# Annotated Bibliography:
# Modeling Zoos and Aquariums and Inclusive Communities of Science (MoZAICS) for Autistic Individuals

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# Contents



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## Executive Summary

This annotated bibliography was created to leverage prior research from fields relevant to zoos and aquariums by synthesizing studies and translating them into actionable guidance for inclusive practices that serve autistic staff and visitors. The literature review was conducted through a scoping exercise and analysis phase, followed by a synthesis phase.

Literature around best practices for **employees, volunteers, and interns** were broadly categorized as: 1) identifying the strengths of autistic workers; 2) shifting organizational policies and approaches; and 3) normalizing workplace accommodations. For a summary of key trends and their implications for staff at zoos and aquariums, please see page 5 of this document.

Literature around best practices for **informal science learning settings** were broadly categorized as: 1) identifying motivations and barriers for autistic visitors; 2) identifying benefits to visiting for autistic visitors; 3) engaging research-based strategies; 4) case studies and examples. For a summary of key trends and their implications for the general visit experience at zoos and aquariums, please see page 7 of this document.

## Introduction

The first phase of the Modeling Zoos and Aquariums as Inclusive Communities of Science for Autistic Individuals (MoZAICS) research was an in-depth review and synthesis of existing literature in the informal STEM learning (ISL) and adjacent (e.g., recreation, tourism) fields. While there has been prior relevant work across the broader informal learning field on autistic and other neurodivergent visitors (e.g., Access Smithsonian), the existing literature addressing the experience and needs of autistic individuals in museums focuses primarily on accessibility[1] for the general visit experience with limited studies on volunteering and working in ISL. In particular, support for the general visit experiences involves sensory tolerance and does not sufficiently address other aspects of participation (e.g., social interaction and communication). Furthermore, much of this prior research has been situated in the museum studies field with few studies specifically exploring zoo/aquarium (Z/A) contexts. Most prior studies also focus on a single site with few systematic reviews that synthesize findings across organizations, and efforts to compile findings across sites are still limited. Studies in related fields can also provide insights to inform work in Z/As. As such, this literature review leveraged prior research from relevant fields (e.g., education, tourism, recreation), synthesized them, and translated those insights into actionable guidance for inclusive[2] practices that serve autistic individuals visiting and working in Z/As.

[1] We use accessibility to refer to efforts to remove barriers or provide necessary supports for the sensory, cognitive social and communication needs of autistic individuals.

[2] We define **inclusion** as efforts to ensure that any individual or group can fully participate, belong and meaningfully contribute (Weaver, 2021). The term **inclusive practices** throughout this proposal refers to the actions, methods or approaches taken to advance inclusion and/or to minimize or remove barriers.

The literature review was conducted in two phases – a scoping exercise and an analysis and synthesis phase – that address the following questions:

- *What is known from the existing literature about the use of inclusive practices for autistic individuals in education and community settings?*
- *What is known from the existing literature about supporting the organizational change necessary to support the implementation of these practices?*
- *What specific design features, program characteristics, resources or other supports are related to the physical and social inclusion of autistic individuals in Z/A visits, programs and internship/volunteer/employment opportunities?*
- *What are evidence-based recommendations for enhancing inclusion for autistic individuals, and what findings are reinforced across multiple studies and can therefore be considered robust?*

## Key Trends and Implications

This report is organized by two main focuses: 1) trends related to employing autistic individuals as staff, volunteers, and interns, and 2) a review of prior research that suggests effective practices for autistic audiences visiting or participating in programs in informal science learning settings. The following tables provide a summary of key trends from each focus area and possible implications for zoo/aquarium settings. For more information about each trend, please visit the annotated bibliography entries for the work cited (see pages 7-28 of this document).

| **What key trends emerged from the *Employees, Volunteers, and Interns* literature review?** | **What might this trend mean for autism access and inclusion in zoos and aquariums?** |
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| Recognizing the strengths and benefits of hiring autistic staff (Djela, 2021; Greenberg et al., 2017; Lindsay et al., 2018). | Consider how the strengths of autistic individuals align with the kinds of work done in zoo and aquarium settings.<br><br>*Ask: Where do I see alignment in the work of my Z/A and the strengths of autistic individuals?* |
| Changing HR policies and hiring practices to be more inclusive of persons with disabilities (Schloemer-Jarvis et al., 2022). | Determine how hiring policies and practices can be shifted to allow for greater inclusion of neurodiverse individuals.<br><br>*Ask: How can my Z/A shift its hiring policies practices to attract and include more autistic people? How can our hiring processes allow for more flexibility in how people share or demonstrate their experience/expertise?* |
| Normalizing inclusive practices across an organization through training and broad access to accommodations (Johnson et al., 2020). | Provide training around autism to all staff across the Z/A. Offer accommodations as a standard practice for all employees, regardless of whether they've disclosed a disability.<br><br>*Ask: How can my Z/A formalize autism training both across and within each department? What kind of specific training do staff in each department need? What systems can help ensure that all staff are offered relevant accommodations?* |
| Acknowledging a need to address social barriers that can exist for autistic staff through workplace training (i.e. negative | Consider what general social norms, as well as elements of company culture, might present barriers to autistic staff and how training can help address them. |

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| attitudes and beliefs of other staff members) (Djela, 2021; Kulik et al., 2016). | *Ask: What kinds of training can help counter preconceptions or misinformation about autism that are held by my Z/A's staff?* |
| Giving staff choice and agency in selecting which supports align with their needs (Campanaro et al., 2021). | Ensure that staff are given the freedom to choose their own accommodations.<br><br>*Ask: What do you need in order to do your job effectively? How can we communicate to staff what the accommodation options are?* |
| Using multi-modal approaches when training employees (Campanaro et al., 2021). | Consider how Z/As can make training processes more flexible to allow for multiple ways of learning.<br><br>*Ask: How can we ensure that training materials are available in a variety of formats (e.g. written, verbal, demonstrative, or recorded)?* |
| Offering workplace accommodations, including, but not limited to, assistive products and technology and changes to workflow or communication approach (Johnson et al., 2020; Khalifa et al., 2020). | Determine what jobs or tasks can allow for more flexibility in how, when, and in what circumstances they are done. Ensure that staff are aware of and feel able to accept accommodations without retribution.<br>*Ask: How can we make offering and accepting accommodations commonplace for all staff in our Z/A?* |
| Using mentoring and coaching (i.e. job coaches, peer mentors, customized PD and intervention plans, ongoing review, or job shadowing) to support employee development (Johnson et al., 2020). | Consider how coaching and mentorship can be implemented as part of training practices at Z/As.<br><br>*Ask: How can my Z/A incorporate shadowing, coaching, or mentoring into our training processes?* |
| Partnering with community groups for job placement programs (i.e. transition programs, job coaches, school districts). (Greenberg, 2017). | Consider what kinds of roles, especially those beyond front-end or service-oriented roles, may be suitable for partnerships with job-placement programs.<br><br>*Ask: How can our organization deepen partnerships with community-based autism service organizations? In what ways can we help support job skills development for our community?* |

