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# **Research underlying the SIS–C: Data Collected in the US, Iceland and other countries**

Karrie A. Shogren, Ph.D.  
Professor and Director  
Kansas University Center on Developmental Disabilities  
[shogren@ku.edu](mailto:shogren@ku.edu)



# Assumptions about Support Needs

- Understanding children by their support needs is more functional (i.e., useful) for purposes of planning than understanding their deficits, etiology, etc.
- The Supports Intensity Scale was developed to assess support needs fairly
  - To be fair, the items need to be reliable and the scores valid across cultural contexts



# Milestones

- 2004 – Supports Intensity Scale was published
  - First standardized measure of support needs for adolescents and adults (ages: 16 to 64) with intellectual and developmental disabilities
  - Widely adopted nationally and internationally to influence state and providence resource allocation and supports planning
- 2015 – Supports Intensity Scale – Adult Version (SIS-A) published
  - Refreshed version of the SIS, maintains original properties of the scale, with updated forms and an expanded User’s Manual

# Milestones

- 2016 – Supports Intensity Scale – Children’s Version (SIS-C) published
  - First standardized measure of support needs for children (ages 5 to 16)
  - Addresses the need for measures specific to the supports needed by children in typical, age-appropriate environments

**SUPPORTS INTENSITY SCALE—CHILDREN'S VERSION™**  
[ages 5–16]

**INTERVIEW AND PROFILE FORM**

TRACKING # \_\_\_\_\_

**Name, Address, and Phone**

Name: \_\_\_\_\_ Last First Middle

City, State, Zip: \_\_\_\_\_

Phone: \_\_\_\_\_

**Primary Language (Check one)**

English  Spanish  Other (please specify) \_\_\_\_\_

**Primary Communication Mode (Check one)**

Verbal  Augmentative/Alternative

**Date of Birth:** Month \_\_\_\_\_ / Day \_\_\_\_\_ / Year \_\_\_\_\_

**Gender:**  Male  Female

**SS-C Administration Date:** Month \_\_\_\_\_ / Day \_\_\_\_\_ / Year \_\_\_\_\_

**Individuals or Organizations Currently Providing Essential Supports:**

Name: \_\_\_\_\_ Relationship: \_\_\_\_\_

Name: \_\_\_\_\_ Relationship: \_\_\_\_\_

Name: \_\_\_\_\_ Relationship: \_\_\_\_\_

**Respondents:**

Name: \_\_\_\_\_ Relationship: \_\_\_\_\_

Name: \_\_\_\_\_ Relationship: \_\_\_\_\_

Name: \_\_\_\_\_ Relationship: \_\_\_\_\_

**Interviewer:**

Name: \_\_\_\_\_

Position: \_\_\_\_\_

Affiliation: \_\_\_\_\_

Email Address: \_\_\_\_\_

Phone Number: \_\_\_\_\_

**Recorder Information**

To receive additional manuals and forms, please call 202.887.1998, x219, or email [tsed@quill.org](mailto:tsed@quill.org). Product 580—User's Manual and 28 Interview Forms; Product 581—28 Interview Forms; Product 582—100 Interview Forms; Product 583—Manual only.

**Demographics**

White  
 African American or Black  
 Asian  
 American Indian or Alaska Native  
 Native Hawaiian or Pacific Islander  
 Identifies with 2 or more races

**Ethnicity:**  Hispanic Origin  Not Hispanic Origin

**Disability Diagnosis (Check all that apply)**

Intellectual Disability  
 Developmental Delay  
 Learning Disabilities  
 ADHD  
 Autism Spectrum Disorder  
 Mental Health Diagnosis/Emotional Disturbance  
 Speech/Language Impairment  
 Physical Disability  
 Low Vision/Blindness  
 Deaf/Hard of Hearing  
 Chronic Health Condition/Other Health Impairment (please specify) \_\_\_\_\_

Traumatic Brain Injury  
 Other (please specify) \_\_\_\_\_

**IQ Range (Check one)**

<50  51-70  >70  Unknown

**Adaptive Behavior Range (Check one)**

<50  51-70  >70  Unknown

**Residence (Check one)**

Lives with family member(s)  
 Lives with foster family  
 Lives outside family home in small congregate setting (<7 residents)  
 Lives outside family home in medium congregate setting (7-15 residents)  
 Lives outside family home in large congregate setting (>15)  
 Other \_\_\_\_\_

