Measuring Sense of Belonging in Individuals with Intellectual Disabilities Through Quantitative Methods

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Literature Review

Belonging has repeatedly been shown to be a fundamental human need that has significant consequences for mental and physical health (Baumeister and Leary 1995; Hagerty et al. 1992; Lambert et al. 2013). On the physical dimension, feelings of loneliness have been linked to increased risk of mortality (Holt-Lunstad et al 2015). On the psychological dimension, belonging has been shown to be a critical factor in helping individuals perceive their lives as meaningful (Lambert et al., 2013). This has significant implications for mental health outcomes, as low sense of belonging or social connectedness has been directly associated with depression and indirectly linked with suicidal ideation (Fisher et al. 2015). However, many people struggle to feel a sense of belonging in their social environments. This is especially true for those who have been marginalized by broader society in ways that affect their ability to form and maintain strong social ties (Ahn and Davis 2019). Individuals with disabilities are especially susceptible to this struggle, as society has treated their differences in ability as a legitimate basis for differential treatment and othering (Dirth and Branscome 2019). Despite this fact, sense of belonging in individuals with disabilities remains an understudied area, likely because belonging is a highly abstract concept that is difficult to analyze without directly centering the voices of individuals with disabilities, a surprisingly uncommon practice in the field (Allen et al. 2022; Raines et al. 2023).

Even outside of research regarding individuals with disabilities, though, the study of belonging is currently highly unstandardized, with no clear "gold standard" definition, conceptualization, or measurement tool. Across studies, belonging has been treated as a determinant, an outcome, a mediator, and in a variety of other roles, creating difficulties in navigating the space and in understanding what informs it and how to increase it (Allen et al. 2022; Gur and Bina 2023; Jansen et al. 2014; Long and Guo 2023). In disability studies, belonging also lacks a clear analytical definition: some scholars use it interchangeably with inclusion or other related concepts, while others treat them as distinct (Allen et al. 2022; Reeves et al. 2023). The general heterogeneity of definitions has hindered the development of a broadly applicable measurement tool that accurately captures a sense of belonging in a non-specific context (Mahar, Cobigo, and Stuart 2014).

Despite this lack of clarity, however, some common themes arise. Sense of belonging is often defined as the combination of 1) the feeling of being valued, needed, and appreciated by one's community, and 2) the feeling of fitting in with one's community (Hagerty et al. 1992). The origin of belonging (what we term "inclusion"), however, is understood to arise from reciprocal relationships not only between an individual and the people around them but also between an individual and their physical environment (Ahn and Davis 2019; Baumeister and Leary 1995; Long and Guo 2023). From this, it is possible to break down the factors leading to the formation of belonging into roughly two dimensions: "Opportunities" and "Perceptions" (Allen et al. 2022). "Opportunities" pertains to the barriers (or the lack thereof) an individual experiences in gaining entry into a physical space and gaining access to the resources in that space on a level equal to others around them. The opportunity structure for social integration must exist for an individual to have someone and/or something to feel attached to. Without the opportunity, there cannot be belonging (Abbott and McConkey 2006). "Perceptions" pertains to one's subjective conceptions about their relationship to their community and their environment. People constantly make judgments about those relationships and adapt their behavior accordingly; if one perceives that they do not fit in and must mask their true self to meet others' standards, that is not a true sense of belonging (Walton and Cohen 2007). Essentially, inclusion is made up of opportunities and perceptions that inform sense of belonging, which is the feeling of being valued and truly fitting in.

While these definitions have been loosely consistent across studies, much of the research on sense of belonging has been conducted with individuals without disabilities, and all validation of any measures has also been conducted on individuals without disabilities. This fact is in line with the tendency in research on individuals with disabilities to treat them as subjects for researchers to gather information from, rather than as participants (Raines et al. 2023). As a result, it remains unclear whether existing conceptualizations and measures of belonging adequately capture the experiences of individuals with intellectual disabilities, whose relationships with physical environments, social institutions, and community members may differ substantially from those of non-disabled people. We seek to address this

gap by developing a measure of sense of belonging that is designed to be given directly to individuals with disabilities to ensure that their voices, rather than those of caregivers or researchers, are heard so that meaningful interventions to increase sense of belonging in individuals with disabilities can be developed.

