on service barriers). This service barrier encompassed not only a lack of support for their child's sensory needs, but a lack of flexibility in how they were able to use and access library materials. Many reported that environmental access supports, such as sensory kits or quiet rooms, are not offered for autistic children and their families (23.84% of the conversation on service barriers), and that this discourages their access to library early literacy experiences. As one participant describes, not having the appropriate supports led them to shorten their time at the library with their autistic child:

> “And so at that point it was kind of, we just pulled back and just went, ‘Okay, we'll just go get books, take them home. We won't try and do things at the library.’ Because it was just... it was so overwhelming for him. It was frustrating for me that we just kind of pulled back. We went, ‘Okay, this isn't going to work.’ And we'd make our trip and we'd come home.”

And for other participants, the inaccessibility of the library led them to not visit the library at all. As another participant mentioned in conversation regarding their experiences at the library: “And that's why I was so excited to do this interview is because I, unfortunately, have not been able to access the library because of my children's special needs.”

Overall, nearly every parent participant reported that their library did not offer accessibility supports (97%). As one participant describes, these supports would have helped them access the library:

> “I haven't really seen any of that. That would be nice to have. The option of like, ‘Oh, here's headphones, if you need that.’ That would be really nice or different seating things or having maybe a quieter area so when there's the area where all the kids play or reading, there's a little smaller area that's not as intimidating, maybe.”

For library programs in particular, the main barrier discussed was an inaccessible sensory environment (34.4% of conversation for program-specific barriers). For parents and caregivers, the inaccessible sensory environment was primarily attributed to noise. Loud music, singing, and noisy activities were often a barrier for families attending programs, as one parent described:

> “Yeah. I think that the noise consideration is by far the biggest one. There are so many kids in programs that are very loud. I think that, number one, having a lot less noise

would be the main thing, and then I think the second thing would be having a way to know if there's going to be noise ahead of time would be hugely beneficial. I look on the website ahead of time, and I try to decide based on the description like, 'Do I think that's going to be noisy or not?'"

This indicates that sensory needs are not being met across the board for autistic children in libraries, which results in a distinct access barrier for autistic children and their families. This is especially prevalent when this access barrier is paired with a systemic feeling of exclusion and fear of being judged in libraries.

Limited communication methods were another facet of library supports for communication and interactions with library staff. Approximately one-third of family member participants (n=10) had nonspeaking or minimally speaking children. While a lack of communication strategies ("limited communication methods") only accounted for 2.85% of the conversation regarding service barriers, library staff not offering communication supports can be particularly difficult for families with non-speaking children.

2.2.2 Negative interactions limit families' access to programs and services

An additional service barrier was negative interactions, including both negative interactions with staff and interactions with community members (8.8% of the conversation). While discussed less frequently, these interactions strongly impacted families with autistic children. Parents and caregivers reported that after having a negative interaction with library staff members they would either a) stop attending that particular library or b) stop using library services entirely. After one particularly bad interaction with a library staff member where a parent was asked to leave the library with their child, one parent never returned to that library: "Oh, we didn't go back to that

library ever again. I never went back to that library ever again. The lady was just mean... Just really mean."

For one parent, negative community judgment was one of the primary factors in her decision to stop using the library:

> "The other reason why we had stopped going was because she went through this phase where everything was squealing. So… it would happen when she was excited. So she saw something she wanted, she was going to squeal for it and we got a lot of dirty looks for that."

While negative interactions were a relatively small percentage of overall conversation related to service barriers, these experiences had the strongest impact on family members' use of the library, with larger consequences as one participant explains: "I never tried to take him to story time after that incident of the library and going, 'He's too loud.' Then I was uncomfortable and it was no fun."

Another important thing to note is that families with autistic children are also typically hypervigilant about reducing the likelihood of negative experiences for their children and themselves, as one parent explains:

> "If I want to pick out a book, I know exactly what I want. So I'm just like, "I'll reserve this book." And sometimes I don't even browse on the shelves. I'll reserve it. Then I know where the books are kept. Like they reserve it by a name. I can keep it and I just check it out and I go my way. So I don't really spend a lot of time in the library. So honestly, nothing negative to report really... I mean, that's very like kind of, I'm like, 'Oh, I can't

> take him there because he's going to create a ruckus. He's going to...' He's just not that type who is going to [be quiet]."

This hypervigilance relates to parents and caregiver's fear of judgment at the library, even if they didn't report a specific negative experience with library staff. This hypervigilance was often due to negative past library experiences, which were reported by the majority of parent and caregiver participants (85%).

2.2.3 Lack of library outreach and promotion to autistic children and their families

For families with autistic children, much of the conversation around library service barriers focused on poor promotion of library resources, and on the lack of community outreach they've experienced (12.36%). Families reported that they were unaware of inclusive services, accessibility supports, or programs provided by the library, if they existed. When asked if they knew about any sensory supports at their library, or inclusive services, most parents responded as this one did: "We have not [used any], I don't know of any."

Family members described that advertisements for library services and programs tended to be word of mouth, or posted in places that were inaccessible to them. As one parent detailed, their library advertised solely in the children's section or in a difficult-to-access online calendar:

> "So they do advertise, but the thing is they only advertise it in the children's section where it's really small. They're just little flyers, and I don't always go in the children's section when I was going to pick up my books and stuff, because it's been remodeled, so it's not the same area, and also when I go on their website… it's not always easy to access everything with the coming month, the calendar and stuff."

Parents and caregivers also wanted to see more outreach to them and to the community so that they could hear about programs and services the library provides in places they already frequent. As one parent mentioned:

> "I feel like there's not a lot of outreach… I don't think I've ever even seen a library booth [at community events]. Pair with other outreach programs, like the YMCA volunteers. Think of people that are always at other places, helping kids."

One participant mentioned the importance of advertisement helping you feel welcomed before you ever step foot in the library space: "I know a lot of parents would love to take their kids to the library, but then they feel scared and just lowering the fear so that they can realize, 'Oh, I can do that.'"

A lack of library outreach or advertisement to the autistic community means families with autistic children are often unaware of library offerings that may be inclusive of their children's needs. Additionally, families feel that they are not welcome at the library as they are not the target audience for many services.

2.2.4 Families with autistic children are not adequately supported for home literacy engagement

Parents and caregivers reported a lack of early literacy resources, including early literacy support resources for their children, as well as resources to help them engage their children at home including book lists and tips and tricks for early literacy development (13.5% of the conversation regarding library service and information barriers). Importantly, many parents who had children with co-occurring conditions reported a lack of adaptive early literacy support resources available, such as resources to support dyslexic readers.

For many families with autistic children, the individual literacy needs of their children were not met by the library. This was often the case for parents whose children were at a literacy development stage that was different than their age group, as one parent explained:

> "But the one thing that's tricky is that his reading level is not necessarily consistent with his age. So I wish that there was more options. Like on my book order, they'll have us order a book bag, and it's by age only. But my son is more in that early reader category, but he's also not three anymore. So… sometimes there's a bit of an interest gap between the reading level and the interest."

The lack of parent literacy engagement resources to support parents was another important topic presented by parents and caregivers. These resources are key to early literacy development as they help families provide rich home literacy environments for their children.

A primary issue was a lack of guidance to help support parents in literacy engagement for their autistic children. As one parent described:

> "I had no idea what I was doing as a young parent, but more importantly, I had these kids with special needs and I didn't know anything, that I didn't know anything about. So I think if I had been taught earlier different strategies and different techniques for helping kids develop those literacy skills, that would have been really beneficial, in a positive way. Parents need support too. So providing parents with training or with teaching strategies and doing it in a way that it's not stigmatized as, 'Oh, you're a bad parent,' would be really, really beneficial."

As another caregiver added: “The parents can see the struggle in reading but they don't understand why or what to do… Any help that can be given to the parents to try and figure out struggling readers, and what to do with struggling readers is super awesome.”

This suggests that families with autistic children are not adequately supported in their home literacy engagement, which is one of the most important aspects of early literacy development. Library services are an important support for home literacy environments, particularly in providing parent resources for engaging struggling readers.

2.3 Library Programs Barriers

Barriers to library programs were the largest concern among the service barriers experienced by parents and caregivers, as identified by how often program barriers were emphasized in conversation on service barriers (40.4% of the conversation). As this is such a large service barrier, I have broken this barrier down by the specific concerns of parents and caregivers related to library programs. The figure below shows that of program barriers experienced by parents and caregivers, an inaccessible sensory environment was emphasized more often (43.75% of the conversation).

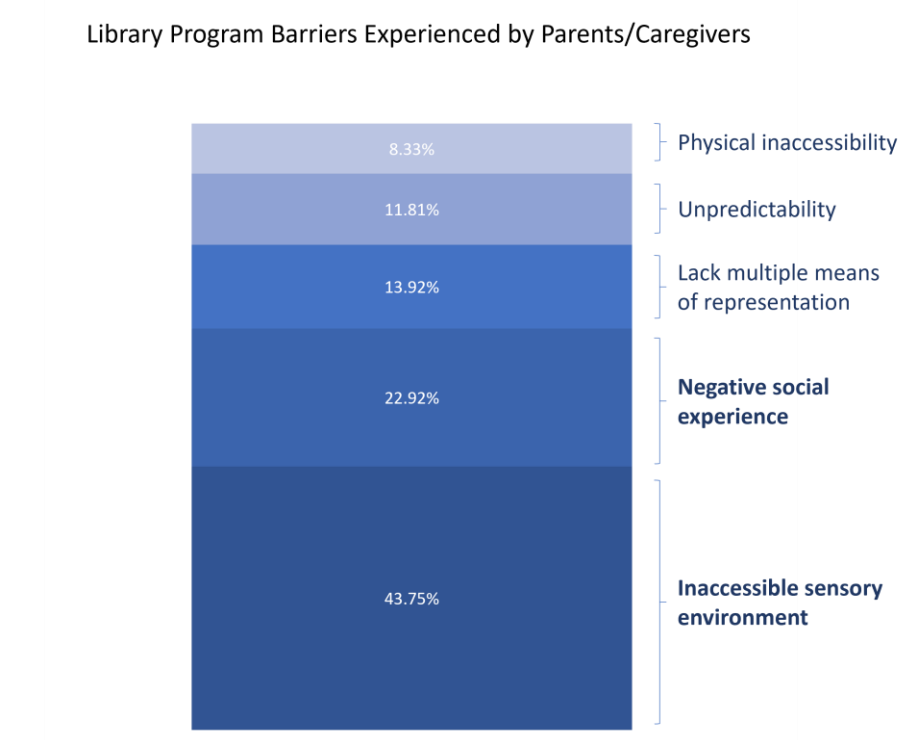

Figure 8: Library Programs Barriers Experienced by Parents/Caregivers

Overall, parents and caregivers reported many barriers related to library programs, storytimes in particular. The majority of these conversations focused on libraries not providing autism-inclusive programs, with current programs presenting significant sensory barriers (43.7%). This led to negative library program experiences for our families related to social expectations (22.9%). Those families who had a negative library program experience were less likely to try to attend a library program again with their children, as one parent explained: "We tried a few story times at the public library and those were not successful, so we did not attempt to do them again."

2.3.1 Library early literacy programs lack accessibility for autistic children and their families

Inaccessibility of library programs for autistic children and their families was the focus of conversation for parents and caregivers. In particular, inaccessible sensory environments contributed to 43.7% of the conversation on library program barriers for families. The inaccessible sensory environment was primarily attributed to noise. Loud music, singing, children, and activities were often a barrier for families attending programs, as one parent described:

> "Yeah. I think that the noise consideration is by far the biggest one. There are so many kids in programs that are very loud. I think that, number one, having a lot less noise would be the main thing, and then I think the second thing would be having a way to know if there's going to be noise ahead of time would be hugely beneficial. I look on the website ahead of time, and I try to decide based on the description like, 'Do I think that's going to be noisy or not?'"

For other families, the number of attendees often provided an overwhelming sensory stimulus for their children. For one parent, this meant that her child needed to be able to run and move during library programs to regulate, which would upset other families. This judgment led them to stop attending library programs:

> "We tried doing the family reading time where an author would come in and read the book, and you'd all sit there and listen, my son couldn't do that at all. He couldn't tolerate it. Either there were too many kids and he would panic from the amount of kids, or there were too many people walking around in the periphery which would distract him, or he would need to get up and run around while everyone's reading or while they're doing the reading. And the other kids would get upset, because he was distracting them. So we always wanted to participate in those, but we just couldn't go. We couldn't do it."

Physical inaccessibility was also a concern of families (8.3% of the conversation on library program barriers), with caregivers describing a lack of seating options for children who could not sit on the floor comfortably. Other physical barriers included a lack of doors, which was especially important for families with energetic children who may run away from a program without a door. Another barrier was items stacked in the back of the room which could create dangerous distractions. For families experiencing physical barriers, these were issues that contributed heavily to little or no attendance of library programs, as one parent explained:

> "I tried closing the door to keep him from wandering and was told [by the librarian], 'Oh, we don't want to do that. We don't want people to think that we're closed off or not accepting more families or anything like that.' So I was asked not to close the door. I tried putting a garbage can on top of a table so that it was out of his reach. I felt like I was just ... I don't know. I had to make, I had to child proof this room for my kid for it to be safe for him, for everybody to have a good time. And again, too much work on my part as a parent."

This suggests that current library programs do not offer accessibility support for autistic children and their families, who face primarily sensory accessibility barriers. However, for those families who are unable to access programs due to physical barriers, sensory accessibility barriers have a compounding effect. This is particularly salient for families with mobility differences.

2.3.2 Library early literacy programs lack neuroinclusive engagement and predictability for autistic children

Outside of sensory barriers, library programs are also inaccessible to autistic children and their families due to a lack of engagement and unpredictable structure for autistic children. For

example, families focused on how programs, storytimes in particular, did not provide ways for autistic children to engage in the story either through providing multiple ways of representing the information in the story, or by providing multiple ways to participate (13.9% of the conversation).

A lack of engaging presentation or activities during library programs were a concern for parents and caregivers, especially those who feared judgment because their children would not sit still during storytime programs:

> "I was going to mention that our son's very hands-on and so the story times usually don't include a hands-on activity during the story time, and so that can be difficult for him to not only sit still and stuff, but he just cannot sit and listen to a story. He's got to be doing something, get involved, and that's not usually what they expect out of you when you go to a story time."

A lack of visual supports for engagement was a particular concern for parents and caregivers with non-speaking or minimally speaking children, who reported that the storytimes they attended did not include visual elements. As one parent described: "My son, he is not speaking, and so he needs a lot of visual support to get understanding from the book. Usually, the story time is more like verbal, like from talking, not from visual support. There's lack of visual support for him."

As another parent describes, a lack of multiple means of representation and engagement in storytimes was difficult for their energetic child:

> "There were no other options at the story times I've been to. It's like you sit and you listen to the story with the rest of the kids or else you're off doing something on your own, and

> it's probably something that's destructive because there was nothing else. There were no other options for him to explore safely or appropriately. It's like, "Okay, well, he didn't want to listen to the story," so his other option was the fire extinguisher on the wall."

Unpredictability was another factor that made storytimes inaccessible to many families (11.8% of the conversation on program-specific barriers). Families reported negative experiences in library programs when they did not know what was going to happen, or what triggers might be present for their children. As one parent explains, this creates a "fear of the unknown" for families:

> "We tried to prep them, but we still didn't. You can only do so much prepping, 'Oh, we're going to go build with Legos.' And beyond that, I don't know what the structure of the program is. So I can't pre-teach, I can't say, 'Okay, we're going to do this first and then we're going to do this and you can expect this.' So there's a lot of the fear of the unknown too."

This suggests that autistic children and their families encounter negative experiences in library programs when their learning needs are not supported. Additionally, a lack of predictability leads to parents' fear of negative experiences in library programs.

2.4 Section Conclusion

These results reveal that parents and caregivers experience systemic barriers that inhibit their family's access to library services, limiting their library use and their children's early literacy learning experiences at the library. Most prevalent among these barriers are social systemic barriers, which refer to systemic barriers that are informed by social ableism. These are barriers such as families' fear of judgement by library staff or fellow library patrons, predominantly

fueled by community and cultural expectations of patron behavior and libraries as a "quiet" space.

Service barriers such as a lack of autism-inclusive programs, accessibility supports, and outreach were the result of larger systemic barriers, including social systemic barriers and structural systemic barriers (such as environmental barriers). Barriers to library programs were the largest concern among the service barriers experienced by parents and caregivers. Following inaccessible library programs, the primary service barrier discussed was a lack of accessibility supports for their autistic children. This service barrier encompassed not only a lack of support for their child's sensory needs, but a lack of flexibility in how they were able to use and access library materials. Negative interactions also limited families' access to programs and services. One notable finding is that families with non-speaking children, or children with co-occurring conditions such as ADHD and anxiety, experience stronger fallout from these negative library experiences and are less likely to return.

Ultimately, findings from this study confirmed that families with autistic children experience acute systemic barriers which inform service barriers, ultimately negatively impacting their early literacy learning experiences.

3. What early literacy resources and services do autistic children and their families need in relation to public libraries? (RQ1a)

Families with autistic children can provide untapped guidance for inclusive library policies, services, and resources to support their children's early literacy needs. To answer RQ1a I will present an overview of high-level themes related to systemic and service *enablers* in libraries.

Conversations regarding enablers for families with autistic children shed additional light on the needs of this population, and the best practices to mitigate systemic barriers and enhance access to needed services and programs. Parents and caregivers were eager to provide guidance, with their overall conversations focusing on existing and potential service enablers (20%), and systemic enablers (19.5%).

3.1 Systemic Enablers

Findings from this study confirmed the presence of systemic enablers which, as identified in the conceptual framework, can ameliorate many of the barriers experienced by autistic children. In particular, the data revealed that both social systemic enablers and structural systemic enablers are needed to provide accessible early literacy services to this population.

Figure 9 shows that, in their interviews and PD sessions, parent and caregiver participants emphasized structural enablers (such as environmental accessibility support) over social enablers (such as creating a welcoming environment). Only 38.6% of their conversations and artifacts emphasized social enablers, while 61.4% of their conversations and artifacts emphasized structural enablers. ***This suggests that both structural enablers and social enablers together are crucial to families' early literacy services at the library.*** The stronger emphasis on structural enablers may be because they are easier to identify than social enablers, as social enablers may be more latent in nature. I discuss the nuances of these enablers further below.

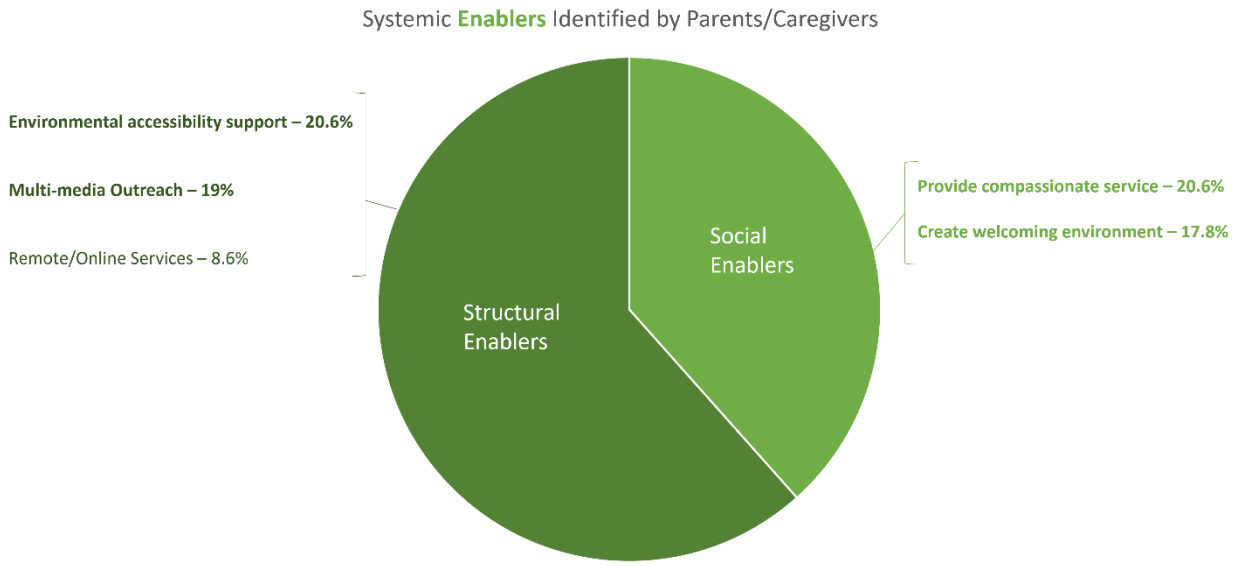

Figure 9: Systemic Enablers Identified by Parents/Caregivers

3.1.1 A Community of Inclusion in Libraries Enables Access for Autistic Children and Their Families

One of the focal points of conversations with parents and caregivers was how to provide an inclusive environment where they would not feel judged or fearful. Many parents and caregivers had at least one positive experience to draw from where library staff provided friendly service to their children or to their families (n=20). Others detailed compassion and flexibility in their experiences with library staff (n=10). These experiences occurred most often with library staff who knew the family and their children after building a relationship with them, as one parent describes:

> "C__ knew us. So every time we would come in and she'd just be like, 'Hi, K___ and A___, how are you all doing this day?' You feel like part of the family when that happens but that's hard to do if people are only showing up a few times."

However, the majority of the conversation on compassionate services consisted of participants identifying ways that library staff members ***could*** provide inclusive and compassionate services, such as understanding their children's behaviors, being flexible in their libraries' policies (especially when related to patron atypical behavior), and providing options to families to help them access library services and programs. This consisted of 20.6% of the conversation on systemic enablers.

As one parent detailed, there was a need to make the library "A relaxing, peaceful, welcoming, all-inclusive space where there's no judgment, there's acceptance and it's safe just across the board."

Many parents discussed wanting to feel like they were welcome and belonged. As one parent described: "A friendly presence would be so important." As many parents and caregivers mentioned feeling apprehensive about the library environment and being unsure what to expect when attending with their child, a welcoming and friendly library staff was an important enabler.

Welcoming and friendly staff members helped families with autistic children feel like they belonged at the library. This suggests that the simple act of a warm greeting can build trust and support relationships between library staff and autistic children and their families. Additionally, utilizing compassion and flexibility in enacting and upholding patron expectations can empower families with autistic children to utilize library early literacy services and programs.

3.1.2 Changing the sensory environment enables families with autistic children to use library resources

While families with autistic children experience primarily social barriers in libraries related to sociocultural expectations, they focused on specific changes to the library sensory environment in their discussion of enablers.

Environmental accessibility supports were discussed heavily by parents and caregivers. For families with autistic children, environmental supports such as quiet places to retreat, the utilization of soft or natural lighting, and the availability of sensory kits with headphones and fidgets were of high importance. One parent participant described that having an accessible sensory environment might make all the difference:

> "I think a sensory room would be huge. If that was the only thing that they could change, maybe having a sensory room or a sensory friendly area. That would have the most impact for dollar for dollar."

Additionally, many parents and caregivers reported that online services, such as online programs as well as online catalog with material reservations for pick-up, limited negative experiences for themselves and for their children due to the lessening of environmental barriers as well as expectations. A few library staff confirmed seeing more families with autistic children attend their online programs during the pandemic:

> "Yeah, one thing I have noticed as I've been doing Zoom story times so it's live and interactive. And we're seeing kids on the autism spectrum showing up to Zoom story times and engaging in Zoom story times in a way that I have never seen in the branch."

However, it's important to note that many families' reason for using remote services, such as online storytimes, was to avoid systemic social barriers and structural barriers present at their library. While many parents and caregivers felt that online programs were or could be useful for

their busy schedules, all parent participants designed in-person programs during the PD sessions when they detailed their perfect literacy program. For many families, library programs are a way to support the social learning of their children, as well as to build community with fellow parents—something that is difficult in an online environment.

3.2 Library Service Enablers

The enabling practices of inclusive environments and compassionate services were echoed in families' need for library service enablers. Findings from this study reveal multiple impactful enablers for library services, most prominently library program enablers, such as autism inclusive designs for early literacy programs.

Figure 10 represents the emphasis placed on library program enablers in parent's conversations and PD artifacts, with inclusive program design elements shared more frequently (28.9%). This figure also represents parent and caregiver emphasis on key customer service enablers, with adaptive customer service considerations the primary focus (17.4%). This suggests that, while families naturally emphasized library program enablers as a natural function of our PD sessions, adaptive customer services enablers are key to supporting autistic children and their families' wider library use. Below I discuss the nuances of these library service enablers, beginning with customer service enablers.