| **What key trends emerged from the *Informal Science Learning Settings* literature review?** | **What might this trend mean for autism access and inclusion in zoos and aquariums?** |
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| Exploring the goals and needs of autistic visitors (Milgramm et al., 2021). | Consider what relationships Z/As need to build within their communities to better understand their needs.<br><br>*Ask: Which community groups or organizations can my Z/A engage to deepen our understanding of our autistic audiences' needs?* |
| Recognizing barriers that prevent full inclusion for autistic visitors (Alper, 2021; Freund et al., 2019; Lussenhop et al., 2016) | Determine what social and physical barriers exist at particular Z/As and seek ways to meaningfully address them.<br><br>*Ask: What resources can inform my Z/A's assessment of how socially and physically inclusive our site is? How can we meaningfully address those barriers?* |
| Addressing a need and desire among staff for training around recognizing and supporting individuals with autism (Cho & Jolley, 2016; Coffey, 2018; Kulik et al., 2016, Shannon 2021). | Determine what kinds of training staff at particular Z/As need and deliver training in a way that is accessible to all.<br><br>*Ask: What kinds of training around autism are staff at my Z/A asking for? What other kinds of autism-related training could be useful for our staff? How does this differ by department or role?* |
| Recognizing the role that every department has to play in creating an accessible and inclusive environment (Golden & Walsh, 2013). | Consider how each department across the Z/A facility can support access and inclusion for autistic visitors. *Ask: What kinds of changes and accommodations can we make in each part of the Z/A to create an inclusive experience for autistic visitors?* |
| Collaborating with autistic self-advocates when designing experiences (Cho & Jolley, 2016; Magkafa & Newbutt, 2018). | Consider how to connect with, compensate, and engage self-advocates in a collaborative co-design process.<br><br>*Ask: What could it mean for my Z/A to engage autistic self-advocates in our design work? How can we attract and maintain ongoing relationships with those partners?* |
| Collaborating with trained therapists, special educators, or advocates to provide facilitation of visitor experiences or staff | Consider how Z/As might better integrate the expertise of professional autism support workers into staff trainings. |

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| training (Mulligan et al., 2013; Salthouse, 2017; Silverman et al., 2017; Tyler, 2015). | *Ask: What kinds of groups create the autism-related training materials used by my Z/A, and what are their areas of expertise? How can we learn from autistic self-advocates, professional occupational therapists, or special educators*? |
| Embracing the opportunity to design a non-traditional learning environment that can suit diverse learners (Baldino, 2012; Deng, 2017; Jenson et al., 2024; Martin et al., 2020). | Consider how Z/As can lean into the strengths and unique freedoms of informal learning environments to support the needs of learners with diverse abilities.<br><br>*Ask: How can my Z/A create flexible and adaptable experiences that suit the needs of learners with diverse abilities?* |
| Designing experiences that are multimodal and multisensory, engaging both sensory seekers and avoiders (Fletcher et al., 2018; Mulligan et al., 2013). | Consider how exhibits and programs can incorporate multi-sensory and multi-modal experiences for visitors with diverse abilities.<br><br>*Ask: How might visitors with disabilities experience my Z/A's current exhibits or programs? How can we change them so that they provide meaningful experiences for visitors, regardless of their ability?* |
| Providing engagement or visit supports such as sensory bags, wayfinding resources, or sensory spaces (Kong et al., 2017; Lurio, 2016). | Determine what kinds of visit supports and systems for distributing them may be best suited for particular segments of autistic Z/A audiences (i.e. children vs. adults).<br><br>*Ask: What kinds of visit supports can our Z/A make available for autistic children and autistic adults who visit? Are there ways that these supports can be made useful to non-autistic visitors as well? Do our sensory spaces accommodate the diverse needs of our visitors (i.e. spaces for quiet, spaces for stimming)?* |
| Modifying sensory environment by controlling for space, crowd, and other environmental design factors (Langa et al., 2013; Salthouse, 2017; Schwartzman & Knowles, 2022; Silverman et al., 2017; Tola et al., 2021; Tyler 2015). | Consider how spaces might be made more appealing to sensory seekers and sensory avoiders, and how both types of spaces can be clearly marked and indicated.<br><br>*Ask: Which spaces in our Z/A might create "sensory overload" for visitors? Which spaces could be redesigned to invite more multi-sensory engagement? How can we communicate to visitors what they might expect in (and where they might expect) these types of spaces?* |

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| Supporting advanced preparations for visits by providing hours, guides, social stories, maps, and directions in an accessible format online (Langa et al., 2013). | Determine what kinds of pre-visit supports and systems for distributing them may be best suited for particular segments of autistic Z/A audiences (i.e. children vs. adults).<br><br>*Ask: What kinds of pre-visit materials can our Z/A provide for the autistic children and adults who visit? How can we make sure that they're easily accessed and clearly promoted?* |
| Scaffolding social experiences by using strategies such as peer mediation to support the growth of social skills (Theriault et al., 2018). | Consider the role that program facilitators and peers can play in supporting the social engagement of autistic participants.<br><br>*Ask: What kinds of training might program facilitators require to better understand the social supports that can be provided to autistic learners?* |

## Keywords

The following entries are tagged with keywords that describe the main themes. If you are viewing a digital version of this document you can search for these keywords using CTRL + F, or similar search functions found on your device.

### Employment themes

- Accommodations/Designs
- Staff Training
- Autistic Self-Advocates
- Autism Strengths/ Benefits
- Barriers to Employment
- Organizational Change

### General visit themes

- Sensory-Friendly Events
- Needs / Barriers
- Accommodations/Designs
- Program Design
- Designing Spaces
- Pre-Visit Materials
- Social Scaffolding
- Motivations
- Opportunities for ISL
- Autistic Self-Advocates
- Community Collaboration
- Starting Points for Accessibility Work
- Families

# Section I: Current Trends and Best Practices for Employees, Volunteers, and Interns

## Strengths of autistic workers

**Djela, M. (2021). Change of autism narrative is required to improve employment of autistic people.** ***Advances in Autism, 7*****(1), 86–100. https://doi.org/10.1108/AIA-11-2019-0041**

This paper is a qualitative review from an online consultation group where autistic adults self-define the strengths of autistic individuals in the workplace, discuss barriers to employment, and suggest reasonable adjustments to address those barriers. **Key strengths identified by the group** include: abstract thinking, ability to simplify complex issues, capacity for disruptive innovation, intuitive recognition of patterns or errors, creative and innovative problem solving, ability to look at problems from a different angle, systemic thinking, being an antidote to group think, and multi-dimensional thinking. **Barriers to employment identified by the group** include: a prevailing deficit narrative about autism, misunderstandings and prejudices from senior management and colleagues; bullying and peer pressure to isolate autistic employees leading to absence of social support; managers making discriminatory choices believing it is the right business decision; and the discriminatory nature of provisions, criteria, and practices that fail to recognize strengths.