Methods

Measures and Methods

Our quantitative sense of belonging survey instrument draws on two existing instruments that the SNSC had previously used in developing their own instrument: the WHO Model Disability Survey (MDS) and Hagerty and Putasky's Sense of Belonging Index (SOBI). The SNSC had also utilized the Sense of Community Index, but it was excluded because the instrument's definition of "sense of community" conflated our conceptualizations of "inclusion" and "belonging" drawn from the literature (McMillan and Chavis 1986). "Inclusion" refers to opportunities for and perceptions of belonging. "Belonging" is defined as the feeling of being valued by one's community and the feeling of fitting in with it. Increasing inclusion will increase sense of belonging, as opportunities for and perceptions of belonging increase (See Appendix E).

Our questions regarding "inclusion" were loosely inspired by Model 3000A, "Environmental Factors," of the MDS, but were heavily reworded to fit the needs of the SNSC. We knew that the SNSC's Disability-Friendly Certification Program is a significant part of the organization's outreach efforts to increase sense of belonging in the Upper Valley. We grouped certified businesses by sector and identified four main domains where outreach was occurring *and* where people generally interact with their community most: restaurants, transportation services, shops, and parks. Within each domain, we are asking two questions that target the "opportunities" arm of our definition of inclusion. The first asks about ease of interaction with the physical space ("When I am at ___, I can easily ___.") and the second asks about ease of interaction with the people that would be commonly found in that space, such as employees ("When I am at ___, ___ help me when I need help.") This choice was made because having equal opportunity to form belonging in a space should include having equal access to the people, as well. Additionally, the MDS includes questions about "Support and Relationships" from people as part of their "environmental factors" too (see Appendix B). This question was replaced with another question about physical space in the parks domain, as there are usually no specified workers there (see Appendix A). Our choice to use the word "easily" in the physical space question stems from the MDS's use of "easy" and "hard" to analyze relationships to space (see Appendix B). The third question addresses the "perceptions" arm of inclusion by asking whether individuals feel "welcomed" in the space. This way, the SNSC can easily see which domains may still lack inclusive measures and which domains have effective interventions for inclusion but are not yet fostering belonging.

Our questions regarding "belonging" were drawn from Hagerty and Putasky's SOBI and reworded (see Appendix B for original instrument). Hagerty and Putasky's full instrument has been well-vetted and cited repeatedly in belonging literature. However, many questions are emotionally charged or conceptually difficult for those at lower reading levels, which we had to consider given the target population. In order to make this survey an emotionally neutral or positive experience and to ensure that individuals could answer the questions with as little support as possible, we eliminated questions such as "If I died tomorrow, very few people would come to my funeral" due to emotional weight and "I feel like a square peg trying to fit into a round hole" due to conceptual complexity. The remaining questions were reworded to simpler language. For example, "I feel like an outsider in most social situations" turned into "When I talk to other people, I feel like they want to talk to me," so that the question is grounded in a concrete action that is easier to conceptualize (see Appendix C for reworded questions and their corresponding questions in the original instrument). We also eliminated their Antecedents to Belonging (SOBI-A), as it was outside the scope of our model and would not yield information as useful to the SNSC, especially given our length constraints. While these choices might slightly change the fundamental construct the questions intend to analyze, we want to prioritize centering the respondent's voices and ensuring they understand the question. Questions 1, 2, and 3 in our reworded survey address the "feeling of fitting in" arm of our definition of belonging, while Questions 4 and 5 address the "feeling of being

valued" arm. These match Hagerty and Patusky's categorizations, as well. While an equal number of questions for each arm would have been desirable, this was not possible due to the emotional weight or complexity of the questions, as discussed. Each question for the inclusion and belonging sections is assessed on a five-point Likert scale (Strongly Disagree, Disagree, Neutral, Agree, and Strongly Agree) that is accompanied by a visual aid, which has been shown to improve response rate and understanding in individuals with intellectual disabilities (Hartley and MacLean Jr. 2006). Neutral was added to SOBI's four-point scale to reduce pressure on respondents to answer concretely.