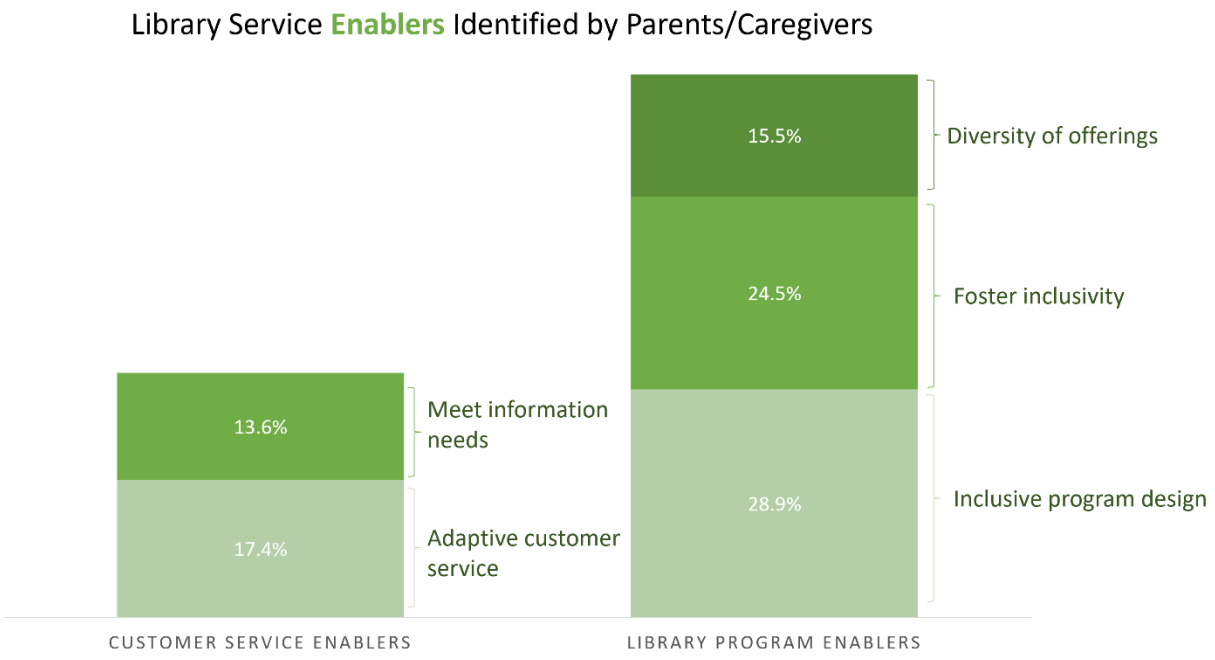

Figure 10: Library Service Enablers Identified by Parents/Caregivers

3.2.1 Multiple methods of representation, engagement, and participation can enable autism inclusion in programs

Inclusive program design was of prime importance to both parents and caregivers as an enabler for providing accessible autism-inclusive library programs that would engage autistic children in early literacy learning (29% of the conversation on service enablers). Inclusive program design includes both inclusive program design elements such as hands-on activities and predictability in the form of visual schedules, as well as having programs that meet children's interests.

Hands-on activities in particular were an important aspect of inclusive program design that used multiple methods of engagement, and were included in nearly all of our family members' ideal program designs. As one participant described during an interview, "Hands-on stuff was what [my son] engaged in best." Hands on activities mentioned by parents included activities that

physically used the hands, such as drawing, block building, silly putty play, and even item sorting activities, but they also included other physical activities like running, jumping, and playing.

Another key aspect of inclusive program designs was simply providing interesting and engaging content with multiple ways to participate. One parent described their ideal program as one where their child had “something that they can relate to, or something towards a special interest, to help learning.” Another family member described that their ideal storytime was one that offered choices and used engaging elements such as dialogic reading questions:

> “But if you have a story time where they have activity options while they listen and then they stop periodically and ask questions or clarify words or something like, "Do you know what this is?" Or "Look at that picture." Really try to draw them in as much as possible, because I've noticed with a lot of the public readings they just read the book in funny voices or affects. That's not really helpful.”

Visual elements and supports were another popular way families described to engage their children with the library program. These visual elements and supports included large pictures to accompany the book, flannel boards with cutouts related to the book, and visual program schedules. Caregivers with non-verbal children highlighted the need for visual engagement and communication elements as well.

Visual supports such as visual program schedules were also identified as a way to improve the predictability of a program. Predictability was a key enabling element for inclusive program design identified by parents and caregivers. As one parent describes:

> “We want details. If there's a program, that's going on, I want details. Who's coming? How many people or kids are roughly signed up? I want to know everything about it, so that I can prepare my son.”

Our parent and caregiver participants identified the need for having set schedules, as well as a clear room layout so that incoming families know exactly where to go and what to do. As one parent put it: “When you can come in and see where you're supposed to be and what you're supposed to be doing, it's obviously helpful.”

Providing visual supports and hands-on activities aligns with key aspects of Universal Design for Learning (UDL), which highlights the importance of providing multiple methods of representation, engagement, and participation. These are important as a lack of these elements represented a significant barrier to library programs for families with autistic children.

3.2.2 A culture of inclusion is key for early literacy programs

Fostering inclusivity in library programs was also heavily discussed in parent conversations regarding early literacy program enablers (24.5% of service enablers conversation). Fostering inclusion refers to practices facilitators could use to make the program more welcoming to autistic children and their families, such as setting inclusive expectations and providing a positive social environment for attendees, which is discussed in more detail below. Fostering inclusion was identified as an important method of addressing social barriers in library programs.

A key element of fostering inclusion in library programs identified by parents was setting inclusive expectations. For parents, inclusive expectations were identified as a way librarians could help families feel more comfortable in library program settings and ease fear of judgment. As one parent details:

> "Yeah, maybe making expectations really clear from the start, not just me going in thinking I have to sit here quietly with him, but maybe saying, "It's okay if your kid needs to get up and move," or, "If your kid's getting really excited, that's great. You can go into the back of the room and let them run around." Just kind of making it clear that the kids can be kids and not feel like they're not conforming or not... So I think that if the staff member could be really clear about what it's okay to do, and not allowing parents to kind of make up their own rules in their head about what's acceptable and what's not acceptable… if they don't say that, it could make it feel uncomfortable. So yeah, clear expectations."

These inclusive expectations would also signal to parents that they were welcome at the library program, which was an important part of removing the fear of judgment around attending programs. As one parent mentioned:

> "I think being blatant about it and saying, 'Hey, this program is all inclusive.' And just actually saying that, 'We want kids with all abilities to [participate].' And making sure... because if you say it very clearly like that, then I know, this is a safe place."

Library program enablers presented by families focused on *structural* enabling practices first, such as autism-inclusive library program designs (29% of the conversation on service enablers). However, fostering autism inclusivity in programs comprised 24.5% of the conversation, which is a *social* enabling practice. This indicates that environmental access supports during inclusive programs may play a more significant role than simply physical access. When combined with practices to foster autism inclusion in programs, these structural enablers may lessen fear of judgment for these families and alleviate social barriers as well.

3.2.3 Adaptive customer service enables communication and rapport building

Parents and caregivers emphasized a need for customer services at the library that could support and adapt to their individual contexts (17.4% of the conversation regarding service enablers). Family participants identified key components of supportive and adaptive customer services, including clear library instructions and expectations, visual supports to improve understanding and library navigation, and communication supports for written/visual communicators, especially nonspeaking children. These supportive services encompass what I am calling *adaptive* customer services.

Clearly communicating library instructions and expectations was particularly important to families, who reported a need for clear codes of conduct, as one participant mentioned: "And just really clear expectations and rules, like the code of conduct being really clear and being equitable and compassionate." Signs with visual representations of guidelines and instructions were one way that parents identified libraries could improve communicating expectations:

> "But just really signs that describe basic procedures, like how to check out a book or how to use the catalog or what the rules are. Maybe it needs to be quiet in this area, but not so much in that area. Just very clear expectations and instructions will be really useful, I think."

Another way that families identified libraries could improve communication during customer service interactions was by providing multiple ways of communicating. For example, one parent identified that librarians need experience communicating with AAC users or using visuals to interact directly with her child.

Few families experienced adaptive customer services (n=4), but those who did had built prior relationships with the library staff who provided them. As one parent described, knowing their librarians helped to provide positive customer service interactions, and those interactions helped them build rapport:

> "Just... we had certain librarians that we would just go up to and Keesa would give hugs and it almost felt like a family situation. We were really close to a few of our librarians. And they would do everything in their power to let the other staff know, "This kid is coming in. They might have a hard time. They might have [different needs].'"

Adaptive customer services were particularly important for autistic children who were non-speaking or had co-occurring conditions. These families emphasized the importance of flexibility in communication and in the types of services and resources librarians offer.

3.2.4 Early literacy experiences are strengthened when information needs are met

Meeting family's information needs was one of the most important ways families mentioned librarians could support their children's early literacy learning (13.6% of the conversation on service enablers). Families' information needs included reader's advisory needs related to finding the right books and materials for their children, and information seeking related to early literacy development and supporting their children (particularly those with co-occurring dyslexia).

Families' information needs also included information seeking related to library programs, such as the details of the program (the schedule, activities, and possible sensory triggers), and flexibility of the program (age restrictions, and ability to leave as needed). While some participants recounted experiences where library staff met their information needs (n=8), parents

and caregivers largely did not have their needs met and instead detailed ways the library could better serve them.

Families who did have their information needs met relied on familiarity with the librarian to do so, and these needs were often personalized for the family. These parents often used their relationships with library staff to learn more about upcoming library programs, as this parent described:

> "So we know a lot of the librarians, so I'll ask them ahead of time, 'Can you mark everything on the summer program that you know doesn't have singing?' And they can tell us."

Families who had their needs met reported that their children's early literacy learning was supported by resources identified by library staff during reader's advisory, information services, and customer service interactions. One parent detailed how a spontaneous customer service interaction helped them learn about programs and services available at their library:

> "So, that's been a real blessing. And then, actually just called them the other day to ask about putting books on hold. And they opened my world to a bunch of other programs. They have do-it-yourself kits and stuff. And I had no idea about any of that. And so, that was really cool. We're very big library people."

Those who utilized reader's advisory to identify materials were also more likely to use library materials for home literacy engagement, such as shared book reading and having print materials in the home for their child to interact with. Particularly, parents who used the library to homeschool their children (n=5) all mentioned that a major benefit of library use was having their information needs met to support their child's learning and reading. This indicates that

meeting information needs may relate directly to supporting autistic children's early literacy learning.

3.2.5 Sharing information about inclusive services widely empowers families to visit the library

Parent and caregiver participants identified a need for additional information from libraries, including outreach regarding library programs and services through multiple means. In particular, families with autistic children wanted to know what to expect from library visits and library programs so that they could plan and prepare their children:

> "Just a very detailed... We want details. If there's a program, that's going on, I want details. Who's coming? How many people or kids are roughly signed up? I want to know everything about it, so that I can prepare my son… Just as much details as possible about anything, because that's going to make him feel a lot more socially comfortable, or comfortable in any situation."

For many parents and caregivers the ability to plan ahead lessened concerns about being in a new situation or environment. As one parent explains:

> "And so I think that's part of why it's been more successful at the libraries that I'm able to find out ahead of time because it's listed on the ... There's a website where I can look at the event and see how things are listed and all of that."

Prior to visiting the library parents and caregivers wanted to be able to access accessibility and inclusive practices information. Overall, families wanted to learn about inclusive programs and practices through a variety of sources: on the library website; in the events' descriptions; through

email; and over social media. While the media preference would vary, one thing remained constant: parents and caregivers wanted thorough details.

3.3 Section Conclusion

The results of this study confirmed the presence of systemic enablers which, as identified in the conceptual framework, can ameliorate many of the barriers experienced by autistic children. These findings suggest that both social and structural systemic enablers are necessary to provide effective support to autistic children and their families. Social enablers included compassionate and friendly customer service interactions, which drastically improved library experiences for autistic children and their families. Structural enablers included changing the library environment to support sensory access, and improving physical accessibility for those with mobility differences. Ultimately, this suggests that a community of inclusion in libraries enables access for autistic children and their families.

Additionally, the results of this study confirmed the presence of service enablers. Parents and caregivers emphasized the need for inclusive program design, including hands-on activities and multiple methods of representations, engagement, and participation. A culture of inclusion was key for early literacy programs as well, with families emphasizing the need for inclusive expectations for library programs. Early literacy experiences were also strengthened when information needs were met through structural enabling practices, such as adaptive customer services to improve communication and provide flexibility. Ultimately, this suggests that library service barriers can be addressed utilizing both social and structural enabling practices, mirroring the use of systemic enablers.

4. What barriers do youth-serving librarians experience that limit their early literacy services to families with autistic children? (RQ 2)

Librarians experience multifaceted and compounding barriers which impact their ability to provide services to autistic children and their families. To answer RQ2 I will discuss how systemic barriers for youth-serving librarians result in specific systemic and service barriers for autistic children and their families. First, I will provide a summary of my findings related to systemic barriers experienced by youth-serving library staff. Then, I will describe the service barriers emphasized by this participant group which limit their early literacy services to autistic children and their families.

4.1 Systemic Barriers Identified by Librarians

Youth-serving library staff reported extensive systemic barriers that impacted their ability to effectively serve autistic children and their families' early literacy needs. Figure 11 demonstrates that most emphasized among these barriers were systemic structural barriers, including being provided inadequate resources from their library systems. Structural barriers also included a lack of training provided by their library system. Systemic barriers were a focus of conversation overall for youth-serving library staff participants in focus groups and PD sessions (27% total), with the majority emphasizing a lack of resources and a lack of training. This indicates that youth-serving librarians are not being provided the resources and training that they require. This means that librarians are not *adequately equipped* by their library systems and management to provide services to autistic children and their families.

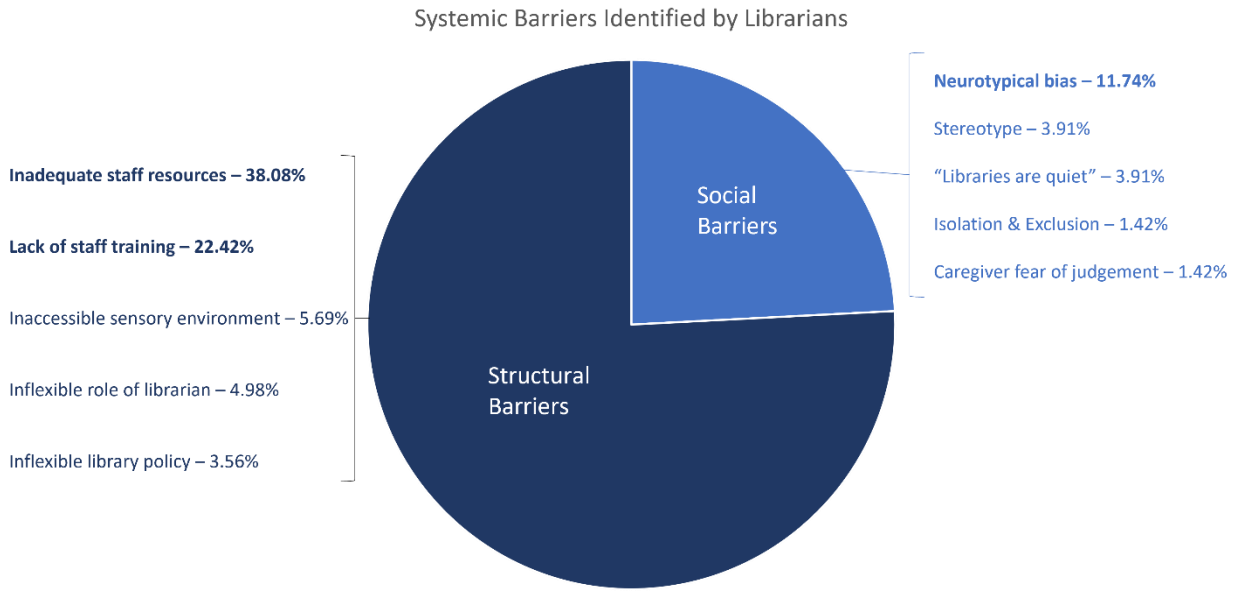

Figure 11: Systemic Barriers Identified by Librarians

4.1.1 Library Staff Are Not Adequately Supported to Serve Families with Autistic Children

By far, the largest impact on library staff's ability to serve autistic children and their families emphasized was lack of resources (38% of the systemic barriers conversation). Primarily, staff members reported that they did not have the time in their schedules to develop programs, perform outreach to families with autistic children, or attend training outside of their system. One library staff participant detailed that the work it would take to provide services to autistic children and their families needed to be a priority:

> "I'd like to see a bringing up of librarians to do the legwork that it takes to do this stuff. It takes time and it takes time away from a service desk. And I think they need to prioritize us being out. Making those connections and following up on those things."

Another common concern was the number of staff, as librarians often would not have another staff member to cover their time (for instance, at the information desk) in order to provide an

inclusive program when families would be able to attend. As one youth-serving librarian detailed:

> "We are kind of tethered to the help desk, and we're stuck behind that desk. For me, I want to come out in the stacks. I want to show you ... We're allotted this… amount of time that we're supposed to spend with each customer. Just, our time on the help desk, our off-desk time. Sometimes, those can be slight barriers in order to serve our customers on the spectrum."

Library staff conversation also focused heavily on lack of training, making up a large portion of their conversation (22.4%). Library staff emphasized that they simply did not have the training to serve autistic children and their families effectively, especially in areas of customer service and support. As one participant replied when asked what would help them serve autistic children and their families: "Any training at all."

Another participant detailed how even their customer service staff who work at the front desk, and are typically trained to serve a variety of patron needs, do not receive training for serving autistic children and their families:

> "And then our staff don't have ... Like even our operations, front line staff, don't have training on how to handle kids that aren't neurotypical."

Library staff members also emphasized the broad challenges of serving autistic children and their families customer service needs, ranging from resources to supporting this population with acceptance and inclusion:

> "I think one of the challenges as a professional and also as just a person in the community, is keeping up with an understanding of children who have autism and the

challenges that families encounter both institutionally say in an organization like ours and at broad socially, emotionally, and perhaps financially."

A lack of training for providing inclusive early literacy services was also emphasized by librarians, with many library staff saying that they did not provide autism-inclusive programs because they did not have the training necessary to do so. One staff member described feeling too intimidated to provide these programs: "I think there's an extra layer of intimidation being someone who is not well-versed in the experiences of autistic children." Another librarian described trying, and failing to provide sensory storytimes due to a lack of training:

> "We did feel completely inadequate to meeting those needs. We felt almost, by the time we were done with the 12 week series, we felt like we were not offering something helpful. We just didn't feel qualified. We didn't feel like we had met our goals."

Overall, library staff members emphasized broad challenges they faced for serving autistic children and their families customer service needs, ranging from specific resources they needed including time and funding, to training for supporting this population.

4.1.2 Systemic neurotypical bias reifies social barriers for autistic children and their families in libraries

The neurotypical bias inherent in library systems was discussed frequently by library staff participants as something which limited the amount of time and resources they could put towards services for families with autistic children. Conversations around neurotypical bias made up 11.7% of the conversation among staff related to social barriers. As neurotypical patrons tend to be the identified target audience, many library programs are not developed with neurodiverse participants in mind: "…our programming treats them like they don't exist."

Another aspect of this bias is informed at the top level by libraries' focus on needs developed through strategic plans, and particular initiatives which change depending on the perceived needs of these users. One participant detailed how libraries can often view services to underserved populations as necessary only when it is in the public eye:

> "Our library system sometimes treats these types of services as fads. And if the fad moves on, then the priority isn't there and we stop providing that type of service."

This idea was further explained by another participant in a separate focus group, who described how their library system identified service needs based on target audiences reflected by majority populations and taxpayers. Ultimately, many libraries identify target audiences in order to allocate resources. As this librarian described:

> "…the Seattle Public Library, [a] couple years ago we identified the target audience. And so we have investor of audience that we want to bring, we want to make sure they are getting the service that they deserve and they need, and [families with autistic children] are not the majority of the taxpayer."

This quote further details how many libraries focus on services that have been identified as important, either through a taxpayer assessment or needs assessment, which are often major contributing forces for systemic neurotypical bias in libraries. Unfortunately, this bias leads to systemic social barriers by not prioritizing training and resources for librarians to provide services to underserved communities, such as autistic children and their families.

4.2 Service Barriers Identified by Librarians

This study reveals that youth librarians are disconnected from autistic children and their families, as evidenced by the service barriers they identified. The figure below (Fig. 12) represents that

youth-serving library staff emphasized a lack of outreach and partnership with the autistic community as the largest service barrier (32% of the conversation), closely followed by autism-inclusive programs barriers (28.9%), and poor promotion of library services (23.71%). A lack of outreach and partnership with the community led to two negative outcomes discussed by both groups: 1) libraries not understanding the needs of autistic children and their families, and 2) inadequate promotion of library services and programs to families with autistic children.

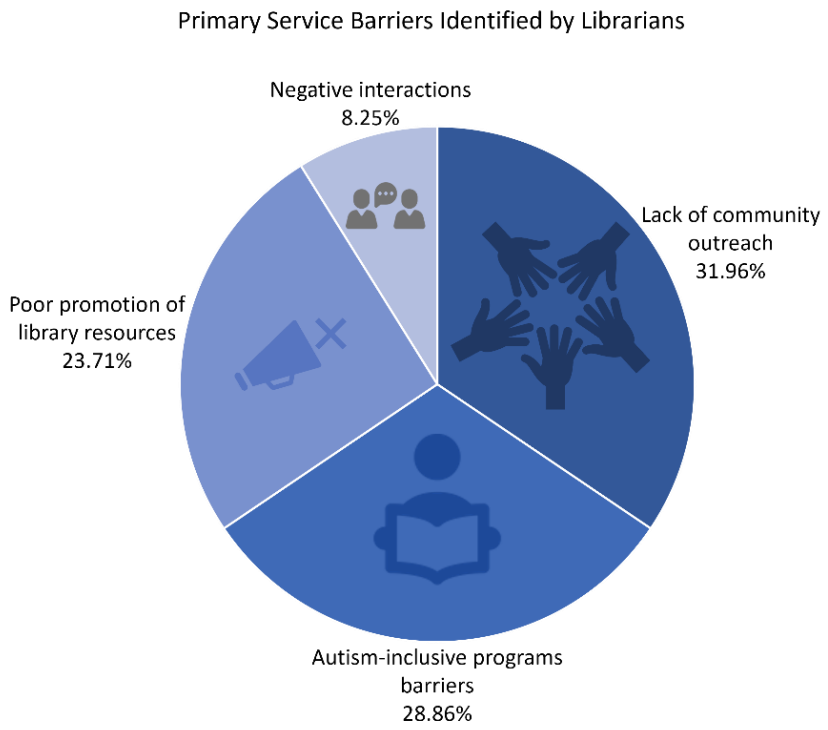

Figure 12: Primary Service Barriers Identified by Librarians

4.2.1 A Lack of Outreach Impacts Early Literacy Library Services for Autistic Children

Youth-serving library staff members focused the majority of their conversation on a lack of community outreach (32%) and poor promotion of library resources (23.7%). For many librarians, poor advertisement and not having connections to community organizations and the autistic community meant that the inclusive programs they did provide were not attended, and

often canceled due to low number of attendees. Library staff reported that their library programs and services were mainly advertised through word of mouth:

> "I think it's word-of-mouth for our location, really. Lots of people, we'll encourage them to take multiple pamphlets, and multiple calendars and give them to their friends, or take them to their church, or do different things like that."

This makes advertising to families who do not attend the library difficult, as one library participant explained:

> "One of the reasons a special story time doesn't work is because you may not have enough families in your geographic area that feel comfortable coming to the library... But if you're reaching the whole county, then suddenly you can have a couple of special story times. And hopefully, they are drawing the people from all over that would like something like that, and we might have more success."

However, for some, even knowing where to start with outreach to communities who do not use the library was a challenge: "That was what I was going to say is, sometimes it's difficult to identify appropriate community groups to be working with…"

For library staff who did provide autism-inclusive programs at their library, such as sensory storytime (n=8), a lack of attendance led them to discontinue these programs. As one participant mentioned, their branch offered a sensory-friendly storytime that only one family attended regularly: "…doing a weekly storytime or even a monthly storytime for one kid is not a great use of system resources, so we did discontinue it."

For another library staff member, a similar experience led to frustration about providing programs for autistic children and their families:

> “I've had a new wave of parents coming in and frankly demanding a separate special needs story time. And I'll remind them that we went through this a few years ago and had training, including the software with which we could outline a story time. And then they were a complete flop. People just didn't show up. So it's perhaps a marketing issue in that case. But some of the librarians who specialized in these story times, actually went to the therapy sites to offer story time and they still didn't get an audience there. So that's sort of my counter.”

In addition to poor promotion of library programs, which leads to discontinuation of services, a lack of outreach to this community left librarians unaware of these families’ needs and how to provide inclusive services. Questions about assessing community needs for autistic children and their families were a particular focus during participatory design sessions with library staff, as one participant wrote:

> “What needs to be included in the flyer to let families know the library is for them...The structure, wording, program idea? Also, if there are no social service agencies or support groups in my library's service area, how do I connect with families who may be interested in what the library has to offer?”

This was identified by library staff as well as an opportunity for outreach to help support families by putting them at ease about using the library: “Parents obviously have a hard time advocating for their children and asking for what they need, but maybe the library just needs to make it more obvious that it's available.”

4.3 Section Conclusion

Library staff are not adequately supported to serve autistic children and their families. These findings confirm that youth-serving library staff experience extensive systemic barriers which impact their ability to effectively serve autistic children and their families' early literacy needs. Most prevalent among these barriers were systemic structural barriers, including inadequate resources provided by their library systems. These inadequate resources include a lack of time, funding, and organizational supports. Additionally, librarians experience a lack of training provided by their library systems, as well as available outside of their systems through professional development.

Youth-serving library staff are also limited in the services that they can provide to autistic children and their families. Results from this study suggest that a lack of outreach services to autistic children and their families impacts librarians' ability to promote inclusive services and programs. Additionally, this lack of outreach restricts community partnership building, which limits librarian's knowledge of autistic children and their families' needs. This suggests that librarians are unaware of the needs of this population for two reasons: 1) a lack of training and available professional development resources; and 2) limited connection and interaction with the autistic community, which limits their knowledge of the community's needs.

5. What autism-specific accessibility considerations, professional practices, and programming are currently utilized by libraries to serve autistic children and their families' early literacy needs? (RQ2a)

Very few libraries provide autism-inclusive accessibility considerations or early literacy programs. However, a small number of library staff with experience working with autistic children and their families identified specific practices they use to serve their needs. To answer RQ2a I will present an overview of high-level themes related to *enablers* identified by youth-serving library staff.

Figure 13 shows that librarians who serve autistic children and their families emphasized social enablers (such as providing compassionate service) over structural enablers (such as environmental accessibility support). The majority emphasized social enablers in their focus groups (61% of the conversation), while 39% emphasized structural enablers. This suggests that librarians who had positive experiences working with autistic children and their families cited *social* systemic enablers as the practices that supported those positive experiences.

