Introduction

This stakeholder engagement project was designed to generate research priorities with the autism community related to sensory processing differences, promote research engagement, and develop resources to facilitate building trust and participation across multiple stakeholder groups. This document summarizes the processes used to develop these priorities and provides both within group and across group recommendations.

The project team generated an overview of the current state of the literature related to sensory processing and autism to provide a background as needed to the topic. We also surveyed relevant research priorities of funding agencies. In addition, social media, public media, popular texts, and internet resources were scanned to sample available materials.

Each of the stakeholder groups met for 5-8 times to develop and discuss the priorities within their groups. We used a nominal group process to assess clarity, completeness, and redundancy. Each group then rated each priority in terms of importance and ranked the top five priorities. We had one large meeting with all groups merged and three small meetings to enable discussion across groups related to the recommendations. The Steering Committee also reviewed the priorities.

The materials provided below represent a range of language choices preferred by our stakeholders. Although we attempted to reach consensus about language preferences, we realized that language preferences were important, highly individualized, and situational. Therefore, we have retained the original language preferences where feasible and have opted to incorporate both identity-first and person-first language.

Guiding Principles for Research Priorities

In the process of developing research priorities focusing on sensory processing, the group identified core principles for research practices that emphasize inclusivity, representation, and diversity, and acknowledge the centrality of sensory processing to learning, development, sociality, and engagement. The objective in developing these principles is to foster research that
seeks to ameliorate (make better or improve) the knowledge gaps that have resulted from sampling strategies that have excluded, or minimally included, sub populations in this heterogeneous community.

Therefore, we are recommending that the following characteristics of the population, key aspects of lived experience, and methodological approaches be incorporated in future research endeavors.

<table>
<thead>
<tr>
<th>Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population characteristics:</td>
</tr>
<tr>
<td>• sex and gender (including gender diverse)</td>
</tr>
<tr>
<td>• ethnicity and racial identity and intersectionality (overlap of social identities)</td>
</tr>
<tr>
<td>• socioeconomic status</td>
</tr>
<tr>
<td>• co-occurring and co-morbid conditions</td>
</tr>
<tr>
<td>• sensory phenotypes (observable traits)</td>
</tr>
<tr>
<td>• cultural and geographic variability</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Lived Experiences</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attention to lived experiences should facilitate:</td>
</tr>
<tr>
<td>• development of “real life” functional outcomes</td>
</tr>
<tr>
<td>• discovery of new phenomena</td>
</tr>
<tr>
<td>• understanding of how sensory processing differences are leveraged as strengths</td>
</tr>
<tr>
<td>• contributions within family life to sensory processing</td>
</tr>
<tr>
<td>• characteristics of contexts and interactions of contextual features, sensory processing, and behavior; and validity of ecological constructs and measures</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Methodological</th>
</tr>
</thead>
<tbody>
<tr>
<td>The following methodological approaches were identified as needing greater consideration:</td>
</tr>
<tr>
<td>• longitudinal and change and development across the lifespan</td>
</tr>
<tr>
<td>• unobtrusive behavioral and physiological measures of sensory processing</td>
</tr>
<tr>
<td>• ecological validity</td>
</tr>
<tr>
<td>• knowledge mobilization</td>
</tr>
<tr>
<td>• stakeholder engagement</td>
</tr>
<tr>
<td>• interrelationships of sensory processing and individual differences</td>
</tr>
<tr>
<td>• brain-behavior relationships</td>
</tr>
<tr>
<td>• cross system, holistic, and integrated designs</td>
</tr>
</tbody>
</table>

The following sections provide the entire list and top 5 ranked priorities per group. The final section provides an integration of several of the top themes across the groups.
Self-Advocate Group Priorities

1. Ways to reduce environmental noise (Examples: city bus, cars on the road, children crying, human noise, singing).

2. Best practices for coping with taste and food sensitivity.

3. Ways to deal with light sensitivity.

4. Ways to manage sensitivity to touch (Examples: between parent and children, tags in clothes, clothing material).

5. Benefits of sensory tools and skills training compared to other interventions (Examples: medication, seclusion, environmental modifications).

6. What are ways to support sensory processing needs through environmental modifications?

7. Can sensory-aware nutritional plans be used to facilitate self-planning (meal preparation) and improve experiences with food?