Before beginning the survey, caregivers will be given a consent form detailing the nature of the survey, that participation is voluntary and may be stopped at any time, and that, if possible, they should not assist the individual in completing the survey. The individual will be given an assent form with simplified language to ensure that they understand that their responses are voluntary and anonymous (see Appendix D). Our demography questions seek to collect as little information as possible to protect respondents' privacy. To gather the most accurate information and to center individuals with disabilities' voices, which is not often done in the field, we simply ask if the respondent had help completing the questionnaire, if so who, and their age. This way, the SNSC can follow up with those who indicated they needed help filling out the survey to ensure that the responses reflect how the respondent themselves feels. We recommend the SNSC continue to distribute this survey in an online-based format through their newsletters and on devices at their physical center, as this will allow for easy distribution to as many people as possible. For an accurate assessment of the progress of how the SNSC's program impacts sense of belonging, this survey should be administered longitudinally (once per year). We intentionally limited the length to 20 questions to ensure that the respondents would take no longer than 20 minutes to complete it. While the online format and distribution method might risk response bias or lack of clarity around the person who actually filled out the survey, the trend in disability research broadly is moving towards self-assessments rather than interviews or observations of those with intellectual disabilities to ensure that other people are not speaking for the individuals themselves (Hartley and Maclean Jr. 2006). Additionally, individuals with disabilities want to participate in research and have their voices heard (Conroy, McDonald, and Olick 2021). Thus, the online self-assessment format is ideal for optimizing the accuracy of the information gathered, ensuring that the individual with the disability is the one filling it out and can do so relatively easily, and reaching as many people as possible.

Sampling and Recruitment

The SNSC should use a quantitative method through an online-based survey that can also be offered in person on an iPad during events by staff if desired. One advantage of this method is that it allows the SNSC to distribute the survey through its yearly newsletter while also providing opportunities for in-person participation. This approach increases the likelihood of reaching as much of the target population as possible. Moreover, we recommend that the SNSC implement the survey using a longitudinal design by administering it annually (through their regular methods of a newsletter and event surveying) or biannually if desired. Collecting data over multiple years will allow the SNSC to analyze trends over time and determine whether its programs, initiatives, and interventions are associated with changes in inclusion and belonging. As the amount of data increases, the SNSC will be better positioned to identify patterns with their program effectiveness and assess whether changes in scores correspond with organizational efforts occurring during a given period. The survey sampling frame requires participants to identify as having an intellectual disability and reside in the Upper Valley. Recruitment will occur solely through the SNSC membership network.

This study recommends the use of a non-probability sampling method through a total population sampling frame, also known as a census approach. All SNSC members who meet the eligibility requirements will be invited to participate, and all completed responses will be used to better understand inclusion and belonging among individuals with intellectual disabilities in the Upper Valley. This method is recommended because of the constraints associated with surveying a relatively specific, small, and vulnerable population. Historically, the SNSC has experienced challenges obtaining high response rates. As a result, we believe that every eligible participant who chooses to respond provides valuable

information that can contribute to the study. A probability sampling method would unnecessarily exclude potentially useful responses from an already limited population. Therefore, a census approach is the most feasible and ethically appropriate method for this project. We recommend that staff members only assist participants by providing the survey, consent forms, and assent forms in digital formats to ensure accessibility while minimizing researcher influence on participant responses and maximizing resources.

The survey consists of 20 questions and is estimated to take approximately four minutes to complete. Due to limitations in access to individuals with intellectual disabilities during survey development, we were unable to directly pilot test the survey with members of the target population. Instead, survey completion times were recorded from three individuals without intellectual disabilities and averaged to estimate completion time. The average completion time was approximately 2.8 minutes (see Appendix F). Research suggests that individuals who receive extended-time accommodations may require approximately 50% more time to complete assessments and thus, surveys (Staff of the Institute of Education Sciences 2024). Using this estimate, we project that participants with intellectual disabilities may require approximately four minutes or more to complete the survey. Furthermore, we recommend that participants be given no time restrictions to complete the survey.