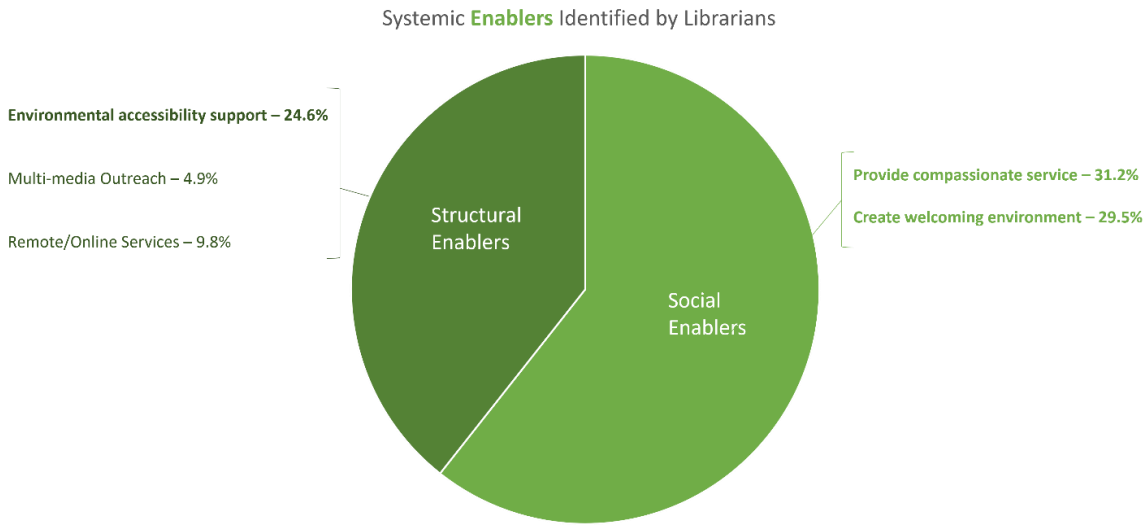

Figure 13: Systemic Enablers Identified by Librarians

5.1 Best Practices Currently in Use Are Social: Compassionate & Welcoming

Library staff participants focused on specific social enablers as key elements of inclusion for autistic children and their families. Enablers were primarily identified by library staff who had previous experience providing services to autistic children and their families. These library staff emphasized the importance of creating a welcoming environment for families entering the library with their autistic children (29.5% of the conversation). As one library staff participant described:

> "…a big thing isn't necessarily creating a program for them, that's definitely important but it's also building this sense of trust. A lot don't even kind of feel comfortable coming into the library. So there's that kind of transition part too, as like, what can we do to have these families feel comfortable coming into the library?"

A few library staff members mentioned the importance of creating a welcoming environment to help families with autistic children feel more comfortable asking questions or for support. One participant mentioned the importance of welcoming families into the library:

> "So then there's an opportunity to chat up the parents. Say hey, how are you doing today? Can I help you find anything? And just being there and saying hello every time… It goes a long way to building trust."

Library staff participants also identified that creating a welcoming environment, and introducing themselves to families with autistic children, helped to build rapport with that family. Building rapport helped provide staff with the knowledge to make changes to their services and/or their programs to support children's access.

These flexible changes were identified as an element of providing compassionate services, which were emphasized in librarian's conversation on systemic enablers (31.2%). For many library

staff, providing compassionate services meant supporting families' needs through flexible policies such as allowing curious children to help with check out, or not asking a verbally excited child to "be quiet."

These flexible policies included acceptance of autistic behaviors and traits, with librarians mentioning that staff's acceptance, as well as community inclusion, are both necessary for inclusive library services and access for families with autistic children. As one library staff member described in depth:

> "Just keeping it in mind that sometimes the behaviors you see have nothing to do with you is the biggest thing. And so some of that we're going to have to defy the expectations of patrons well, who may view the library as a quiet place or expect [certain behavior] from other people… And making a point of saying these things [to the public] and to uphold policies that don't kick people out for not doing what other people think you should be doing in the library."

Ultimately, library staff members emphasized the need for social enablers and inclusion in their library to help mitigate barriers families with autistic children face, but many did not know where to start or how to address these barriers.

5.2 While Librarians Identify Environmental Accessibility Supports, Few Offer Them

Library staff also provided examples of structural enablers they saw or used in their own services, including accessibility support methods. However, while accessibility support methods were emphasized as an enabling practice in conversation regarding structural enablers (24.67%), few librarians had previously offered them. Two librarians described that they were able to offer sensory kits at their locations, but that they were not well advertised which resulted in little use:

> "I know at one of our locations, we do have a sensory pack that does offer noise canceling headphones, as well as different types of fidgets and sensory toys. I don't believe that pack is well known in our community either yet."

This suggests that in librarians' interactions with autistic children and their families' systemic structural enablers may be less integral than social enabling practices, such as providing compassionate services.

5.3 Early Literacy Program Enablers

Inclusive program design was also highlighted by youth-serving library participants as an important component of accessible programs for autistic children and their families and comprised nearly half of their conversation on library services enablers (48.2%). Library staff largely agreed with parent and caregiver participants, citing hands-on activities, visual elements, and predictable program elements as the elements of library programs that they saw in their practice were the most useful for autistic children and their families. Librarians were also particularly cognizant of sensory barriers in their inclusive storytimes, and identified ways that they have removed sensory barriers in their programs, as one library staff member describes:

> "Of course with a lot of autistic children, they do, they suffer from a sensory overload, or there's things going on in their brain that overwhelm a lot of their other senses. The first thing that you can do, of course, lower the lights, lower the noise level, lower all the stimulus. And when you are doing stories, it's a good idea to have like an itinerary, essentially, pictures of what you're going to do."

For librarians, fostering inclusion was also an important program enabler and made up 34% of their conversation on service enablers. For librarians, fostering inclusion meant setting inclusive

expectations, accepting “non-normative” program behaviors, and letting families know that they were welcome at their programs. Librarians who incorporated this practice would set inclusive expectations at the beginning of their program, as one librarian described:

> “we’ll talk about my expectations…’I expect that you participate. I don't expect you to sit there the whole time. You don't have to worry about telling your child, 'Sit down, sit down, sit down,' but you can because it is a skill that they'll have to learn when they go into school.’ I don't expect them to be quiet. There's going to be stimming that happens, just like in life, you just continue on with your work.”

Setting inclusive expectations was identified as particularly important for families who may not know their child is autistic, as another librarian mentioned during the same focus group:

> “And so where I'm working, the children coming in, if they have a learning disorder, they are less likely to have been identified as having a learning disorder. And this is one of those reasons why it's important to incorporate [inclusive expectations] in every story time that we do, because even if you're advertising it as not being a story time for kids with special needs, you're going to get kids in there who have special needs if you're doing your job well. And they may not even know it. And their parents may not know it.”

When talking about setting up a culture of inclusivity in their library program, library staff participants were particularly concerned with ways to advertise that their program was inclusive, and to assuage the fears of families attending their programs.

5.4 Section Conclusion

These findings suggest that the few librarians currently providing services to autistic children and their families do so with compassion and flexibility to their individual needs. These

librarians emphasized systemic social enablers as essential for improving accessibility for this group. Additionally, service enablers such as enabling practices for library programs focused on fostering inclusion by providing inclusive expectations for the library program attendees. While it is possible that librarians were less likely to provide structural enablers over social enablers due to a lack of funding for sensory items, this suggests structural enablers may be less important than social enablers in interactions with autistic children and their families.

6. Comparison of Findings: Parents & Librarians

Parents and caregivers overall emphasized different barriers and enablers to library early literacy services than youth-serving library staff members. In this section I will briefly describe the most salient of these differences, including the systemic barriers identified by each group, the primary service barriers discussed by each group, and the enabling practices emphasized. I will do this through the use of visual comparisons to show the relative emphasis of each type of barrier across groups.

6.1 Systemic Barriers

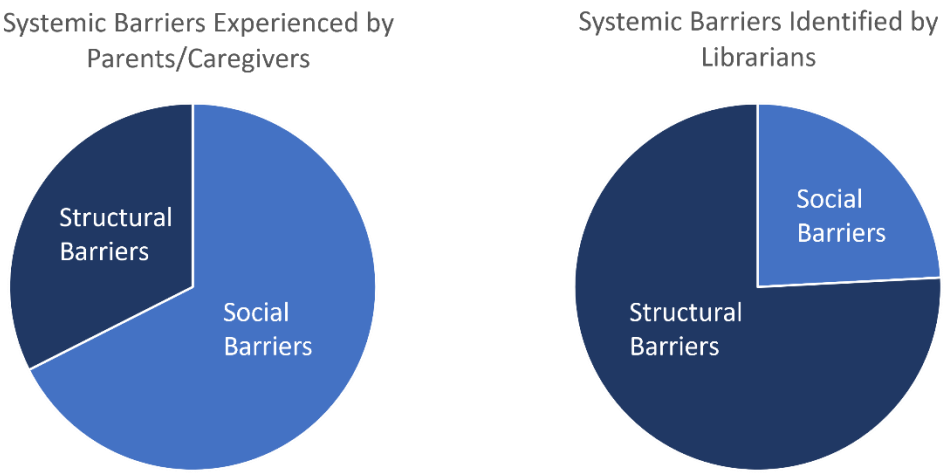

Figure 14: Comparison Between Systemic Barriers Emphasized by Parents and Librarians

Systemic barriers were a focus of conversation across the board, with both groups describing the broad impact of these barriers either on their library use or on their ability to serve autistic children and their families (19% of the conversation overall). While systemic barriers were heavily emphasized by both groups, the type of systemic barriers experienced by each group were nearly inverse (as shown in Figure 14). This suggests that while families with autistic children are burdened primarily with social systemic barriers (such as isolation and exclusion, or a fear of judgment), library staff are held back from serving this community by structural barriers (such as a lack of resources and training).

Structural barriers for library staff such as a lack of training were identified by parents and caregivers as a substantial systemic barrier. Parents and caregivers discussed a lack of training (10%) and inflexible library policies (10.7%) as compounding structural systemic barriers that had a negative impact on their experiences in libraries. Parents and caregivers wanted training for library staff to focus on compassion for their children, and flexibility regarding library policies:

> “I feel that everybody could use more training, just more sensitivity training just to understand what they're seeing in the audience, or when they're doing these different activities and somebody's up there, is not maybe what is really truly happening in that child's body at the moment.”

This illustrates how the structural barriers experienced by librarians, in this case a lack of training, have a direct impact on how they uphold and address patron expectations with autistic children and their families. This lack of training leads to social barriers, especially for families who had negative experiences in libraries with untrained library staff. As one parent explained, a neurotypical bias can be damaging to autistic children’s experiences in libraries:

> “When you look at a kid with autism, most of the time you don't necessarily know they have it. They just look like a kid. And so I think that the biggest thing that I really feel is consistent judgment. Like when we go in, if he runs, if he's loud. And we're going, "Slow down. Let's have walking feet. Hold my hand." We're trying so hard, and there’s such judgment... Like I can't even put into the words. The tone. They glare at you. They look really displeased.”

A lack of training also contributes to librarian’s lack of awareness of the social barriers present for autistic children and their families, with few librarians identifying social systemic barriers such as explicit biases within their library system. Additionally, when librarians described the types of systemic barriers they felt families faced in their libraries, they focused on structural systemic barriers such as the library environment, rather than social systemic barriers such as negative judgment. Families’ isolation and exclusion were often compounded by social expectations that libraries should be quiet, which was mentioned 10.9% of the time by our parents and caregivers but only 3.9% by our library staff participants.

6.2 Service barriers

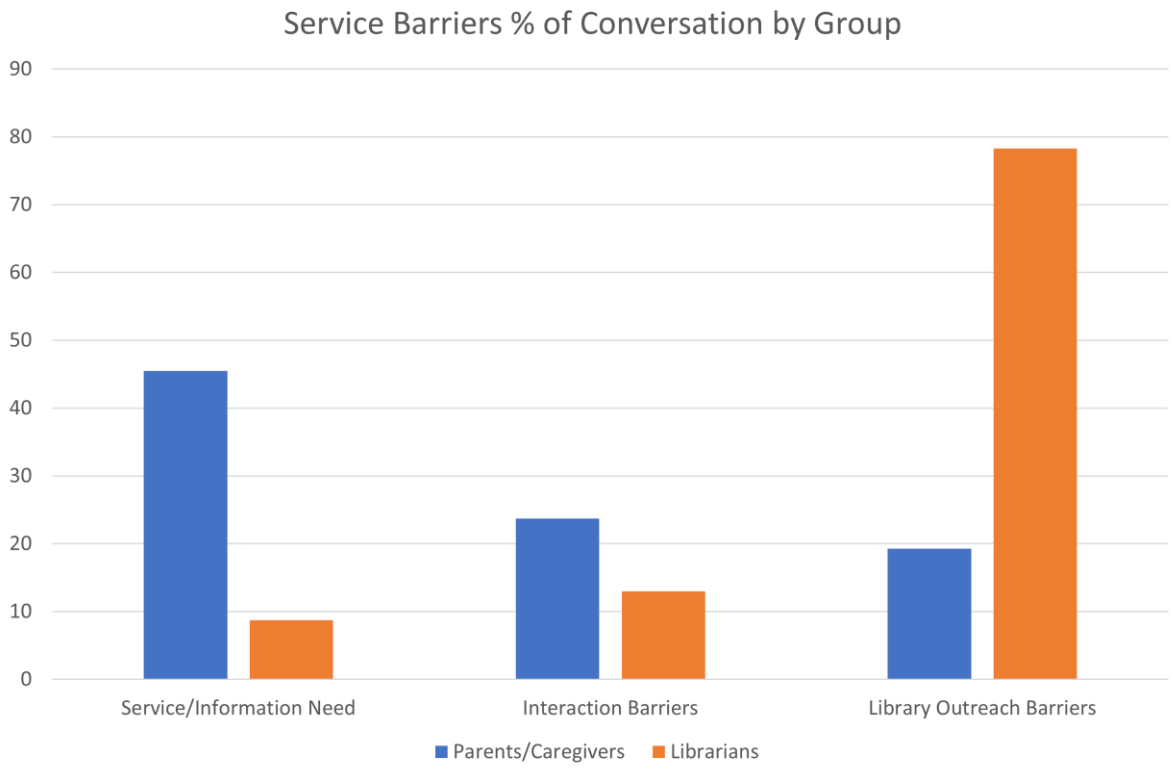

Figure 15: Comparison of Service Barriers Emphasized by Parents and Librarians

Conversations regarding service barriers presented another interesting area of divergence across groups. Family members of autistic children primarily identified service and information need barriers (such as a lack of autism-inclusive programs) and interaction barriers (such as negative interactions with staff). However, librarians focused on outreach barriers almost exclusively. As visualized in Figure 15, library outreach barriers were discussed among this group far more often than service/information need barriers and interaction barriers combined. Outreach barriers were especially prominent for this group because they understood the necessity of engaging with the autistic community:

> "…but I do feel like there's something really important about figuring out what's going to work for those families in your community and making a strong connection to them. Because without that, it can be so challenging."

Interestingly, while early literacy program barriers ("service/information need" in Fig. 15) were not a focus of conversations among this group, a majority of librarians reported that their libraries do not offer autism-inclusive programs (46.4%). Specific aspects of inaccessibility in library programs were, however, emphasized in conversations among parents and caregivers. This disparity can be explained by librarian's lack of knowledge of the needs of autistic children and their families, and is related to the library outreach barriers emphasized by library staff as they are unaware of the needs of their community. This connection is discussed further in Chapter 5.

6.3 Enablers

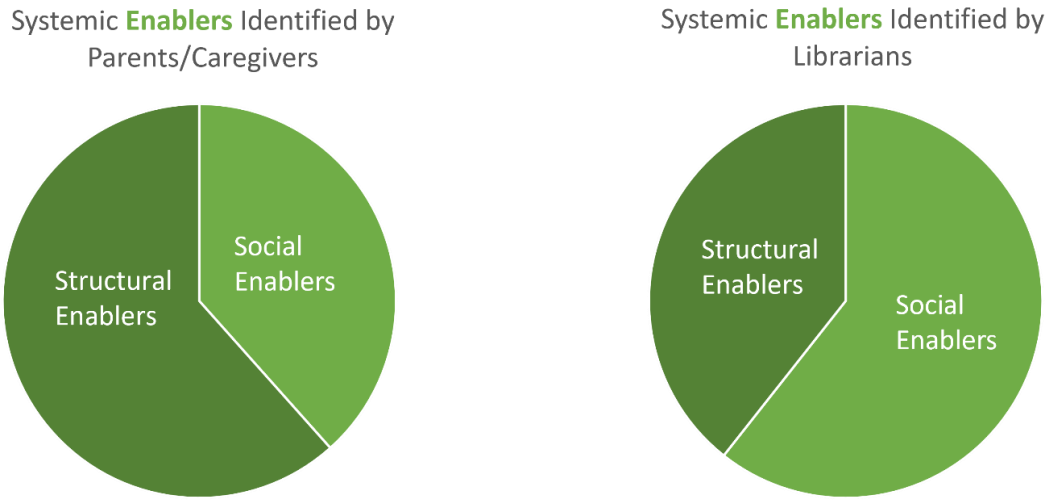

Figure 16: Comparison of Systemic Enablers Identified by Parents and Librarians

As illustrated by the figure above, families with autistic children focused on structural enablers (such as access supports) as enabling practices in libraries, while youth-serving library staff focused on social enablers (such as methods of providing compassionate service). This indicates that families, while focused on social systemic *barriers*, highlighted *structural* enablers in their conversations. Similarly, librarians who had positive experiences working with autistic children and their families cited *social* systemic enablers as the practices that supported those positive experiences.

Library staff participants overall were more likely than family participants to mention *social* systemic enablers rather than *structural* systemic enablers. Library staff with experience serving this population focused on providing compassionate services (31% of the conversation on enablers) and creating a welcoming environment (29.5%). Examples from library staff who provided compassionate services included supporting families' needs through flexible policies or environmental access supports. Library staff also provided examples of structural enablers they saw or used in their own services, but these were a small percentage of their overall conversation: with service enablers at 9.5% of the overall conversation, and systemic enablers at 7.5%. This is indicative of library staff's lack of training and knowledge in this area, with few library staff participants having formal autism training (n= <10).

6.4 Section Conclusion

While parents and caregivers primarily emphasized ways to enable library services for themselves and their children (20% for service enablers and 19.5% for systemic enablers), librarians' overall mentions of enablers they used in their own practices were relatively low (9.6% for service enablers and 7.5% for systemic enablers). This indicates that parents and caregivers have untapped knowledge regarding improving services for autistic children and their

families in libraries, meaning libraries are not utilizing community feedback from families with autistic children. This is corroborated by librarian's conversations regarding a lack of community outreach through their libraries, which includes community needs assessments and feedback.

7. What autism-specific professional development tools and resources are needed to enable libraries to address barriers for autistic children and their families in early literacy programming and library services? (RQ3)

RQ3 focused on addressing the specific barriers identified in RQ1 and RQ2, and on implementing and adding to enablers. Findings from these two previous research questions illustrated that the following barriers had the heaviest impact on services to autistic children and their families:

1. *Systemic social barriers*: The conversation on systemic barriers focused on feelings of isolation and exclusion and on fear of judgment. These barriers are predominantly fueled by community and cultural expectations of patron behavior in libraries.
2. *Lack of autism-inclusive library programs*: Current library programs presented significant participation barriers for autistic children and their families, including sensory and engagement barriers. This led to negative library program experiences among families, with a majority reporting that their libraries do not offer autism-inclusive programs.
3. *Lack of training and resources for library staff*: Youth-serving staff members reported that they did not have the necessary training to serve autistic children and

their families. Additionally, they lacked resources such as the time and money necessary to develop programs and perform outreach.

Earlier in this chapter I also utilized findings for RQ1a and RQ2a to identify enablers that mitigate the impact of barriers for autistic children and their families. The following enablers were emphasized by parents and caregivers:

1. *Provide compassionate customer service*: Parents and caregivers focused on enabling an inclusive environment where they would not feel judged or fearful. Compassionate services consisted of understanding their children's behaviors, being flexible in their libraries' policies, and providing options to families to increase access to services.

2. *Offering Autism inclusive programs*: Parents and caregivers identified enablers for library programs, including providing multiple methods of representation, engagement, and participation, as well as fostering inclusivity among participating families.

3. *Provide adaptive customer services*: Family participants identified key components of supportive and adaptive customer services, including: clear library instructions and expectations, including visual supports to improve understanding and library navigation; and communication supports for written/visual communicators, especially nonspeaking children.

Utilizing PD sessions librarians and family members identified specific components for training and resources to address barriers and support enablers for library use. To answer RQ3, I identify specific professional development tools and resources that are needed for youth-serving library staff through themes from analysis of these PD sessions, as well as (though less prominently) from analysis of interviews and focus groups. In this section I will summarize findings from

library staff and families in Washington State, as well as from PD sessions with librarians nationwide. Each theme will include the relative importance of each training or resource as identified by each group (librarians, national librarians, and parents).

The figure below (Figure 17) presents the top toolkit components identified by all groups, including the relative amount each type of training or resource was brought up in conversation and/or represented in design artifacts. Customer service training was the most identified among conversations about training needs, while sensory kits were the most identified resource needed among conversations about resources and supports. I will discuss each training and resource further throughout this section, organized by theme.

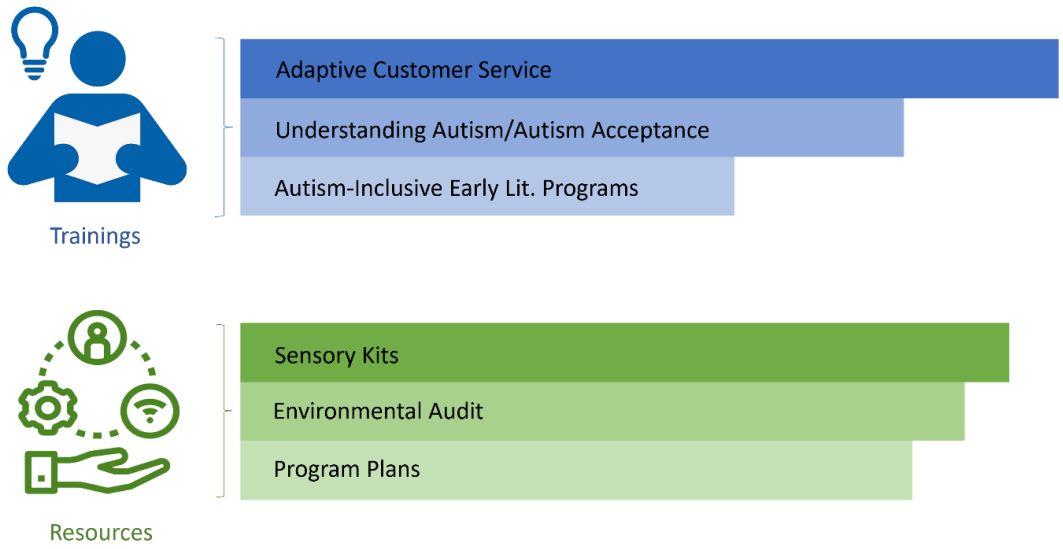

Figure 17: Top Training and Resources Identified by All Groups

7.1 Provide comprehensive customer services trainings that utilize adaptive practices

Participants across all participant groups identified a clear need for comprehensive customer service training to address social systemic barriers and to train library staff in the use of best

practices related to customer services (such as adaptive customer services). Participants focused on the need for autism-inclusive customer service training, primarily trainings that would utilize knowledge and acceptance of autism to provide adaptive best practices. Overall, customer service training was the center of conversations and design artifacts among parents and caregivers (25.5%), among library staff members (22.1%), and among national librarian participants (29.13%).

Library staff in WA focused their designs on autism-inclusive customer service training, including using visual supports, providing sensory kits, and acknowledging the impact of sensory experiences (see artifact examples in Appendix IV). Importantly, many also called for customer service training that utilized current research and experiential stories from the autistic community.

Other WA library staff identified a need for customer service training that would prioritize autistic children and their families' needs, and provide ways to build rapport with families to learn about how to best serve them. As one librarian explained during a PD discussion:

> "I was thinking about training for myself, for the rest of the staff, because how do you start, otherwise? So that was one of the things. And then ways to talk to the parents that won't come across as judgmental. How do you go up to a parent and say, "Your child is misbehaving." And then they say, "Oh, well, he's on the autism spectrum." And that's a bad start there. How do you approach a parent? How do you find out what their child needs?"

WA Library staff design artifacts also identified the need to build rapport with autistic children and their families, specifically by advertising inclusive services to help build trust. As one staff member wrote in their design (available in Appendix IV): "*To say inclusive is not enough; we must show it through signage…*"

Parents and caregivers identified a similar need for all library staff to be trained in autism-inclusive customer service to handle situations without negative judgment. As one caregiver explained:

> "And then in terms of support, just making sure that not just the librarian, but all of the library staff is trained, in how to accommodate kids with challenges or disabilities and their families, but also how to sort of handle certain situations."

Parent and caregiver design artifacts for inclusive early literacy programs emphasized a need for training that would help library staff to be compassionate and understanding, for example in written comments such as: "*B. Staff and educators that are compassionate and understanding*." And "*It is important for my daughter and myself to feel included and not judged…*" (artifact in Appendix IV).

National library staff agreed, with one librarian highlighting the need for adaptive communication training in a Padlet comment during the design activity:

> "I wonder if short training videos could be made that demonstrate best practices in communicating with autistic children and families. Any resource that empowers staff to be more confident are helpful."

Overall, each participant group emphasized a need for trainings that address social systemic barriers by improving library staff's autism knowledge, sensitivity to autistic children's needs, as well as acceptance of autistic traits. Customer services training was identified as one way to train library staff in adaptive best practices to provide flexible services to autistic children and their families.