**Location (Check one)**  Urban  Suburban  Rural

**Educational Placement**

Regular Class  
 Resource Room (21-80% of day)  
 Separate Class (>80% of day)  
 Separate School (>80% of day)  
 Residential Facility (>80% of day)  
 Homebound/Hospital Environment  
 Other (specify) \_\_\_\_\_  
 Not Applicable (i.e., not attending school)

**Highest Grade Completed in School:** \_\_\_\_\_

James R. Thompson, Michael L. Wehmyer, Carolyn Hughes, Terrie A. Shugart, Hyeyoung Lee, Todd C. Little, Robert L. Schacter, Rodney E. Reaton, Susan R. Cooperland, James R. Fallon, Edward A. Pollock, Debbie Shelton, Lisa Taris, Mari J. Tread



# Supports Intensity Scale – Children’s Version

- An interviewer administers the SIS—C through a structured interview with two or more respondents who know the child well
- The SIS-C has two sections
  - Part I: Exceptional Medical and Behavioral Needs
  - Part II: Support Needs Scale (Standardized Portion of the Scale)



# Support Need Scale Domains

- **Home Life** (9 items) - Activities related to living in a household (e.g., eating, using toilet).
- **Community & Neighborhood** (8 items) - Activities completed as a function of being a member of a community or neighborhood (e.g., participating in leisure activities that require physical activity; complying with basic community standards, rules, and/or laws).
- **School Participation** (9 items) - Activities associated with participating in school community (e.g., being included in general education classrooms; following classroom rules).
- **School Learning** (9 items) - Activities associated with acquiring knowledge and/or skills while attending school (e.g., learning academic skills; learning how to use problem solving).
- **Health & Safety** (8 items) - Activities that assure safety and health across environments (e.g., communicating health issues and medical problems; responding in emergency situations).
- **Social** (9 items) - Activities that pertain to social integration (e.g., maintaining conversation, coping with changes in routines and/or transitions across social situations).
- **Advocacy** (9 items) - Activities related to acting as a causal agent in one's life (e.g., expressing preferences, communicating wants and needs).

Section 2D: School Learning Activities	Type					Frequency					Daily Support Time					Item Raw Score Sum
	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4	
1. Accessing grade level curriculum content	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4	
2. Learning academic skills	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4	
3. Learning and using metacognitive strategies	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4	
4. Completing academic tasks (e.g., time, quality, neatness, organizational skills)	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4	
5. Learning how to use and using educational materials, technologies, and tools	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4	
6. Learning how to use and using problem solving and self-regulation strategies in the classroom	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4	
7. Participating in classroom level evaluations, such as tests	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4	
8. Accessing the health and physical education curricula	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4	
9. Completing homework assignments	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4	
<b>SUM OF ITEM RAW SCORES</b>																
<b>MEAN RATING FOR SCHOOL LEARNING ACTIVITIES = (SUM OF ITEM RAW SCORES) ÷ 27</b>																

Home Life	Community & Neighborhood	School Participation	School Learning	Health & Safety	Social	Advocacy	SIS—C Support Needs Index
16	16	16	16	16	16	16	124 or more
15	15	15	15	15	15	15	120-123
14	14	14	14	14	14	14	116-119
13	13	13	13	13	13	13	112-115
12	12	12	12	12	12	12	108-111
11	11	11	11	11	11	11	104-107
10	10	10	10	10	10	10	100-103
9	9	9	9	9	9	9	96-99
8	8	8	8	8	8	8	92-95
7	7	7	7	7	7	7	88-91
6	6	6	6	6	6	6	84-87
5	5	5	5	5	5	5	80-83
4	4	4	4	4	4	4	76-79
3	3	3	3	3	3	3	72-75
2	2	2	2	2	2	2	68-71
0-1	0-1	0-1	0-1	0-1	0-1	0-1	67 or less

Figure 2.4. Scoring section 2: SIS—C support needs profile

# Establishing Reliability and Validity

## 01. Normative Sample

- Normative Sample
- Respondents
- Interviewers

## 02. Reliability

- Internal Consistency  
Reliability
- Standard Deviations  
/Standard Errors of  
Measurement

## 03. Validity

- Content Validity
- Criterion Validity
- Construct Validity
- Factorial Validity