Lastly, we recommend that Inclusion be coded to have both an average inclusion and belonging score, calculated by summing a participant's responses to all inclusion-related survey questions and dividing by the total number of inclusion questions (Van Gaasbeek 2022). Higher scores indicate greater perceived inclusion. We recommend the same for Belonging. The expected relation is that higher scores of inclusion should indicate stronger feelings of belonging. Furthermore, if participants report particularly extreme high or low levels of belonging, the SNSC should examine the four domains of inclusion to determine whether any specific domain is associated with these outcomes. This analysis can be conducted both within individual responses and across the overall dataset to identify broader patterns and trends.

Overall, we do not recommend establishing a minimum recruitment target. Because this is a small and difficult-to-reach population, every response contributes valuable information. We recommend that the SNSC continue its yearly surveying practices or consider administering the survey biannually to collect data as programs, projects, and organizational priorities evolve. If response rates remain low, the SNSC may consider modest participation incentives, such as gift cards, provided that such incentives are implemented ethically and do not create undue pressure to participate.

Interpreting the Data

After data collection, the SNSC should calculate average inclusion and belonging scores for the participant dataset for the given time period. Descriptive statistics, including means, frequencies, and standard deviations, should be used to summarize participant responses and identify overall trends within the sample. To evaluate the conceptual model, the SNSC should examine the relationship between inclusion and belonging using a basic correlation analysis. A positive correlation would indicate that higher levels of perceived inclusion are associated with stronger feelings of belonging. If the relationship is weaker or there are discrepancies in the expected relationship, the SNSC should examine individual inclusion domains more closely to determine which aspects of inclusion may require additional attention or intervention. Because the survey is intended to be administered annually or biannually, the SNSC should also compare results across years. Longitudinal comparisons will allow the organization to evaluate whether changes in programming and service efforts are associated with changes in inclusion and belonging scores over time. While this design cannot fully establish causality, repeated measurements provide stronger evidence for understanding patterns and trends than a single cross-sectional survey.

Ethical Considerations

Over the course of working with the SNSC, we encountered several ethical concerns related to the Belmont Principles: respect for persons, beneficence, and justice. Regarding respect for persons, one of our concerns was ensuring that all participants were able to provide informed consent and had the capacity to participate meaningfully in the study. Due to our sample being members of the SNSC, there are participants with varying disabilities, some of whom may be nonverbal and lack the ability to

communicate and cannot confirm their consent without assistance. This concern led us to conclude that it would be beneficial to allow legal guardians or caretakers to provide consent when necessary by implementing consent and assent forms. Additionally, we included a clarification question at the beginning of our survey asking participants whether they were completing the survey on their own or with assistance from a guardian or caretaker. Reflecting on Kendra's input, we attempted to create questions that were understandable yet maintained the depth associated with belonging to address our concerns. We added accessible Likert-scale response options so participants could express their own experiences as accurately as possible. Regarding Beneficence, we understand that questions about belonging, inclusion, and community participation may resurface feelings and experiences of exclusion, stigma, or social isolation for certain participants. To minimize potential emotional distress, we carefully reviewed all survey questions to ensure the wording was respectful, inclusive, and sensitive while still upholding our goal of measuring belonging within the community. Finally, the principle of Justice is reflected in our effort to make the survey as accessible as possible to individuals with varying disabilities and support needs. Upon completing our research, it has become apparent that individuals with disabilities have been underrepresented in research; we believe it is important to provide equitable opportunities for participation. By clearly communicating the study/s risks and benefits and incorporating accommodations that reduce barriers to participation, we hope to ensure that all participants are treated fairly throughout the study. We aim to provide equal opportunities for these individuals to share their experiences of access, inclusion, and belonging within their Upper Valley community.