7.2 Focus on autism acceptance and inclusion

Training related to autism, prominently autism acceptance training and inclusion techniques, was a focus of conversations among all participant groups. Librarians in WA state were particularly interested in trainings that focused on knowledge about autism, acceptance, and inclusion (20.9%). National librarians agreed, with their conversation focusing similarly on sensitivity trainings and methods for inclusion (21.36%). While parents and caregivers focused less on the importance of autism knowledge (10.6%), they pinpointed specific ways that autism acceptance and inclusion training could support welcoming and inclusive customer services (11.7%).

In particular, WA library staff felt that having a foundational understanding of autism would help them better support autistic children and their families, as one librarian described during a PD discussion:

> “I would want to make sure I was fully trained regarding autistic children and how best to make them and their families feel comfortable in the library. Autism seems like a many faceted diagnosis and I am not an expert.”

Other WA library staff emphasized the need for autism acceptance training that included information on how to facilitate inclusion among non-autistic library patrons. As one librarian wrote on their design artifact (available in Appendix IV): “*Suggested talking points for sharing with members of the public who may have questions about autism-inclusive policies*.”

National librarians agreed, and expanded the conversation to focus on how to sow the seed of inclusion among library staff members, with one writing:

> “Inclusion Information for staff/selling points on why Inclusion is important. Might also be a good idea for families as I've had conversations with family members who needed to be convinced it was ok for their children to come to the library as we were aware of developmental needs of young children and wouldn't "throw them out" or embarrass their family if the children had behavioral issues.”

Parents and caregivers overall focused predominantly on training that could support acceptance and inclusion for their customer service interactions. As one parent emphasized during a PD discussion:

> “I don't know if they teach it, but just common courtesy that every child is different. You see one child with autism, you see one child with autism. Same with just neurotypical children. Every child is different. And just being compassionate in your job when the parent could already be completely overwhelmed with having their own sensory issue by bringing their children into a library.”

These findings indicate that families and caregivers, as well as librarians, identified that a basic understanding of autism paired with training focusing on autism inclusion could address systemic social barriers present in libraries for autistic children and their families.

7.3 Train librarians to offer inclusive library programs that are open to all children

Overall, librarians and other youth-serving staff who offer programs expressed a need for training to provide inclusive early literacy programs. Parents and caregivers in particular identified a need for training to support the use of enablers, such as hands-on and engaging activities, providing multiple methods of engagement (including activity choices, seating, etc.), and using visual schedules. Training for inclusive library programs, specifically storytimes, was a prominent part of the conversation on trainings among parents and caregivers (19.68%). Librarians in WA state also focused their conversation on trainings to support library programs, specifically training for early literacy engagement and sensory needs (19.36%). National librarians moderately agreed, with a smaller portion of their conversation focusing on inclusive programs training (17.48%). In comparison with Washington state librarians, national librarians focused more on outreach and advocacy (21.36%) than inclusive programs.

Families focused their participatory design sessions on identifying enabling practices for library programs, and the need for training to support that. Each parents' design artifacts included specific methods for facilitating inclusive early literacy programs (see Appendix IV for examples), and the discussion of these design artifacts emphasized the need for staff training to utilize these methods. Many family members provided specific guidance, for example:

> "So having a program that accepts a wider range of ages would be more inclusive for families with multiple kids and multiple developmental abilities. So we discussed before, no expectation to sit and listen. You could have sensory bins placed around a room for busy bodies to explore and to interact while the story is being read aloud. I know for my kids, it might not look like they're listening, but they are absorbing every single word, but their bodies need to be busy. They can't just sit and read, and that's just not how their little minds work."

Librarians focused on the specifics of what an early literacy program training would need to include to be useful for them, including specific examples of successful programs, educational resources, and more. As one staff member described while discussing their design artifacts:

> "I would say very similar to her request is looking for kind of an example of what an ideal storytime would look like, so that you have something that you can show your staff if you're doing some sort of training. In addition to potentially, even just a listing of resources where we can turn and connect staff with, to be able to provide them with additional information and education..."

Librarians design artifacts reflected these specifics, focusing on elements such as sensory kit guidance for library progams, how to create visual schedules, and specific ways to include autistic children in storytime (see Appendix IV for examples).

National librarians in particular focused on training for their staff that would support interactions between autistic and non-autistic families in library programs, including ways to set inclusive expectations to facilitate inclusion. As one national library participant explained during a PD discussion:

> "So, it would be nice to see something like how to deal with members of the public who may be upset or complaining about families with autism that are participating in our events or story times, because I know that's something we will have to face."

This focus on autism-inclusive early literacy services across groups is indicative of the need to address library program barriers in three ways: 1) through inclusive expectations, 2) with multiple methods of participation and engagement, 3) utilizing autism-inclusive early literacy development practices.

7.4 Offer Supportive Resources

In addition to trainings, librarians also emphasized a need for resources to improve their services to autistic children and their families. Family member participants also identified specific resources that would be needed to improve accessibility in libraries. Specific resources were emphasized in conversations during interviews, focus groups, and PD sessions, and further illustrated in participant's design artifacts (see Appendix IV). These included resources for building sensory kits, auditing the library environment for barriers, providing visual supports,

advertising inclusive programs, advocating for inclusive programs and services, and building connections for community outreach.

Sensory kits were a common request from family members, including headphones, fidgets, and other supportive items such as sunglasses. As one parent described:

> "…noise canceling headphones or some sort of sensory box, so parents can take a breather would probably be helpful in the library. With noise canceling headphones or small little things that they can carry around to busy their hands to help the parents, I think that would be a good idea. "

These kits were highlighted in parents' design artifacts as well, with depictions of headphones, sunglasses, and fidgets for use in their ideal early literacy program. As one caregiver wrote on their artifact: "*2. Fidgets. To keep my child and many others engaged it is important to have many different types of fidgets available*."

Curated booklists and book kits were also especially requested by parents, as a way to avoid barriers at the library and save time. As one parent described, not having curated resources was a deterrent for using the library:

> "And I know for me something that keeps me from going to the library is I'm constantly in a rush as a special needs mom and if I could just check out a kit that two or three books, maybe something related to the books and bring it back in two or three weeks, that would stress me out a lot less than having to go into the library and curate a good reading list for my daughter."

For librarians, both in WA and nationally, sensory kits were also identified as an important resource for serving autistic children and their families, closely followed by environmental audit

resources and program plans. Librarians wanted these resources to be based in current research and best practices, as one staff member wrote in their design artifact: "…*offering clean and usable sensory items (based on newest information available)*…" (see Appendix IV).

However, national librarians focused on advocacy resources, emphasizing the importance of both these resources and outreach resources over environment audits and program plans. National librarians were especially invested in ways to advocate for autism-inclusive practices to their upper management, as one national participant wrote in a comment during the design activity:

> "It would be helpful to include a section in this training on advocating to administration and library boards for the training itself and for making changes in services and programs. Also, how to "sell" this to reluctant staff."

In particular, national librarians hoped that advocating for the need for services to autistic children and their families would lead to additional time and funding to perform outreach services to this group. WA librarians were also interested in outreach, taking note of the current barriers that kept families with autistic children from using the library:

> "I mean, with libraries traditionally having barriers to offering programs to families with autism, how do we connect with them and know what they want from the library? Because this is an audience and a population that we haven't been able to reach because they're not using us currently because there have been those barriers."

These findings indicate that both families and librarians identify the need for specific resources to address sensory barriers at the library, however, initial steps were identified by national librarians. For example, national librarians identified the need for advocacy guidance to justify

purchasing sensory kits to their upper management, or making changes to their library environments. Additionally, without outreach efforts, families with autistic children may be unaware of the new resources and changes for accessibility offered by their libraries.

8. Conclusion

This chapter presented data that emerged from interviews, focus groups, and PD sessions with parents and caregivers, as well as librarians, in WA state (and some nationally). The data collected enabled the identification of specific barriers, enablers, and needs relating to serving autistic children and their families in public libraries. More specifically, these findings revealed the systemic and service barriers that most impact services to this population.

Overall, social systemic barriers had the largest impact on library visits, with parents and caregivers reporting isolation and exclusion, as well as a fear of judgment in libraries. This indicates that families with autistic children do not feel welcome in libraries. This systemic barrier then permeates through service barriers for these families, making them less likely to seek out information services and attend early literacy library programs to support their children's early literacy development. Enabling practices were identified to mitigate these barriers, such as by providing a compassionate and welcoming environment through customer service interactions. These enabling practices also focused on increased accessibility to library programs and services, such as limiting sensory barriers and providing multiple means of participation and communication. This indicated that inclusion in libraries for autistic children needs to use a two-pronged approach, utilizing both structural enabling and social enabling practices. Additionally, parents and caregivers focused much of their conversations on enablers, indicating that families with autistic children can provide untapped guidance for inclusive library policies and practices.

Needs related to specific trainings and resources such as customer service, autism acceptance, and sensory kits were also surfaced. Utilizing data from PD sessions, trainings and resources were identified to address barriers and implement enablers through the use of key practices. These key practices will be discussed in the next chapter. In the next chapter I will also discuss these findings in relation to the relevant literature, present the implications of these findings, and identify future work.

Chapter 5: Findings Discussion

1. Introduction

This study uncovered specific systemic barriers present for both families with autistic children, and youth-serving library staff, that limit access and inclusion in early literacy services for autistic children and their families. Findings from this study confirmed that these systemic barriers inform service barriers for this population, which impact children's early literacy experiences and families' use of library services to meet their children's early literacy needs. While libraries wish to serve this population, many are not currently equipped to address the specific barriers to access present for families with autistic children due to a lack of resources and training (Prendergast, 2016; Broman, 2017; Simpson et al., 2020; Kaeding, Velasquez, & Price, 2017; Copeland, 2011), as well as institutionalized ableism rooted in a problematic framing of autism (Kaeding, Velasquez, & Price, 2017; Lawrence, 2013).

In this chapter, I will discuss the findings of this study by contextualizing them within a critical lens informed by CDT and the neurodiversity paradigm (as developed in Ch.2). I will frame these findings in conversation with relevant literature, highlighting the theoretical implications of this work for the LIS field and beyond. I will also present how these findings might be used to inform LIS practice and pedagogy. The focus of this work is to address current systemic beliefs, practices, and barriers in librarianship related to serving autistic children and their families. The following discussion highlights theoretical and practical implications that refine current systems to increase access by addressing barriers and informing new practices. This chapter is organized

by research question to provide easy reference back to the findings, with broader themes and implications highlighted by subject headings. After discussion of the findings, I summarize the theoretical, methodological, and practical contributions of this study before briefly discussing its limitations. I conclude the chapter by exploring future areas of study surfaced by this work.

2. What barriers do families with autistic children experience that limit their inclusion in early literacy activities in public libraries? (RQ1)

> *Again, nobody said to us, "Be quiet," but we said, "The expectation at the library is to not make a lot of noise." And so this is so controversial, but maybe the library is a place where it's* ***not quiet****.*

As the above quote from a parent participant illustrates, there is a prevalent sociocultural expectation that libraries are "quiet." While this has been changing over the past decade as public libraries move away from being a place of quiet, to being a center for community growth and learning (Freeman & Blomley, 2019), many patrons still hold on to this dated expectation. The concept that "libraries are quiet" hangs especially heavy in the hearts of families with autistic children, who are afraid of how their children's behaviors will be perceived by others. This is one example of how wider sociocultural expectations have a pervasive impact on how, and if, families with autistic children use the library.

Expectations of how patrons should behave in the library were one of the main limiting factors for my families, with parents and caregivers who felt they could not meet patron expectations limiting their time in the library or not using the library with their families. This resulted in isolation, meaning that a family with an autistic child would avoid using the library with their

child, or severely limit the time they spent in the library space. Isolation and exclusion were mentioned during 23.7% of the conversation on social barriers. For example, when asked how often they attended the library, one parent replied: "… we don't go in very often. There's so much anxiety there. We just don't go into the library."

This indicates that systemic social barriers are the primary and compounding barrier faced by autistic children and their families.

Overwhelmingly, the prevalence of systemic social barriers (65% of the conversation on systemic barriers) indicates that families with autistic children do not feel welcome in libraries. This suggests that *social expectations* are the primary access barrier faced by families with autistic children as soon as they set foot in the library. This systemic barrier then permeates through service barriers for these families, making them less likely to seek out information services and attend early literacy library programs to support their children's early literacy development.

These social expectations for patrons using the public library are ***barriers that act as manifestations of institutionalized ableism.*** Institutionalized ableism is social ableism that has been adopted on the organizational level and is characterized by ableist policies, practices, and environments (Lalvani & Broderick, 2013). While neurotypical library users bring their own cultural expectations for patron behavior and the operation of the library, library systems guide these expectations. One example of how institutionalized ableism manifests in library systems is neurotypical bias, which is the assumption that all library users are neurotypical, or that all autistic behaviors require a high level of support (e.g. Koenig et al., 2014). A neurotypical bias centers the needs of the neurotypical library community member above more specific needs for autistic users or inclusive practices. Neurotypical bias was mentioned in 11.7% of the

conversation on systemic barriers among library staff. By not explicitly setting inclusive expectations for all patrons, library systems reify harmful ableist stereotypes which result in systemic social barriers for autistic children and their families.

2.1 The presence of systemic social barriers has deep theoretical implications

This feeling of needing to isolate autistic children away from libraries and other environments due to not meeting the perceived social expectations of the space is not new. Existing research has found that many autistic children experience isolation due to other's reactions to their sensory or movement differences (Baron, 2006; Bauminger, Shulman, & Agam, 2003). Additionally, research specific to libraries has found that the quiet nature of the library makes parents feel disruptive for bringing autistic children, and families are scrutinized and criticized by library staff who don't understand autism (Ghuloum & Alyacoub, 2017; Grassi, 2017). Studies have also found families of autistic children feel that library norms, and the expectations for those attending the library, are not welcoming to their children (Broman, 2017; Prendergast, 2016).

However, previous work has not identified that isolation and discomfort in the library are intrinsically linked to pervasive *sociocultural barriers* as indicated by co-occurrence with families' *fear of judgment*. Additionally, these barriers have not previously been conceptualized as a *systemic* barrier, relating to institutionalized ableism and therefore reified into service barriers for autistic children and their families. This study utilized a critical lens to surface these systemic sociocultural barriers. Following a social model lens rather than a deficit model or medical model framing enabled inquiry, through the use of data collection methods utilizing CDT, that uncovered barriers to library services that had not previously been explored.

This is a major gap in how we frame and understand library services to autistic and neurodivergent children in public libraries, and may largely relate to previous use of deficit models when conceptualizing these services in LIS. This leads to focusing on perceived barriers based in medicalized needs and barriers (such as sensory needs). ***When we utilize a critical lens grounded in CDT to surface and understand systemic social barriers, we uncover the deeper barriers that affect autistic children and their families and their specific impact on early literacy services.*** For example, because of systemic social barriers families with autistic children often delayed accessing early literacy learning experiences in libraries until their children had been "normalized" for library behaviors through social skills learning, multiple counts of behavior modification to teach their children to sit on the floor in storytime, etc. And while these behaviors were often in response to structural barriers such as the sensory environment, the fear of judgment for their child's behavioral differences was the deeper reason families avoided bringing their child to the library. Unfortunately, this delay in accessing services often means that families with autistic children are not accessing library early literacy services at key times during their children's early literacy development. This is when families are most in need of the support and services that libraries provide which are both free and high quality (Campana et al., 2016; Sheridan et al., 2011; Westerveld et al., 2016).

These findings related to social systemic barriers also explain how many libraries, that are already incorporating inclusion efforts such as sensory kits and sensory storytimes, still see low attendance of families with autistic children (Matoushek et al., 2015; Prendergast, 2016). This is evidenced by one librarian's recollection of the inclusive storytimes their system tried to offer:

> "And then they were a complete flop. People just didn't show up. So it's perhaps a marketing issue in that case. But some of the librarians who specialized in these story

times, actually went to the therapy sites to offer story time and they still didn't get an audience there."

2.2 Addressing systemic social barriers has profound practical implications

Systemic social barriers have not previously been identified or addressed by professional development training, guides, or best practices (e.g. Farmer, 2013; Klipper, 2014; Anderson, 2021; Schriar et al., 2016; Targeting Autism; Project ENABLE). Previous professional development interventions in this area have only focused on structural barriers such as the library environment. This demonstrates a disconnect between research and practice for serving autistic children and their families, as well as a disconnect with autistic advocates and the larger autistic community.

To this end, inclusion efforts in libraries need to address both structural barriers and systemic social barriers in order to be accessible to autistic children and their families.

Critical to library inclusion efforts is the act of addressing institutionalized ableism that manifests in social barriers in public libraries. To do so, libraries need to challenge current sociocultural expectations which are built into the fabric of library services. Libraries need to create inclusive patron expectations that welcome neurodiversity, including differing social expectations and behavioral expectations. For example, normalizing physical and verbal stimming autistic children use to self-regulate, and incorporating communication differences.

Most importantly, patron expectations and library program expectations that are inclusive of autistic children should be advertised and clearly posted to subvert cultural expectations of quiet libraries and "quiet bodies." Additionally, an intersectional lens informs us that these patron expectations need to take into account individual differences. These include communication

differences, and incorporating methods to support access for nonspeaking or minimally speaking autistic children who are impacted more severely by barriers. For example, one notable finding from this study was that families with non-speaking children, or children with co-occurring conditions such as ADHD and anxiety, experienced stronger fallout from negative library experiences and were less likely to return.

When libraries remove sociocultural barriers for autistic patrons, and incorporate welcoming practices for autistic children and their families, families will be more comfortable bringing their children without fear of judgment. This also ultimately improves their children's lives as they will not feel forced to mask their autism in libraries. In this way, a community of inclusion sets expectations at the library which disrupt current ableist structures in libraries with impacts that reach further than the library itself.

3. What early literacy resources and services do autistic children and their families need in relation to public libraries? (RQ1a)

Overall, this study verified that systemic and service barriers have a direct impact on early literacy learning experiences for autistic children and their families, culminating in a lack of inclusive resources and services. This resulted in a lack of parent-facing resources and parent literacy engagement practices, leaving many families with autistic children without the same guidance and early literacy mentorship enjoyed by many neurotypical families (Albright et al., 2009; Campana et al., 2016; ALA 2012; Neuman et al., 2017). As other studies have found, relationship building between librarians and children results in trust and connection (Albright et

al., 2009; Campana et al., 2016). In this case, systemic and service barriers result in a lack of connection and trust between librarians and families with autistic children. This is evidenced by the emphasis parent participants placed on the importance of relationship building to increase their access to library programs and resources, and decrease their fear of judgment and negative experiences.

Without accessible autism-inclusive library programs, systemic and service barriers also directly impacted the early learning families experience in storytimes. Families felt unwelcome, reinforcing negative sociocultural conceptions of their children's non-normative behaviors and implying that their children were not "capable" of participating: "I realized it was impossible to bring him back [to storytime] after that."

The above key findings elucidate a number of theoretical and practical implications relevant to the types of resources and services families with autistic children identified.

3.1 These findings expand our understanding of the impacts of service barriers on early literacy learning experiences

The suggestions provided by participants regarding early literacy resources and services for autistic children and their families enhance our understanding of how to overcome systemic barriers in library early literacy experiences. This includes not only the learning experiences that take place at the library, but also those that occur at home as a result of library visits. Families' need for early literacy resources and guidance adds to our understanding of how a lack of early literacy programs and services impacts the home literacy environment for autistic children and their families.

While previous studies have conceptualized the impact a lack of reliable information sources on autism and literacy have on parents' information needs (Prendergast, 2016; Schriar, Foester, & Pelich, 2016), ***previous work has not conceptualized how a lack of library early literacy resources for parents may impact autistic children's home literacy environment***. This work conceptualized early literacy learning as occurring in three ways: through the home literacy environment, children's literacy engagement, and families' library early literacy service use. In each case, systemic barriers impacted the early literacy learning experiences of autistic children by limiting families' access to library early literacy services.

For example, this study revealed that a lack of inclusive patron/borrower expectations was an additional barrier to the home literacy environment. There were several families who would not bring home books from the library for their children for fear of losing or damaging them. This limited the number of books in the home, directly impacting early literacy development, which is supported by activities that rely on print materials such as parent's shared reading practices and children's print engagement (Boyle, McNaughton, & Chapin, 2019; Fleury et al., 2014; Whalon et al., 2015).

3.2 Outreach and promotion are critical for serving autistic children and their families

Few studies have identified the importance of outreach services to autistic children and their families, while even fewer have identified the impact a lack of outreach and promotion have on library attendance. One study found inclusive library programs are often poorly marketed and rely on word of mouth, and programs for disabled patrons were not advertised to the public (Adkins & Bushman, 2015). Another study validated this for families with autistic children, connecting it to the reason parents of autistic children often are unaware of the programs and resources available at the library (Broman, 2017).

This study adds to previous literature by highlighting the role outreach plays in not only promoting library early literacy services such as storytimes, but also in helping library systems identify the needs and values of their communities. ***Critically, outreach efforts also play a role in addressing systemic barriers experienced by families with autistic children***, for example sociocultural expectations and ableist notions the general public may hold about the inclusion of autistic children in libraries. Crafting outreach and promotion materials that communicate to all patrons that libraries are spaces that welcome all, especially autistic children, is critical to raising awareness and addressing normative social expectations related to who is welcomed in libraries and who library services are designed to serve.

Previous research has addressed the need for public libraries to partner with and provide outreach services to autistic community organizations as a way to build trust with autistic children and their families (Matoushek, 2015; Prendergast, 2016; Schriar, Foester, & Pelich, 2016), which is another important factor identified by this study. This research expands on these findings by specifying outreach and promotion as crucial factors in meeting the early literacy needs of autistic children and their families. It also highlights the importance of creating a community of inclusion by altering the sociocultural expectations of patrons at large.

3.3 Inclusive design elements for autism-inclusive early literacy programs have broad implications for practice

This study highlights the need for inclusive design practices to support autistic children in early literacy development programming. Utilizing a critical lens to inform co-design session protocols with families of autistic children led to a deeper understanding of inclusive design elements. ***By centering the voices of families and the needs of their children, this study identified critical design elements such as predictability, clear expectations, and providing multiple methods of***

engagement and participation. Involving families in the design process helped identify specific design elements to alleviate social and structural barriers for families. For example, setting inclusive expectations relieves social pressure for families with autistic children, who fear the judgment of other attendees for their children's method of participating in storytime. A lack of accessible and inclusive design in library programs has been a point of discussion for limited previous research. One study found that library programs are often unpredictable for autistic children and that there is a lack of multiple means of representation in library storytimes, including the use of visual schedules in library programs (Broman, 2017). Other studies also found that autistic children may not be engaged by storytimes designed for neurotypical children (Adkins & Bushman, 2015).

This study builds upon this previous work by utilizing a critical lens informed by CDT, which emphasizes a strengths-based approach and the centering of participant's narratives, to identify specific methods of engagement for inclusive storytimes. These included utilization of multiple means of representation, engagement, and participation, as well as the incorporation of focused interests. Additionally, this study found that storytimes which include hands-on activities and multiple choices of activities can engage a wider variety of learners. This builds upon previous work that has identified similar practices as naturalistic learning (Kasari, Paparella, & Freeman, 2008; Koppenhaver & Erickson, 2003), but naturalistic learning practices have not yet been identified as an enabler for library programs.

The findings of this study indicate that early literacy programs that are designed to be inclusive of autistic children can incorporate many of the same elements currently used in typical storytimes. By presuming competence and supporting learning differences, we can challenge the ableist assumptions that underlie current storytimes for autistic children, which often assume

early literacy development techniques cannot be used with autistic children (Matoushek et al., 2015). This approach can help to promote a more inclusive and equitable learning environment for *all* children and their families.

3.4 Supporting Parents' Information Needs is Key to Inclusive Early Literacy Practices

This research is the first to identify the specific early literacy resource and home literacy engagement needs of parents and caregivers with autistic children in public libraries. Multiple other studies have documented parents' need for information in order to prepare themselves and their autistic children for new environments (Bagby et al., 2012; Dew et al., 2014; Galpin et al., 2018; Meadan & Ebata, 2010), and many libraries do incorporate some of these practices, such as providing social stories on their websites (Mustey, 2019). Other studies have also suggested visual schedules that can be accessed beforehand for library programs (Anderson, 2021; Farmer, 2013, Hickey et al., 2018). However, these studies do not identify the specific information needs of parents and caregivers with autistic children relevant to library services.

This study utilized a critical lens informed by intersectionality to identify the diverse needs of families with autistic children. ***This study identified nuanced and varied information needs of families with autistic children, revealing that families require specific and descriptive information about library services and programs.*** For example, this study found that families require accessibility information, including knowledge of potential sensory triggers, and the availability of sensory kits (and what items are included). Regarding programs, families need clear and inclusive program descriptions, visual schedules, and lyrics or activity instructions ahead of time. An "all ages" program and a description that mentions the program was "designed for children with diverse learning needs" are methods families identified to signal inclusion.

The varied information needs of families with autistic children are particularly important for libraries to consider in promotion of library programs and services, and libraries' initial outreach efforts. As evidenced by these findings, when families know what to expect they are far more likely to participate. Publicly advertised information about sensory accessibility, as well as inclusive wording of storytime descriptions, also signals an expectation of inclusion to the wider community.

4. What barriers do youth-serving librarians experience that limit their early literacy services to families with autistic children? (RQ2)

This study aimed to identify the barriers experienced by families with autistic children, as well as to explore the needs of librarians in serving this community. A comparative approach was used to identify and address any disconnects that may exist between these two groups, providing critical information for addressing systemic barriers and providing inclusive early literacy services. This study revealed that while families primarily experience social barriers, youth-serving library staff face systemic barriers that are largely the result of a lack of support from their library systems.