## 04. Standardization

- Standard Scores and  
Percentiles
- Frequency  
Distributions of  
Standard Scores



# SIS—C

*The Supports Intensity Scale—Children's Version*

## USER'S MANUAL

James R. Thompson, Michael L. Wehmeyer, Carolyn Hughes,  
Karrie A. Shogren, Hyojeong Seo, Todd D. Little, Robert L. Schalock,  
Rodney E. Realon, Susan R. Copeland, James R. Patton,  
Edward A. Polloway, Debbie Shelden, Shea Tanis, Marc J. Tassé



# SIS-C International Translations and Standardizations

- Guidelines for Translating SIS-C Developed and Implemented
  - Tassé & Thompson, 2010
- Systematic Process Developed to Test Cross-Cultural Validity and Create Standard Scores using data across countries
  - Seo et al. (2016)
    - SIS-C Spanish Translation
    - SIS-C Catalanian Translation
    - SIS-C Icelandic Translation



# SIS-C Standardization Sample

- Assumed that support needs would be confounded with age
  - Younger children (irrespective of disability) would have greater support needs than older children
    - Targeted Age cohorts:
      - 5-6
      - 7-8
      - 9-10
      - 11-12
      - 13-14
      - 15-16
    - Targeted Disability cohorts
      - Mild, IQ/Adaptive Behavior Deficits > 55
      - Moderate, IQ/Adaptive Behavior Deficits = 40-55
      - Severe/profound, IQ/ Adaptive Behavior Deficits < 40
- In U.S. standardization sample, we had 4,015 children with intellectual and developmental disabilities

# Icelandic Standardization Sample

- Icelandic sample focused on all children receiving special education services regardless of disability diagnosis
  - 649 children were assessed

Variable	Number	Percent of Sample
<b>Gender</b>		
Male	479	73.8
Female	170	26.2
<b>Age Group</b>		
5-6	118	18.2
7-8	114	17.6
9-10	93	14.3
11-12	103	15.9
13-14	114	17.6
15-17	107	16.5
<b>Student's Level of Intellectual Impairment</b>		
55-70 or Mild	207	31.9
40-55 or Moderate	122	18.9
25-39 or Severe	32	4.9
< 25 or Profound	33	5.1
N/A	255	39.3

# Icelandic Standardization Sample

Diagnoses/Classifications	Number	Percent of Sample
Intellectual disability	397	61.2
Developmental delay	65	10.0
Autism spectrum disorder	467	72.0
Low vision/Blindness	29	4.5
Deafness/hearing impairment	14	2.2
Psychiatric disability	27	4.2
Physical disability – arm/hand limitations	47	7.2
Physical disability – mobility limitations	104	16.0
Chronic health conditions	38	5.9
Brain, neurological disorder	9	1.4
Speech disorder	44	6.8
Language disorder	108	16.6
Learning disability	27	4.2
Attention deficit hyperactivity disorder	283	43.6



# Key Findings from Icelandic Sample

- The same set of items and scale structure/scoring used on the SIS-C in the U.S., Spain, and Catalonia also works in Iceland
  - There are universal aspects of measuring the seven support need domains and the overall support needs construct
    - Home Living, Community and Neighborhood, School Participation, School Learning, Health and Safety, Social, and Advocacy Activities
- Unique features in Iceland
  - Extended to age 17
  - Data collected from the population of students receiving special education services in Iceland (not a stratified sample)
  - Much more diverse sample in terms of disability characteristics



# Unique Findings in Iceland

- Stronger relationship between community and neighborhood activities and school participation activities items in Icelandic context (than in US, Spain, and Catalonia)
  - May be more commonalities in the Icelandic context related to the demands of participation in school and community and neighborhood activities
  - Schools in Iceland may be a key part of community life, and many community/neighborhood and school activities occur in the same setting
- Considerations for supports planning:
  - The intensity (i.e., frequency, type, time) of supports an Icelandic student with a disability needs to participate in school may be very similar to the intensity of supports needed to participate in community and neighborhood activities due to so many activities in both domains occur in the same, familiar setting.