***Keywords:*** Autistic Self-Advocates, Autism Strengths/Benefits, Barriers to Employment

**Lindsay, S., Cagliostro, E., Albarico, M., Mortaji, N., & Karon, L. (2018). A Systematic Review of the Benefits of Hiring People with Disabilities.** ***Journal of Occupational Rehabilitation, 28*****(4), 634–655. http://dx.doi.org/10.1007/s10926-018-9756-z**

This paper is a systematic review of studies which describe the **benefits of hiring people with disabilities**. The inclusion criteria for this review were peer-reviewed, and the studies involved focused on people with disabilities who engaged in competitive employment. Benefits to employers included improvements in profitability and increased competitive advantage. Examples of improvements to profitability include: profits and cost-effectiveness, turnover and retention, reliability and punctuality, employee loyalty, & company image. Examples of **increased competitive advantage** include: diverse customers, customer loyalty and satisfaction, innovation, productivity, work ethic, safety. Benefits to other employees include inclusive work culture and ability awareness. Benefits to people with disabilities include improved quality of life and income, enhanced self-confidence, expanded social network, sense of community.

***Keywords:*** Autism Strengths/Benefits

## Shifting organizational policies and approaches

**Greenberg, A., & Levinsky-Raskin, S. (2017). Supporting Transitions: Cultural Connections for Adults with Autism Spectrum Disorders. *Journal of Museum Education, 42*(4), 332–344. https://doi.org/10.1080/10598650.2017.1376268**

The authors describe insights from a career development program for autistic adults that is based in museums and cultural organizations. The authors assert that **hiring autistic persons can be positive for employers**: their desire to work and contribute, intense curiosity, and deep specific interests are a huge asset in museums; as well as an ability to hold diverse perspectives, keep to routines and systems, and be highly productive in structured environments. Hiring autistic persons can be positive for the community diversification of staff, especially in leadership positions, can mean that an organization is better prepared to serve diverse communities, and diverse perspectives make organizations stronger. While some museums already offer life skills and visitor-centered programs for persons with autism, **it is important to also create employment opportunities for autistic persons**, which is a major point of interest the group found in focus groups and interviews. A key step in creating more inclusive museums for adults with autism is to support museums in their initial work. Once museums in this project had done one program, they found they had the capacity to do more. Working with adults with developmental disabilities in museum programming provided the groundwork for engaging individuals with autism and other disabilities as interns and employees. **Action steps for organizations wishing to increase employment opportunities** for adults with autism might include: partnering with service organizations to host events, working with a job coach to create an internship for an individual, connecting with schools or transition programs to create job placements or internships, creating advisory boards of persons with autism to advice on program creation, forming or joining a coalition of museums working toward inclusivity to share practice and exchange resources.

***Keywords:*** Autism Strengths/Benefits, Organizational Change

**Johnson, K. R., Ennis-Cole, D., & Bonhamgregory, M. (2020). Workplace success strategies for employees with Autism Spectrum Disorder: A new frontier for human resource development. Human Resource Development Review, 19(2), 122-151. https://journals.sagepub.com/doi/10.1177/1534484320905910**

This study uses a literature review to identify ways that human resource development professionals (those that support acquiring skills on the job) can foster skill development and promote a work environment that supports the success of employees with autism. Four themes identified from the literature to foster skill development and promote a supportive work environment include: 1) **meaningful collaboration** (i.e. collaboration between autistic individual, families, school system, agencies for transition planning, co-develop career development & related supports), 2) **training and**

**development** (i.e. training for both autistic and neurotypical employees, mobile device supports such as prompting, social skill PD through video modeling & visual supports, use of technology/assistive technologies such as VR to develop interview skills, simulations), 3) **mentoring and coaching** (i.e. job coaches, peer mentors, customized PD and intervention plans, ongoing review, job shadowing), and 4) **organizational support factors** (i.e. training for neurotypical colleagues around the value of autistic co-employees, supportive work environment, modification of the work environment, tasks, structure, social interaction expectations as well as use of direct communication).

***Keywords:*** Accommodations/Designs, Organizational Change

**Schloemer-Jarvis, A., Bader, B., & Böhm, S. A. (2022). The role of human resource practices for including persons with disabilities in the workforce: A systematic literature review. *International Journal of Human Resource Management, 33*(1), 45–98. https://doi.org/10.1080/09585192.2021.1996433**

This paper is a systematic review of literature about the **role of HR management in including persons with disabilities** in the workforce. HR strategies for including persons with disabilities include: design of the selection process; candidate evaluation and hiring criteria; competency training and development; training for disability inclusiveness; performance appraisal; promotion and career management; and ensuring equal pay and benefits for persons with disabilities.

***Keywords:*** Organizational Change

**Theriault, S. & Ljungren, R. (2022). Attending to each other: Centering neurodivergent museum professionals in attentive facilitation. Journal of Museum Education, 47(2), 238–250. https://doi.org/10.1080/10598650.2022.2076200**

This article introduces the concept of attentive facilitation as a framework for neurodivergent museum educators and their neurotypical allies for promoting equitable and anti-ableist workplace culture. Attentive facilitation reimagines museum education not only as a visitor-centered practice, but as a culture of mutual support among educators.

***Keywords:*** Workplace Culture

## Workplace accommodations

**Campanaro, A. M., Vladescu, J. C., Manente, C. J., Deshais, M. A., & DeBar, R. M. (2021). A review of the literature on vocational training interventions with individuals with autism spectrum disorder. *Behavioral Interventions, 36*(3), 675–696. https://doi.org/10.1002/bin.1795**

This systematic literature review provides an overview of ways to teach vocational skills to people with autism. The most commonly utilized interventions include **video modeling** (e.g., audio-video displays of the response that the individual watching should complete), **behavioral skills training** (e.g., a combination of written and/or vocal instructions, modeling, rehearsal, and feedback), **feedback**, and **video prompting** (e.g. having the viewer watch one step of the task, do that part, then continue the cycle until all steps of the task are complete). These interventions are commonly used in tandem with each other. Video modeling alone, however, has mixed results as an effective tool. Whatever the tool, the larger body of research (Bannerman et al., 1990) shows that **persons with autism tend to learn better with methods they have chosen** for their selves; therefore, it benefits trainers to have a variety of methods available so that persons with autism can self-select an option.

