

THE PARTICIPATION AND ACTIVITY LIMITATION SURVEY: METHODOLOGY AND CONSTRUCTION OF A DISABILITY INDEX

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Statistics Canada



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**LIVING IN OUR ENVIRONMENT:
The Promise of ICF**

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Presentation Outline

- PALS objectives and characteristics
- Target population
- Census disability filter questions
- PALS filter questions
- Severity scale derivation

PALS objectives and characteristics

- The Participation and Activity Limitation Survey is designed to identify:
 - Canadian adults and children with an activity limitation
 - The type and the severity of activity limitations that they experience
 - The difficulties and barriers that they may face in everyday life
- Sponsored by Human Resources and Social Development
- Post-Censal survey
- Major changes in the 2001 PALS survey methodology and content.

PALS objectives and characteristics

- Adults (15+) and Children (0-14) components
- About 45 minutes telephone interviews (Computer Assisted Telephone Interview)
- Proxy for children and exceptional cases for Adults (ex. Language barrier, absent for the duration of the survey, respondents from 15-17, prevented because of mental or physical condition)

PALS target population

Persons living in Canada who answer «yes» to at least one of the Census disability filter questions

- Includes:

- Adults and Children
- People living in the 10 provinces and the 3 territories (*NEW* in 2006)

- Excludes:

- Indian reserves
- Institutions and some collective dwellings

Census disability filter questions

| ACTIVITIES OF DAILY LIVING | | |
|--|---|--|
| <p>7 Does this person have any difficulty hearing, seeing, communicating, walking, climbing stairs, bending, learning or doing any similar activities?</p> | <p><input type="radio"/> Yes, sometimes</p> <p><input type="radio"/> Yes, often</p> <p><input type="radio"/> No</p> | <p><input type="radio"/> Yes, sometimes</p> <p><input type="radio"/> Yes, often</p> <p><input type="radio"/> No</p> |
| <p>8 Does a physical condition or mental condition or health problem reduce the amount or the kind of activity this person can do:</p> <p>(a) at home?</p> | <p><input type="radio"/> Yes, sometimes</p> <p><input type="radio"/> Yes, often</p> <p><input type="radio"/> No</p> | <p><input type="radio"/> Yes, sometimes</p> <p><input type="radio"/> Yes, often</p> <p><input type="radio"/> No</p> |
| <p>(b) at work or at school?</p> | <p><input type="radio"/> Yes, sometimes <input type="radio"/> No</p> <p><input type="radio"/> Yes, often <input type="radio"/> Not applicable</p> | <p><input type="radio"/> Yes, sometimes <input type="radio"/> No</p> <p><input type="radio"/> Yes, often <input type="radio"/> Not applicable</p> |
| <p>(c) in other activities, for example, transportation or leisure?</p> | <p><input type="radio"/> Yes, sometimes</p> <p><input type="radio"/> Yes, often</p> <p><input type="radio"/> No</p> | <p><input type="radio"/> Yes, sometimes</p> <p><input type="radio"/> Yes, often</p> <p><input type="radio"/> No</p> |

PALS filter questions

| Concept | Items Measured | Scale |
|-------------------|------------------------------|--|
| Hearing (b230) | Conversation with one person | No difficulty (0) |
| | Conversation with 3 people | Some difficulty (1) |
| | Telephone conversation | A lot of difficulty (2) Cannot hear (3) |
| Seeing (b210) | Seeing ordinary newsprint | No difficulty (0) |
| | Seeing face 4m away | Some difficulty (1) A lot of difficulty (2) Cannot see (3) |

PALS filter questions

| Concept | Items Measured | Scale |
|-------------------------|---|---|
| Communication (d330) | Speaking | No difficulty (0) Some difficulty (1) A lot of difficulty (2) Cannot speak (3) |
| | Making self understood with family, friends, professionals or service providers and others | Completely (0) Partially (1) Not at all (2) |

PALS filter questions

| Concept | Items Measured | Scale |
|----------|------------------------------------|---|
| Mobility | Walking 0.5 km (d4500) | <u>Frequency</u> Never (0) Sometimes (1) Often/Always (2) |
| | Walking up and down stairs (d4551) | |
| | Carrying 5kg object 10m (d4301) | |
| | Standing in line (d4159) | <u>Intensity</u> No difficulty (0) Some difficulty (1) A lot of difficulty (2) Cannot do it (3) |
| | Moving room to room (d460) | |

PALS filter questions

| Concept | Items Measured | Scale |
|---------|---|---|
| Agility | Bending down and picking up an object (d4101) | <u>Frequency</u> Never (0) |
| | Dressing and Undressing (d540) | Sometimes (1) |
| | Getting into and out of bed (d410) | Often/Always (2) |
| | Cutting toenails (d5204) | <u>Intensity</u> |
| | Use of fingers to grasp or handle object (d440) | No difficulty (0) |
| | Reaching in any direction (d4452) | Some difficulty (1) |
| | Cutting own food (d550) | A lot of difficulty (2) Cannot do it (3) |