Systemic barriers comprised 27% of the overall conversation among youth-serving library staff participants in focus groups and PD sessions, with 38% of the conversation on systemic barriers focusing on a lack of resources, and 22.4% focusing on a lack of training. This indicates that youth-serving librarians are not being provided the resources and training that they need to address barriers experienced by families with autistic children. **This suggests that librarians**

are not *adequately equipped* by their library systems and management to provide inclusive early literacy services to autistic children and their families. This illuminates a need to re-frame library services to autistic children and their families, as well as neurodivergent patrons more broadly, to reposition accessibility and inclusion as core values. Concepts of accessibility and inclusion also need to reprioritize a strengths-based model rather than a deficit model to inform services to all patrons, informed by a critical lens that utilizes the neurodiversity paradigm and social model.

The following themes discuss the broad impacts this lack of systemic support has on the inclusion of autistic children and their families in library early literacy services, and the theoretical and practical implications of this impact.

4.1 A Lack of Systemic Support Contributes to Exclusion of Autistic Children and their Families

As discussed in Chapter 2, a lack of systemic support for library staff is rooted in institutionalized ableism, which informs patron expectations, policies, and the roles youth-serving library staff are expected to fill (Kaeding, et al., 2017; Kumbier & Starkey, 2016; Lalvani & Broderick, 2013; Lawrence, 2012). Our library staff participants reported that their libraries do not view autistic children and their families as a priority, with 11.7% of the conversation on systemic barriers focusing on neurotypical bias.

This study verified that systemic neurotypical biases reify social barriers for autistic children and their families in libraries. For example, neurotypical bias in libraries directly informs the resources librarians have access to, as well as the training that they receive. This creates a cycle where institutionalized ableism deprioritizes services to neurodiverse populations, resulting in

fewer resource allocations, and a lack of available training. For example, library staff overall emphasized that they simply did not have the training to serve autistic children and their families effectively (22.4% of conversation on structural barriers), especially in areas of customer service and support. This lack of systemic support then upholds library staff's implicit or explicit biases, which are transferred to library expectations, and leads to a community of exclusion in libraries. This is then reflected in the poor quality of service autistic children and their families receive, and the lack of early literacy programs available to them.

Numerous other studies have found that librarians do not have the training necessary to provide services to autistic children and their families, with a scarcity of professional development for library staff leading to a lack of autism knowledge (Paynter et al., 2021; Prendergast, 2016; Schriar, Foester, & Pelich, 2016). ***However, this study goes further to demonstrate that this lack of autism knowledge includes a lack of knowledge of individual differences and support tactics.*** This leads to a specific lack of understanding how to facilitate early literacy development for autistic children and their families.

To address the systemic structural barriers present for librarians, a multi-level approach is necessary. This approach should include training and resources for practicing librarians, as well as addressing library system directors and boards with the information they need to create systemic change. This top-level approach should be undertaken by outside experts, as well as by internal staff through advocacy measures. Additionally, systemic structural changes should begin by reframing autism in LIS, informing theory and pedagogy for a new wave of library researchers and practitioners.

4.2 A Lack of Outreach Leads to a Lack of Knowledge About Families' Needs

It is likely that due to a lack of outreach, libraries do not know what families with autistic children in their community need. Families with autistic children currently lack representation at the library, which leads to oversights of their needs and inadequate promotion of services by library staff. This study suggests that youth-serving library staff do not know what this community needs, and lack the community partnerships necessary to begin a needs assessment.

Many libraries are unaware of the service needs of autistic children and their families, as they rarely conduct needs assessments for this population (Kaeding, Velasquez, & Price, 2017). Service needs are often identified by libraries through a community needs assessment, which often asks community organizations about the services their population requires most (Scott Brown, 2020). Those few libraries that have conducted needs assessments have made small steps to mitigating library service barriers to the autistic community widely, but have not focused on autistic children and their families' literacy needs (Baldassari-Hackstaff et al., 2014; Broman, 2017; Grassi, 2017). ***This study expands previous research to reconceptualize the role that outreach and promotion play in addressing systemic and service barriers present in public libraries for autistic children and their families.*** Additionally, this work highlights the expertise that families with autistic children have related to serving their children's individual needs related to early literacy, uncovering the role of community assessments in addressing the autistic communities' needs and values related to early literacy.

Additionally, a large aspect of community partnerships with underserved families is rapport building, with the goal of increasing community member's trust through relationship building (Campana et al., 2022). As found by this study and verified by the literature, a lack of trust, especially in the library's ability to meet community needs, exacerbates social barriers in libraries for families with autistic children (Simon et al., 2021). This is especially pertinent

related to libraries' current inability to serve this populations literacy needs, particulary due to the social barriers families with autistic children experience in library spaces. To this end, needs assessments conducted by libraries need to utilize methods to increase community trust, in this case by incorporating inclusive language and encouraging families with autistic children to share their expertise.

5. What autism-specific accessibility considerations, professional practices, and programming are currently utilized by libraries to serve autistic children and their families' early literacy needs? (RQ2a)

Neurotypical bias and a lack of communication with the autistic community color current practices in use by librarians to serve autistic children and their families' early literacy needs. This study verified that systemic barriers experienced by youth-serving library staff directly and negatively impact their ability to support autistic children and their families' early literacy needs. This study also revealed that when library staff had previous experience with autistic children, either as a parent or as someone who was autistic themselves, they better utilized enabling practices to mitigate social barriers.

5.1 Positive interactions with library staff rely on critically reframing autism in libraries

Social enabling practices have the power to mitigate barriers in the library for autistic children and their families, and support relationship-building between families and library staff. This relationship building creates trust between caregivers and staff members, reducing fear of judgment and helping families feel their autistic child is accepted by library staff.

While understanding and acceptance of autism was a key aspect of the compassionate service enabler identified by both parent participants and library staff members, these enablers are not addressed explicitly in current professional development guides and training for library staff. To this point, very few studies mention autism acceptance as an enabler for families' library use explicitly. The literature describes positive library experiences for families with autistic children as attributed to library staff who are friendly, patient, and make some sort of accommodation for their children (Broman, 2017; Matoushek et al., 2017; Prendergast, 2016). As such, studies have identified that providing autism sensitivity training to staff members is a significant enabler for families with autistic children (Grassi, 2017; Kaeding et al., 2017; Paynter et al., 2020). However, autism sensitivity trainings focus on what autism is and "accommodations" the library can provide, rather than addressing common stereotypes and ableist practices in order to subvert staff's implicit/explicit biases towards autistic patrons. Subverting staff's implicit/explicit biases towards autistic patrons can only be done through autism *acceptance* trainings. Autistic advocates address autism acceptance in libraries, where library staff understand and actively support autistic traits and needs, as an important core component of services to autistic patrons (Edwards, 2018; Lawrence, 2013).

This study is the first to conceptualize enabling practices for autistic children and their families in libraries as reliant on addressing current ableist beliefs and practices. ***Enablers for this community thus rely on reframing autism and neurodivegence in libraries utilizing a critical lens to center the social model of disability, and forward a neurodiversity paradigm for autism acceptance and inclusion.*** In particular, trainings which utilize this reframing can address staff's biases about autism, allowing librarians to use enabling practices such as compassionate and flexible services which rely on a strengths-based approach.

The findings from this study also allow us to conceptualize enablers for autistic children and their families as practices that serve multiple functions: to mitigate barriers, to inform a community of inclusion by addressing sociocultural conceptions of autism by non-autistic patrons, and to build trust and community with neurodivergent groups who have learned to distrust libraries.

5.2 Adaptive customer services have practical implications outside of simple support

While other studies have highlighted elements of adaptive customer services, including the importance of providing multiple ways to ease library navigation for autistic children and their families, this study is the first to identify how multiple methods of communication can both support interactions and signal a community of inclusion. For example, social stories and color-coded maps and signs have been identified as ways to support families' library use (Edwards, 2018; Mustey, 2019). However, past work has not identified the importance of individualized communication supports in public library customer service interactions for autistic children and their families, and the importance of advertising these supports in order to promote inclusion. Providing adaptive customer service is one way to signal inclusive attitudes to autistic children and their families, and may help ease the fear of judgment they experience in library spaces.

6. What autism-specific professional development tools and resources are needed to enable libraries to address barriers for autistic children and their families in early literacy programming and library services? (RQ3)

Previous work in this area has identified the need for specific training that addresses services to autistic children and their families, including professional development for inclusive library programs to increase librarians' confidence serving this community (Paynter et al., 2020). Other studies for early literacy programs specifically have identified the need for resources and guides for library programs that include activities, list materials, and suggest additions after the program such as social time or crafting (e.g. Anderson, 2021; Klipper, 2014; Paynter et al., 2020; Small, Schriar, & Kelly, 2019).

While many of these same elements were identified in this study, this study expands our understanding of the professional development tools and resources needed to empower libraries to serve autistic children and their families' early literacy needs. This study revealed that libraries need to address both social, as well as structural, barriers in order to successfully serve this population.

First, as identified by findings for RQ3, librarians need resources that address both types of systemic barriers present in libraries. A contribution of this work is providing the following Critical Lens Guiding Principles that trainings and resources must utilize in order to adequately serve autistic children and their families:

Critical lens guiding principles:

1. Center the lived experiences of autistic children and their families (Reaume, 2014)
2. Social barriers have a negative impact on the lived experiences of autistic children and their families (Goodley, 2013)
3. Strengths-based vs. deficit-focused services (Baglieri et al., 2011; Shyman, 2016)
4. Promote autism acceptance by confronting stigma (Gillespie-Lynch, 2017)
5. Self-reflexivity to promote ethical decision making (Baglieri, 2011)

6.1 These findings inform key practices for youth-serving librarians

One output of these findings was the development of key practices, or "key principles" that support early literacy services to autistic children and their families. These key principles are informed by a critical lens to address institutionalized ableism and grounded in this study's findings and relate directly to systemic and service enablers identified by parents and caregivers as well as youth-serving library staff.

Key Principles for Autism-Inclusive Early Literacy Services

1. Foster a community of inclusion

This principle relates primarily to addressing systemic social barriers such as fear of judgment and negative interactions with community members, both through the enablers of creating a welcoming environment (social enabler) and fostering inclusion (program enabler). Related to the "set and model inclusive expectations" principle, fostering a community of inclusion refers to providing and advertising inclusive services and programs, performing outreach to autistic children and their families, and in doing so creating an area of the community that is safe and welcoming for autistic children and their families. This principle is an aspirational goal.

2. Provide an accessible environment

Providing an environment that is free of physical and sensory barriers, and/or offering supports to mitigate barriers, is key to creating inclusive libraries and programs for autistic children and their families. Advertising and directly offering supports signals to families with autistic children that they are welcome and can mitigate fear of judgment (see systemic and service enablers).

3. Provide multiple methods of representation, engagement, and expression

This principle relates to both customer service interactions and inclusive library program design. Providing multiple methods of communication/expression for customer service interactions is a fundamental component of providing adaptive customer service which supports the individual communication needs of autistic children and their families, particularly nonspeaking members (see systemic and service enablers). Multiple methods of representation and engagement were identified by parents as foundational elements for inclusive early literacy program design.

4. Set and model inclusive expectations

Parents and caregivers reported feeling excluded and fearful of negative judgment and interactions with other community members at the library and during library programs (see section 1.1). However certain enabling practices were identified by families, such as setting inclusive expectations for library patrons and facilitating community inclusion.

5. Meet families where they are

Families and youth-serving library staff reported that flexibility in policies and in customer services enabled autistic children and their families to utilize key library services. This relates directly to meeting the individual needs of families, particularly families with nonspeaking children, and autistic children with co-occurring dyslexia and other conditions. This ties in with the lack of outreach library staff perform to families with autistic children, and libraries' subsequent lack of information regarding this population's needs (see “library outreach” service barrier). Families also reported wanting librarians to directly address their children and

communicate primarily with them when assessing their information needs, especially during readers' advisory (see "provide compassionate service" indicator).

6. Recognize each child's individual and diverse interests, strengths, and needs

This principle relates to the individual differences of autistic children, and to enabling practices identified by both parents and caregivers as well as library staff participants which support relationship building: providing compassionate service, and creating a welcoming environment. When focusing on individual interests and needs library staff are better able to provide flexible supports for services and programs (see systemic and service enablers). Utilizing children's strengths and interests is also a core aspect of providing engaging and substantive early literacy programs for autistic children and their families (see "inclusive program design" indicator).

6.2 These findings inform a Toolkit for Autism-Inclusive Early Literacy Services

The findings of this study also informed the identification of professional development tools needed to empower youth-serving librarians to provide autism-inclusive early literacy services. These findings informed a toolkit for serving the early literacy needs of autistic children and their families, which I have developed and hosted freely online with the support of the Neurodiversity Initiative and IMLS (see Appendix V).

6.2.1 Addressing youth-serving library staff's access to training

In order to address this lack of training, I have designed an autism-inclusive early literacy services training for youth-serving library staff. The autism-inclusive early literacy services training focuses on the two key aspects of early literacy services in public libraries: 1) supporting

children's early literacy learning through key programs and services, and 2) supporting parents' and caregivers' home early literacy engagement practices.

Based on the findings of this study I have identified the following learning objectives to empower youth-serving library staff in their early literacy services to autistic children and their families. These learning objectives are based in the systemic and service enablers identified in the findings from data collected in interviews, focus groups, and PD sessions. The majority of enablers that informed these learning objectives were co-designed in my PD sessions with both parents and caregivers of autistic children, and youth-serving library staff members. The learning objectives I've identified for an autism-inclusive early literacy services training are:

1. Utilize autism-inclusive early literacy program design techniques to address common barriers
2. Incorporate program elements that support early literacy development for autistic children
3. Identify ways to augment current programs for inclusivity and engagement
4. Develop program descriptions that support families' needs for details and set inclusive expectations
5. Identify and implement inclusive community expectations for attendees
6. Utilize techniques to support parent engagement, such as providing guidance for home literacy activities

6.2.2. Addressing youth-serving library staff's access to resources

While training was important to library staff, the largest impact on library staff's ability to serve autistic children and their families discussed was a lack of resources (38% of staff's conversation on systemic barriers). This adds to research that has found librarians lack money, materials, guidance, and time allotted by the library system to create inclusive programs (Hickey, Golden, & Thomas, 2018). However, previous research has not identified the specific guidance or resources that youth-serving library staff need in order to provide autism-inclusive early literacy services.

In order to address a lack of resources available to youth-serving staff, I have identified the following resource elements that could support librarians' early literacy services to autistic children and their families. These resource elements include:

1. Environmental Audit Checklist for Library Programs

The environmental audit checklist is designed to help library professionals improve access to the library for autistic children and their families by removing sensory barriers and improving accessibility. This resource includes a checklist for preparing meeting rooms and other library program spaces for autistic children and their families, and guides users in removing and mitigating specific barriers.

2. Program Plans and Templates

The early literacy program plans in this resource are designed to be inclusive of autistic children with a variety of sensory needs and learning differences. These programs were co-designed with parents and caregivers of autistic children. This resource includes a basic storytime program plan, a virtual storytime program plan, a musical storytime plan for sensory seekers, and an "all activity" program plan that focuses on hands-on early literacy learning. This resource also

includes two templates for early literacy storytimes, including a basic autism-inclusive storytime template, and a virtual autism-inclusive storytime template.

3. Visual Support Guide

A guide to using visual information to support autistic children and their families in libraries. This guide provides information on creating, displaying, and assessing visual supports at your library. Visual supports include wayfinding visuals, visual instructions, and visual schedules.

4. Outreach and Promotion Guide

A guide to community outreach and advertisement of autism-inclusive early literacy services to families with autistic children. This guide provides advice for relationship building with community organizations and service providers in order to strengthen community connections and promote library early literacy services and programs for autistic children and their families

5. Booklists for Autistic Children

This resource contains a list of books selected for autistic children who are at a preschool learning level. While this list is not comprehensive, it is a good starting point for both library professionals and family members. This resource includes books for read-alouds that have autistic characters, and books for autistic children who are new readers.

7. Contributions

This research offers contributions across the following areas: theoretical, methodological, and practical. These contributions have broad theoretical implications for not only the field of LIS, but for the fields of education and CDS as well.

7.1 Theoretical

This study adds to the body of knowledge for LIS, providing the following theoretical contributions regarding services to autistic children and their families in public libraries:

1. **A conceptual framework** for understanding how systemic barriers (and enablers) inform service barriers (and enablers) for autistic children and their families in libraries, impacting early literacy learning experiences and library use. The framework explains the interplay between individual contexts (individual differences) and systemic and service barriers and enablers to illuminate the nuances of libraries' ability to serve the early literacy needs of autistic children and their families across contexts.
2. **A critical lens** utilizing CDT, the social model, and the neurodiversity paradigm to center the needs of the autistic community by addressing the cultural and political impacts systems of power and oppression have on autistic individuals access to early literacy. In particular, this work also highlights the complexity of institutionalized ableism in the library context.
3. **A critical reframing of autism in LIS** that refocuses the discussion of inclusion and access on systemic barriers and enablers present in libraries and library services, rather than on "individual deficits."

This study also adds to the body of knowledge regarding early literacy for autistic children, providing the following theoretical contributions:

1. **A critical reframing of early literacy for autistic children** which emphasizes that all children are capable of early literacy, and that early literacy is developed through socially situated learning rather than strictly functional repetition.
2. **Critical definitions of early literacy skills** which are inclusive of autistic children's early literacy development and engagement needs.
3. **Theoretical concepts regarding early literacy for autistic children in libraries** which utilize a critical lens and UDL principles to understand supporting early literacy development, that can be extended to informal learning spaces.

Additionally, this study makes a third type of theoretical contribution by utilizing bodies of work from three distinct areas to create a conceptual framework for understanding early literacy services to autistic children and their families. This has the following contributions:

1. **Synthesizing theoretical concepts from Education, CDS, and LIS** to address gaps in the literature regarding supporting the early literacy development of autistic children from a strengths-based perspective.
2. **Supporting the dissemination of research across fields** by bringing literature from education, CDS, and LIS into conversation by synthesizing key concepts through an extensive literature review (Chapter 2).
3. **Using CDT in theory-to-practice applications** in Education and LIS to identify systemic barriers and enablers.

7.2 Methodological

This study utilized methods for data collection that have previously not been used in LIS, resulting in methodological contributions that have implications for future research. Additionally, this study adds to limited research utilizing instrumental case studies to inform theory in LIS. This study provides the following methodological contributions to LIS:

1. An Instrumental case study protocol for LIS adapting Eisenhardt's (1989) process of building theory from case study research.
2. Utilization of PD to co-design early literacy programs with families of autistic children, and training and resources with librarians, which attend to power imbalances through the use of CDT and address intersectionality across specific circumstances and needs.
3. Protocols for remote PD sessions with: a) parents and caregivers of autistic children, and b) library staff to support access and participation in the study.
4. Protocols for remote asynchronous PD sessions with librarians which overcome barriers to participation during disruptive events (such as pandemics, and mass resignation).

7.3 Practical

This research provides significant practical contributions to LIS as described and discussed throughout this chapter. This research provides a greater understanding of the early literacy environment of storytime programs, how to develop specific access and neuroinclusive practices,

and how to support parent engagement in home literacy practices for autistic children and neurodivergent children more broadly. This research offers the following practical contributions:

1. Key practices for serving autistic children and their families in libraries.
2. Learning objectives for early literacy services trainings which utilize my conceptual framework and findings, a critical lens informed by CDT, and up-to-date early literacy research.
3. Identification of resources needed by librarians to serve autistic children and their families' early literacy needs for both: early literacy programs and parent engagement services/practices.
4. Creation of an autism-inclusive early literacy services training to prepare youth-serving library staff and support their services to autistic children and their families.
5. Creation of a guide to design autism-inclusive early literacy programs that provides librarians with in-depth knowledge of early literacy development specific to autistic children, and key practices to improve access and inclusion in their programs.
6. Creation of autism-inclusive early literacy programs provided as both full program examples, and as a fill-in-the-blank template that can be used by library staff to develop their own programs.

7.3.1 Pedagogy

In addition to broader practical implications, this research also offers contributions to pedagogy. Very few MLIS programs offer courses that cover early literacy services, and even fewer that cover services to neurodivergent patrons. This study demonstrates that:

1. Youth-services librarians require a curriculum that attends to accessibility and inclusion for *all* patrons utilizing a critical lens informed by CDT, the social model, and the neurodiversity paradigm.
2. MLIS programs should support the use of multiple methods of engagement, participation, and representation across customer service interactions and library program design. In particular, courses for serving youth should describe how to use UDL to support early literacy development for ALL children.
3. This has implications for courses in the Education fields as well in terms of effective ways to engage autistic students in engaging and inclusive early literacy development activities.

An additional and final pedagogical contribution lies in how MLIS programs frame disability. This study illustrates the impact of systemic barriers on library services to autistic children and their families, all of which stem from systemic ableism. By prioritizing a curriculum that utilizes a social model of disability and the neurodiversity paradigm MLIS programs can begin to address implicit biases towards disability inherent in LIS.

8. Limitations

As with all studies this research design had some limitations. While many limitations were addressed and mitigated through the research quality measures discussed in Ch.3, further limiting factors exist for the dependability and transferability of this study. These limitations will be discussed across multiple factors in this section, including methodological and practical.

Participants: An additional limitation was related to the participant groups, or units of analysis, for this study. In order to fully understand the enabling factors for early literacy services and programs for autistic children it is valuable to include their perspective. This is an important aspect of research utilizing CDT. This study focused on parent and caregiver perspectives due to their guiding role in early literacy development, and their role in the decision to use (or not use) library services. Therefore, autistic children were not direct participants in this work. Future work will address this limitation by expanding co-design sessions to include autistic children in the design of early literacy services and programs.

Practical Limitations: Unfortunately, the COVID-19 pandemic presented another limitation to this study. Due to restrictions on in-person research activities, as well as related burn-out for frontline services providers (which included librarians and library staff), this study faced difficulties recruiting participants for the focus groups and PD sessions. This resulted in a few focus groups with a lower than ideal number of participants. While a group size between five to twelve is preferable for focus groups to maximize useful idea generation, this was not possible in some cases. This resulted in small focus groups, even dyads in two cases, that may have limited idea generation between participants. Additionally, a few PD sessions needed to be facilitated asynchronously using a modified ARC method. These asynchronous PD sessions provided rich and detailed information leading to the design and development of the toolkit, though the social creativity dynamic of PD may have been constrained.

Intersectionality: First, the importance of intersectionality in this work and understanding how individual contexts inform specific barriers and enablers for families with autistic children is highlighted in my literature review. Participant identities, individual differences, and their ecological system contexts are key information for attending to intersectionality in this work.

While connections were made between experiences of families with nonspeaking/minimally speaking children and heightened negative impacts of barriers, intersectionality was not a focus of this study design. Future work will fully examine how individual contexts interact with service barriers and early literacy experiences in public libraries, and the impact this has on the experiences of autistic children and their families.

Reflexivity: As with all studies, a researcher's own biases and past experiences are inextricable from their work. Social constructivist research highlights the importance of attending to potential biases for this reason (Stake, 1995; Patton, 2015; Yin, 2018). My personal experiences and identities both limit and broaden my ability to fully comprehend the barriers and needs of autistic children and their families (Kirby, Greaves, & Reid, 2017). I strove to practice reflexivity and limit my own bias, and I relied on my colleagues through group process to aid in my reflexivity as a non-autistic researcher. Unfortunately, many concepts and their descriptors in the field of autism research and in libraries still utilize a deficits-based framework. For this reason, it was important for me to position my work in the expertise and experiences of autistic advocates, and to utilize CDT and a neurodiversity paradigm to practice researcher reflexivity (Holmes, 2020). While resources and group-check methods were also used to limit deficits-based language or concepts in the conceptual framework and results (e.g Bottema-Beutel et al., 2021), it is possible that this effort did not fully address biases retained from this literature in this work. Future work will include partnerships with neurodivergent researchers, and collaboration on larger concepts and their definitions with autistic advocates.

Transferability/External Validity: Every effort was made to increase the transferability of this instrumental case study, due to its findings directly informing training and resources in an early literacy services toolkit (available in Appendix V). However, while additional PD sessions were

utilized to verify initial findings with librarians nationwide, this was not done for parents and caregiver participants. While six pilot autism-inclusive library programs were conducted to verify inclusive program design enablers, these were conducted within WA state. Future work will include groups nationally to increase transferability of findings.

Intercoder Reliability: In order to address dependability and reliability, intercoder reliability measures were employed throughout the data analysis process, first on interviews and focus group data, and again during analysis of PD sessions. The intention of this process was to both increase reliability of my results, and to attend to research reflexivity by practicing peer debriefing and addressing rival explanations (Lincoln & Guba, 1985; Yin, 2018). While the aim was to reach 80% intercoder agreement on interview and focus groups transcripts, we reached 76%. It is possible that the size of the coding scheme (# of codes) reduced intercoder agreement for this first group of transcripts, as later transcripts reached 84% with the same intercoder. This may be due to increased knowledge of the large coding scheme on the part of my intercoder. Future work utilizing my conceptual framework and coding scheme will need to use techniques to increase comfort with the large scheme for data analysis.

9. Future Work

This study has laid the foundations for future work in the LIS field which utilizes a critical lens to systematically identify systemic barriers and enablers present in libraries regarding services to underserved communities. In relation to serving the autistic community specifically, future work can be done to further refine the concept of individual differences and how those relate to library

service barriers and to early literacy learning experiences and library use. Future work should also be done to utilize PD sessions with autistic children and autistic advocates to further refine my early literacy program design recommendations and template.

Additionally, future LIS research should focus on community outreach practices to underserved communities (such as the work currently being done by Project VOICE), with studies specific to outreach practices for families with autistic children, and the autistic community as a whole. This will expand upon findings from this study which identified the deleterious effect of a lack of outreach on services to autistic children and their families.