8. When considering interventions, how much should an individual work to remediate or fix the problem versus accept and accommodate using strategies to support engagement? Does the effectiveness of remediation change when treatment is controlled externally, by someone other than the autistic individual, versus when it is directed by the autistic individual?

9. How do sensory sensitivities affect learning and communication styles (Examples: journaling, texting, or pictures)?
   a. How does communication style impact how others perceive you?
   b. How do communication and learning styles impact an individual’s self-esteem?
   c. How can we help individuals to find their most effective learning style?
   d. How can we normalize alternative communication devices in public spaces?
   e. How has zoom facilitated alternative means for communication and learning?

10. Are hyper-fixations (focusing on a specific topic) sensory based (Example: tendency to turn off electronics because of the red/green light indicator)?

11. What is the correlation between a parent's sensory needs and their child's sensory processing needs (Example: if a parent has sensitivity to light how does that impact the child’s sensitivity to light)?

12. Ways to cope with sensory dysregulation (meltdown)?

13. What is the relationship between sensory processing and motor skills acquisition?
   a. How do sensory processing differences impact opportunities for engaging in physical motor tasks? (Example: finding a tennis court with limited noise)
   b. How do physical activities help an individual to cope with sensory challenges?
14. How can we describe an individual with autism in a way that does not perpetuate inaccurate perceptions? (Examples: stop using “high functioning” and “low functioning”, level system which is based on support needs)
   a. How do you make observations for defining without prejudicial categorizing? (Example: clinicians)
   b. What are the advantages and disadvantages of being associated with the label of “high functioning” or “low functioning”? (Example: “low functioning” people may be identified sooner and get more services, but “high functioning” people may not deal with as much stigma)

15. How does educating caregivers on a child’s sensory processing improve family relationships over time?

16. How do autism and sensory processing impact relationships with family members, community, community integration, religious communities, and neighbors?
   a. Being understood by neurotypical individuals.
   b. Perceptions and misconceptions of autism.
   c. Partnerships between autistic and neurotypicals.
   d. Experience of dating with autism.
   e. Experience of using augmentative and alternative communication (AAC) device in dating.
   f. Experience of disclosing that you have autism without feeling threatened.
   g. How does the presentation of sensory processing needs impact how neurotypical individuals view neurodivergent individuals?

17. What are the advantages and disadvantages of masking?

18. How do sensory differences impact intensity of emotions in stressful environments?

19. How do you decipher if what you are feeling is because of autism or if it’s because of a co-occurring condition? (Examples: anxiety, depression)

20. How can sensory processing issues intersect with differential diagnoses?

21. Ways to improve the process for diagnosing autism and prevent misdiagnosis (Examples: ADHD, PTSD, pain, anxiety, depression, Rhett syndrome).

22. What are ways of highlighting autistic strengths during the diagnosis process? (Example: focusing on one’s strength during the diagnosis process)
   a. Incorporating sensory strengths in evaluations.
   b. How do sensory strengths and challenges inform what work environment is best suited for the individual?
   c. How do sensory processing differences, interests, and intellectual abilities positively impact job opportunities and performance?

23. Impact of sensory differences on participating in cultural practices (Examples: pinatas, singing happy birthday, weddings, funerals, religious ceremonies).
   a. What supports and adaptations can be put in place that would allow individuals with autism and sensory processing to participate?

25. How do race, gender, culture, and socio-economic class affect sensory processing and perception of those with sensory differences? (Example: Japan’s public transportation is very quiet and signs have clear directions)

26. How and why do sensory processing and sensory sensitivities change across the life stages?
   a. How will this impact sensory interventions?
   b. How and why do sensory needs change over time? (Example: some people have sensory challenges that get better as they get older)

27. Ways to deal with change
   a. Unpredictability of life during and after the COVID-19 pandemic (Example: lack of uniformity in mask wearing policies across settings).
   b. What are best practices and new aides for dealing with transitions?
   c. How can adults be best supported when transitioning environments (going from calm home environment to community settings such as theme parks, sporting events theaters, night life)?
   d. How do weather changes impact sensory sensitivities?

