Singapore Longitudinal Early Development Study (SG LEADS)

Panel Survey Wave 2

Technical Report 11

Psychosocial Measures in SG LEADS Wave 2

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This technical report documents the psychosocial measures used in SG LEADS Wave 2, such as primary caregivers' psychological well-being, parenting behaviours, and attributes, as well as children's social-emotional skills.

We followed the same children (n = 5,005) who took part in SG LEADS Wave 1 (conducted from November 2018 to August 2019), and successfully re-interviewed 3,015 households and 4,352 children in Wave 2 (from February to October 2021), with a response rate of 87%. Wave 2 household-level normalized sampling weight (see Wave 2 Report 4) was applied to all analyses on the primary caregiver's psychosocial indicators and other household-level data, and Wave 2 child-level normalized sampling weight was applied to all the analyses on the child's psychosocial indicators and other child-level data, in the current report.

All the factor analyses conducted in this technical report used PRINCIPAL COMPONENTS as the extraction method and VARIMAX as the rotation method.

Self-Control (Primary Caregiver)

The Self-Control Scale (SCS; Tangney et al., 2004) was used to measure the primary caregiver's self-control in Wave 2. The same measure was used in SG LEADS Wave 1. Primary caregivers reported on a 5-point scale at HB_C7a-j with 1 indicating "Not at all like me" and 5 indicating "Very much like me".

Factor analysis returned a two-factor solution (see Table 1), with 7 negatively-keyed items (i.e., items b, c, d, f, h, I, j) and 3 positively-keyed items (i.e., items a, e, g). The 7 negatively-keyed items were reversed scored so that a higher score indicates greater self-control. The average score of all items on the scale was then calculated to indicate the primary caregiver's self-control. The mean score on the Self-Control Scale in SG LEADS Wave 2 was 3.74, with a range of 1.50 to 5.00, and a standard deviation of 0.51. The Cronbach's alpha was 0.62 in the current sample.

Table 1. Factor Loadings for the Self-Control Scale

HB_C7. Below is a list of statements dealing with your general feelings about yourself. Please select the number that indicates your level of agreement with the following statements.	Factor 1 (Negatively Keyed)	Factor 2 (Positively Keyed)
a. I am good at resisting temptation	-0.091	**0.68**
b. I have a hard time breaking bad habits *(R)*	**0.53**	-0.099
c. I say inappropriate things *(R)*	**0.62**	-0.021
d. I do certain things that are bad for me if they are fun *(R)*	**0.64**	-0.14
e. I refuse things that are bad for me	-0.033	**0.69**
f. I wish I had more self-discipline *(R)*	**0.51**	0.13
g. People would say that I have very strong self-discipline	-0.036	**0.73**
h. Pleasure and fun sometimes keep me from getting work done *(R)*	**0.50**	0.087
i. Sometimes I can't stop myself from doing something, even if I know it is wrong *(R)*	**0.71**	-0.10
j. I often act without thinking through all the alternatives *(R)*	**0.66**	-0.086
Number of items	7	3
Cronbach's alpha	0.69	0.48
Unweighted N	3,015	3,015

Non-Specific Psychological Distress (Primary Caregiver)

The 6-item Kessler Psychological Distress Scale (K6; Kessler et al., 2002) was used in SG LEADS Wave 2 to assess the primary caregiver's non-specific psychological distress. The same measure was administered to primary caregivers in SG LEADS Wave 1. Primary caregivers reported how they have been feeling during the prior four weeks on the 5-point scale at HB_C7a-f, ranging from 1 ("*All of the Time*") to 5 ("*All of the Time*"). All items are re-scored following the coding in Table 2a, as '5' = '0', '4' = '1', '3' = '2', '2' = '3', '1' = '4'.

Factor analysis (see Table 2b) confirmed that the six items grouped well. All items were summed (after recoding) to indicate non-specific psychological distress. In the SG LEADS Wave 2 data, a mean score of 5.66 with a standard deviation of 4.18 and a range of 0 to 24, was found in the K-6. The K-6 scale exhibited good internal reliability (Cronbach's α = 0.84). A score of 13 or higher indicates a potential for nonspecific distress (unweighted n = 211, weighted 6.1%).

