# Supporting Visitors with Autism Spectrum and Sensory Processing Disorders



# Introduction

- Occupational Therapy Student from the University of South Dakota
- What is Occupational Therapy (OT)
- OT's role within a museum setting
  - Organizational-Level Consultative Occupational Therapy Services (Umeda et al., 2017)





# **Autism Spectrum Disorder (ASD)**

- Developmental condition which impacts: (American Psychiatric Association, 2013; Center for Disease Control and Prevention, 2019)
  - Social Skills
  - Ability to Communicate
  - Behaviors
- 40 90% of children with ASD
  experience sensory processing
  challenges (Baker, Lane, Angley, & Young, 2008; Baranek,
  David, Poe, Stone, & Watson, 2006; Ben-Sasson, Gal, Fluss, Katz-Zetler, &
  Cermak, 2019; Roley et al., 2015; Tomchek & Dunn, 2007)



(Gander, 2017)

# **Sensory Processing Disorder (SPD)**

- Neurological condition which makes it difficult for a child to interpret and organize sensory information within the environment (Atchison & Morkut, 2017; Critz, Blake, & Nogueira, 2015; Kranowitz, 2006; STAR Institute for Sensory Processing Disorder [STAR], 2020)
- Children with ASD typically have Sensory Modulation Disorder (Ben-Sasson et al., 2019)
- Sensory Modulation Disorder (Atchison & Morkut, 2017; Kranowitz, 2006; STAR, 2020a)
  - Over-Responsivity
  - Under-Responsivity
  - Sensory Craving



(Le Faucheur, & Velasco, 2018)



# Impact on Museum Experience for Visitors with ASD and SPD



Face multiple barriers due to unpredictable sensory information (Fletcher et al., 2019; Silverman & Tyszka, 2017)

• Lights, crowds, unexpected noises, restroom environment (Fletcher et al., 2019)

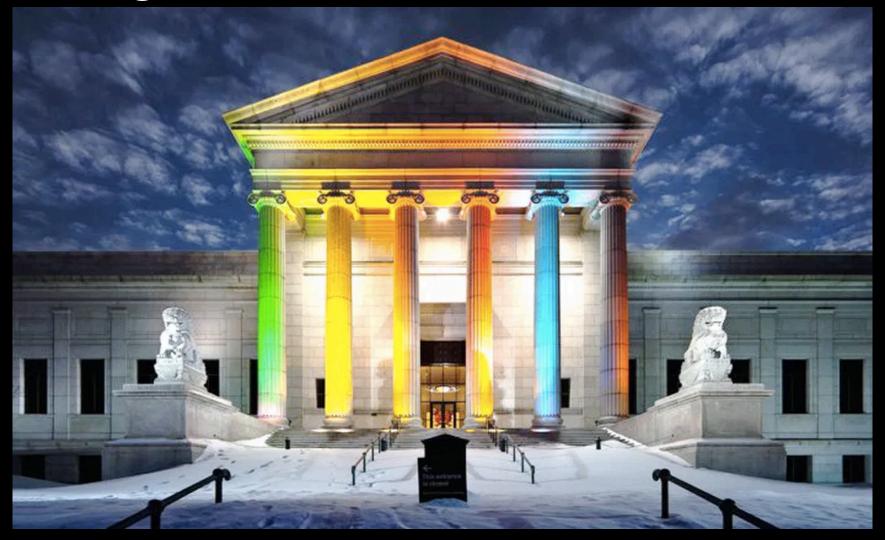


Caregivers expressed the need for supports within a museum setting to promote the experience (Langa et al., 2013; Leichtman et al., 2014)



Museum staff reported lack of training to provide adequate support for those with ASD (Fletcher & Shelffo, 2018)

# Supporting Visitors with ASD and SPD at Mia



### **Purpose**

 Help prepare the individual on what to expect while also providing tips on how to appropriately interact (Hilton, 2015)

# **Mia's Social Narratives** (Minneapolis Institute of Art, [Mia], n.d.f)

- Guided School Groups
- Families
- Adults & Teens
- In development: Summer Class

### **How You Could Use The Social Narratives**

- Send them to the visitor
- Third Avenue Entrance for a copy
- Download them onto a smartphone or iPad

# **Social Narrative**

## Guided School Tour Visit



(Mia, n.d.e)

# **Sensory Map**

### **Purpose**

- Help prepare the visitor on what sensory stimuli to expect at Mia
- Navigate the museum based on their sensory sensitivities

### Mia's Sensory Map

Still in the development phase

### **How You Could Use Mia's Sensory Map**

- Send link to the visitor
- Third Avenue Entrance for a copy
- Download Map onto a smartphone or iPad
- Plan your tour based on your visitor's sensory needs
- Provide education to visitors about the tool
- Help find a quiet area at Mia