Feasibility and Significance

The SNSC is a nonprofit organization based in the Upper Valley that provides programming, community connections, and support services to individuals with disabilities and their families. SNSC already has ongoing relationships with its members and has prior experience administering surveys, so this study is well-suited to their existing organizational capacity. No additional funding or external infrastructure is required, as the SNSC can distribute the survey through existing channels to the individuals it already serves. The survey design is a practical choice for the SNSC given their limited staff and time resources. To accommodate the range of support needs among the SNSC's members, the survey is designed to be completed in various ways. We included a response-type question so that it may be completed individually, with caregiver support, or read aloud by staff with responses recorded on their behalf. This also allows SNSC to better distinguish among the different types of responses and organize its data more efficiently. While a separate survey and qualitative interview guide were considered, they were ruled out given the time and resource constraints on both us and the SNSC. The survey's question wording was also simplified for accessibility, but it was kept above threshold because overly simplified language made it difficult to capture the true meaning of the questions. It also made the assent and consent forms more difficult to make ethical.

This research carries both academic and practical significance. Academically, it contributes to the existing literature on social belonging, which has historically been examined more broadly. As our literature review demonstrates, belonging is a well-studied concept; however, very few studies have measured it directly among disabled populations or distinguished their experience from those of non-disabled individuals. By developing a survey instrument accessible to a more targeted population of individuals with disabilities, this study offers a meaningful step forward in measuring belonging in this population. Also, because the survey is designed to be replicable, it can also serve as a foundation for disability-centered research beyond just SNSC. Practically speaking, this research provides the SNSC with a specific means of understanding whether its members feel they belong in the Upper Valley Community. Results can help the organization identify what is working well and where improvements are needed. The information can then be shared with funders and stakeholders as evidence of the SNSC's impact, helping broaden its reach.

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Appendix A:

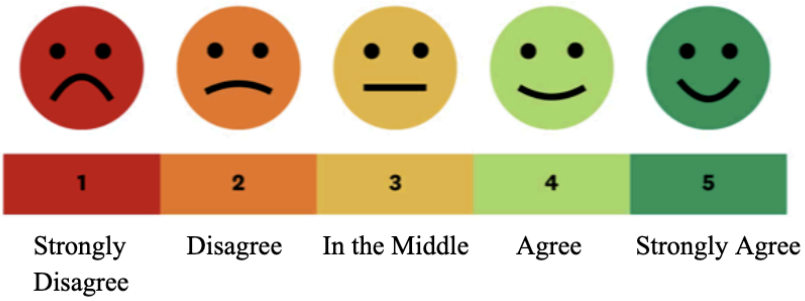
Sense of Belonging Survey

1. Is somebody helping you fill out this survey? [Yes, No]
2. If so, who? [Parent, Guardian, Caregiver, SNSC Employee, Other]
3. How old are you? [Numerical Response]

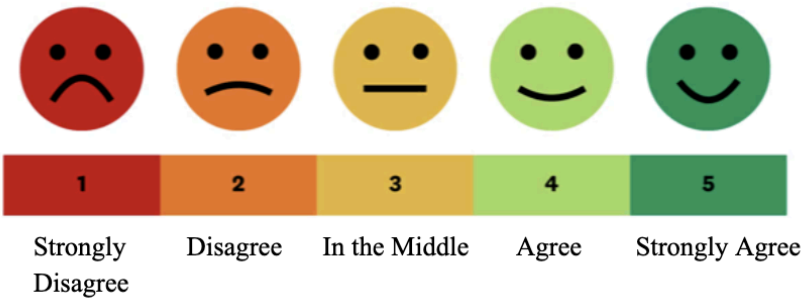
Places in your Community

Restaurants

1. When I am at restaurants, I can easily read the menu.



2. When I am at restaurants, workers help me when I need help.



3. I feel welcomed when I eat at restaurants in my community.

Transportation

1. When I am using transportation, I can easily get on and off.

2. When I am using transportation, workers help me when I need help.

3. I feel welcomed when I use transportation in my community.

Stores

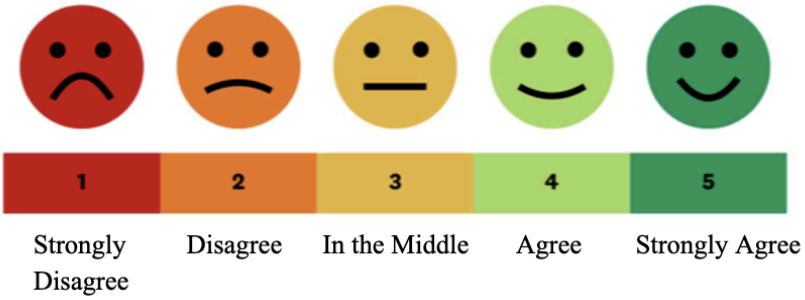
1. When I am at stores, I can easily find my way around.