PALS filter questions

| Concepts | Items Measured | Scale |
|---------------------------------|---|--|
| Pain (d280) | Amount or kind of activities reduced because of pain/discomfort | <u>Frequency</u> Never (0) Sometimes (1) Often/Always (2) |
| Learning (d130 - d159) | Amount or kind of activities reduced because of learning difficulty or disability | <u>Number of activities prevented from doing*</u> |
| Confusion / Memory (b144) | Amount or kind of activities reduced because of periods of confusion or difficulty remembering things | None (0) A few (1) Many (2) Most (3) |

*At home, at work, at school and in other areas such as transportation or leisure

PALS filter questions

| Concepts | Items Measured | Scale |
|--|--|--|
| Developmental disability or disorder | Amount or kind of activities reduced because of a developmental disability or disorder | <u>Frequency</u> Never (0) Sometimes (1) Often/Always (2) |
| Emotional / Psychological / Psychiatric conditions | Amount or kind of activities reduced because of any emotional, psychological or psychiatric conditions | <u>Number of activities prevented from doing*</u> None (0) A few (1) Many (2) Most (3) |

*At home, at work, at school and in other areas such as transportation or leisure

Severity Scale derivation

- 1) Assigned a score to each item measured.

Examples:

$$S_{\text{Speaking}} = 0, 1, 2 \text{ or } 3$$

$$S_{\text{Understood}} = 1 + ((U_{\text{family}} + U_{\text{friends}} + U_{\text{services}} + U_{\text{other}}) / 4)$$

$$S_{\text{Walking}} = S_{\text{Freq}} * S_{\text{Intensity}}$$

$$S_{\text{PainLim}} = 1 + (S_{\text{Freq}} * S_{\text{NbActPrevented}})$$

$$= 1 + (S_{\text{Freq}} * (P_{\text{Home}} + P_{\text{Sch}} + P_{\text{Wk}} + P_{\text{Oth}}) / 4)$$

PALS filter questions

| Concept | Items Measured | Scale |
|-------------------------|---|---|
| Communication (d330) | Speaking | No difficulty (0) Some difficulty (1) A lot of difficulty (2) Cannot speak (3) |
| | Making self understood with family, friends, professionals or service providers and others | Completely (0) Partially (1) Not at all (2) |

PALS filter questions

| Concept | Items Measured | Scale |
|----------|------------------------------------|---|
| Mobility | Walking 0.5 km (d4500) | <u>Frequency</u> Never (0) Sometimes (1) Often/Always (2) |
| | Walking up and down stairs (d4551) | |
| | Carrying 5kg object 10m (d4301) | |
| | Standing in line (d4159) | <u>Intensity</u> No difficulty (0) Some difficulty (1) A lot of difficulty (2) Cannot do it (3) |
| | Moving room to room (d460) | |

Severity Scale derivation

- 2) Assigned a score between 0 and 1 to each type of disability.

Example:

$$S_{\text{COMM}} = (S_{\text{Speaking}} + S_{\text{Understood}}) / (3 + (1 + 2))$$

$$S_{\text{MOB}} = (S_{\text{Walking}} + S_{\text{Stair}} + S_{\text{Carry}} + S_{\text{Stand}} + S_{\text{Moving}}) / (2 * 3 * 5)$$

$$S_{\text{PAIN}} = S_{\text{PainLim}} / (1 + (2 * 3))$$

Severity Scale derivation

3) Calculated the overall score

$$SI = \frac{1}{9} \left(S_{HEAR} + S_{SEE} + S_{COMM} + S_{MOBI} + S_{AGIL} + S_{PAIN} + I_{DEVE} S_{LEAR} + S_{MEMO} + S_{DEVE} + S_{PSYC} \right)$$

$$\text{where } I_{DEVE} = \begin{cases} 0 & \text{if } S_{DEVE} \neq 0 \\ 1 & \text{if } S_{DEVE} = 0 \end{cases}$$

$$\text{Or } SI = \frac{1}{10} S_{FILTER}$$

Severity Scale derivation

4) Created classes

“Least severe” $S_{TOT} < 1/9$

“Most severe” $1/9 \leq S_{TOT} \leq 1$

Class1: “Mild” $S_{TOT} < 1/18$

Class2: “Moderate” $1/18 \leq S_{TOT} < 1/9$

Class3: “Severe” $1/9 \leq S_{TOT} < 2/9$

Class4: “Very Severe” $2/9 \leq S_{TOT} \leq 1$

Questions?

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