# Quiet and Less Crowded Spaces Asia Galeries 200-227, 237-239, 243, 251-253 \*Gallery 200 can be loud due to General Mills Lobby Americas Galleries 259-261 Pacific Islands Gallery 256 Loud or Echo Spaces Seasonal Subrance Fountain Gallery 235 Substing Exhibitions Gallery 235 Activing Exhibitions Gallery 235 Activing 230, 240-342 Annes Galleries 230, 240-342 Males Galleries 236, 256, 256, 256

### Low or Subdue Lighting



\*Galleries 216, 218, 219, 223, 224, 225, 252, 253, 237, 238, 239, & 251

### Seasonal Exhibits



\*Please refer to Special Exhibits or Contract Visitor Experience Team for specific information regarding the environment of these spaces.

### Interactive Media Spaces Interactive iPads





### **Natural Lighting**



### Restrooms Have:

### By Asia Galleries

\*Manual: Toilets & Sinks

\*Automatic: Soap Dispensers & Paper Towels

### Accessible Bathroom by Seasonal Entrance

\*Manual: Toilets

\*Automatic: Sinks, Soap Dispensers, Hand Dryers & Paper Towels

### By the Americas Gallery

\*Manual: Toilets and Sinks

\*Automatic: Urinals, Soap Dispensers & Paper Towels

### Accessible Bathroom by Modern & Contemporary

\*Manual: Toilet

\*Automatic: Sinks, Soap Dispensers & Paper Towels

Minneapolis Institute of Art (Mia, 2020)

# **Visual Schedule**

### **Purpose**

 Helps process sequence of events and facilitates smooth transitions (Knight, Sartini, & Spriggs, 2015; Macdonald, Trembath, Ashburner, Costley, & Keen, 2018; Pierce, Spriggs, Gast, & Luscre, 2013; Watling, 2015)

### Mia's Visual Schedules

- Picture with Text Supports
- Text Supports
- Still in development

### How You Could Use Mia's Visual Schedules

- Send the link to the visitor prior to the tour
- You could print/laminate your own for tours
- Have schedule on iPad
- Use the Mia Sensory Map in conjunction with Mia's Visual Schedules



(Speech Language Pathology Center, 2015)

# Visual Schedule - Picture with Text Supports

1.



(Mia, n.d.b)

3.



(Mia, n.d.c)

2.



(Mia, 2013)

4.



(Mia, 2019)



# **Visual Schedule – Text Supports**

Next	All Done
Coat Check	X
Asia	
Modern & Contemporary	
Photography	
Lunch	
Outside	

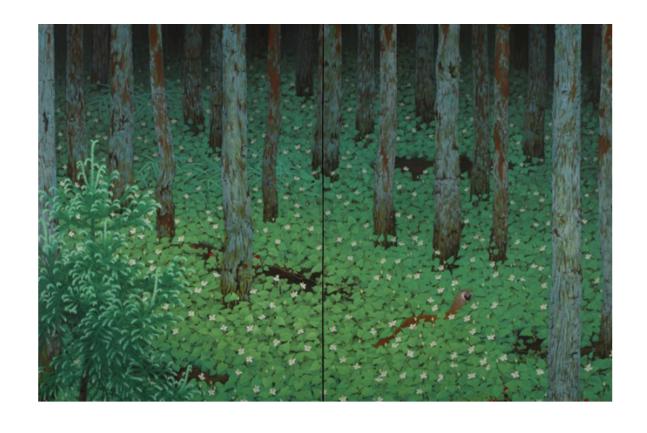
Minneapolis Institute of Art

# Mia's Accessibility Page

The following tools will live on Mia's Accessibility PageMia, n.d.a)

- Social Narratives
- Sensory Map
- Visual Schedules
- Preparing for Your Visit to Mia

Each of the tools will be in a downloadable PDF format



# **Accessibility and Inclusion**

(Mia, n.d.a)

# Visual Flip Book

### Purpose:

- Visual information is easier to process for those with ASD (Knight, Sartini, & Spriggs, 2015)
- Helps communicate (Pierce et al., 2013)
- Promote smooths transitions (Knight et al., 2015; Macdonald et al., 2018; Pierce et al., 2013)

### How You Can Use the Flip Books

- Start a conversation
- Pick one up prior to tour
- Show the visual support as you are giving the direction



(Victories 'n Autism.com, n.d.)