2. When I am at stores, workers help me when I need help.

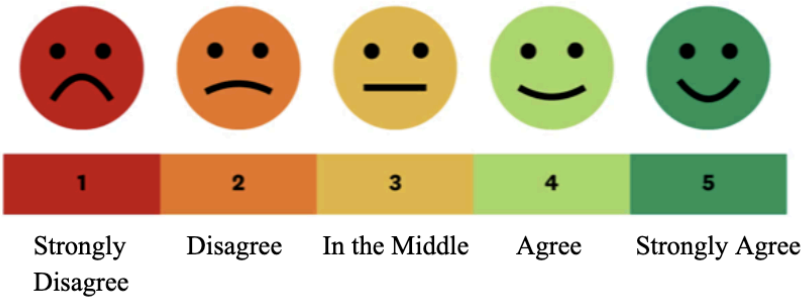
3. I feel welcomed when I shop in stores in my community.

Parks

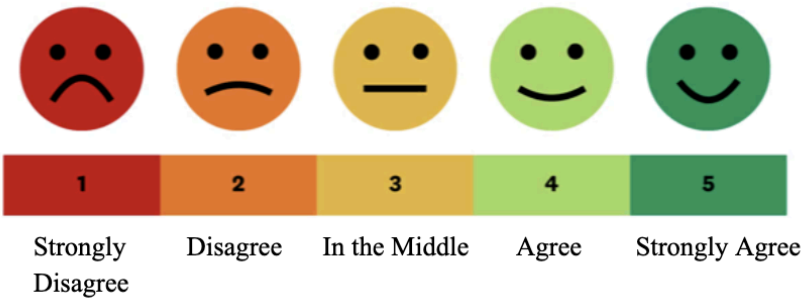
1. When I am at the park, I can easily use the play structure, paths, and equipment.



2. When I am at the park, I can easily read the signs.



3. I feel welcome at parks in my community.



Your Whole Community

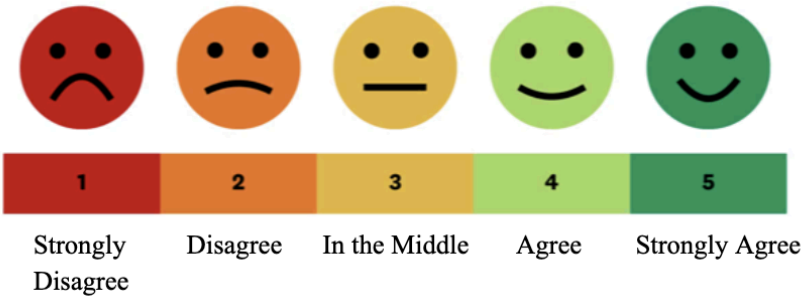
1. I feel like I fit in with other people.

2. I feel left out of things.

3. I feel like people accept me for who I am.

4. When I talk to other people, I feel like they want to talk to me.

5. I watch people do the things I want to do instead of joining them.



Appendix B:

Original SOBI-P

Psychological Sense of Belonging (SOBI-P)

1. I often wonder if there is any place on earth where I really fit in.
2. I am just not sure if I fit in with my friends.
3. I would describe myself as a misfit in most social situations.
4. I generally feel that people accept me.
5. I feel like a piece of a jig-saw puzzle that doesn't fit into the puzzle.
6. I would like to make a difference to people or things around me, but I don't feel that what I have to offer is valued.
7. I feel like an outsider in most social situations.
8. I am troubled by feeling like I have no place in this world.
9. I could disappear for days and it wouldn't matter to my family.
10. In general, I don't feel a part of the mainstream of society. (wording amended)
11. I feel like I observe life rather than participate in it.
12. If I died tomorrow, very few people would come to my funeral.
13. I feel like a square peg trying to fit into a round hole.
14. I don't feel that there is any place where I really fit in this world.
15. I am uncomfortable that my background and experiences are so different from those who are usually around me.
16. I could not see or call my friends for days and it wouldn't matter to them.
17. I feel left out of things.
18. I am not valued by or important to my friends.