***Keywords:*** Accommodations/Designs

**Khalifa, G., Sharif, Z., Sultan, M., & Di Rezze, B. (2020). Workplace accommodations for adults with autism spectrum disorder: a scoping review. *Disability and Rehabilitation, 42*, 1316-1331. DOI: 10.1080/09638288.2018.1527952**

This paper identifies **workplace accommodations that can contribute to obtaining or maintaining employment** for adults with autism spectrum disorder that are found in peer-reviewed literature. Themes that emerged from the literature include: 1) assistive products and technology (e.g. iPads with task lists and reminders, task sequencing prompts, explainer videos, wayfinding tools), 2) workplace accommodations (e.g. consistent schedules, direct communication, employee support services), 3) support and relationships (e.g. supervisors who are willing to modify their supervision approach), 4) attitudes (e.g. tolerance or inclusion by coworkers), and 5) Service, systems, and policies (e.g. HR policies and training requirements).

***Keywords:*** Accommodations/Designs, Organizational Change

# Section II: Current Trends and Best Practices for Informal Science Learning Settings

## Motivations and Barriers for Autistic Visitors

**Alper, M. (2021). Critical Media Access Studies: Deconstructing Power, Visibility, and Marginality in Mediated Space. *International Journal of Communication* (Online), 840–862.**

This qualitative research study describes experiences of cultural accessibility in "mediated spaces"; that is, places where accommodations can be made to allow greater participation for persons with autism. The authors used parents for background info, but children (*n* = 27) were the primary source of info about their lived experiences. The majority (17 out of 27) of caregivers reported infrequently or never attending sensory-sensitive events. Participants described how their **use of sensory-sensitive events was conditional** depending on the child's specific needs and what materials, technologies, and conditions were available. **Those who didn't use those spaces/attend those events gave a few reasons**: 1) their child didn't want to, 2) programs are unavailable or hard to get to, or 3) the timing was inconvenient or inconsistent. Those who have never used the spaces gave reasons such as: 1) not seeing a need for them with their child, 2) already having co-developed strategies to create their own accommodations, 3) wanting to teach their children to adapt to unmediated spaces, 4) not wanting to engage their children in these specific kinds of cultural activities (e.g. not being interested in a particular type of museum, or not seeing value in attending movie theaters), 5) issues of cost associated with activities, and 6) having reservations about engaging autistic kids in these cultural spaces broadly.

***Keywords:*** Sensory-Friendly Events, Starting Points for Accessibility Work

**Freund, D., Cerdan Chiscano, M., Hernandez-Maskivker, G., Guix, M., Iñesta, A., & Castelló, M. (2019). Enhancing the hospitality customer experience of families with children on the autism spectrum disorder. *The International Journal of Tourism Research, 21*(5), 606–614. https://doi.org/10.1002/jtr.2284**

This exploratory quantitative study examines the **intention to travel for families of children with autism and factors which may influence those decisions**. Intrinsic constraints (i.e. personalities, attitudes, religious beliefs, and moods) and severity of condition influence families' intention to travel to accessible accommodation. Families affected by autism are more willing to travel if they can be assured that accommodations are present.

***Keywords:*** Needs/Barriers, Motivations, Families

**Hilton, C. L., Crouch, M. C., & Israel, H. (2008). Out-of-school participation patterns in children with high-functioning autism spectrum disorders. AJOT: American Journal of Occupational Therapy, 62(5), 554–564.**

*Author's note: This study noted that there are differences between autistic and neurotypical children but does not explore the reasons to account for differential participation.*

This quantitative study examines differences in out-of-school activity participation between students diagnosed with low-support needs autism spectrum disorders, and those without an autism diagnosis. The paper examines patterns of participation, number of people each student is participating with, diversity of activities, types of environments and level of enjoyment. The authors found that autistic **students** participate **in a more limited range of activities** (a lower diversity) with a narrower group of other participants and within a lower range of geographic locations. The greater divergence from neurotypical children is in diversity of informal out of school activities, recreational activities, and social activities. The diversity of participation in out of school activities reduces as children with autism get older, which is counter to the patterns typically see in neurotypical children. **However, both autistic and neurotypical children report similar levels of enjoyment of their out of school activities**.

***Keywords:*** Opportunities for ISL

**Kulik, T. K., & Fletcher, T. S. (2016). Considering the Museum Experience of Children with Autism. *Curator: The Museum Journal, 59*(1), 27–38. https://doi.org/10.1111/cura.12143**

This paper explores the barriers that limit families with autistic children from visiting fine art museums. Subjects are both parents and staff at museums, with a focus on the experiences of children in grade level 4 or higher. Caregivers express gratitude for special event days, which provide accommodations such as extra staffing by occupational therapists and sensory sensitive activities. Parents describe feelings of uncertainty, unpredictability, and discomfort with typical museum visits outside of sensory or autism-specific hours. They specifically talk about mistreatment or lack of sensitivity from staff, feeling criticized or gawked at by others. Museum **staff and volunteers report being unable to identify children with autism** during a typical museum visit, and **report not having received any training** about working with kids with any kind of special needs (including autism. However, 80% of staff express a desire for that kind of training.

***Keywords:*** Staff Training; Needs/Barriers

**Lussenhop, A., Mesiti, L. A., Cohn, E. S., Orsmond, G. I., Goss, J., Reich, C., Osipow, A., Pirri, K., & Lindgren-Streicher, A. (2016). Social participation of families with children with autism spectrum disorder in a science museum. *Museums & Social Issues, 11*(2), 122–137. https://doi.org/10.1080/15596893.2016.1214806**

The authors of the paper seek to understand museum experiences for families with autistic children through the lens of social participation. Using a qualitative study, a sample of self-selected visitors were filtered through phone screenings, then selected participants were observed at a museum and interviewed (pre/post) with a researcher. **Factors associated with social participation** for families with children who are autistic include: family motivations, environmental features (e.g. hands on engagement options, signage and sensory info, staff and volunteers), family strategies (e.g. using Social Stories, packing snacks and supplies, making plans or agendas, providing one-on-one support to the child), and success as defined by the families (e.g. "having fun", "learning something new", or "building a foundation for visiting the museum again"). **Barriers to social participation** in a museum visit include: 1) pre-visit barriers such as cost, parking and time; 2) areas with loud noises, 3) difficulties with other museum visitors (e.g. exclusion or avoidance), and 4) difficulties within groups (e.g. sibling disagreements).

***Keywords:*** Needs/Barriers, Accommodations/Designs, Social Scaffolding, Families

**Matthews, N.L., Honda, H., Mitchell, M.M. et al. (2024). Building capacity for inclusive informal STEM learning opportunities for autistic learners. International Journal of STEM Education, 11, 53. h6ps://doi.org/10.1186/s40594-024-00514-2**

This study demonstrated **lower rates of inclusion, engagement and general impact of STEM museum visits among autistic adolescents** as compared to their neurotypical peers. The project also tested the role of staff training but did not find evidence that it resulted in significant differences on inclusion, engagement or general impact. Interviews with autistic adolescents and their parents revealed themes such as the **importance of environment fit** and strategies to overcome engagement barriers, **emphasizing the need for more inclusive practices** in informal STEM learning environments.