Finally, research using a modified version of my conceptual framework can be done to inform inclusive practices in libraries for serving the literacy and learning needs of autistic/neurodivergent older youth and teens. In particular, focusing on services in the context of Connected Learning (Eto et al., 2012) and implementing neuroinclusive Makerspaces, both of which are important for the future direction of libraries and supporting youth's lifelong learning.

10. Conclusion

Public library programs and key early literacy services remain inaccessible to autistic children and their families (Matoushek et al., 2017; Schriar et al., 2016). Current library spaces, social environment, policies, and procedures act as significant barriers for families with autistic children to access library services and resources (Kaeding et al., 2017; Matoushek et al., 2017; Prendergast, 2017; Shriar et al., 2016). Utilizing a critical lens informed by CDT and the neurodiversity paradigm, this study employed an instrumental-use case study to identify the

barriers faced by both autistic children and their families, as well as youth-serving librarians. Through interviews, focus groups, and PD sessions, this study found that autistic children and their families face systemic social and structural barriers in public libraries that limit access to early literacy services and programs. Additionally, youth-serving library staff experience systemic barriers that impact their ability to utilize autism-inclusive practices to serve these families.

This study found that these social systemic barriers have a deep and far-reaching impact on families with autistic children's early literacy experiences in public libraries. This causes parents to fear judgment from librarians and other staff, and results in isolation and exclusion as the result of negative interactions. This study also found that youth-serving library staff face systemic structural barriers that deeply impact their ability to serve this population, including a lack of resources and available training to support autistic children's early literacy needs and address social barriers. Enabling practices identified by families with autistic children included creating a community of inclusion through welcoming environments, inclusive patron expectations, and autism-inclusive early literacy program design. Ultimately, this study found that youth-serving library staff require training and resources that utilize a critical lens to address social barriers. Training needs to provide information about autism from autistic advocates themselves, and include research-based information and key practices for autism-inclusive early literacy services and programs.

These findings informed the refinement of a conceptual framework for understanding the impact of systemic barriers and enablers in libraries on the early literacy learning experiences of autistic children and their families. This research makes crucial contributions to LIS theory and practice, reframing autism in libraries utilizing a critical lens, and providing key theoretical concepts

regarding early literacy services in public libraries for autistic children and their families. This research also contributes a critical reframing of early literacy for autistic children that the education field can utilize. Additionally, this research contributes a novel method for asynchronous PD with library staff. These findings have extensive practical contributions as well, informing key practices for serving autistic children and their families' early literacy needs, as well as an early literacy-services training and supportive resources for youth-serving librarians.

In conclusion, this dissertation addresses a sizable gap in research and practice related to serving the early literacy needs of autistic children and their families in public libraries. This study lays the foundation for future work examining and dismantling systemic barriers in public libraries for neurodivergent and underserved communities.

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Appendix I: Data Collection Protocols

Interview Protocol – Family Members and Caregivers

Introductions and logistics:

"Thank you for joining us for this interview. My name is Milly, and I am joined by […].We'll start by going over some logistics, telling you some background information about the project, what this study is about, we'll go over the consent, and then we'll get started.

This research is funded by the Institute for Museum and Library Services. The purpose of this research is to develop strategies to provide early literacy programs, resources, and services for autistic children and their families in the public library. Your responses will be used to help inform how to best serve the early literacy needs of autistic children and their families in this capacity. We are hoping to gain information about these things by asking you about your experiences (positive and negative) using the public library, as well as your family's early literacy or literacy needs. And if you don't use the library, we are interested in what barriers keep you from accessing library resources with your child, and what things might make the library a more appealing place for your family.

This interview is completely voluntary; if any questions make you feel uncomfortable please don't feel pressured to answer them. You can also end our interview at any time. We will be recording this interview, and the audio will be transcribed separate from your personal information to protect your privacy. Once transcribed this recording will be deleted. Please speak as clearly as possible. Do you have any questions for me before we start?"

Questions:

1. Tell me a little about yourself and your child
    a. How old is your child?
    b. What are your favorite reading or language activities to do together? (Read-aloud, singing, playing with books, etc.)

2. *For this next question I will ask you about your child's early literacy. Early literacy is the learning that children do as they develop the skills to read. This includes things such as learning the alphabet, telling stories, singing songs, and engaging with read-alouds.*

What are (or were) your early literacy goals for your child?

    a. If your child is already reading, what are your reading goals for your child?

3. Have you used the library with your child?
    a. If "Yes": Tell me about your experience using the library with your child.
    b. How often do you use the library?
        i. How often do you use other library outreach services, such as the bookmobile? Other programs in your community led by the library?
    c. If "No": Why do you choose not to use the library? What other early literacy related resources/centers/activities do you use, if any?

4. What benefits have you experienced from using the library with your child?

5. What challenges do library visits present for you and your child?
    a. What methods have you used to limit negative experiences?

b. What could the library provide, or librarians do, to limit these challenges?

6. Tell me about your interactions with library staff. Can you describe your most memorable interaction?
    a. What positive interactions have you had?
    b. What negative interactions have you had?
    c. Have you built relationships with any library staff? What are they like? How did you build them?
        i. If not, why do you think you have not?
    d. How would you like library staff to interact with you and your child?

7. What resources or services do you use regularly at the library?
    a. What resources are easy to use and access for you and your child?
    b. What resources are not easy to use or access?
    c. What resources meet your child's early literacy needs?

8. Have you used any accommodations in libraries for your child? (Accommodations can be anything that helps your child visit and use the library)
    a. If "Yes": What accommodations do you use? What accommodations do you use in library programs, if any?
    b. What accommodations are provided by the library?
    c. What accommodations would you like to see for your child?
    d. If "No": Are you aware of any accommodations that are available? If yes, why do you not use accommodations?

9. What library programs have you attended with your child?
    a. What did you like about the programs?
    b. What did you dislike about the programs?
    c. What online library programs (if any) have you attended with your child?

10. What would make library programs such as storytimes more accessible for you?
    a. What types of activities would make the program more accessible?
    b. How long should the program be?
    c. How often would you like the literacy program to happen?

11. What early literacy library programs would you like to see for your child?
    a. Do you prefer programs to be specific to only autistic children, or do you prefer they be inclusive? Why?

12. What improvements could your library make that would best support your early literacy/literacy goals for your child?

13. What are the best methods for libraries to reach out to you about programs and services? (For example, email, newsletter, flyer...)

14. What improvements could your public library make that would make the biggest difference in your library visits?

15. What would you like to add that we have not asked you today?

Focus Group Protocol – Family Members and Caregivers

Introductions and logistics:

"Thank you for joining us for this focus group. My name is Milly, and I am joined by […].We'll start by going over some logistics, telling you some background information about the project, what this study is about, we'll go over the consent, and then we'll get started.

This research is funded by the Institute for Museum and Library Services. The purpose of our research is to develop strategies to provide early literacy programs, resources, and services for autistic children and their families in the public library. Your responses will be used to help inform how to best serve the early literacy needs of autistic children and their families in this capacity. We are hoping to gain information about these things by asking you about your experiences (positive and negative) using the public library, as well as your family's early literacy or literacy needs. And if you don't use the library, we are interested in what barriers keep you from accessing library resources with your child, and what things might make the library a more appealing place for your family.

Please turn to the consent form: I want to remind you that this focus group will be recorded, and you have the right not to answer questions and stop participating at any time. The audio will be transcribed separately from your personal information to protect your privacy. Once transcribed, this recording will be deleted. Do you have any questions regarding the consent form, recording, or your participation in this focus group?

Before we begin here are some ground rules about today's focus group taking place over Zoom:

- *Please keep your mic muted unless you are speaking.*
- *Since what each of you has to say is important to us, we would ask that you speak one at a time so we can track what's being said.*
- *You may unmute your mic or "raise your hand" (**demonstrate how**) when you want to speak*
- *Since we are recording the conversation, we would also ask that you try to speak up so we will be able to understand what you say when we transcribe the recording.*
- *Anything discussed here today will remain confidential, although we cannot guarantee complete confidentiality as participants may discuss the conversation outside of this meeting. We ask you to be discrete and keep our conversation confidential.*
- *The session will be recorded. To protect your privacy, what is said on the recording will be transcribed by a professional transcriber who will remove any names or identifiers and then the recordings will be destroyed.*
- *Do you have any questions?"*

Questions:

1. Please introduce yourselves: What is your name? What city do you live in currently? How old is your child?

2. What are your favorite reading or language activities to do with your children? (Read-a-loud, singing, playing with books, etc.)

3. *For this next question I will ask you about your children's early literacy. Early literacy is the learning that children do as they develop the skills to read. This includes things such as learning the alphabet, telling stories, singing songs, and engaging with read-alouds.* What are (or were) your early literacy goals for your children?

a. If your child is already reading, what are your reading goals for your child?

4. Tell me about your experiences using the library with your children. And if you don't use the library, describe what keeps you from using the library.

b. If "Yes": How often do you use the library?

i. How often do you use other library outreach services, such as the bookmobile? Other programs in your community led by the library?

c. If "No": What other early literacy related resources/centers/activities do you use, if any?

5. What benefits have you experienced from using the library with your children?

6. What challenges do library visits present for you and your children?
   a. What methods have you used to limit negative experiences?
   b. What could the library provide, or librarians do, to limit these challenges?

7. Tell me about your interactions with library staff:
   a. What positive interactions have you had?
   b. What negative interactions have you had?
   c. Have you built relationships with any library staff? What are they like? How did you build them?
      i. If not, why do you think you have not?
   d. How would you like library staff to interact with you and your child?

8. Have you used any accommodations in libraries for your children? (Accommodations can be anything that helps your child visit and use the library)

a. If "Yes": What accommodations do you use? What accommodations do you use in library programs, if any?

b. What accommodations are provided by the library?

c. What accommodations would you like to see for your children?

d. If "No": Are you aware of any accommodations that are available? If yes, why do you not use accommodations?

9. What library programs have you attended with your children?
   a. What did you like about the programs?
   b. What did you dislike about the programs?
   c. What online library programs (if any) have you attended with your children?

10. What would make library programs such as storytimes more accessible for you?
    a. What types of activities would make the program more accessible?
    b. How long should the program be?
    c. How often would you like the literacy program to happen?

11. What early literacy library programs would you like to see for your children?

a. Do you prefer programs to be specific to only autistic children, or do you prefer they be inclusive? Why?

12. How would you like libraries to reach out to you about programs and services? (For example, email, newsletter, flyer...)

13. What improvements could your public library make that would make the biggest difference in your library visits?

14. What would you like to add that we have not asked you today?

Focus Group Protocol for Children's Librarians

Brief presentation on purpose of the focus group (10 minutes):

"Thank you all for joining us. My name is Milly and I am joined by... [introduce yourself and the team: introduce Hala and Michelle as faculty researchers]. We will be facilitating our focus group today. We'll start by going over some logistics, telling you some background information about the project, what this study is about, we'll go over some ground rules, and then we'll get started.

"Autism-Ready Libraries is funded by the Institute for Museum and Library Services. The purpose of this research is to develop strategies to provide early literacy programs, resources, and services for autistic children and their families in the public library. You have been invited to participate in this focus group because your role as ***youth library staff*** *will offer invaluable input and improve our understanding of the needs of and best practices used by library staff to support autistic children and their families. The purpose of this focus group will be to discuss your experiences providing services, programs, resources, and more at the library to autistic children and their families. Our discussion will inform the design and development of library early literacy programming for autistic children as well as library staff training to empower public libraries to better serve autistic children and their families."*

"Please turn to the consent form: I want to remind you that this will focus group will be recorded, and you have the right not to answer questions and stop participating at any time. Do you have any questions regarding the consent form, recording, or your participation in this focus group?"

"Before we begin here are some ground rules about today's focus group taking place over Zoom:

- *Please keep your mic muted unless you are speaking.*
- *Since what each of you has to say is important to us, we would ask that you speak one at a time so we can track what's being said.*
- *You may unmute your mic or "raise your hand" (**demonstrate how**) when you want to speak*
- *Since we are recording the conversation, we would also ask that you try to speak up so we will be able to understand what you say when we transcribe the recording.*
- *Anything discussed here today will remain confidential, although we cannot guarantee complete confidentiality as participants may discuss the conversation outside of this meeting. We ask you to be discrete and keep our conversation confidential.*
- *The session will be recorded. To protect your privacy, what is said on the recording will be transcribed by a professional transcriber who will remove any names or identifiers and then the recordings will be destroyed.*
- *Do you have any questions?"*

Focus Group Questions:

1. What are the goals for early literacy in your library?
   a. How do you achieve them?

2. What programs do you offer for early literacy?
   a. What early literacy strategies do you use during this program (i.e. asking questions while reading (dialogic reading), practicing letter sounds and matching letter sounds (phonologic awareness), etc.)?
   b. Who are your typical participants?

i. What is attendance like?

c. How do you measure the success of your literacy program?

d. What resources for early literacy are commonly used at your library?

3. Tell us about your experiences with autistic children and their families who visit your library? (Can add: *Many children do not have official diagnoses, so please include any children you think may be autistic and/or exhibited behavioral differences)*

a. What positive experiences have you had?

i. How do you build relationships?

ii. How do you provide information?

iii. What strategies do you use to communicate?

b. What challenges have you encountered?

i. What contributed to this challenge?

ii. What support would you need to address this challenge?

c. What challenges and positive experiences have you had specific to storytimes or other early literacy programs?

4. Do you provide inclusive storytime programs, such as sensory storytimes?

i. What do they look like?

1. What is attendance like?
2. How many families come more than once?
3. What have they looked like during the pandemic?

ii. What are your storytime goals?

iii. What early literacy strategies do you use during your inclusive storytime (i.e. asking questions while reading (dialogic reading), practicing letter sounds and matching letter sounds (phonologic awareness), etc.)?

iv. How do you assess your inclusive storytime? (Know that it is a success?)

5. What have you learned from providing online services during the pandemic?

a. What do you think might be useful for autistic children and their families?

6. Describe any partnerships you have with outside organizations in relation to either early literacy or autism

a. What positive experiences have resulted from this partnership?

b. What challenges have you faced in building/maintaining this partnership?

c. How did you form this partnership?

7. How would you change your interactions/programs/services for autistic children and their families?

8. What would help you improve your interactions/services with autistic children and their families?

9. What could your library system do to help you better serve the autism community?
    a. What organizational/systemic support do you receive?
    b. Is there any type of training?
    c. What type of training would be helpful?
    d. What mode of training would be helpful (online, in person)?

10. What would you like to add that we have not asked you today?

Participatory Design Session Protocol with Parents and Caregivers

Brief presentation on the details of the participatory design session & intros (15 minutes):

"Thank you all for joining us. My name is Milly and I am joined by... [introduce yourself and the team: introduce Hala and Michelle as faculty researchers]. We will be facilitating our workshop today. We'll start by going over some logistics, telling you some background information about the project, what this study is about, and some ground rules, and then we'll get started.

This research is funded by the Institute for Museum and Library Services. The purpose of our research is to develop strategies to provide early literacy programs, resources, and services for autistic children and their families in the public library. Early literacy is the learning that children do as they develop the skills to read. Early literacy programs often engage children with picture book reading, singing, and playing. They can take place in person and online, and provided in schools, during speech appointments, or led by libraries or by other community organizations.

Your participation in this session today will help us design programs to best serve the early literacy needs of autistic children and their families through early literacy programs. We are hoping to gain information about literacy-related programs by asking you to participate in a design activity, followed by a discussion together as a group afterwards. Today we will be using Google Slides together, and we'll give an overview of what that will look like shortly. The purpose of this session is to share ideas about what would make an early literacy program engaging and accessible for you and your children.

Please turn to the consent form: I want to remind you that this workshop will be recorded, and you have the right not to answer questions and stop participating at any time. The audio will be transcribed separately from your personal information to protect your privacy. Once transcribed, this recording will be deleted at the end of the study. Anything you create today will also be stripped of any personal information. Do you have any questions regarding the consent form, recording, or your participation in this workshop?

Before we begin here are some ground rules about today's workshop taking place over Zoom:

- *Please keep your mic muted unless you are speaking.*
- *You may unmute your mic in the lower left corner or raise your hand when you want to speak. You can also raise your hand using the Zoom "raise hand feature," which can be accessed by clicking "participants" on the toolbar*
- *Since what each of you has to say is important to us, we would ask that you speak one at a time so we can track what's being said.*
- *Since we are recording the conversation, we would also ask that you try to speak up so we will be able to understand what you say when we transcribe the recording.*

- *Anything discussed here today will remain confidential, although we cannot guarantee complete confidentiality as participants may discuss the conversation outside of this meeting. We ask you to be discrete and keep our conversation confidential.*
- *Do you have any questions?"*

PD Session Schedule:

"*[Screenshare slide of PD session schedule] Here is our schedule today. First, we will do introductions and a quick warm up activity together as a group. Then we will go through our design activity and have a time together afterwards where you can share your ideas and we will answer some questions together as a group."*

- Introductions
- Word Cloud activity (cap at 10mins)
- Activity Demonstration
- Spec-Sheet Activity (20mins)
- Group Sharing and Discussion (45mins)

[Do Introductions: Name, city, child's age]

Warm-up Activity (using Google Slides) (cap at 10minutes)

- Researcher 1: Asks group question and facilitates discussion;
  - Screenshares slide in progress
- Researcher 2: Places key phrases onto the slide

"For our warm up activity we're going to ask you a question about the challenges you face attending library storytimes, and write key phrases from your answers on this slide. We know that parents of autistic children, as we've heard from many of you as well, face challenges and barriers when using the library, especially while attending library programs. We'll keep these challenges in mind for our design activity together here in a few minutes."

Question: What challenges do library storytimes and other literacy programs present for you and your child?

Activity: Spec-Sheet Activity (using Google Slides) (20 minutes)

"For this next part of our workshop we're going to use the challenges you identified in our word cloud to brainstorm your ideal early literacy program for your children. Early literacy is the learning that children do as they develop the skills to read. This includes things such as learning the alphabet, telling stories, singing songs, and engaging with read-alouds. Early literacy programs often engage children with books, words, the alphabet, and stories through activities

that help to develop literacy such as picture book reading, singing, and playing. They can take place in person and online, and be led by libraries or by other community organizations. If your child is already reading, you may design an ideal literacy program instead, or think back to the kinds of programs you would have liked to have to help them learn to read.

Activity Demonstration
[Screen share Google Slide Deck]

"Today we will be using Google Slides to facilitate our design activity. Please have a sheet of paper and a pen or pencil handy in case we have any technology trouble. We're going to take a moment to do a refresher on some of the functions in Google Slides... [demonstrate how to have google slides and zoom windows up] [demonstrate how to make a new text box, new shape, and change the colors. Demonstrate inserting an image]

"We've shared a link to the Google Slide deck in the chat. Please click on the link and bring up Google Slides. Please have your Zoom window visible alongside your google slides window. You'll see at the top we have our brainstorming activity slide. Then we have an instructions slide you can refer to at any time. Below that we've labeled a pair of slides for each of you with your name. Please find your first slide and place a shape in it. This will be the slide we will use for our activity. You can use the second slide for extra space in case you run out of space on your first slide"

[Give participants a chance to do the task]

"Do you have any questions or concerns?"

"Today we will be doing an activity where you will create your perfect early literacy program. We will use ideas from your designs to make library programs better. Your ideal program can include the kinds of activities you would like to see for a literacy program. Maybe this will include your child's favorite things, or activities. You can also include anything that will support your children, and you, during the program. Maybe this will include a list of things to make the room and environment more accessible to your children, or maybe the program will take place online. You can also include things you've liked about other fun or supportive programs you've attended. Again, if your child is already reading, you may design an ideal literacy program instead, or think back to the kinds of programs you would have liked to have to help them learn to read.

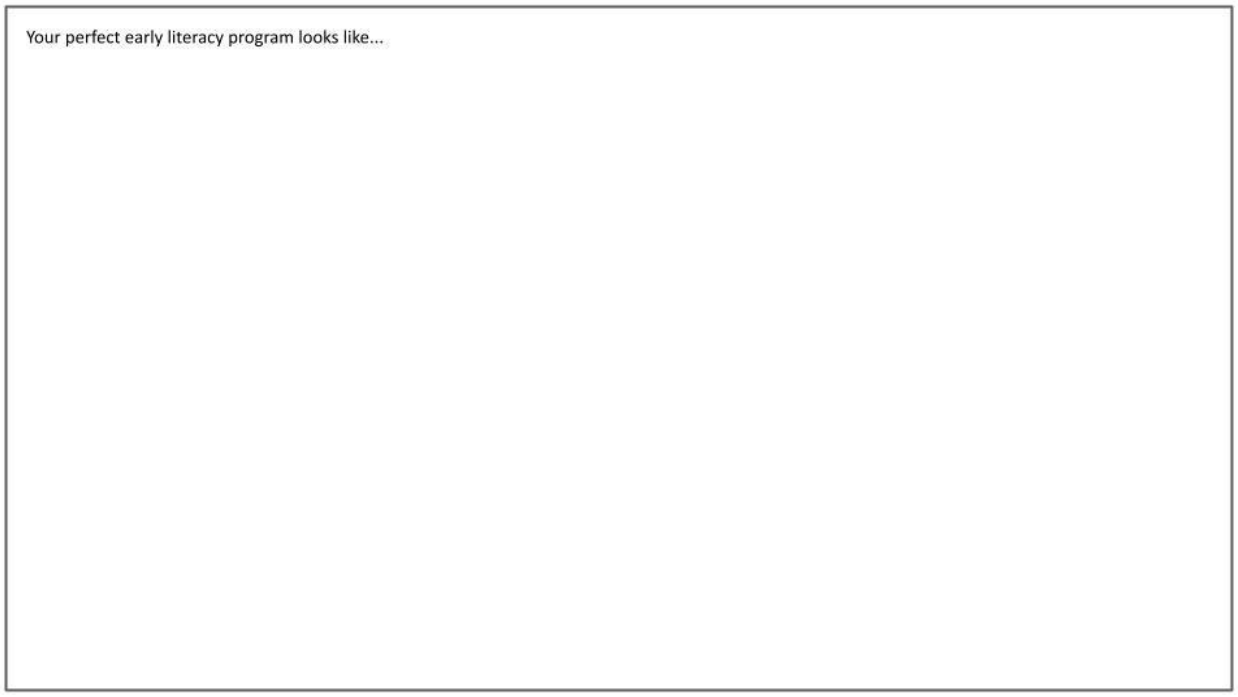
You can show the details of your program any way you choose, for example you might use pictures with labels, brainstorming bubbles, or even a bulleted list.

As you do this activity, please remember that there are no wrong answers. We're looking for anything that would help you and your child participate in a program, no matter how big or small. You are the experts here. We will read out the questions that will guide the design of your spec sheet in a moment, and also have them shared on the Zoom screen to refer back to as you

work. We have a slide for instructions that you can refer back to as you work, and you can also refer back to the slide of challenges. We'll have 20 minutes to complete this activity, and we will give you reminders at 10 minutes, 5 minutes, and 1 minute. We encourage you to use the chat feature in Zoom to ask us any questions you might have during the design activity. You can access the chat by clicking on the icon on the bottom toolbar in Zoom.

Here are our questions to help guide your designs today [Switch to the slide for the activity; read out loud]. Do you have any questions before we get started?"

1. What would a perfect literacy-related program for your child look like?
2. What activities, supports, and other considerations would the program include?
    a. What would support your child?
    b. What would support you?



- Screen share the activity questions, as well as music
- Give verbal time reminders (10 mins, 5 mins, 1 min)
- Encourage participants to use Zoom's chat feature to ask the facilitators questions

Group Debrief (45 minutes)

"Thank you all for participating in our design activity. We'd like to use the rest of our time to talk about the ideas you had for programs and discuss what would best empower you and your children to attend library programs. Since we will be recording this conversation, please be sure to keep your mic muted unless you are speaking. When you would like to speak, you can either

unmute, raise your hand, or use the Zoom hand raise feature. Please be sure to speak up so we can catch what you say."

1. Tell us about your perfect program. What kind of early literacy or literacy program did you design?
    a. What challenges did you address in your designs?
2. What did you include in your design to help limit these challenges?
3. What kinds of things did you include to support your children during the program?
4. What kinds of things did you include to support parents and caregivers during the program?
5. What kinds of things did you include to engage your children during the program?
6. What kind of training would you like the instructors to have?
7. Are there any additions you would make to your designs after our discussion?
8. What would you like to add that we have not asked you today?

Participatory Design with Youth-Serving Librarians

Brief presentation on the details of the participatory design session and introductions (15 minutes):

[Turn on captions for accessibility]
"Thank you all for joining us. My name is Milly and I am joined by... [introduce yourself and the team: introduce Hala and Michelle as faculty researchers]. We will be facilitating our participatory design session today. We'll start by going over some logistics, telling you some background information about the project, what this study is about, and some ground rules, and then we'll get started.
"Autism-Ready Libraries is funded by the Institute for Museum and Library Services. The purpose of this research is to develop strategies to provide early literacy programs, resources, and services for autistic children and their families in the public library. You have been invited to take part in this participatory design session because your role as ***youth library staff*** *will offer invaluable input and improve our understanding of the needs of and best practices used by library staff to support autistic children and their families. Participatory Design (PD) brings together researchers and key stakeholders like you to draft a solution to a challenge you face. This ensures the design will meet your needs as youth services providers. PD sessions are made up of short design activities, often visual creations, that require no prior design knowledge or experience to participate. Today we will be using Google Slides together, and we'll give an overview of what that will look like shortly. The purpose of this participatory design session is to identify key components of the Autism-Ready Libraries Toolkit (ARLT). This toolkit will include training and other resources identified by you during our design activities together that will empower library youth services providers to serve autistic children and their family's early literacy needs. Our work together today will inform the design and development of the Autism-Ready Libraries Toolkit to build public libraries' capacity to better serve autistic children and their families."*
"Please turn to the consent form: I want to remind you that the discussion in this participatory design session will be recorded, and you have the right not to answer questions and to stop participating at any time. Anything discussed here today will remain confidential, although we cannot guarantee complete confidentiality as participants may discuss the conversation outside of this meeting. We ask you to be discrete and keep our conversation confidential. To protect your privacy, what is said on the recording will be transcribed by a professional transcriber, who will remove any names or identifiers and then the recordings will be deleted. Names and identifiers will also be removed from the design artifacts. Do you have any questions regarding the consent form, recording, or your participation in this design session?"
"Before we begin, here are some ground rules about today's participatory design session as it is taking place over Zoom:

- *Since what each of you has to say is important to us, we would ask that you speak one at a time so we can track what's being said.*
- *Please keep your mic muted unless you are speaking.*
- *You may unmute your mic in the lower left corner or raise your hand when you want to speak. You can also raise your hand using the Zoom "raise hand feature," which can be accessed by clicking "participants" on the toolbar.*

PD Session Schedule:

"*[Screenshare slide of PD session schedule] Here is our schedule today. First, we will do introductions and give an overview of our findings from our interviews and focus groups to help inform your designs. Then*

we will go through our design activity and have a debrief afterwards where you can share your design and when we will answer some questions together as a group."