# **Other Accommodations**

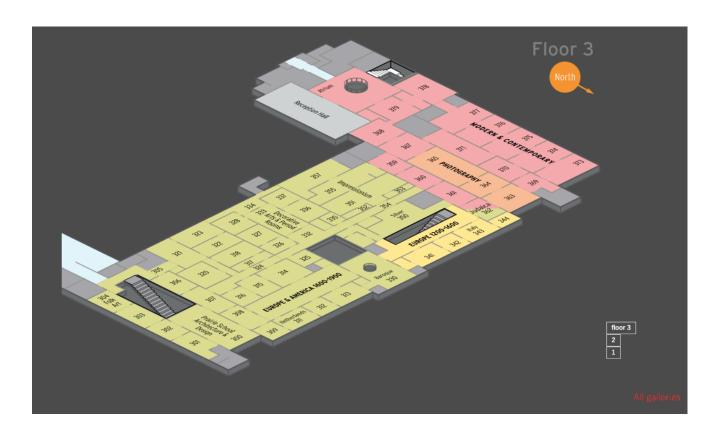
- Earplugs
  - Available at the Third Avenue Entrance
- Fidgets
  - Small fidgets are welcomed
- Low Traffic times
  - Weekday afternoons



(SharedXpertise Media, LLC, 2020)

# **Mia Collection**

- Help prepare the individual
- Provide gallery number details to visitor prior to tour
- The visitor can look up various galleries and artworks when preparing for visit



(Mia, n.d.d)

# **Meet Abby**

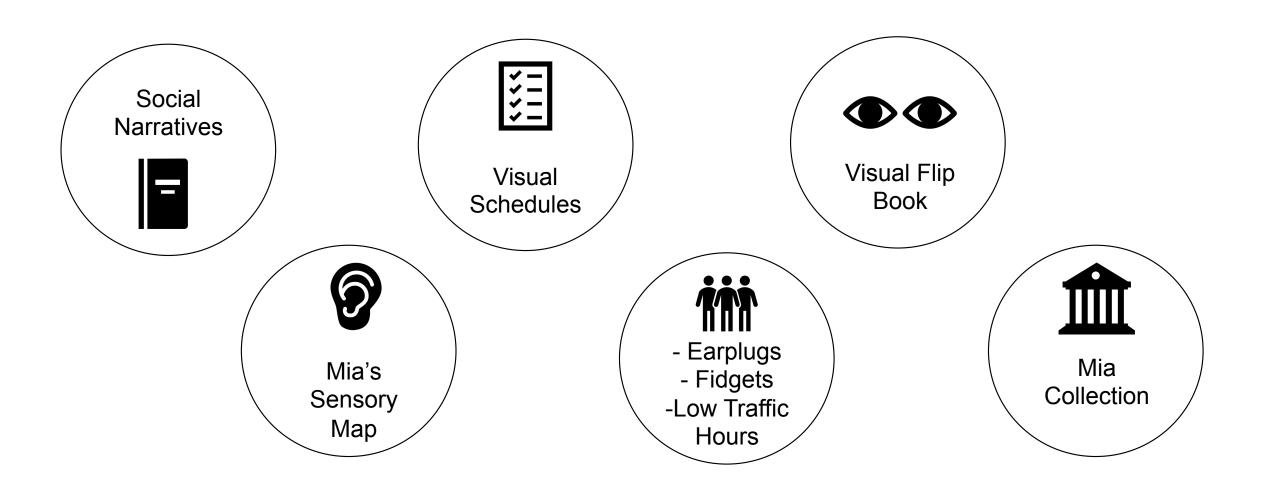


Abby is an eight-year-old girl with ASD and SPD. She loves history and art. Her caregiver reached out to Mia to set up a tour but expressed that Abby has sensitivities to loud noises and crowds.



Due to these reasons, this will be Abby's first time visiting Mia. How could you use the available resources at Mia to promote her experience and ensure she has a meaningful tour?

# **Supports at Mia for Abby**



Minneapolis Institute of Art

# Questions?

- American Psychiatric Association. (2013). Desk reference to the diagnostic criteria from DSM-5. Washington, D.C.: Author.
- Atchison, B.J. & Morkut, B.G., (2017). In Atchison, B., & Dirette, D. P. Conditions in occupational therapy: effect on occupational performance.