Top 5 Self Advocate Priorities

1. When considering interventions, how much should an individual work to remediate or fix the problem versus accept and accommodate using strategies to support engagement? (a) Does the effectiveness of remediation change when treatment is controlled externally, by someone other than the autistic individual, versus when it is directed by the autistic individual?

2. How and why do sensory processing and sensory sensitivities change across the life stages? (a) How will this impact sensory interventions? (b) How and why do sensory needs change over time? (Example: some people’s sensory challenges get better as they get older)

3. What are ways to support sensory processing needs through environmental modifications?

4. How do autism and sensory processing impact relationships with family members, community, community integration, religious communities, and neighbors? (a) Being understood by neurotypical individuals. (b) Perceptions and misconceptions of autism. (c) Partnerships between autistic and neurotypicals. (d) Experience of dating with autism. (e) Experience of using augmentative and alternative communication (AAC) device in dating. (f) Experience of disclosing that you have autism without feeling threatened. (g) How does the presentation of sensory processing needs impact how neurotypical individuals view neurodivergent individuals?

5. Ways to improve the process for diagnosing autism and prevent misdiagnosis (Examples: ADHD, PTSD, pain, anxiety, depression, Rhett syndrome).
**Family and Caregiver Group Priorities**

1. What are alternative or "outside of the box" treatments and/or techniques that can be used to help individuals with sensory differences who are resistant to traditional treatments that have been provided?

2. How is sensory processing impacted by hormonal changes specifically in women and gender diverse populations?

3. What psychological and/or physiological factors impact sensory sensitivities?

4. How is sensory processing impacted across the lifespan?

5. What strategies can caregivers best utilize to support individuals with sensory processing challenges?

6. How can an individual self-manage sensory processing challenges when they are over or under stimulated?

7. How can we foster collaboration between home life, school life, and other community settings to provide best practice strategies and techniques that support the individual with sensory processing?

8. How does bias impact access to assessments and treatment for sensory processing in marginalized populations (people of color, gender, females, and religion)? How can we foster collaboration between culturally diverse populations to receive equal access to assessments?

9. How can the steps to diagnosis, treatment, and funding/financial assistance be outlined and simplified for all individuals with sensory processing challenges and caregivers, to access services without prejudice or bias?

10. How can sensory processing related behaviors be clearly differentiated from behaviors caused by other issues?

11. What are some typical triggers, such as environmental factors, that cause a reaction in individuals with sensory processing challenges?

12. How can caregivers and professionals support individuals through sensory processing challenges and triggers?

13. What characteristics and presentation accompany individuals with sensory processing challenges?

**Top 5 Priorities for the Family and Caregiver Groups**

1. How does bias impact access to assessments and treatment for sensory processing in marginalized populations (people of color, gender, females, and religion)? How can we foster collaboration between culturally diverse populations to receive equal access to assessments?

2. How is sensory processing impacted across the lifespan?
3. How can an individual self-manage sensory processing challenges when they are over or under stimulated?
4. What strategies can caregivers best utilize to support individuals with sensory processing challenges?
5. How can we foster collaboration between home life, school life, and other community settings to provide best practice strategies and techniques that support the individual with sensory processing?

**Clinician Group Priorities**

1. What are the demographic factors determining provision and continuity of services across the lifespan?
2. How do we effectively measure changes in sensory processing challenges over time? There is a need to develop quantitative observational tools of sensory and praxis that cover the lifespan (including children under 3, adolescents, and adults).
3. Longitudinal studies focusing on how the presentation and severity of sensory processing challenges evolves across the lifespan (including puberty).
4. Is there a significant difference in the effectiveness of sensory interventions (including Ayres, Sensory Integration, Sensory Integration Treatment, sensory strategies, modified sensory environments, and other programs addressing sensory processing challenges) addressing sensory processing and praxis challenges?
5. What is the optimal intervention dosage for sensory interventions (including Ayres, Sensory Integration, Sensory Integration Treatment, sensory strategies, modified sensory environments, and other programs addressing processing challenges) addressing sensory processing and praxis challenges?
6. What are the short term vs. long term effects of sensory interventions?
7. What is the effectiveness of manualized sensory strategies delivered by therapists, parents, or teachers?
8. What is the effectiveness of sensory (including Ayres, Sensory Integration, Sensory Integration Treatment, sensory strategies, modified sensory environments, and other programs addressing sensory processing challenges) as compared to cognitive, behavioral, motor learning, or emotion regulation approaches?
9. What is the effectiveness of sensory intervention (including Ayres, Sensory Integration, Sensory Integration Treatment, sensory strategies, modified sensory environments, and other programs addressing challenges) when delivered in combination with cognitive, behavioral, motor learning, or emotion regulation approaches?
10. What is the effectiveness of coaching parents and educational staff on addressing sensory challenges?
Top 5 Clinician Group Priorities