- Introductions
- Overview
- Activity Demonstration
- Spec-Sheet Activity (30mins)
- Group Sharing and Discussion (45mins)

[Do Introductions: Name, library branch]

Overview

[Switch to Overview slide]

"To guide us in our activity today we are going to go over some background information about the needs of autistic children and their families, and some best practices for serving them as identified by our research. Some of you may already have a lot of experience working with autistic children and their families, and this might be new information for others. The first phase of our research utilized interviews and focus groups to identify barriers and challenges faced by autistic children and their families when using public libraries, as well as best practices that would help them access library services.

Families with autistic children face many barriers which make using the library to support the early literacy needs of their children difficult. Many autistic children have sensory differences and are uncomfortable coming into the main library space due to fluorescent lights, unpredictable or loud noises, or large groups. Sometimes autistic children will cover their ears, hum, or make other movements or noises to help self-regulate their sensory distress. Parents often leave their children home or shorten their time at the library because they feel that their children's behaviors might be judged by other library patrons or by library staff. Families with autistic children also rarely attend library programs such as storytimes because the program environment, such as the lighting, sounds, and large group, may overwhelm their children. They also rarely attend because they are afraid their child might disrupt other children and families at the program, or that their child isn't able to meet expectations such as sitting quietly.

Thankfully, there are many best practices which libraries can use to help support autistic children and their families' library use, as well as best practices to support inclusion in early literacy library programs such as storytime. Quite a few of these best practices are already being used by librarians and library staff, and may be used by you already.

The first of these best practices is creating a welcoming atmosphere, which was described by parents as having friendly staff members who greet family members and are flexible to autistic children's behaviors and needs. This includes supporting autistic children's needs with sensory items such as headphones and fidgets, and providing multiple ways to communicate with library staff for nonspeaking children.

Best practices for early literacy library programs were very similar. Best practices for providing library programs like storytime included helping autistic children of all abilities to participate, and welcoming families by providing flexible expectations for attendees, such as saying children do not have to sit quietly.

Parents also identified best practices for information services like reader's advisory, such as individualizing recommendations to autistic children's interests and reading level, and providing up to date information on autism and resources for early literacy development.

We also talked with children's librarians and library staff across Washington State in our first phase, and you identified some challenges and needs you've experienced while serving autistic children. Many of these challenges included not having previous training, experiencing a lack of support such as time to develop programs and provide consistent programs, and staffing to cover the information desk during times where you would like to provide programs or outreach. Another challenge you identified was the difficulty of addressing the diverse needs of autistic children and their families, since every autistic child is different. We'll take some time in our next activity to think about other challenges that you feel you may have using these best practices at your own library, or in your own work.

Our hope is that the design activity today will give you all a chance to reflect on what training, resources, or other supports you would need as a youth serving staff member to use these best practices to address barriers experienced by autistic children and their families in libraries. Your designs today will directly inform how we will build the Autism-Ready Libraries Toolkit."

Activity Demonstration
[Screen share Google Slide Deck]

"Today we will be using Google Slides to facilitate our design activity. We're going to take a moment to demonstrate some functions in Google Slides... [demonstrate how to make a new text box, new shape, and change the colors. Demonstrate inserting an image]

"We've shared a link to the Google Slide deck in the chat. Please click on the link and bring up Google Slides. You'll see at the top we have some reference slides with instructions and a cheat sheet of barriers and enablers. Below that we've labeled a pair of slides for each of you with your name. Please find your first slide and write the number "1" under the "Challenges" column. This will be the slide we will use for the first part of our activity."

[Give participants a chance to do the task]

"Do you have any questions or concerns before we start?"

Activity 1: T-Chart Activity (using Google Slides) (10 minutes)
"The first part of our activity today is a brainstorming session to give you a chance to think about the challenges that might come up for you as you incorporate these best practices into your work. ***What might be challenging for you about providing the best practices I explained earlier to autistic children and their families? What solutions can you think of that would support you to address each challenge?*** *We're looking for feedback from librarians with many different levels of comfort and experience working with autistic children and their families, so there are no wrong answers here. We'll keep the slide up with the best practices for you to refer to, and we've also included the slide at the top of the slide deck so that you can look back to throughout our activity today. You'll have 10 minutes to fill out the columns on the first slide in your sheet."*

[Tell participants when they have 5 minutes left, and 1 minute left]

What challenges might make it difficult for you to use best practices for autistic children and families in your library?	What would help you to use best practices for autistic children and their families in your library?

Activity 2: Spec-Sheet Activity (using Google Slides) (20 minutes)

"For this next part of our activity we're going to use the challenges and solutions you've identified to think of a resource to help you incorporate best practices for autistic children and their families. The resource will take the form of a comprehensive toolkit. This will help us to design the Autism-Ready Libraries Toolkit. This toolkit will include training, templates, checklists, and other resources identified by you during our design activity together that will empower library youth services providers to serve autistic children and their families, and meet their early literacy needs.

Today we will be doing a spec-sheet activity so you can help us identify the components that will be the most helpful to include in our toolkit. Spec-sheets are used by product designers to detail the characteristics and components, or specifications, of a product. Today you will be brainstorming the components of your perfect toolkit for providing early literacy services to autistic children and their families. This can be depicted any way you choose, for example it might look like a collage with labels, brainstorming bubbles, or even a bulleted list. Your toolkit should include anything that will support the solutions you identified in Part 1. Maybe this will include a specific type of training for understanding the needs of autistic children and their families, or how to utilize best practices. Maybe this will include resources such as certain program templates, or checklists. Maybe it will include guidance on outreach to autistic children and their families. You can also include things that you've liked or found helpful from other trainings you've had or resources you've used for serving other groups.

When you are answering the questions that guide the spec-sheet activity, remember to imagine your idea within a space that has no limitations—a perfect world without budget constraints. There are also no wrong answers here. We are looking for feedback from librarians with many different levels of comfort and experience working with autistic children and their families, because this toolkit is being designed for library staff with a wide diversity of experiences and comfort levels. Which means everything you include here will be helpful! We will read out the questions that will guide the design of

your spec sheet in a moment, and also have them shared on the screen to refer back to as you work. We have a cheat sheet at the top of the slide deck with the barriers and best practices from our overview that you can refer back to as you work. We'll have 20 minutes to complete this activity, and we will give you reminders at 10 minutes, 5 minutes, and 1 minute. We encourage you to use the chat feature in Zoom to ask us any questions you might have during the design activity.

Here are our questions to help guide your designs today [Switch to the slide for Activity 2; read out loud]. Do you have any questions before we get started?"

1. Pick a few challenges from your brainstorm in Part 1. Imagine you are looking for the perfect, all-in-one toolkit to help you address these challenges. What would the toolkit need to include?
2. What else might you need to help you provide early literacy services, such as reader's advisory and literacy programs, to autistic children and their families? What would the toolkit need to include to address these?

- Screen share the activity questions, as well as music
- Give verbal time reminders (10 mins, 5 mins, 1 min)
- Encourage participants to use Zoom's chat feature to ask the facilitators questions

Group Debrief (45 minutes)
"Thank you all for participating in our design activity. We'd like to use the rest of our time to talk about your designs and discuss what would best empower you to serve the early literacy needs of autistic children and their families, particularly in providing inclusive early literacy programs. Since we will be recording this conversation, please be sure to keep your mic muted unless you are speaking. When you would like to speak, you can either unmute, raise your hand, or use the Zoom hand raise feature."

- *We would also ask that you try to speak up so we will be able to understand what you say when we transcribe the recording."*

1. What challenges did you address in your designs?
    1. What solutions did you propose to address them?
2. What training, tools, or resources would help you feel prepared to provide early literacy programs to autistic children and their families?
3. What training, tools, or resources would help you feel prepared to provide adaptive customer service, including reader's advisory services? Adaptive customer service means providing individualized customer service to autistic children and their families who may have different communication needs, such as visual supports or methods for non-verbal communication.
4. What training, tools, or resources would help you feel prepared to advertise inclusive services to autistic children and their families?
5. *Follow up if participants mention training*: What would you like training to include? How would you like training to be presented?
6. Are there any additions you would make to your designs after our discussion?
7. What would you like to add that we have not asked you today?

Asynchronous Participatory Design Session: Youth-Serving Librarians

(Note: This was available over padlet and in offline workbook form)

Instructions

This workbook is designed to take approximately 90 minutes to complete. You may complete steps in the workbook as you have time throughout your day. Please complete all activities and post to the group discussion by **December 22, 2021**. **Please scan or take a picture of each activity when complete and send both files to autism-ready@uw.edu by the due date.**

Table of Contents

1. Instructions pg. 1
2. Introduction pg. 1
3. Overview pg. 2
4. Activity #1 pg. 5
5. Activity #2 pg. 7
6. Discussion and Reflection pg. 8

If you have any questions as you complete this workbook, please reach out to us at autism-ready@uw.edu.

Introduction

The purpose of our research is to develop strategies to provide early literacy programs, resources, and services for autistic children and their families in the public library. You have been invited to take part in this Participatory Design Workbook because your role as children's librarians will offer invaluable input and improve our understanding of how to empower library staff to support autistic children and their families.

What is Participatory Design?

Participatory Design (PD) brings together researchers and key stakeholders like you to draft a solution to a challenge you face. This ensures the design will meet your needs as youth services providers. PD sessions are made up of short design activities, often visual creations, that require no prior design knowledge or experience to participate. The purpose of this Workbook of design activities is to identify key components of the Autism-Ready Libraries Toolkit (ARLT).

What will the Autism-Ready Libraries Toolkit include?

This ARLT will include **training**, **tools**, and other **resources** identified by you during the design activities in this Workbook that will empower library youth services providers to serve autistic children and their family's early literacy needs. Your ideas will inform the design and development of the Autism-Ready Libraries Toolkit to build public libraries' capacity to better serve autistic children and their families.

Overview

To guide the Workbook activities this overview section will provide some background information about the needs of autistic children and their families, and some best practices for

serving them as identified by our research. Some of you may already have a lot of experience working with autistic children and their families, and this might be new information for others. The first phase of our research utilized interviews and focus groups to identify barriers and challenges faced by autistic children and their families when using public libraries, as well as best practices that would help them access library services. The information in this overview was provided by family members of autistic children.

Barriers in Libraries for Autistic Children and Their Families

Families with autistic children face many barriers which make using the library to support the early literacy needs of their children difficult (Figure 1). Many autistic children have sensory differences and are uncomfortable coming into the main library space due to fluorescent lights, unpredictable or loud noises, or large groups. Sometimes autistic children will cover their ears, hum, or make other movements or noises to help self-regulate their sensory distress. Parents often leave their children home or shorten their time at the library because they feel that their children's behaviors might be judged by other library patrons or by library staff. Families with autistic children also rarely attend library programs such as storytimes because the program environment, such as the lighting, sounds, and large group, may overwhelm their children. They also may not attend because they are afraid their child might disrupt other children and families at the program, or that their child isn't able to meet expectations such as sitting quietly.

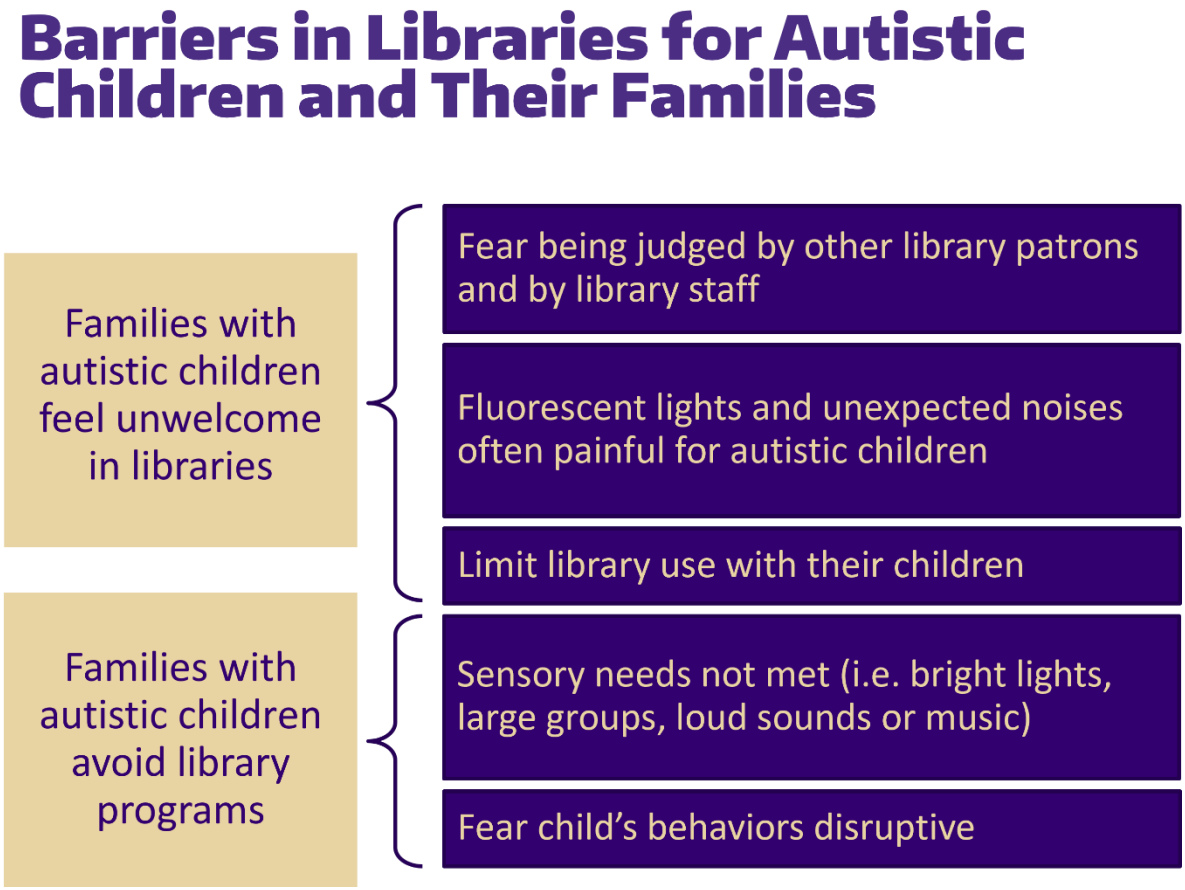


Figure 1: Barriers in Libraries for Autistic Children and Their Families

Best Practices for Librarians and Library Staff

Thankfully, there are many best practices which libraries can use to help support autistic children and their families' library use, as well as best practices to support inclusion in early literacy library programs such as storytime (Figure 2). Quite a few of these best practices are already being used by librarians and library staff, and may be used by you already.

The first of these best practices is creating a welcoming atmosphere, which was described by parents as having friendly staff members who greet family members and are flexible to autistic children's behaviors and needs. This includes supporting autistic children's needs with sensory items such as headphones and fidgets, and providing multiple ways to communicate with library staff for nonspeaking children.

Best practices for early literacy library programs were very similar. Best practices for providing library programs like storytime included helping autistic children of all abilities to participate, and welcoming families by providing flexible expectations for attendees, such as saying children do not have to sit quietly.

Parents also identified best practices for information services like reader's advisory, such as individualizing recommendations to autistic children's interests and reading level, and providing up to date information on autism and resources for early literacy development.

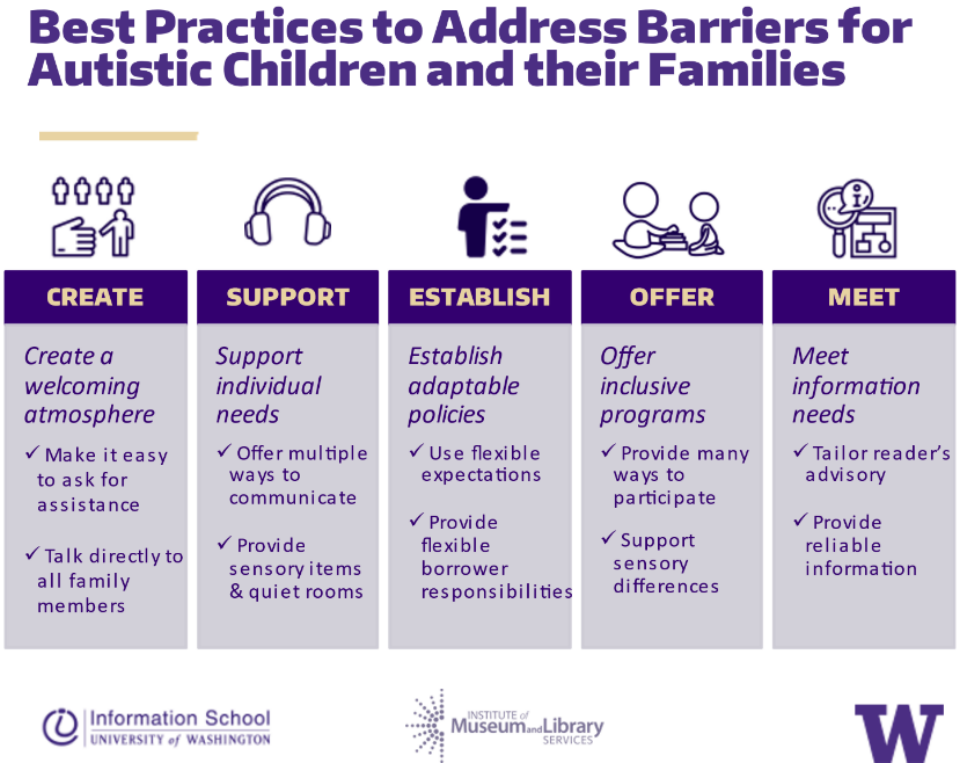


Figure 2: Best Practices to Address Barriers for Autistic Children and Their Families

We also talked with children's librarians and library staff across Washington State in our first phase, and you identified some challenges and needs you've experienced while serving autistic children. Many of these challenges included not having previous training, experiencing a lack of support such as time to develop programs and provide consistent programs, and staffing to cover the information desk during times where you would like to provide programs or outreach. Another challenge you identified was the difficulty of addressing the diverse needs of autistic children and their families, since every autistic child is different. In Activity 1 we will ask

you to think about other challenges that you feel you may have using these best practices at your own library, or in your own work.

Our hope is that the design activities in this Workbook will give you all a chance to reflect on what training, resources, or other supports you would need as a youth serving staff member to use these best practices to address barriers experienced by autistic children and their families in libraries. Your designs in this workbook will directly inform how we will build the Autism-Ready Libraries Toolkit.

Appendix II: Content Analytic Framework

Systemic Barriers Affecting Autistic Children and Their Families Library Access			
Type of Systemic Barrier	**Barrier Sub-Constructs**	**Definition**	**Indicators**
Structural--*refers to systemic barriers which are the product of institutionalized ableism. This is social ableism which has been adopted on the organizational level and is characterized by ableist policies, practices, and environments (Lalvani & Broderick, 2013).*	Library Environment	indoor and outdoor spaces as well as specific aspects of the library space such as: location, noise level, lighting, furniture, floors,	Inaccessible sensory environment (Library space)
			Inaccessible physical environment
	Library Service Model Barriers	borrower responsibilties that affect patrons, as well as service models which standardize expectations for library staff. Library policies and borrower responsibilities regulate how library patrons interact with	Inflexible library policy
			Unclear expectations*
			Inflexible role of librarian
	Library System Support	management either at the branch level or the library system level, including time to dedicate to inclusive practicies, and professional	Lack of training
			Inadequate resources
Social--*refers to systemic barriers which are informed by social ableism. Social ableism is discrimination, stigmatization, and prejudice that results in social oppression towards the disabled community (Bogart & Dunn, 2019; Billawalla & Wolbring, 2014).*	Library Staff Implicit & Explicit Biases	The feelings and beliefs about autism held by library staff, as well as the sensitivity of library staff towards autistic children and their families	Negative Judgement
			Neurotypical Bias
	Community Expectations/Cultural expectations	Socially constructed community ideals for library use, in-library behavior of patrons, and other library related social expectations that impede library access for autistic children and their families (e.g. Broman, 2017; Kaeding, Velasquez, & Price, 2017; Prendergast, 2016). These also	Isolation & Exclusion
			Stereotype: *Sub indicators: autism stereotype, disability stereotype, library patron stereotype*
			"Libraries are quiet"
			Parent/Caregiver Fear of judgement*
	* indicates an addition		

The entirety of the Content Analytic Framework is available to view in [this Google Spreadsheet]

Appendix III: Detailed Refinement of Conceptual Framework

Table: Additions to Conceptual Framework

Construct	Indicator/Sub	Description	Reasoning
Systemic barrier	Unclear expectations	Policies or instructions in the library which are not clearly advertised or are difficult to understand, including rules for patrons as well as guidance for use of library resources and materials.	Indicator added to capture concepts regarding family's uncertainty with rules and guidance in the library, both spoken and unspoken. Several participants emphasized that not having clear expectations resulted in uncertainty and kept them from using library services they were unfamiliar with. Many feared breaking a rule or accidentally misusing library technology. Patron expectations are an important dimension of inclusion in libraries.
	Parent/caregiver fear of judgement	The unease of parents or caregivers of autistic children in the library space, often pertaining to concern over how their child's stigmatized behaviors will be perceived by the staff or other patrons.	This indicator was added to capture concepts related to families' discomfort using the library, such as feeling the need to monitor their child's behavior to avoid stigmatization by patrons or staff. Nearly every parent/caregiver participant mentioned feeling uneasy in the library. Many families would limit their time at the library, or leave their autistic child at home, for fear of how they would be perceived.
	Limited interactions	Library staff rarely welcome autistic children and their families, acknowledge their presence, and/or proactively provide customer services.	Indicator added to capture a specific facet of interactions between families and library staff. A number of families reported rarely building relationships with staff, with many describing feeling uncertain to approach staff because they often appeared busy or did not make eye contact. Several participants emphasized that they did not interact with library staff because of their body language, despite wishing to have a relationship with their librarians.
	Physical inaccessibility (library program)	A library program takes place in a problematic space (i.e. with poor room layout), does not include seating options for attendees (e.g. all children expected to sit on floor), or has other physical barriers present in the built environment.	This indicator was added to capture physical barriers specific to library programs. Many families described certain aspects of the library program space that acted as barriers to their children participating in the program, such as not having chairs present or room to sit with their child. A number of families reported not attending programs due to these physical barriers.
	Negative program experience	A specific instance where attendance at a library program results in discomfort for the autistic child or their parent/caregiver.	Indicator added to capture the specific instances where families had a negative experience at a library program. Several parents/caregivers shared that negative experiences led them to

			discontinue attending library programs. This facet was important to capture to understand both what barriers lead to negative program experiences, and what impact negative program experiences had on families' library use. (Prendergast, 2017)
	Information service inaccessible	A service or tool provided by the library to meet patron information needs (i.e. reader's advisory, computer, or catalog/database) is unable to be used by the parent/caregiver.	This indicator was added to capture concepts regarding parent/caregiver's use of information services, which are important to support acquiring new and relevant early literacy materials for their children. Many participants shared that they could not access the library catalog or database, or did not feel comfortable initiating reader's advisory with library staff when they had their autistic child with them. This lead to several participants who did not feel the library supported their needs regarding finding early literacy materials for their children.
	No adaptive early literacy support resources	The library does not provide early literacy resources adapted for, or specific to, co-occurring conditions or learning differences (i.e. dyslexia).	Indicator added to capture concepts related to the early literacy resource needs of autistic children with co-occuring conditions such as dyslexia. A handful of parent participants noted that their library did not have the necessary early literacy resources for their dyslexic children. Additionally, a number of parent participants requested adaptive books, which are adapted to help visual or physical learners with pictures or textures. This lack of adaptive literacy support resources meant many families used the library less frequently, or not at all, to meet their children's early literacy needs.
Individual contexts	Nonspeaking	Child primarily communicates without speaking through the use of AAC and/or sign language.	This indicator was added to capture individual children's communication differences. In particular, nonspeaking (often problematically referred to as "nonverbal") children and their families experience heightened library barrier. Many participants with nonspeaking children did not use the library at all after negative experiences. This particular individual difference was important to track to understand how specific barriers might compound for families with nonspeaking autistic children.
	Minimally-speaking	Child speaks but may prefer to use an AAC device or ASL part of the time, and/or started using spoken language later in life.	This indicator was added to capture individual children's communication differences. Minimally-speaking children and their families face many communication barriers in libraries. A number of participants requested specific communications supports for their minimally-speaking children who may not speak in public.