Original Module 3000A

Module 3000A: ENVIRONMENTAL FACTORS

HINDERING OR FACILITATING ENVIRONMENT

I am going to ask you some general questions about your environment.

I would like to know if the environment makes it easy or hard for you to do things you need or want to do.
I want you to answer the following questions on a scale from 1 to 5, where 1 means very easy and 5 means very hard, shown on SHOWCARD 002.

To what extent…		1 Very easy	2	3	4	5 Very hard	8 Don't know	98 Not applicable
I3001	Does your workplace or educational institution make it easy or hard for you to work or learn?	1	2	3	4	5	8	98
I3002	Do health facilities you need regularly make it easy or hard for you to use them?	1	2	3	4	5	8	98
I3003	Do places where you socialize and engage in community activities make it easy or hard for you to do this?	1	2	3	4	5	8	98
I3004	Do the shops, banks and post office in your neighbourhood make it easy or hard for you to use them?	1	2	3	4	5	8	98
I3005	Do your regular places of worship make it easy or hard for you to worship?	1	2	3	4	5	8	98
I3006	Does the transportation you need or want to use make it easy or hard for you to use it?	1	2	3	4	5	8	98
I3007	Does your dwelling make it easy or hard for you to live there?	1	2	3	4	5	8	98
I3008	Does the toilet of your dwelling make it easy or hard for you to use it?	1	2	3	4	5	8	98
I3009	Do the temperature, terrain, and climate of the place you usually live make it easy or hard for you to live there?	1	2	3	4	5	8	98
I3010	Do the lighting, noise, and crowds in your surroundings make it easy or hard for you to live there?	1	2	3	4	5	8	98

ASSISTANCE, ASSISTIVE PRODUCTS AND MEDICINES

I3011	Do you have someone to assist you with your day to day activities at home or outside?	1 Yes 5 No
I3012	Do you use any assistive products, such as glasses or a cane?	1 Yes 5 No
I3013	Do you take medicines on a regular basis?	1 Yes 5 No

SUPPORT AND RELATIONSHIPS

Now I would like to ask you some questions about your relationships.
Please answer these on a scale from 1 to 5 where 1 means it is very easy for you to get help and 5 means it is very difficult for you to get help.

Should you need help, how easy is it for you to get help from:		1 Very easy	2	3	4	5 Very hard	98 Not applicable
I3014	a close family member (including your partner)	1	2	3	4	5	98
I3015	friends and co-workers	1	2	3	4	5	98
I3016	neighbours	1	2	3	4	5	98

Appendix C:

Original SOBI-P: with corresponding reworded questions in italics and eliminated questions crossed out.

Psychological Sense of Belonging (SOBI-P)

~~1. I often wonder if there is any place on earth where I really fit in.~~

2. I am just not sure if I fit in with my friends.

I feel like I fit in with other people.

~~3. I would describe myself as a misfit in most social situations.~~

4. I generally feel that people accept me.

I feel like people accept me for who I am.

~~5. I feel like a piece of a jig-saw puzzle that doesn't fit into the puzzle.~~

~~6. I would like to make a difference to people or things around me, but I don't feel that what I have to offer is valued.~~

7. I feel like an outsider in most social situations.

When I talk to other people, I feel like they want to talk to me.

~~8. I am troubled by feeling like I have no place in this world.~~

~~9. I could disappear for days and it wouldn't matter to my family.~~

~~10. In general, I don't feel a part of the mainstream of society. (wording amended)~~

11. I feel like I observe life rather than participate in it.

I watch people do the things I want to do instead of joining them.

~~12. If I died tomorrow, very few people would come to my funeral.~~

~~13. I feel like a square peg trying to fit into a round hole.~~

~~14. I don't feel that there is any place where I really fit in this world.~~

~~15. I am uncomfortable that my background and experiences are so different from those who are usually around me.~~

~~16. I could not see or call my friends for days and it wouldn't matter to them.~~

17. I feel left out of things.

I feel left out of things.