***Keywords:*** Staff Training, Needs/Barriers

**Milgramm, A., Wilkinson, E., & Christodulu, K. (2021). Brief Report: Family Recreation for Individuals with Autism Spectrum Disorder. *International Journal of Disability, Development, and Education*, (ahead-of-print). https://doi.org/10.1080/1034912X.2021.1925879**

This mixed-methods study used both open- and closed-ended responses to a questionnaire (*n* = 53) to explore perspectives, goals, and satisfaction with recreation activities of families who include individual(s) with autism. Three **goals for participating in family recreation** emerged: desire for an inclusive space, socialization, and spending time as a family out in the community. Three themes for **most valuable aspects of the events** emerged: non-judgmental environment, networking and social interaction, and fun activities. **Aspects participants disliked** were: environmental characteristics, a lack of opportunities for structured interaction with peers outside of their family, food options, geographical distance, and incompatibility with age and/or interest.

***Keywords:*** Motivations, Accommodations/Designs, Families

**Shannon, C. A., Olsen, L. L., Hole, R., & Rush, K. L. (2021). "There's nothing here": Perspectives from rural parents promoting safe active recreation for children living with autism spectrum disorders. *Research in Developmental Disabilities, 115*, 103998. https://doi.org/10.1016/j.ridd.2021.103998**

This qualitative study explores factors influencing how families participate in active recreation for autistic children ages 3-12 across rural settings. The authors conducted semi-structured interviews (*n* = 12) with caregivers in their homes within rural communities. The authors found that autistic-**specific child vulnerabilities impede safe recreation in rural settings**, for example: compulsive and impulsive behaviors such as bolting or elopement, intense focus on special interests which may pose substantial dangers (i.e. being in water), communication challenges that may impact ability to respond appropriately in hazard situations. **Caregivers in rural settings express desire for safely enclosed play spaces and a variety of equipment for children with diverse abilities**. Parents of children with autism perceive training needs for recreation providers, such as teaching staff, who are also physically and technically capable of leading outdoor activities, strategies for working/teaching with autistic persons.

***Keywords:*** Needs/Barriers, Opportunities for ISL, Families

## Benefits to Visiting for Autistic Visitors

**Baldino, S. D. (2012). Museums and autism: Creating an inclusive community for learning. In E. Nightingale & R. Sandell (Eds.), *Museums, Equality and Social Justice* (pp. 169–180). Routledge. https://doi.org/10.4324/9780203120057-22**

This book chapter shares a case study that discusses how socially mediated learning can support autistic persons in museums, through the example of the Museum Learners Club. The authors **share a model for creating a micro community of practice for autistic youth** whose social studies lessons are augmented with museum visits. This case demonstrates how a small group, **informal learning environment can provide unique opportunities** for learning that counter the challenges that autistic students face in formal classroom environments.

***Keywords:*** Opportunities for ISL, Social Scaffolding, Program Design

**Deng, L. (2017). Equity of Access to Cultural Heritage: Museum Experience as a Facilitator of Learning and Socialization in Children with Autism. *Curator: The Museum Journal, 60*(4), 411–426. https://doi.org/10.1111/cura.12219**

This paper describes results from a mixed-methods research study of the effect of an art museum access program on 10 autistic children aged 8-15. The study utilized a standardized Social Responsiveness Scale with parents pre- and post-experience with a six-week program. The authors found that art education programing that uses **Visual Thinking Strategies has a positive effect** on the learning of autistic children with low support needs; here defined as having functional language ability, near-neurotypical hearing and visual acuity, and the absence of additional clinical diagnoses. The experience of informal learning for children within the program was substantially different from their typical formal classroom experiences: smaller class sizes, relaxed atmospheres, fewer social burdens compared to a structured classroom (e.g. more freedom to move, shift, and meet individual needs from moment-to-moment), and hands-on inquiry-based learning enhanced by authentic art objects were more suitable for the children's needs. As was rated in the parent survey, the most notable benefits to participating in the access program was providing joy and motivation to learn new skills, followed by providing a sense of accomplishment.

***Keywords:*** Opportunities for ISL, Accommodations/Designs

**Martin, W. B., Yu, J., Wei, X., Vidiksis, R., Patten, K. K., & Riccio, A. (2020). Promoting Science, Technology, and Engineering Self-Efficacy and Knowledge for All with an Autism Inclusion Maker Program. *Frontiers in Education* (Lausanne), *5*. https://doi.org/10.3389/feduc.2020.00075**

This mixed-methods research study describes the impact of an afterschool maker club on the STEM self-efficacy of autistic middle schoolers. The club was developed through collaborations with a local science museum, engineering education specialists, autism support specialists, and education researchers. The club was run by one special education teacher and one subject teacher, and participants were a mix of neurotypical and autistic students. Participation in the maker program led to improved outcomes in the following constructs for all students (autistic and neurotypical): technology and engineering self-efficacy and interest; science appreciation; and understanding the engineering design process. **Autistic students who struggled in normal school settings were successful in communicating with peers about these projects in the afterschool maker club.** Teachers reported being better able to see what their autistic students were capable of accomplishing when they were freed from the constraints of typical classroom instruction.

***Keywords:*** Opportunities for ISL

## Research-Based Strategies

**Chang, Y.-C., & Locke, J. (2016). A systematic review of peer-mediated interventions for children with autism spectrum disorder. *Research in Autism Spectrum Disorders, 27*, 1–10. https://doi.org/10.1016/j.rasd.2016.03.010**

This systematic review looked at studies regarding the use of peer mediated interventions used to increase social skills in autistic children (i.e., the act of training or selecting specific children within a group to make sure others are included). The authors concluded that based on the literature, **peer-mediated interventions are a promising approach to supporting the growth of social skills in autistic children** and can be applied in both formal school and informal settings.

***Keywords:*** Accommodations/Designs, Social Scaffolding, Program Design

**Hladik, L., Meyer, R., Allen, S., Bonnici, S., Froelke, N. A., Romaniak, H., Ougayour, Y., Nelson, N., Alkhamees, A. K., Davis, H., & Ausderau, K. K. (2022). Accessibility and inclusion for families with children with autism spectrum disorders in cultural institutions. Curator: The Museum Journal, 65(2), 435–449. https://doi.org/10.1111/cura.12468**

This article describes the research-informed development and pilot testing of a "*Toolkit to Increase Accessibility and Inclusion for Children on the Autism Spectrum and with Sensory Processing Differences in Cultural Institution."* Data from observations of autistic individuals participating in museum programming, review of museum artifacts and websites, and interviews with museum staff informed the development of the evaluation toolkit. The toolkit is a set of evaluation resources for cultural organizations to use for critically examining the accessibility and inclusivity of their spaces and programs for autistic individuals.