1. What is the optimal intervention dosage for sensory interventions addressing sensory processing and praxis challenges?

2. What is the effectiveness of sensory interventions when delivered in combination with cognitive, behavioral, motor learning, or emotion regulation approaches?

3. Is there a significant difference in the effectiveness of sensory interventions based on age, race, gender, and severity?

4. What is the effectiveness of sensory interventions as compared to cognitive, behavioral, motor learning, or emotion regulation approaches?

5. How do we effectively measure changes in sensory processing challenges over time? There is a need to develop quantitative observational tools of sensory processing and praxis that cover the lifespan (including children under 3, adolescents, and adults).

Researcher Group Priorities

1. How can we begin to understand the heterogeneity of sensory processing, features, and experience?
   a. How does sensory processing impact an individual’s experiences in daily life settings?
   b. How does heterogeneity effect prediction of responses to interventions?
   c. How to develop understandings of heterogeneity in sensory features and potential subtypes.
   d. How does heterogeneity impact understanding of developmental outcomes?

2. How do sensory features vary across development?
   a. How can early sensory processing differences be used to predict later outcomes?
   b. What is the precedence of sensory features for later development?
   c. What are the earliest markers and best methods for early detection of sensory processing differences?
   d. How do these differences impact developmental domains and functional skills (e.g., social, motor, functional cognition, language, etc.)?
   e. How does sensory processing moderate behavior/function and attention/arousal?
   f. What are the biobehavioral underpinnings of sensory features?
   g. How can we look at individual differences and trajectories of change within and between individuals?

3. What are valid ways to measure sensory features?
   a. How do we quantify sensory features?
   b. How do we capture self-report and internal environments (i.e., interoception) of sensory experiences in children?
   c. What is the reliability between self-report, caregiver report, and observable measures?
   d. How can we reconcile or integrate differences across measures?
e. How do we disentangle sensory processing from quality of movement and motor skills, arousal, and attention?
f. What is the meaning of the sensory behavior to the individual who engages in it?
g. Include both strengths and limitations when measuring sensory feature?

4. How does sensory processing impact an individual’s experiences in daily life settings?
   a. How do sensory processing differences in infants/young children transact with caregiver variables (e.g., responsiveness, stress, demographics) to optimize engagement and developmental outcomes?
      i. How is this critical in the first months/years of life?
      ii. What are protective factors?
   b. How do sensory processing differences impact education and learning?
   c. What are the interactions with sensory features and the environment?

5. How can knowledge of sensory processing contribute to improved access of health care services and community spaces?
   Best methods for educational approaches to impacting society’s understanding and ability to implement knowledge gains in this area over time

6. How do we gain a better understanding of co-occurring conditions and their relationship to sensory features (e.g., GI, seizures, OCD, anxiety, pain, depression, ADHD)?
   a. How does a better understanding of these co-occurring conditions impact physicians care for autistic patients?
   b. What are the interrelationships between sensory processing and mental health?

7. How can we better understand the link between brain and behavior related to sensory processing?
   a. What are the mechanisms underpinning these linkages?
   b. To what degree are sensory features of ASD similar to or different from that of other neurodevelopmental conditions?

8. To what degree are sensory features of ASD similar to or different from that of other neurodevelopmental conditions?
   a. What are the transdiagnostic factors?