~~18. I am not valued by or important to my friends.~~

Appendix D:

Consent Document

We are interested in assessing sense of belonging for individuals with intellectual disabilities in the Upper Valley. The person in your care will be asked questions about their experiences in restaurants, transportation services, stores, and parks. They will also be asked about their experiences in the Upper Valley community more broadly.

The survey is 20 questions long, including 3 introductory demographic questions, and should take no longer than 20 minutes to complete. This survey is intended to be completed independently by the individual in your care. If you assist them in completing the survey, please do not answer on their behalf and disclose that you assisted them in the appropriate question.

Participation in this survey is completely voluntary, and they do not have to answer any questions they do not feel comfortable answering.

If you have questions about this survey, you may reach out to Kendra, the Executive Director of the Special Needs Support Center.
Name: Dr. Kendra LaRoche
Email: kendra@snsc-uv.org

I have read the above information and authorize the person in my care to complete the survey.

Name (Print) _____

Signature _____

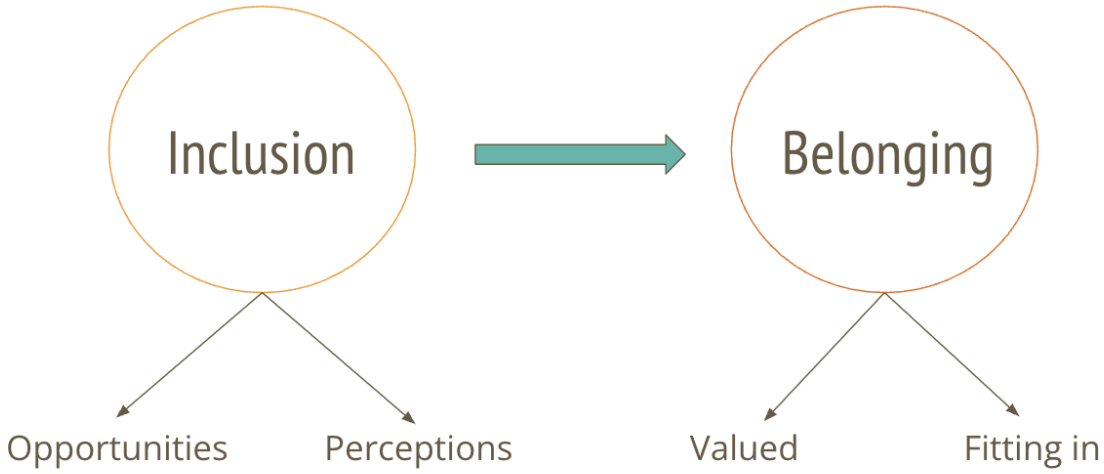
Assent Document

We want to know more about how you feel about the places and people in your community and are going to ask you some questions about them. You do not have to take this survey if you do not want to. You do not have to answer any questions you do not want to. Nobody will know which answers were yours.

Do you want to take this survey? [Yes, No]

Appendix E:

Conceptual Model



Appendix F:

Survey Completion Time Testing Analysis:

Survey Test	*Completion Time (Minute: Second. Millisecond)*	
Survey	Test 1	2:53.03
Survey	Test 2	2:43.08
Survey	Test 3	2:48.04

Conversion to Seconds:
Survey Test 1 = 173.03 seconds
Survey Test 2 = 163.08 seconds
Survey Test 3 = 168.04 seconds
Average Completion Time
(173.03 + 163.08 + 168.04) ÷ 3 = 168.05 seconds
168.05 ÷ 60 = 2.80 minutes (approximately 2 minutes and 48 seconds)

Estimated Completion Time with 50% Extended Time Accommodation:
2.80 minutes × 1.5 = 4.20 minutes
Estimated completion time = approximately 4 minutes and 12 seconds

Conclusion:

Based on pilot testing and extended-time accommodation estimates, participants should be provided with the expectation that the survey will take ~4-5 minutes to complete, with additional time available as needed.