***Keywords:*** Evaluation Toolkit, Self-Assessment, Sensory Accessibility and Inclusion

**Jenson, R. J., Lee, M. S., Vollmer, A. R., Maroushek, E. E., & Hughes, A. E. (2024). Exploring programmatic elements that foster neurodiverse children and adolescents' participation in informal STEM learning programs: A systematic review. *Disciplinary and Interdisciplinary Science Education Research, 6*(1), Article 22. https://doi.org/10.1186/s43031-024-00113-9**

In this systematic review, the authors reviewed literature on the inclusion of K-12 neurodiverse STEM learners in informal STEM programs to identify promising programmatic practices. The findings of this review suggest the following programmatic elements facilitated participation of K-12 neurodiverse learners in programs: 1) environment/learning structure, (2) learning supports, and (3) instructional strategies and tools.

***Keywords:*** Program Design

**Kong, M., Pritchard, M., Dean, L., Talley, M., Torbert, R., & Maha, J. (2017). A Community-Based Sensory Training Program Leads to Improved Experience at a Local Zoo for Children with Sensory Challenges. *Frontiers in Pediatrics, 5*, 193–193. https://doi.org/10.3389/fped.2017.00193**

This study describes a project to improve the quality of experience for visitors with sensory challenges at a zoo. Results from family surveys describe the effect of changes made to the physical environment and staff training upon the experiences of families from a self-selected sample (*n* = 230). Changes made include staff training and the inclusion of **sensory bags, social stories, and quiet zones**. Following training and implementation, families reported increased frequency of visits and increased frequency and quality of staff interactions. About half of participants reported using the sensory bags and sensory

rooms during their zoo visits. A large majority of respondents indicated that their sensory needs were met during their visit.

***Keywords:*** Accommodations/Designs, Starting Points for Accessibility Work, Families

**Langa, L. A., Monaco, P., Subramaniam, M., Jaeger, P. T., Shanahan, K., & Ziebarth, B. (2013). Improving the Museum Experiences of Children with Autism Spectrum Disorders and Their Families: An Exploratory Examination of Their Motivations and Needs and Using Web-based Resources to Meet Them. *Curator: The Museum Journal, 56*(3), 323–335. https://doi.org/10.1111/cura.12031**

This paper describes an exploratory mixed-methods research study to examine motivations and needs of families visiting museums with autistic children. The authors describe important **factors for families' motivations to visit** museums, including: being pleasantly occupied together; enjoying themselves; mental stimulation; being informed; spending quality family time together; spurring connections between museum exhibits and child's interests; interacting with others during the visit; spending time relaxing or in leisure; and developing close friends while at the museum. **Family visit needs** include: the possibility to "bail out"; manageable museum space; less crowded environments; interactive kiosks or screens inside exhibits to focus child's attention; safe environments that allow children some independence; and the presence of a quiet room or space. Families feel it is necessary for museums to provide **pre-visit materials** (e.g. maps, sensory guides, social stories, tip sheets, hours, directions, content, possible activities) and **tailored information that could aid** families **with autistic children** in their visit (e.g. good directions for public transit, detailed floor maps of exhibits, marked exits and bathrooms).

***Keywords:*** Needs/Barriers, Accommodations/Designs, Motivations, Families

**Lucy, A., & Anderson, D. (2025). Breaking the silence on how visitors and educators perceive quiet spaces in museums. *Visitor Studies*. Advance online publication. https://doi.org/10.1080/10645578.2024.2435075**

This study explored how museum educators and visitors perceive quiet spaces, finding that both groups see them as restorative, inclusive, and emotionally supportive areas that enhance agency and learning. Participants emphasized that quiet spaces vary in form but consistently offer valuable opportunities for rest, reflection, and emotional processing within the museum experience.

***Keywords:*** Quiet rooms, sensory spaces

**Martin, W. B., Yu, J., Wei, X., Vidiksis, R., Patten, K. K., & Riccio, A. (2020). Promoting science, technology, and engineering self-efficacy and knowledge for all with an autism inclusion maker program. *Frontiers in Education, 5*: 75.**

This mixed-methods study used observations, interviews, and pre/post assessments to describe impacts of an **afterschool museum maker program designed to be inclusive** for both autistic and neurotypical youth. The program was designed as open-ended activities where students could pursue their interests; developed with a strengths-based model; included a special education/science education teaching team; was co-designed with inclusion experts and autistic self-advocates; and employed tools such as checklists for help with organization, visual templates for products students would make, and provided prompts to help initiate thinking. The program was successful for both autistic and neurotypical students for the targeted outcomes (e.g. STEM interest, self-efficacy, etc.). Teachers who facilitated the program observed that the students needed far fewer instructional supports in the maker program than they needed during the school day. They observed that some students who normally complete the bare minimum to get through their classes would create careful and detailed projects when they were allowed to pursue what they cared about (for example: memes, food, video game characters).

***Keywords:*** Program Design, Opportunities for ISL, Community Collaboration

**Ranieri, J. M., Neil, N., Sadowski, M., & Azzam, M. (2024). Supporting inclusion in informal education settings for children with neurodevelopmental disorders: A scoping review. Journal of Developmental and Physical Disabilities, 36(6), 955–993. https://doi.org/10.1007/s10882-024-09970-8**

The findings of this scoping review highlight the importance of moving beyond sensory accommodations and expanding inclusion work to incorporate universal design, staff training and organizational change.

***Keywords:*** Sensory Accommodations, Universal Design, Opportunities for ISL

**Silverman, F., & Tyszka, A. C. (2017). Supporting Participation for Children with Sensory Processing Needs and Their Families: Community-Based Action Research. *AJOT: American Journal of Occupational Therapy, 71*(4), 7104100010p1-7104100010p1. https://doi.org/10.5014/ajot.2017.025544**

This study developed and analyzed specialized **sensory friendly community-based programming** at a local museum for families with children or young adults with sensory processing issues. The authors used community-based action research to qualitatively explore the impacts upon six cohorts of parents across a 1.5-year period. Accommodations included reduced sensory stimulation in exhibit spaces (i.e. reducing flashing lights and loud sounds), sensory maps, a cool down space, social stories, and sensory kits. Entry costs were reduced or waived entirely. Occupational therapy students ran activities and serve as tour guides for the full duration and help facilitate visitor interactions throughout galleries. Participants felt that the sensory-friendly programming led to successful family visits (e.g. being able to stay longer with both neurotypical and autistic children than without the accommodations), and led to an increased sense of personal well-being (i.e. feeling welcomed, understood, comfortable, at ease, safe, and able to relax). Pragmatic concerns that arose for the museum included: supporting awareness and preparedness through pre-visit materials, financial access by reducing cost, providing skilled human help through staffing, reducing crowds, and providing sensory features and a cool down space.