9. What interventions are effective for addressing sensory processing challenges?
   a. What works for whom and under what conditions? (e.g., Ayres Sensory Integration, psycho-pharmaceuticals, behavioral interventions, adaptive and coping strategies)
   b. What interventions are effective and developmentally appropriate for adolescents, young adults, and adults?
   c. What are key ingredients of effective interventions?
   d. What is the comparative effectiveness of various interventions?
   e. What dosages/durations are optimal?
   f. What is the cost effectiveness of these interventions?
   g. How can new technologies, methods, and environmental modifications be leveraged to create new interventions or enhance existing interventions?
   h. Diversity of models of intervention delivery (e.g., Parent mediated approaches).
Top 5 Researcher Group Priorities

1. How do sensory features vary across development? (a) How can early sensory processing differences be used to predict later outcomes? (b) What is the precedence of sensory features for later development? (c) What are the earliest markers and best methods for early detection of sensory processing differences? (d) How do these differences impact developmental domains and functional skills (e.g., social, motor, functional cognition, language, etc.)? (e) How does sensory processing moderate behavior/function and attention/arousal? (f) What are the biobehavioral underpinnings of sensory features? (g) How can we look at individual differences and trajectories of change within and between individuals?

2. How does sensory processing impact an individual's experiences in daily life settings? (a) How do sensory processing differences in infants/young children transact with caregiver variables (e.g., responsiveness, stress, demographics) to optimize engagement and developmental outcomes? (a1) How is this critical in the first months/years of life? (a2) What are protective factors? (b) How do sensory processing differences impact education and learning? (c) What are the interactions with sensory features and the environment?

3. How can we begin to understand the heterogeneity of sensory processing, features, and experience? (a) How does sensory processing impact an individual's experiences in daily life settings? (b) How does heterogeneity effect prediction of responses to interventions? (c) How to develop understandings of heterogeneity in sensory features and potential subtypes. (d) How does heterogeneity impact understanding of developmental outcomes?

4. What interventions are effective for addressing sensory processing challenges? (a) What works for whom and under what conditions? (e.g., Ayres Sensory Integration, psycho-pharmaceuticals, behavioral interventions, adaptive and coping strategies) (b) What interventions are effective and developmentally appropriate for adolescents, young adults, and adults? (c) What are key ingredients of effective interventions? (d) What is the comparative effectiveness of various interventions? (e) What dosages/durations are optimal? (f) What is the cost effectiveness of these interventions? (g) How can new technologies, methods, and environmental modifications be leveraged to create new interventions or enhance existing interventions? (h) Diversity of models of intervention delivery (e.g., Parent mediated approaches).

5. What are valid ways to measure sensory features? (a) How do we quantify sensory features? (b) How do we capture self-report and internal environments (i.e., interoception) of sensory experiences in children? (c) What is the reliability between self report, caregiver report, and observable measures? (d) How can we reconcile or integrate differences across measures? (e) How do we disentangle sensory processing from quality of movement and motor skills, arousal, and attention? (f) What is the meaning of the sensory behavior to the individual who engages in it? (g) Include both strengths and limitations when measuring sensory feature?
Integration Across Groups

We considered several analytic strategies to identify what commonalities or themes crossed over more than one stakeholder group. The Guiding Principles described above contained many of the elements that were discussed across groups. Issues of representation across the spectrum, health and social inequities, and racial bias were widely shared across the stakeholder groups. The comparisons of themes provided below are presented to highlight other areas of shared concern.

We also note that there are some differences across groups as well in terms of both specific priorities and the rankings. Language and forms of discourse were at times quite distinct across groups and present challenges to providing summaries that both retain the discussions within groups and bridge the discussions across groups.

Discussions across groups drew on stories to give examples of lived experiences with sensory processing. This narrative structure was central to our approach to both building trust and understanding the real life experiences of our stakeholders. We want to note that discussions also emphasized the need to identify research priorities related to strengths in sensory processing and how these could be better leveraged. There was concern that we not replicate the tendency to view sensory differences as deficits only.