Table 2a. Recoding of the K-6 Scale

	All of the time	Most of the Time	Some of the Time	A Little of the Time	None of the Time
a. Feel nervous?	4	3	2	1	0
b. Feel hopeless?	4	3	2	1	0
c. Feel restless or fidgety?	4	3	2	1	0
d. Feel that everything was an effort?	4	3	2	1	0
e. Feel so sad nothing could cheer you up?	4	3	2	1	0
f. Feel worthless?	4	3	2	1	0

Table 2b. Factor Loadings for the K-6 Scale

HB_C7. During the past 30 days, how often did you…	Factor Loading
a. Feel nervous?	0.73
b. Feel hopeless?	0.83
c. Feel restless or fidgety?	0.75
d. Feel that everything was an effort?	0.64
e. Feel so sad nothing could cheer you up?	0.81
f. Feel worthless?	0.77
Number of items	**6**
Cronbach's alpha	**0.84**
Unweighted N	**3,015**

Self-Efficacy (Primary Caregiver)

The 7-item Pearlin Mastery Scale (Pearlin et al., 1981) measures the extent to which people perceive themselves as having control over aspects of their lives. Primary caregivers reported on a 4-point scale at HB_C9a-g, ranging from 1 "Strongly agree" to 4 "Strongly disagree". We recoded '1'='4', '2'='3', '3'='2', and '4'='1' so that a higher score indicates a higher level of agreement.

Factor analysis returned a two-factor solution (see Table 3), with 5 negatively-keyed items (i.e., Items a-c, e, g) and 2 positively-keyed items (i.e., items d and f). The five negatively-keyed items were reversed scored prior to scoring. Self-efficacy was constructed as an average score of all items in the scale after reversed scoring items a-c, e, and g (Cronbach's α = 0.71). In the SG LEADS Wave 2 data, a mean score of 2.99 with a standard deviation of 0.44 and a range of 1 to 4, was found.

Table 3. Factor Loadings for the Pearlin Mastery Scale

HB_C9. Please select the number that indicates your level of agreement with the following statements.	Factor 1 (Negatively Keyed)	Factor 2 (Positively Keyed)
a. There is really no way I can solve some of the problems I have. (R)	**0.75**	-0.044
b. Sometimes I feel that I'm being pushed around in life. (R)	**0.76**	0.010
c. I have little control over the things that happen to me. (R)	**0.80**	-0.055
d. I can do just about anything I really set my mind to.	-0.095	**0.82**
e. I often feel helpless in dealing with the problems of life. (R)	**0.80**	-0.007
f. What happens to me in the future mostly depends on me.	0.030	**0.84**
g. There is little I can do to change many of the important things in my life. (R)	**0.64**	-0.046
Number of items	5	2
Cronbach's alpha	0.80	0.55
Unweighted N	3,015	3,015

Limit Setting (Household Level)

Primary caregivers reported how often they set boundaries on their children's activities in general, on a 5-point scale (1=*never*, 2=*seldom*, 3=*sometimes*, 4=*often*, 5=*very often*). The same index was used in SG LEADS Wave 1. If all children in the household were under age 3, the primary caregiver skipped the entire set of questions (unweighted $n = 41$, weighted 1.2%). Item d and item e allowed for a response of "not applicable" (recoded as missing) if the child(ren) has/have not started school or daycare, or has/have never had homework.

Factor analysis results are presented in Table 4. The average score of all items in the Limit Setting Index was calculated to indicate the extent to which the primary caregiver sets boundaries on the child(ren)'s activities ($M = 3.73$, $SD = 0.74$, range: 1-5).

Table 4. Factor Loadings for the Limit Setting Index

HB_D2. How often do you do the following?	Factor Loading
a. Set limits on how late your child(ren) can stay up at night	0.70
b. Set limits on how much candy, sweets or other snacks your child(ren) can have?	0.65
c. Decide which other children your child(ren) spend(s) time with?	0.56
d. Decide how your child(ren) spend(s) time after school or daycare? *	0.74
e. Set a time when your child(ren) (does/do) homework? **	0.71
f. Discuss these rules with your child(ren)?	0.71
Number of items	**6**
Cronbach's alpha	**0.76**
Unweighted N	**2,974^**

*If the child(ren) does/do not attend school or daycare, select Not Applicable in D2d.

**If the child(ren) does/do not have homework, select Not Applicable in D2e.

^41 households skipped the Limit Setting Index because all children in these households were under 3 years of age.

Parental Disagreement

The 6-item Parental Disagreement Scale measures the extent of disagreement between parents (or between the primary caregiver and the secondary caregiver) on daily activities such as raising children, money spent, time spent, and health behaviour. Parental disagreement was also assessed in SG LEADS Wave 1. Item f in Wave 2 ("Disagreement on spouse/partner/other caregiver's general money spent") is different from item f in Wave 1 ("Disagreement on spouse's/partner's/other caregiver's gambling habits). This set of questions (HB_E5a-f) was administered to primary caregivers living with a spouse/partner or another caregiver (unweighted n = 2,813, weighted 95.2%). These primary caregivers reported on a 4-point scale that ranges from 1 ("Never") to 4 ("Often").