			This particular individual difference was important to track to understand the unique experiences of families with minimally-speaking autistic children.
	Early reading experience challenge	Child experienced or is currently experiencing a lack of adequate support related to developing early reading/literacy skills.	Indicator added to track children's individual differences regarding their early reading experiences. In particular, a large number of participants reported that their children struggled with early reading either currently or previously. This individual experience was important to capture to contextualize early literacy service and resources needs for autistic children and their families. (Westerveld et al., 2016; 2018)
	Homeschooling	The majority of the child's education is provided at home by their parents/caregivers.	This indicator was added to capture individual contexts specific to the type of education children were receiving. Several participants in this study homeschooled their children, and many families were enrolled in specialty programs. This is important in understanding what early literacy resources families may already have access to, as well as what their particular needs may be relevant to homeschooling or private learning programs.
	Public school	The majority of the child's education is provided by a public school.	Same as above.
	Private school	The majority of the child's education is provided by a private school or charter school.	Same as above.
	Specialty program	The child is enrolled in a specialty program, outside of typical special education resources, which can occur alongside other education modes (i.e. a child in an early literacy specialty program at a public school).	Same as above.
Early literacy learning experiences	Library use benefit present	Positive outcomes of library use, especially as they pertain to early literacy learning and development such as: child's early literacy development and literacy engagement, child's early learning/skill development,	Indicator added to track the benefits of library use for autistic children and their family. Several parents/caregivers mentioned positive outcomes of their library use, especially related to increasing their access to materials they could not afford otherwise. These benefits were important to track to understand which families were benefitting from library use, and how.

		parent support and home literacy engagement, and use of library materials and resources.	(Prendergast, 2017)
Systemic enabler	Multi-media outreach	Information about inclusive programs and services shared through web-based platforms, mailing lists or newsletters, and posters or flyers in the library space as a best practice for sharing information with families of autistic children. Includes advertising inclusive practices or information services at the library.	This indicator was added to capture how families wished to be contacted by libraries for advertisement and outreach. Many librarian participants mentioned poor attendance to inclusive programs, or not knowing how to perform outreach to the autistic community. A large number of parents/caregivers reported utilizing multiple media methods was the best way to advertise programs, services, and outreach programs. This is important because autistic children and their families historically are not advertised to directly by the library or included in accessibility discussions.
	Remote/online	Web-based services such as early literacy programs provided synchronously over platforms such as Zoom, or asynchronously on platforms such as YouTube as the preferred form of library early literacy services. Includes borrowing materials online and curb-side pick up.	Indicator added to capture the preferred manner families with autistic children would like to access specific library services and resources. Many parents/caregivers preferred to use online resources for reader's advisory and to place holds. Additionally, a number of participants preferred online storytimes to avoid the systemic and service barriers present at in-person library programs. This was important to capture to understand families' preferred modality for early literacy services.
	Environmental access supports	Any change or addition made to support accessibility to the physical environment of the library or to remove an environmental barrier for autistic children and their families.	This indicator was added to capture concepts regarding enabling practices to address environmental barriers for autistic children and their families in the library. The majority of parent/caregiver participants mentioned at least one supportive practice to address environmental barriers, while several librarian participants mentioned practices they were utilizing currently. This was an important addition to capture key practices for libraries to support access to this community. (Grassi, 2017; Schriar et al., 2016)
	Provide compassionate service	The understanding and acceptance by library staff members of autistic behaviors, resulting in a staff member who is flexible to the parent or child's needs in both interactions and with regards to library policies. The staff member supports the parent or child's individual needs during interactions or	Indicator added to capture concepts regarding enabling actions which address social systemic barriers for autistic children and their families in libraries. In particular, the need for understanding and compassion was mentioned by the majority of parent/caregiver participants. Families and several librarians also mentioned flexibility and attentiveness to individual needs. This indicator was an important addition as these enabling practices can mitigate community expectations/social expectations barriers.

		literacy programs, and addresses the child directly and follows their lead in communicating.	(Broman, 2017; Matoushek et al., 2017; Prendergast, 2016)
	Create welcoming environment	Using forms of communication and body language which support a sense of comfort and belonging for autistic children and their families. Library staff are friendly with the autistic child and their family, introduces themselves and/or situates themselves at their desk or on the floor of the library in a manner that signals they are available and approachable, and builds familiarity with the family during subsequent visits.	Indicator added to capture concepts regarding enabling actions which address social systemic barriers for autistic children and their families in libraries. Several parents reported that they felt welcomed and included in the library space when library staff greeted them or remembered their names. This feeling of welcome enabled these families to interact more easily with library staff, reducing their fear of judgement. This is important to capture as enabling practices related to creating a welcoming environment have direct implications for families' use of library early literacy services, and likelihood of future visits. (Broman, 2017; Matoushek et al., 2017; Prendergast, 2016)
	Community inclusion	The patrons or other community members in the library demonstrate attitudes and behaviors that are supportive and/or inclusive of autistic children and their families. Includes patience of behavioral differences, inclusion in activities, and acts of goodwill (i.e. holding a family's books during checkout, etc.)	This indicator was added due to presence in the literature (Prendergast, 2016). In particular, this concept was important to capture as parent/caregiver participants often feared judgement from other library patrons. Capturing this concept's presence or lack thereof helps to contextualize families experiences with other patrons at the library.
Service enablers	Adaptive customer service	Customer service interactions which utilize techniques and tools (i.e. visual representation, alternative communication methods) to support and enable communication with autistic children and their families, and/or provide multiple methods of representing library policies, expectations, and navigation.	Indicator added to capture concepts regarding enabling actions for customer service interactions between families with autistic children and library staff. In particular, adaptive customer services such as AAC methods were requested by several participants, including all of the participants with nonspeaking or minimally speaking children. This enabler was important to capture as customer service interactions, particularly communication with patrons, are the core of inclusive library services. (Kaeding, Velasquez, & Price, 2017)
	Meet information needs	Library staff help families find the resources they are looking for by providing	This indicator was added to capture enabling practices for meeting families' information needs. Many participants mentioned specific services or resources that would help them meet their children's

		individualized reader's advisory recommendations and accurate information and resources related to autism/literacy. Library staff proactively offer relevant services or resources to the family.	early literacy needs. This is particularly important because library information services are key to supporting the early literacy needs of autistic children and their families by providing relevant recommendations and up to date resources. (Broman, 2017; Schriar, Foester, & Pelich, 2016)
	Inclusive program design	The program design is highly structured, predictable, and utilizes techniques (i.e. visual supports, hands-on activities) which promote accessibility and engagement for autistic children and their families.	Indicator added to capture aspects of library programs which can enable participation for autistic children and their families. This concept was particularly salient, with elements of inclusive design mentioned by the vast majority of parent/caregiver participants. These inclusive design elements were important to capture in order to effectively inform autism-inclusive early literacy program recommendations. (Klipper, 2014; Anderson, 2021; Pebly, 2019)
	Foster inclusivity	Library programs have inclusive expectations set by the facilitators (i.e. setting ground rules that state kids can sit, stand, wiggle, run, etc.), and policies such as age restrictions are flexible to meet the needs of autistic children.	This indicator was added to capture aspects of social inclusion in library programs inclusive of autistic children and their families. Many parent participants mentioned the need to feel their children were welcome in the program, and that they could meet the expectations of the program. Fostering inclusion is an important aspect of providing autism-inclusive early literacy programs where all attendees feel comfortable and confident their children can participate. (Falkmer et al., 2015; Anderson, 2021)
	Diversity of offerings	Library programs are provided at a variety of times and frequency to suit families' needs, and incorporate a wide array of themes or topics to engage autistic children's focused interests.	Indicator added to capture concepts related to program preferences and needs of autistic children and their families. A number of parent/caregiver participants recommended programs based on their children's focused interests, their own time constraints, and desire for frequent programs. Offering a range of types of early literacy programs, times, and frequencies provides opportunities to select a program that best suits their children's individual needs and interests.

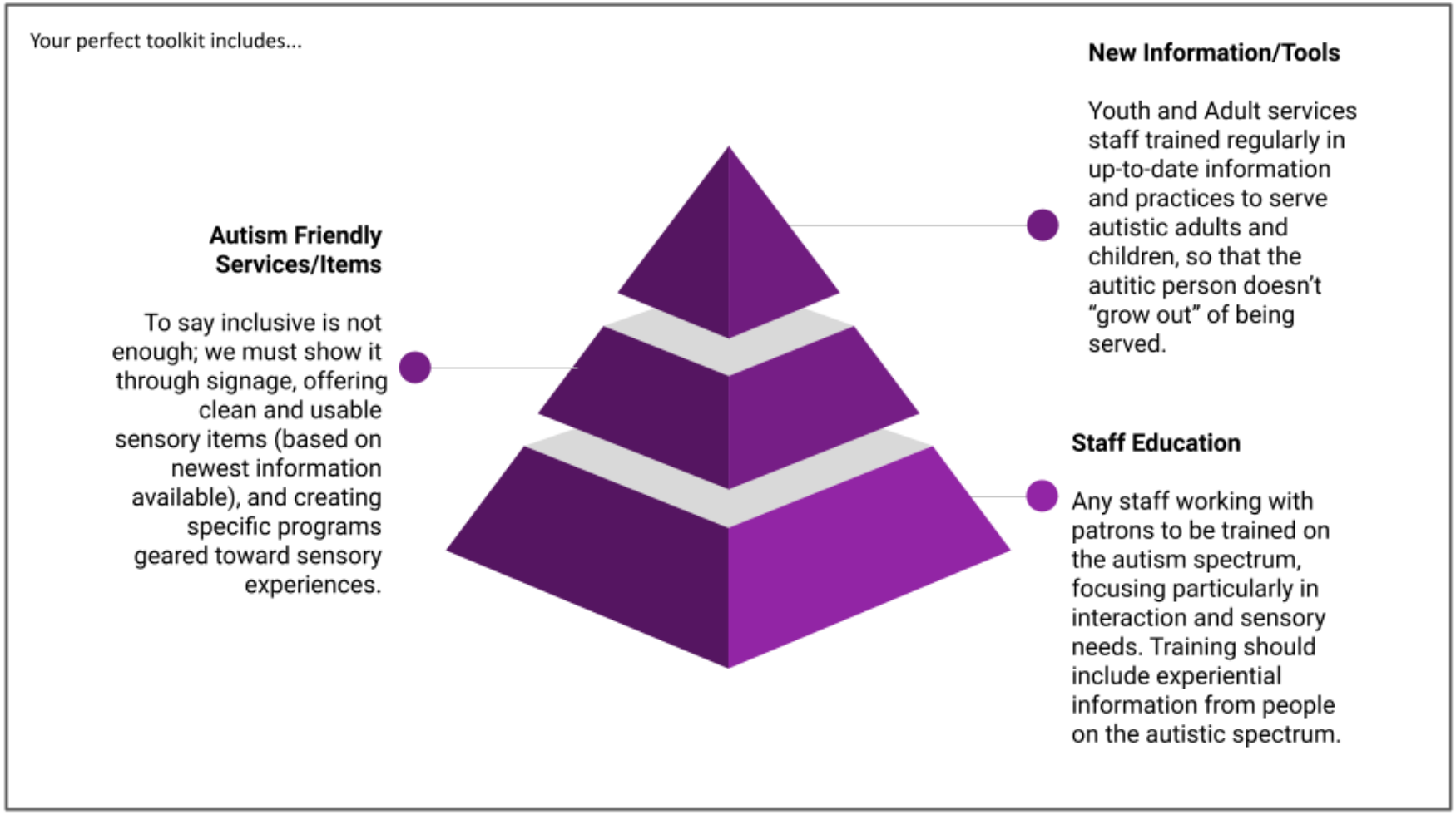
Table: Changes to Conceptual Framework

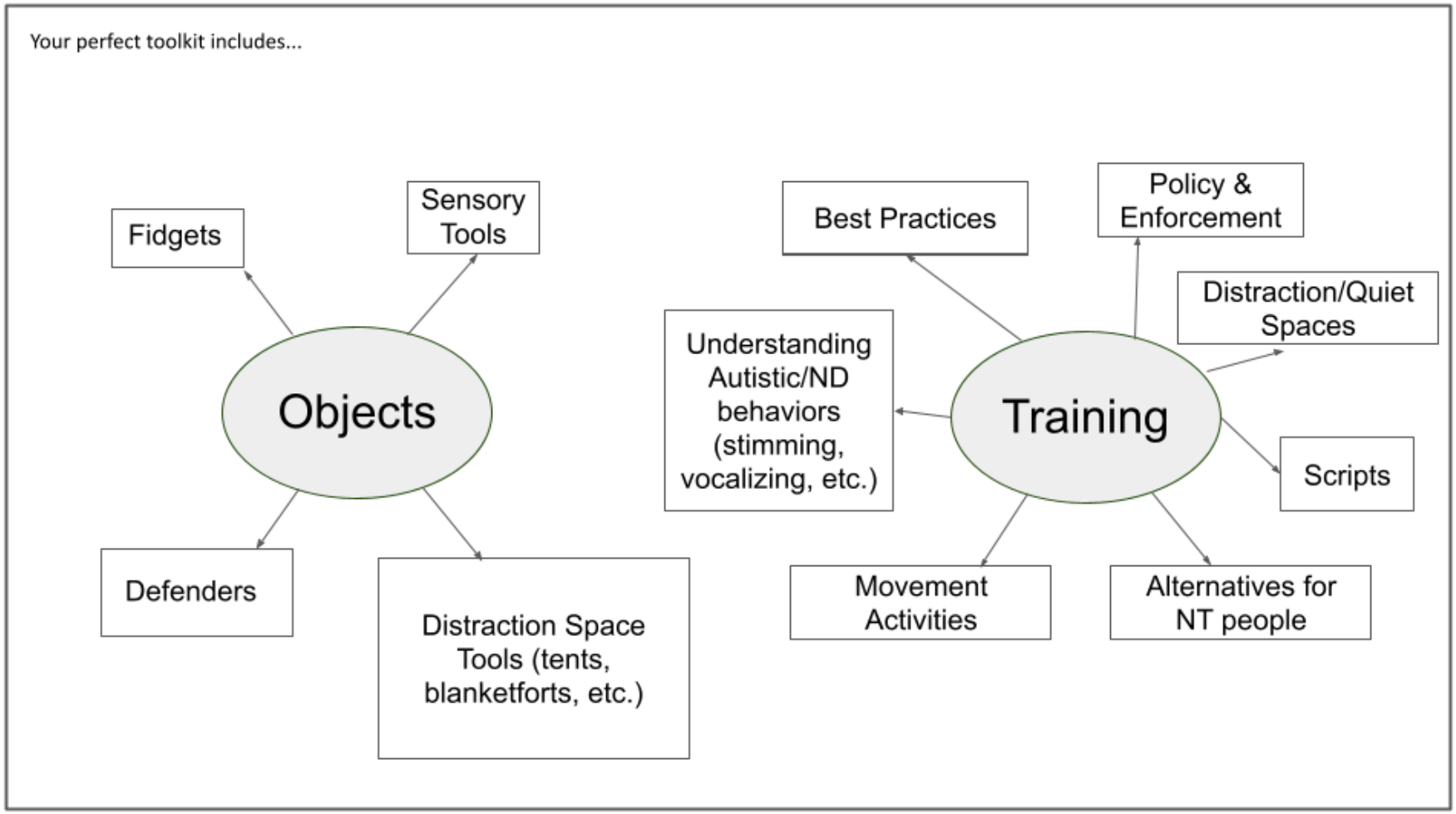
Construct	Indicator/Sub	Description	Change made	Reasoning
Individual difference	Sensory need: Hypersensitivity	Refers to sensory inputs which are painful or uncomfortable for the autistic child (i.e. loud noises, bright lights) (Ashburner et al., 2013; Baron, 2006).	Previously labeled "sensory need"	The indicator "sensory need" was split into three separate sensory need profiles to better capture the individual needs expressed by my participants. Sensory need profiles are important to capture to illustrate the diversity of needs across individual sensory experiences and their nuances. Revisiting the literature I established indicators for hypersensitivity, hyposensitivity, and self-regulatory sensory needs (e.g. Ashburner et al., 2013; Baron, 2006).
Individual difference	Sensory need: Hyposensitivity	Refers to sensory inputs which the autistic child is undersensitive to (i.e. sound), often related to sensory seeking actions (i.e. speaking loudly, verbal stims).	Previously labeled "sensory need"	Same as above.
Individual difference	Sensory need: Self-regulatory	Refers to sensory inputs which the autistic child uses to mitigate sensory overwhelm or calm themselves (i.e. weighted items, soft textiles)(Ashburner et al., 2013; Baron, 2006).	Previously labeled "sensory need"	Same as above.
Individual difference	Child Characteristics	Refers to traits, needs, and differences that are specific to an individual autistic child.	Previously sub-construct "family and child characteristics"	The previous sub-construct "family and child characteristics" was split to better reflect the separate parent/caregiver and child characteristics presented by my participants. Conceptually, it is important to focus on the child's individual differences as a distinct entity. While no additional indicators were added, this split created a stronger designation between the indicator sub-constructs for data analysis.

Individual difference	Family Member Characteristics	Refers to traits, needs, and differences that are specific to parents or caregivers. Includes parent/caregiver disabilities and conditions, such as if the parent self identifies as autistic as well (Woodbury-Smith & Scherer, 2018).	Previously sub-construct "family and child characteristics"	Same as above.
Systemic barriers	Library staff Implicit & Explicit Biases	The feelings and beliefs about autism held by library staff, as well as the sensitivity of library staff towards autistic children and their families.	Previously "Library staff attitudes"	This sub-construct was renamed to better reflect the deeper biases held by library staff which inform outward attitudes towards autistic children and their families (Kaeding, Velasquez, & Price, 2017).
Service barriers	Lack of parent literacy engagement resources	Resources to support parents and/or caregivers in providing early literacy development in their homes. These include early literacy skill development guides, book lists by development level and/or interest, and other early literacy development supports for parents/caregivers.	Previously "Lack of autism-specific resources"	The previous indicator "lack of autism-specific resources" was reworked to focus specifically on early literacy resources, and split to better capture two specific types of early literacy resources: a) parent literacy engagement resources; b) early literacy support resources. This split now captures parent facing resources (a) separately from child facing resources (b). It is important to capture how a lack of parent facing library resources, such as tips and book lists, impacts families' ability to support the early literacy development of their autistic children, just as it is important to highlight a lack of child facing early literacy resources such as books, games, and apps designed for autistic/neurodivergent children.
Service barriers	Lack of early literacy support resources	Resources which engage autistic children in early literacy development, including print materials, activity kits or games, and apps or technology (such as learning tablets), are not adequately provided by the library (Kaeding, Velasquez, & Price, 2017; Prendergast, 2017).	Previously "Lack of autism-specific resources"	Same as above.

Appendix IV: Participatory Design Artifact Examples

Youth-Serving Library Staff Examples




Your perfect toolkit includes...
Fidgets
Sensory Tools
Objects
Defenders
Distraction Space Tools (tents, blanketforts, etc.)
Best Practices
Policy & Enforcement
Distraction/Quiet Spaces
Understanding Autistic/ND behaviors (stimming, vocalizing, etc.)
Training
Scripts
Movement Activities
Alternatives for NT people

Your perfect toolkit includes...

1. Examples of physical items (fidgets, weighted blankets, noise-blocking headphones, etc.) a library can have on hand to provide kids onsite. Recommended websites or resources for staying in touch with new products or devices that could go in a kit. Best practices for how to share a physical kit most accessibly with the public, e.g. don't ask people to check it out, just make freely available?
2. Template "social story" that can be easily adapted for a location and shared on the library's website about what to expect (here's a picture of the library; here's a picture of our YS librarian; here's what the bathroom looks like; here's where I play).
3. Recommended inclusive policy language that libraries can easily incorporate and update existing policies (e.g. rules of conduct; borrower policies)
4. Recommended signage or visuals within a library space, within collection, on public computers, etc.
5. Training for all library staff, not just youth services staff, about autism and unintended barriers and how to be an inclusive space. Where possible, center voices of autistic children and their caregivers.
6. Suggested talking points for sharing with members of the public who may have questions about autism-inclusive policies.
7. Top three community resources to look for/be aware of/find out about in your community as connection points for kids with autism. For example - how long is the waiting list for autism screening and what support resources are available for families while they're waiting?
8. Facility/site checklists: what to include in the design of a sensory-friendly brand-new building (example: no auto-flushing toilets); walk-through checklist for sensory-unfriendly items in your current space and practical suggestions for modifications.
9. Any early literacy tips specific for working on readers' advisory and literacy with kids with autism.
10. Pros/Cons of having dedicated "sensory-friendly" times when the library is only open for kids with autism and their caregivers; or other suggested ways to make the building truly inclusive.
11. Any COVID-specific suggestions? Like having a photo of ourselves on our nametag without a mask so kids can see our face?
12. Phone number to call or online community where staff can connect with library/museum colleagues on best practices, questions, support needs?

Parent and Caregiver Examples

Your perfect early literacy program looks like...

1. Inclusive, fun, and messy.

2. Sensory bins, acting out stories, easy learning stations with rotations and fun transitions to each activity. Sensory story kits given to all of the kids, or for families who cannot go into the library.

a. Headphones, calming areas, crash pad areas. Places for heavy work to be done when needing regulation. Loud zones.

B. Staff and educators that are compassionate and understanding. Opportunities for networking and connecting with other families.

Your perfect early literacy program looks like...

A perfect early literacy program for our family would be inclusive. It is important for my daughter and myself to feel included and not judged by other families. To accomplish a literacy program that is inclusive to all abilities, it would be important that the environment is set up to include and engage all types of abilities. Helpful supports would include:

1. Sensory seating for all. This would include wiggle seats, wobble stools, bean bags etc.
2. Fidgets. To keep my child and many others engaged it is important to have many different types of fidgets available
3. An area designated as a break space for the children who may be feeling overwhelmed and need to step away for a bit
4. A bin with plushies and blankets would be beneficial as well. My daughter enjoys learning and reading while hugging a stuffed animal or rubbing a soft blanket and having supports like this could be beneficial to others as well.

Activities in this program should be engaging and exciting and should be kept fairly short. I think it would be important to keep activites brief and offer breaks between each activity to get all the wiggles out and keep children engaged.

Your perfect early literacy program looks like...

Hands on sensory story telling to keep hands busy

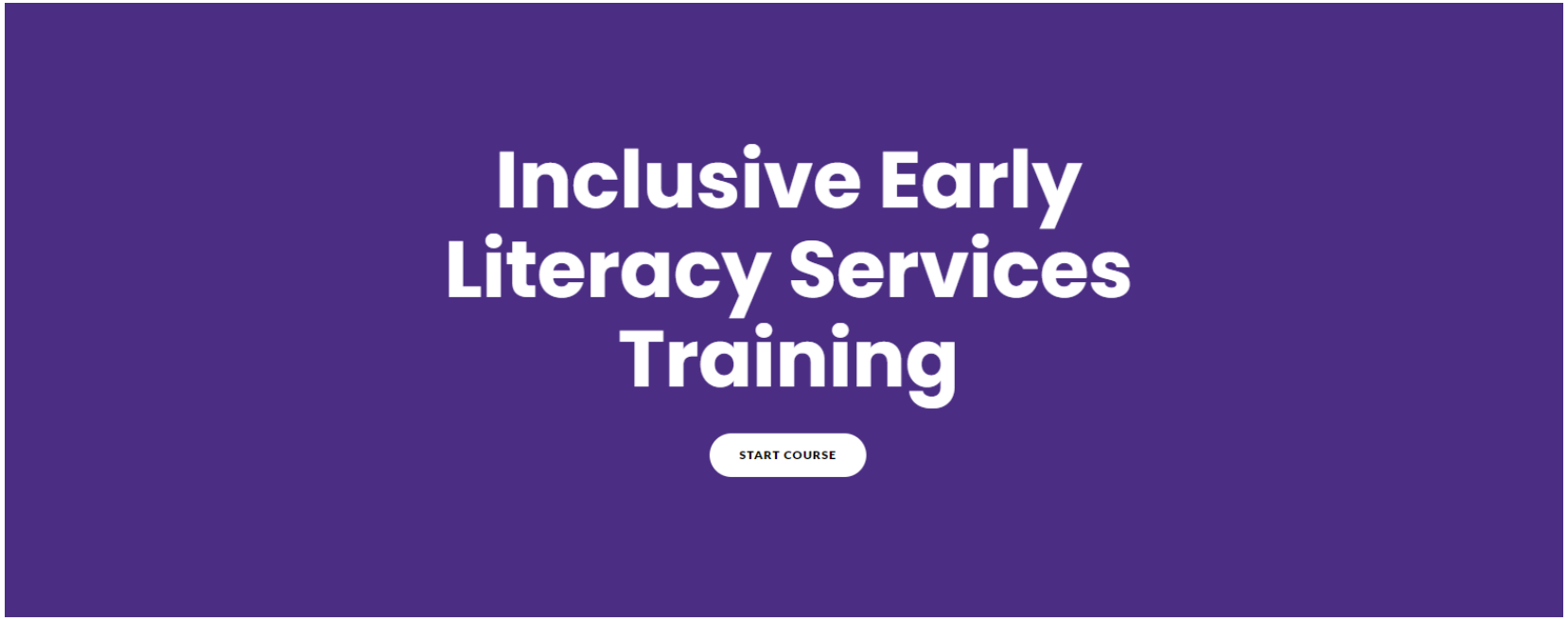
(Quiet music)

A quiet dimly lit space for when overstimulation occurs and a child needs a little break

More seating options (fidget seats, bean bags for laying down with their weighted blanket etc)

A friendly environment that makes parents comfortable so nobody feels like an inconvenience

Appendix V: An Early Literacy Services Toolkit for Youth-Serving Librarians



The Inclusive Early Literacy Services Training I developed as a result of this research is available online through this hyperlink.

Early Literacy Services Resources

The Early Literacy Services resources I developed as part of this toolkit are available through the following hyperlinks:

- Autism-Inclusive Early Literacy Program Plans
- Autism-Inclusive Storytime Templates
- Environmental Audit Checklist
- Sensory Kit Checklist
- Booklist of Titles for Autistic Children