Pictorial Representations of Combined Priorities

| What is the optimal intervention dosage (how often) for sensory interventions addressing sensory processing and praxis (motor performance) challenges? | How does bias impact access to assessments and treatment for sensory processing in marginalized populations (people of color, gender, females, and religion)?
(a) How can we foster collaboration between culturally diverse populations to receive equal access to assessments? |
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinicians</td>
<td>Top Priority Per Stakeholder Group</td>
</tr>
<tr>
<td>When considering interventions, how much should an individual work to remediate or fix the problem versus accept and accommodate using strategies to support engagement? (a) Does the effectiveness of remediation change when treatment is controlled externally, by someone other than the autistic individual, versus when it is directed by the autistic individual?</td>
<td>How do sensory features vary across development? (a) How can early sensory processing differences be used to predict later outcomes?</td>
</tr>
<tr>
<td>Self Advocates</td>
<td>Researchers</td>
</tr>
</tbody>
</table>
| Families & Caregivers | }
<table>
<thead>
<tr>
<th>Clinicians</th>
<th>How is sensory processing impacted across the lifespan?</th>
</tr>
</thead>
<tbody>
<tr>
<td>What is the effectiveness of sensory interventions when delivered in combination with cognitive, behavioral, motor learning, or emotion regulation approaches?</td>
<td></td>
</tr>
<tr>
<td>How and why do sensory processing and sensory sensitivities change across the life stages?</td>
<td></td>
</tr>
<tr>
<td>(a) How will this impact sensory interventions?</td>
<td></td>
</tr>
<tr>
<td>(b) How and why do sensory needs change over time? (Example: some peoples sensory challenges get better as they get older)</td>
<td></td>
</tr>
</tbody>
</table>

| Second Top Priority Per Stakeholder Group |

<table>
<thead>
<tr>
<th>Families &amp; Caregivers</th>
</tr>
</thead>
<tbody>
<tr>
<td>How does sensory processing impact an individual's experiences in daily life settings?</td>
</tr>
<tr>
<td>(a) How do sensory processing differences in infants/young children transact with caregiver variables (e.g., responsiveness, stress, demographics) to optimize engagement and developmental outcomes?</td>
</tr>
</tbody>
</table>

| Self Advocates |

| Researchers |

| Researchers |

12
Top 5 Coded Thematically

<table>
<thead>
<tr>
<th>Rank</th>
<th>Families/Caregivers</th>
<th>Civilians</th>
<th>Self-Advocates</th>
<th>Researchers</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>How does the impact access to assessments and treatment for sensory processing in marginalized populations (people of color, gender, sexual orientation, and religion)? (a) How can we foster collaboration between culturally diverse populations to receive equal access to assessments?</td>
<td>What is the optimal intervention change for sensory processes addressing sensory processing and joint social challenges?</td>
<td>When considering interventions, how much should we individualize work in response or fit the problem versus accept and accommodate using strategies to support engagement? (b) Does the effectiveness of intervention change when treatment is provided externally, by someone other than the autistic individual, versus when it is directed by the autistic individual?</td>
<td>How do sensory factors vary across development? (a) How do early sensory processing differences be used to predict later outcomes? (b) What is the prevalence of sensory traits in our development? (c) What are the earliest markers and best methods for the early detection of sensory processing differences? (d) How do these differences inform developmental progress and functional abilities? Social, motor, fine motor, cognitive, language skills? (e) How does sensory processing moderate behavior, function, and attention/mood? (f) How are the biological implications of sensory factors? (g) How do we look at individual differences and trajectories of change within and between individuals?</td>
</tr>
<tr>
<td>2</td>
<td>How does sensory processing impact the brain?</td>
<td>What is the effectiveness of sensory interventions when delivered in combination with cognitive, behavioral, social learning, or emotion regulation approaches?</td>
<td>How and why do sensory processing and sensory awareness change across the lifespan? (a) How does this impact sensory interventions? (b) How and why does sensory needs change over time? (c) How do sensory challenges get better as children get older?</td>
<td>How does sensory processing impact individual's experiences in daily life settings? (a) How do sensory processing differences in infants/young children impact with caregiver variables (e.g., responsiveness, stress, attentional/adaptive)? (b) How do sensory processing differences impact education and learning? (c) How do the interactions with sensory features and the environment impact?</td>
</tr>
<tr>
<td>3</td>
<td>How can an individual self-manage sensory processing challenges when they are over or under stimulated?</td>
<td>Is there a significant difference in the effectiveness of sensory interventions based on age, race, gender, and severity?</td>
<td>What are ways to support sensory processing needs through environmental modifications?</td>
<td>How can we begin to understand the homogeneity of sensory processing, features, and experiences? (a) How do sensory processing impact individual's experiences in daily life settings? (b) How does homogeneity affect prediction of responses to interventions? (c) How to develop understandings of homogeneity in sensory features and potential subtypes? (d) How does homogeneity impact understanding of developmental outcomes?</td>
</tr>
<tr>
<td>4</td>
<td>What strategies can caregivers best utilize to support individuals with sensory processing challenges?</td>
<td>What is the effectiveness of sensory interventions as compared to cognitive, behavioral, social learning, or emotion regulation approaches?</td>
<td>How do autism and sensory processing impacts relationships with family members, community, community integration, religious communities, and education? (a) How will this impact sensory interventions? (b) How and why do sensory needs change over time? (c) How do sensory challenges get better as they get older?</td>
<td>What interventions are effective for addressing sensory processing challenges? (a) What works for whom and under what conditions? (e.g., cognitive, sensory integration, psychotherapeutic, behavioral intervention, adaptive and coping strategies) (b) What interventions and developmental approaches are appropriate for adolescents, young adults, and adults? (c) What are the key ingredients of effective intervention? (d) What is the relative effectiveness of various interventions? (e) What strategies do optimal? (f) What is the cost-effectiveness of these interventions? (g) How can we develop, test, and implement modifications to create new interventions or enhance existing interventions? (h) (Investigate new models of intervention delivery) (i) (Patient-mediated approaches)</td>
</tr>
<tr>
<td>5</td>
<td>How can we foster collaboration between home life, school life, and other community settings to provide best practice strategies and techniques that support the individual with sensory processing?</td>
<td>How do we effectively measure change in sensory processing challenges over time?</td>
<td>How do we measure effectiveness of sensory processing? (a) What tools for vision and social skills? (b) How do we measure progress?</td>
<td>What are the tools used to measure sensory features? (a) What do we measure? (b) What are the tools for measuring vision? (c) What are the tools for measuring social skills? (d) How do we measure progress? (e) How do we measure changes? (f) What are the cost-effective interventions? (g) How do we develop, test, and implement modifications to create new interventions or enhance existing interventions? (h) (Investigate new models of intervention delivery) (i) (Patient-mediated approaches)</td>
</tr>
</tbody>
</table>