  Philadelphia: Wolters Kluwer. Sensory Processing Disorder. 101 116.
- Baker, A. E., Lane, A., Angley, M. T., & Young, R. L. (2008). The relationship between sensory processing patterns and behavioural responsiveness in autistic disorder: A pilot study. *Journal of Autism and Developmental Disorders*, 38, 867–875.

  http://dx.doi.org/10.1007/s10803-007-0459-0
- Baranek, G. T., David, F. J., Poe, M. D., Stone, W. L., & Watson, L. R. (2006). Sensory Experiences Questionnaire: Discriminating sensory features in young children with autism, developmental delays, and typical development. *Journal of Child Psychology and Psychiatry, and Allied Disciplines, 47*, 591–601. http://dx.doi.org/10.1111/j.1469- 7610.2005.01546.x
- BBC. (2020). How long are you going to live? [Photograph]. Retrieved from https://www.bbc.com/news/health-44107940
- Ben-Sasson, A., Gal, E., Fluss, R., Katz-Zetler, N., & Cermak, S. A. (2019). Update of a Meta-analysis of Sensory Symptoms in ASD: A New Decade of Research. *Journal of Autism & Developmental Disorders*, 49(12), 4974–4996.https://doi-org.ezproxy.usd.edu/10.1007/s10803-019-04180-0

- Centers for Disease Control and Prevention. (2019). *Autism spectrum disorder (ASD) what is ASD?* Retrieved from <a href="https://www.cdc.gov/ncbdd/autism/facts.html">https://www.cdc.gov/ncbddd/autism/facts.html</a>
- Critz, C., Blake, K., & Nogueira, E. (2015). Sensory processing challenges in children. *The Journal for Nurse Practitioners, 11*(7), 710-715.
- Fletcher, T., Anderson, S. J., Wagner, H., Linyard, M., & Nicolette, E. (2019). Caregivers' perceptions of barriers and supports for children with sensory processing disorders. *Australian Occupational Therapy Journal*, *66*(5), 617–626. https://doi-org.ezproxy.usd.edu/
- 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.
- Gander, K. (2017). Kindling: Is the theory that each episode of mental illness makes another more likely true? [Photograph]. Retrieved from <a href="https://www.independent.co.uk/life-style/health-and-families/kindling-theory-mental-illness-bipolar-disorder-depression-anxiety-ocd-episodes-more-likely-true-a7992286.html">https://www.independent.co.uk/life-style/health-and-families/kindling-theory-mental-illness-bipolar-disorder-depression-anxiety-ocd-episodes-more-likely-true-a7992286.html</a>
- Hilton List, C. (2015). *Interventions to promote social participation for children with mental health and behavioral disorders*. In Case-Smith, J. & O'Brien, J. *Occupational therapy for children and adolescents (7th Ed.)*. St. Louis, MO: Elsevier/Mosby. 321- 345
- HiSoUR (n.d.). Minneapolis Institute of Art, United States [Photograph]. Retrieved from <a href="https://www.hisour.com/minneapolis-institute-art-minneapolis-united-states-6699/">https://www.hisour.com/minneapolis-institute-art-minneapolis-united-states-6699/</a>
- Knight, V., Sartini, E., & Spriggs, A. (2015). Evaluating visual activity schedules as evidence-based practice for individuals with autism spectrum

  Minneapolis Institute of Art all of Autism & Developmental Disorders, 45(1), 157–178. https://doi-org.ezproxy.usd.edu/10.1007/s10803-014-2201-z

- Kranowitz, C. S. (2006). The out-of-sync child has fun: activities for kids with sensory processing disorder. New York, NY: Perigee Book.
- Langa, L. A., Monaco, P., Subramaniam, M., Jaeger, P., 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 using web-based resources to meet them. *Curator: The Museum Journal*, 56, 323–335. <a href="https://doi.org/10.1111/cura.12031">https://doi.org/10.1111/cura.12031</a>
- Le Faucheur, S. & Velasco, C. (2018). Designing multisensory brand experiences [Photograph]. Retrieved from <a href="https://www.inside24.no/designing-multisensory-brand-experience/">https://www.inside24.no/designing-multisensory-brand-experience/</a>
- Leichtman, J., Palek-Zahn, C., Tung, V., Becker, S., & Jirikowic, T. (2014). Developing inclusive museum environments for children with autism spectrum disorder and their families. *Developmental Disability, 37*(3), 1-3
- Macdonald, L., Trembath, D., Ashburner, J., Costley, D., & Keen, D. (2018). The use of visual schedules and work systems to increase the on-task behaviour of students on the autism spectrum in mainstream classrooms. *Journal of Research in Special Educational Needs*, *18*(4), 254–266. https://doi-org.ezproxy.usd.edu/10.1111/1471-3802.12409
- Minneapolis Institute of Art. (2013). Africa revisited: How the new galleries will change the way you see art [Photograph]. Retrieved from <a href="https://new.artsmia.org/stories/africa-revisited-how-the-new-galleries-will-change-the-way-you-see-art-museums/">https://new.artsmia.org/stories/africa-revisited-how-the-new-galleries-will-change-the-way-you-see-art-museums/</a>
- Minneapolis Institute of Art. (2019). Documenting diversity: How should museums identify art and artists [Photograph]. Retrieved from https://new.artsmia.org/stories/documenting-diversity-how-should-museums-identify-art-and-artists/