PART II. Support Needs Scale Section B: Community & Neighborhood Activities	Type					Frequency					Daily Support Time					Item Raw Score Sum
	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4	
1. Moving around the neighborhood and community	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4	
2. Participating in leisure activities that require physical activity	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4	
3. Participating in leisure activities that do not require physical exertion	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4	
4. Using public services in one's community or neighborhood.	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4	
5. Participating in community service and religious activities.	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4	
6. Shopping	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4	
7. Complying with basic community standards, rules, and/or laws	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4	
8. Attending special events in the community or neighborhood such as cookouts/picnics, cultural festivals, music/art fairs, or holiday oriented events	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4	
<b>SUM OF ITEM RAW SCORES</b>																
<b>MEAN RATING FOR COMMUNITY &amp; NEIGHBORHOOD ACTIVITIES = (SUM OF ITEM RAW SCORES) ÷ 24</b>																

Section 2C: School Participation Activities	Type					Frequency					Daily Support Time					Item Raw Score Sum
	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4	
1. Being included in general education classrooms	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4	
2. Participating in activities in common school areas (e.g., playground, hallways, cafeteria)	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4	
3. Participating in co-curricular activities	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4	
4. Getting to school (includes transportation)	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4	
5. Moving around within the school and transitioning between activities	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4	
6. Participating in large-scale test taking activities required by state education systems	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4	
7. Following classroom and school rules	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4	
8. Keeping track of personal belongings at school	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4	
9. Keeping track of schedule at school	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4	

**SUM OF ITEM RAW SCORES**

**MEAN RATING FOR SCHOOL PARTICIPATION ACTIVITIES = (SUM OF ITEM RAW SCORES) ÷ 27**



# Key Findings across Iceland

- Compared to the U.S. Sample, overall ratings of the intensity of support needs was lower across all items and support need domains
  - Could result from the inclusion of the broader sample of children with disabilities in the sample



# Age-Related Differences

- Intensity of Support Needs decreased in older age cohorts in Iceland, U.S., Spain and Catalonia
  - Across all countries must consider this in supports planning and when calculating standard scores to compare across ages
- In U.S. saw differences across all age-cohorts (5-6, 7-8, 9-10, 11-12, 13-14, 15-16)
- In Iceland, primary differences between 5-11 and 13-17 year olds (similar in Spain and Catalonia)
  - Only differences was in School Participation, where there were differences for Icelandic children in 5-6 year olds, 7-10 year olds, 13-14 year olds, with 11-12 and 15-17 year olds showing similarities

Support Need Domain	5-10 Age Group			11-17 Age Group	
	Mean	SD		Mean	S D
Social	2.15	0.77		1.94	0.77
Community and Neighborhood	2.12	0.69		1.85	0.69
Health and Safety	1.99	0.75		1.72	0.75
Home Life	1.69	0.90		1.39	0.90
School Learning*	2.51	0.71		2.51	0.71
Advocacy*	2.02	0.76		2.02	0.76
Overall Support Needs	2.14	0.68		1.90	0.68

**School Participation**

5-6 Age Group		7-10 Age Group		11-12 and 15-17 Age Groups		13-14 Age Group	
Mean	SD	Mean	SD	Mean	SD	Mean	SD
2.67	0.71	2.36	0.71	2.00	0.78	2.13	0.78

Section 2C: School Participation Activities	Type					Frequency					Daily Support Time					Item Raw Score Sum
	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4	
1. Being included in general education classrooms	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4	
2. Participating in activities in common school areas (e.g., playground, hallways, cafeteria)	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4	
3. Participating in co-curricular activities	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4	
4. Getting to school (includes transportation)	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4	
5. Moving around within the school and transitioning between activities	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4	
6. Participating in large-scale test taking activities required by state education systems	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4	
7. Following classroom and school rules	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4	
8. Keeping track of personal belongings at school	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4	
9. Keeping track of schedule at school	0	1	2	3	4	0	1	2	3	4	0	1	2	3	4	

**SUM OF ITEM RAW SCORES**

**MEAN RATING FOR SCHOOL PARTICIPATION ACTIVITIES = (SUM OF ITEM RAW SCORES) ÷ 27**



# Implications

- The supports needs construct has cross-cultural validity
- The same set of items and structure can be used on the SIS-C Icelandic Translation
- The SIS-C has strong reliability of items and validity of scores
- There are age related differences that must be considered in supports planning and calculating scores for comparisons
- May be specific cultural factors related to school participation to explore in supports planning, as well as in the relationship of supports between community and neighborhood activities and school participation in Iceland



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**Thank You!**