Summary of Shared Themes

The following themes are not presented in any particular order. We concluded that these were all of importance to our stakeholders.

1. Developmental Priorities Across the Lifespan

A number of the priorities highlight the need for study of developmental processes and change related to sensory processing across the lifespan. Within these discussions, particular developmental periods were highlighted. For example, a number of stakeholders discussed the...
significant knowledge gaps in adolescent and adulthood and noted specifically the limited understanding of the effects of puberty across all gender identities and changing developmental agendas in adolescence. Comments about development included concern that there is limited information about the developmental trajectory of sensory processing across the lifespan. In addition, the lack of good measures of change over time were noted.

2. Access and Availability of Services, Effective Interventions, and Strategies to Support Environmental Adaptations and Community and Family Life

Although the language and discourses varied across groups, there was a shared concern about the inadequacies of available services, interventions and strategies to support individuals and families. Much of this discussion resonated with the emphasis on the lack of developmentally relevant information and resources, particularly in adolescence and adulthood.

3. Sociocultural Influences

Although health equity, racial biases, and social injustices were prominent in discussions, there were also a number of social and sociocultural influences that were identified related to sensory processing differences. A call for reducing stigma and marginalization was coupled with the need to increase acceptance of strategies and adaptations to support sensory differences, needs, and strengths. A number of compelling examples were also provided related to how sensory processing differences influence engagements in family and community life and are affected by sociocultural practices.

4. Relationships of Sensory Processing Differences to Other Aspects of Performance

Throughout this process, the stakeholder groups validated in various ways the centrality of sensory processing to the lived experiences of many autistic people. In addition, consideration was given to the interrelationships among major developmental and life domains including:

- Motor performance
- Mental health
- Co-occurring conditions
- Learning
- Communication styles

5. Environmental Adaptations and Modifications

The priorities also reflect the theme that emerged related to addressing sensory processing differences beyond the individual level. Many of the specific examples discussed were also presented as changes that would also benefit the entire community as they could alleviate excessive or at times disturbing inputs. Although a number of the examples reflected concerns about auditory stimulation, the desire to modify environments crossed into most sensory domains.