***Keywords:*** Accommodations/Design, Starting Points for Accessibility Work, Sensory-Friendly Events, Families

**Theriault, S., & Jones, B. R. (2018). Constructing Knowledge Together: Collaborating with and Understanding Young Adults with Autism. *Journal of Museum Education, 43*(4), 365–374. https://doi.org/10.1080/10598650.2018.1525657**

This qualitative evaluation uses interviews, naturalistic observations, and personal reflections to describe learning between museum staff and autistic self-advocates (post high-school young adults) who co-create pre-visit tools for autistic visitors at museums. Two **strategies supported the collaborative process between autistic and neurotypical individuals**: 1) scaffolding activities by providing some sort of suggested structure (e.g. suggested roles on a team), and 2) scaffolding social experiences (e.g. noticing when participants need support in social interactions and offering suggestions). It was useful for the participants to recognize that autistic persons could provide this scaffolding for neurotypical persons as well. Participants also noted that it was important for them to balance structure with co-creation; meaning that, co-creation cannot exist if there is a product and process already in mind before engaging with all stakeholders.

***Keywords:*** Social Scaffolding, Program Design, Community Collaboration

**Tola, G., Talu, V., Congiu, T., Bain, P., & Lindert, J. (2021). Built Environment Design and People with Autism Spectrum Disorder (ASD): A Scoping Review. *International Journal of Environmental Research and Public Health, 18*(6), 3203-. https://doi.org/10.3390/ijerph18063203**

This scoping review seeks to describe the scope of literature that exists related to the relationship between built environments and persons with autism. Main factors to consider when designing for people with autism are sensory quality, intelligibility, and the predictability of the built environment. This article contains several useful tables of considerations one might make for designing environments that suit individuals with autism. Some umbrella areas to consider include: the **sensory quality of spaces** (having areas that offer both high and low sensory engagement), **how "intelligible" designed spaces are** (how easy it is for users to navigate and understand how to use each space), and what kinds of **visual supports** exist (ways to navigate and understand that don't require reading text).

***Keywords:*** Accommodations/Designs, Designing Spaces

## Case Studies and Examples from Groups or Organizations

**Cho, H., & Jolley, A. (2016). Museum Education for Children with Disabilities: Development of the Nature Senses Traveling Trunk. *Journal of Museum Education, 41*(3), 220–229. https://doi.org/10.1080/10598650.2016.1193313**

This case study describes the need and development process for a sensory-based traveling trunk program at a National Historic Landmark, specifically highlighting strategies for **collaborating with stakeholders** such as autistic self-advocates, caregivers, educators, and other community members who are involved in the lives of children with developmental disabilities. The authors describe how, in their experience, consulting with stakeholders throughout the development process enriched their program.

***Keywords:*** Autistic Self-Advocates, Community Collaboration

**Coffey, C. (2018). Creating Inclusive Experiences in Children's Museums for Children with Autism Spectrum Disorder [University of Wisconsin Milwaukee]. https://dc.uwm.edu/cgi/viewcontent.cgi?article=2986&context=etd**

This thesis presents a case study that used surveys, observations, and peer interviews to identify accessibility barriers at a children's museum and suggests ways to prevent them through inclusive design strategies. The author suggests that efforts to create more accessible **museum visits for people with autism should address the personal, social, and physical contexts** for learning. Respondents in this study described similar motivations for visiting as neurotypical families but experienced barriers in

the social and physical contexts. The study also found that it is **crucial for museums to dedicate time and funding to properly train staff** who design and facilitate daily programming, and museums should continue to develop and maintain relationships with community partners that represent audiences with autism. By doing so, museums may be able to dissolve many of the barriers that prevent successful program development and delivery for individuals with autism.

***Keywords:*** Needs/Barriers, Organizational Change, Program Design

**Freed-Brown, E. A. (2010). A Different Mind: Developing Museum Programs for Children with Autism. Seton Hall University.**

This case study describes the **development of museum programs that include children with autism**. The author found that useful practices for their museum included: setting realistic goals for programming (i.e. understanding that you're not going to create change within your museum overnight); consulting experts (i.e. families, self-advocates, and professionals who support autistic individuals); keeping groups small; creating agendas and routines; scheduling programs for quieter museum hours; planning a variety of activities; being clear and direct; giving praise and encouragement; and remembering that everyone has a tough time sometimes.

***Keywords:*** Organizational Change, Program Design, Community Collaboration

**Fletcher, T. S., Blake, A. B., & Shelffo, K. E. (2018). Can Sensory Gallery Guides for Children with Sensory Processing Challenges Improve Their Museum Experience? Journal of Museum Education, 43(1), 66–77. https://doi.org/10.1080/10598650.2017.1407915**

This exploratory case study describes findings from a pilot program to assess the **impact of written sensory guides** on children's overall art museum visit. Guides were written to be used by **both sensory seekers and sensory avoiders**. Staff who developed the guides asserted that it wasn't enough to simply chart a low-sensory path through the museum, but rather that sensory guides should be mapped thoughtfully so that content is still engaging for participants. Caregivers reported that sensory guides help fulfill a need for structure that families desire. The guides, which **also included discussion and observation prompts** (being a museum experience guide, as well as sensory guide) helped three quarters of participating families stay longer than they had on other visits. For those who felt their time was unusually limited, the determining factor seemed to be less the child's needs and behaviors but the parent's ability to endure those behaviors.

***Keywords:*** Accommodations/Designs, Pre-Visit Materials

**Golden, T., & Walsh, L. (2013). Play For All at Chicago Children's Museum: A History and Overview. Curator: The Museum Journal, 56(3), 337–347. https://doi.org/10.1111/cura.12032**

This case example documents the adoption of a Play for All initiative at a children's museum. After coming to the conclusion that ADA compliance wasn't enough to be inclusive for children and families with disabilities within their community, museum staff sought strategies that would allow them to rise above the legal standard. By **seeking partnerships**, laying out **institutional positions and priorities for access and inclusion**, and **designing spaces** that are inclusive for all (in addition to offering special programming) the museum was able to set expectations that led to a cultural shift among their staff, where access and inclusion are central values infused throughout every department's work.

***Keywords:*** Community Collaboration, Designing Spaces, Organizational Change

**Kyprianos, K., & Koniari, K. (2024). Museums' perspectives and actions regarding children with autism spectrum disorder participation and access. *Museum Management and Curatorship*. https://doi.org/10.1080/09647775.2024.2408224**

This study assesses the accessibility efforts of museums in a region in Greece for autistic children. The authors found that many museum employees lacked training and accessible programs and spaces were limited. Museum employees were generally in favor of participating in trainings and making changes at their museums and noted the importance of including autistic individuals.