- Minneapolis Institute of Art. (2020). Mia's sensory map [Google Docs]. Unpublished.
- Minneapolis Institute of Art. (n.d.a). Accessibility and inclusion. Retrieved from https://new.artsmia.org/accessibility-and-inclusion/
- Minneapolis Institute of Art. (n.d.b). Installation views of gallery 200; Arts of Asia; Sculpture court; Buddhist sculpture; With museum visitors.
  - [Photograph]. Retrieved from <a href="https://new.artsmia.org/visit/make-the-most-of-mia/">https://new.artsmia.org/visit/make-the-most-of-mia/</a>
- Minneapolis Institute of Art. (n.d.c). Made in China: The MacFarlane Room Wallpaper/Gallery 328 [Photograph]. Retrieved from https://new.artsmia.org/living-rooms/past/
- Minneapolis Institute of Art. (n.d.d). Mia collection [Photograph]. Retrieved from https://collections.artsmia.org
- Minneapolis Institute of Art. (n.d.e). Social narratives [PDF File]. Retrieved from https://new.artsmia.org/programs/accessibility-and-specialized-tours/social-narratives/
- Minneapolis Institute of Art (n.d.f). *Social narratives*. Retrieved from https://new.artsmia.org/programs/accessibility-and-specialized-tours/social-narratives/
- Pierce, J., Spriggs, A., Gast, D., & Luscre, D. (2013). Effects of Visual Activity Schedules on Independent Classroom Transitions for Students with Autism. *International Journal of Disability, Development & Education*, *60*(3), 253–269. https://doi-org.ezproxy.usd.edu/
- Roley, S. S., Mailloux, Z., Parham, L. D., Schaaf, R. C., Lane, C. J., & Cermak, S. (2015).

- SharedXpertise Media, LLC (2020). The science of inclusion [Photograph]. Retrieved from <a href="https://www.hrotoday.com/workforce-management/the-science-of-inclusion/">https://www.hrotoday.com/workforce-management/the-science-of-inclusion/</a>
- Silverman, F., & Tyszka, A. C. (2017). Centennial Topics—Supporting participation for children with sensory processing needs and their families:

  Community-based action research. *American Journal of Occupational Therapy, 71*, 7104100010. https://doi.org/10.5014/ajot.

  2017.025544
- Speech Language Pathology Center. (2015). Visual schedules: How to make them and how to use them in therapy and at home! [Photograph].

  Retrieved from https://www.slpcenter.com/blog/2015/2/18/visual-schedules-how-to-make-them-and-how-to-use-them-in-therapy-and-at-home
- STAR Center Foundation. (2020). *Understanding Sensory Processing Disorder*. Retrieved from https://www.spdstar.org/basic/understanding-sensory-processing-disorder
- Temple University. (2017, September 12). Professor ensures disabilities don't hinder experiences [Video File]. Retrieved from https://www.youtube.com/watch?v=s-IZ1FmNXGs&feature=emb\_logo
- The National Autistic Society. (2016, May 31) [Video File]. Can you make it to the end? Retrieved from https://www.youtube.com/watch? time\_continue=3&v=Lr4\_dOorquQ&feature=emb\_logo
- Tomchek, S. D., & Dunn, W. (2007). Sensory processing in children with and without autism: A comparative study using the Short Sensory Profile. *American Journal of Occupational Therapy, 61,* 190–200. http://dx.doi.org/10.5014/ajot.61.2.190

- Umeda, C. J., Fogelberg, D. J., Jirikowic, T., Pitonyak, J. S., Mroz, T. M., & Ideishi, R. I. (2017). Health Policy Perspectives—Expanding the implementation of the Americans With Disabilities Act for populations with intellectual and developmental disabilities: The role of organization-level occupational therapy consultation. *American Journal of Occupational Therapy, 71*, 7104090010. <a href="https://doi.org/10.5014/ajot.2017.714001">https://doi.org/10.5014/ajot.2017.714001</a>
- Victories 'n Autism.com (n.d.). Communication and behavioral cue cards [Photograph]. Retrieved from http://www.victoriesnautism.com/visual-tools.html
- Watling, R. (2015). *Interventions and strategies for challenging behaviors*. In Case-Smith, J. & O'Brien, J. *Occupational therapy for children and adolescents (7th Ed.)*. St. Louis, MO:Elsevier/Mosby. 374 388.