***Keywords:*** Staff training, Design of Spaces, Program Design

**Lukins, J. M., & Szendrey, S. (2024). Access and Inclusion Go to the Zoo. *Journal of Museum Education, 49,* https://doi.org/10.1080/10598650.2024.2405772**

This case study describes how a community zoo partnered with disability professionals to improve accessibility through a four-stage framework: Compliance, Commitment, Capacity, and Change. Key initiatives included staff training, revision of accessibility messaging, and the implementation of universal design strategies like sensory kits and tactile exhibits to create more inclusive experiences for all visitors.

***Keywords:*** Accommodations/Designs, Accessibility Framework

**Lurio, A. (2016). Engaging Children with Autism at Historic Sites: Developing an Audience-appropriate Curriculum. *Journal of Museum Education, 41*(3), 165–173. https://doi.org/10.1080/10598650.2016.1193315**

This case study describes a **project to create evidence-based curriculum** for autistic children ages 2-18 visiting a historic house museum. Strategies taken within this project included capping attendance, marketing to special needs families through dedicated web pages and outreach with local support groups, providing clear orientation to spaces and facilities, providing immersive sensory experiences, using social stories and providing sensory room spaces that allow participants to relax, explore, and engage all their senses.

***Keywords:*** Accommodations/Designs, Program Design

**Magkafa, D., & Newbutt, N. (2018, September 8). The process of involving children with autism in the design of a museum-based application. *Museums and the Web*, Vancouver, Canada. https://www.researchgate.net/publication/327535003_The_process_of_involving_children_with_autism_in_the_design_of_a_museum-based_application**

This case example describes the process of co-designing a museum app with autistic children. Using a Participatory Design process, the authors employed the help of a special education teacher and teaching assistant to facilitate iterative co-design sessions. The authors found that **it is possible to involve children with autism in every aspect of the design cycle**, from ideation to prototyping, including multiple iterations of user testing. Children with autism can be self-advocates for their accessibility needs regarding such designs.

***Keywords:*** Community Collaboration, Autistic Self-Advocates

**Mulligan, S., Rais, P., Steele-Driscoll, J., & Townsend, S. (2013). Examination of a Museum Program for Children with Autism. *The Journal of Museum Education, 38*(3), 308–319.**

This case study used naturalistic observations (*n* = 45), interviews (*n* = 5), and surveys (*n* = 144) to look at the effectiveness of a children's museum program designed to support young children with autism and their families. The authors offered specialized materials, financial incentives (i.e. free admission), exclusive visit times, and trained volunteers in hopes of creating more inclusive and comfortable visit experiences for such families. Surveys showed that implementing those strategies gave participants comfort and satisfaction with their museum experience. **Exhibits that allow for variable activities** allow families to engage and learn in a way that works for them, and **trained volunteers** who provided tips to parents on how to scaffold their child's learning were integral to facilitating the learning process.

***Keywords:*** Accommodations/Barriers, Design of Spaces, Program Design

**Salthouse, C. (2017). Gateway to Inclusion: Understanding the Structure of Early open Autism Events in Museums [Thesis, University of Washington]. https://digital.lib.washington.edu:443/researchworks/handle/1773/39756**

This thesis presents a case study that used document analysis and semi-structured interviews to describe the nature of early open and late open low-stimuli events through the commonalities and differences in structures, training, and engagement strategies across three sites. Asked about what is needed to sustain events, **sites acknowledged the need for funding**. However, none of the sites have incorporated this work into their standard budgets, and in two cases the event staff were responsible for granting writing to fund these events instead of a dedicated grant writer. **Themes around the nature of the autism events** included: the significance of feeling welcome, helping visitors feel safe, serving as a resource to families, and supporting visitors' learning and engagement. The depth of partnership with local community groups seemed to influence these elements. **Common accommodations** at all 3 sites include reducing stimuli, reducing crowds, and free admission. Staff saw these strategies as simple and easy to implement; the **challenges staff saw** in these accommodations were in scheduling and convincing exhibit and custodial staff to participate. The events at these sites presented a mix of both camps in the autism advocacy arena: they fostered autistic culture (by creating space for members of the autism community to come together) but also implicitly push autistic visitors to adapt to their environment (vs. adapting the environment to the needs of people).

***Keywords:*** Accommodations/Designs, Program Design, Organizational Change

**Schwartzman, R., & Knowles, C. (2022). Expanding Accessibility: Sensory Sensitive Programming for Museums. *Curator: The Museum Journal, 65*(1), 95–116. https://doi.org/10.1111/cura.12452**

This case study shares insight from the design and implementation of a sensory sensitive program at a small science museum. The authors describe how, with a **tight budget and a limited number of staff**, they were able to implement sensory sensitive programming.

***Keywords:*** Starting Points for Accessibility Work, Program Design

**Tyler, W. S. (2015). *Accommodating Individuals with Autism Spectrum Disorder in Museums* [State University of New York College at Buffalo]. https://digitalcommons.buffalostate.edu/cgi/viewcontent.cgi?article=1033&context=history_theses**

This thesis describes case studies of strategies taken by museums that implemented programs to serve children with autism. **Common strategies** used by the museums included: adjusting the learning environment, having programing in place (instead of on the fly), collaborating with schools, training staff, and evaluating outcomes. **Barriers** to program success included: limited physical space, restricted or limited funding, lack of access to programming for adults, and challenges with finding adequately trained professionals. **Strategies for overcoming those barriers** include: seeking specific funding for access programs, putting in extra hours above and beyond paid time, filling positions with students/ interns/ trainees. Important factors for **sustaining access programs** include targeted advertising and outreach, and staff commitment toward planning and executing the programs.

***Keywords:*** Accommodations/Designs, Needs/Barriers, Organizational Change

**Theriault, S., & Redmond Jones, B. (2018). Constructing knowledge together: Collaborating with and understanding young adults with autism. *Journal of Museum Education, 43*(4), 365–374. https://doi.org/10.1080/10598650.2018.1525657**

The San Diego Natural History Museum's SPECTRUM project engaged autistic young adults in co-creating pre-visit social stories to enhance accessibility across Balboa Park museums. The project **fostered reciprocal learning**: young adults built social and communication skills and felt valued, while museum staff gained awareness and understanding of autism.

***Keywords:*** Co-Design, Engagement Supports

**Watchorn, V., Tucker, R., Hitch, D., & Frawley, P. (2025). Co-designing autism-friendly museums: insights from autistic individuals and museum professionals*. Disability & Society*. https://doi.org/10.1080/09687599.2025.2494146**

This article describes a co-design process with autistic staff and autistic individuals representing advocacy organizations by a museum in Australia to apply principles of universal design to the museum's built environment. The co-design process resulted in more positive visit outcomes for autistic individuals and their social groups while also leading to better outcomes for all museum users. The authors offer **recommendations for other museums engaging in a co-design process** including ensuring authentic collaboration that goes beyond simple consultation and is iterative and flexible.

***Keywords:*** Accommodations/Designs, Co-design, Designing Spaces, Autistic Self-Advocates