Parental Disagreement was constructed as an average score of the six items on this scale. In the SG LEADS Wave 2, the overall scale mean score was 2.10, with a range of 1.00 to 4.00, and a standard deviation of 0.61. The internal reliability was in the Acceptable range with a Cronbach's alpha of 0.79.

Table 5. Factor Loadings for the Parental Disagreements Scale

HB_E5. In most families, there are disagreements or arguments. How often do you and your spouse/partner (OR secondary caregiver not including domestic helper) disagree about…	Factor Loading
a. How your children are raised?	0.60
b. How you spend money on children?	0.78
c. The amount of time (he/she) spends with children?	0.79
d. The friends your (spouse/partner/another caregiver) spends time with?	0.76
e. Your (spouse's/partner's/other caregiver's) use of alcohol?	0.40
f. How you or your (spouse's/partner's/another caregiver) spend money?	0.78
Number of items	**6**
Cronbach's alpha	**0.79**
Unweighted N	**2,813^**

^202 primary caregivers did not live with another caregiver and skipped this scale.

Self-Care Ability (Child)

Five items (CB_B33a-e) measure children's self-care ability such as making their bed, cleaning their room, and so forth. This scale was administered to primary caregivers of 6- to 9-year-olds (unweighted n = 1,970, weighted 45.7%) in Wave 2. The primary caregiver reported the child's behaviour on a 5-point scale that ranges from 1 ("Never") to 5 "(Almost Always"). Factor analysis confirmed that these items grouped well. Scores of the five items were averaged to indicate the child's self-care ability (M = 3.34, SD = 0.94, range: 1-5).

Table 6. Factor Loadings for the Self-Care Ability Scale

CB_B33. In the past six months, how often did (CHILD)…	Factor Loading
a. Make (his/her) own bed?	0.74
b. Clean (his/her) own room?	0.78
c. Clean up after spills?	0.74
d. Bathe (himself/herself)?	0.56
e. Pick up after (himself/herself)?	0.66
Number of items	**5**
Cronbach's alpha	**0.74**
Unweighted N	**1,970^**

^2,382 children under 6 skipped this scale.

Prosocial Behaviours (Child)

The 5-item Prosocial Behaviour subscale selected from the Strengths and Difficulties Questionnaire (SDQ) measures children's prosocial behaviour in the past six months, such as sharing, consideration of the feelings of others, and volunteering to help others. Response options range from 1 ("Not true") to 3 ("Certainly true"). The same measure was used in SG LEADS Wave 1. The five items (CB_D5a-e) were administered to primary caregivers of children between 3 and 9 years in Wave 2 (unweighted $n = 3,967$, weighted 91.2%). "Don't Know" response (there was 1 "don't know" response to Item a) was coded as missing.

Factor analysis results (see Table 7) showed that the 5 items mapped together well, with good internal reliability (Cronbach's $\alpha = 0.85$). The average score of the five items on the scale was calculated to indicate the child's prosocial behaviour ($M = 2.52$, $SD = 0.44$, range: 1-3).

Table 7. Factor Loadings for the Prosocial Behaviour Scale

CB_D5. Please give your answers to the next questions on the basis of (CHILD)'s behaviour over the last six months. Answer as best you can, even if you are not absolutely certain. Now, thinking about (CHILD), he/she …	Factor Loading
a. Is considerate of other people's feelings	0.74
b. Shares readily with other children (treats, toys, pencils etc.)	0.78
c. Is helpful if someone is hurt, upset or feeling ill	0.85
d. Is kind to younger children	0.80
e. Often volunteers to help others (parents, teachers, other children)	0.78
Number of items	**5**
Cronbach's alpha	**0.85**
Unweighted N	**3,967^**

^384 children under age 3 skipped this scale.

Self-Control (Child)

Children's self-control was measured by the 5-Item Self-Control sub-scale selected from the Positive Behaviour Scale (PBS; Polit, 1988) which measures children's behaviour and disposition. The same measure was used in SG LEADS Wave 1. The five items (CB_D6a-e) were administered to primary caregivers of children aged 3-9 years (n = unweighted 3,968, weighted 91.2%) in Wave 2. The primary caregiver rated to what extent each statement (e.g., "waits for his/her turn in games and other activities") applies to the child, on a 5-point scale where 1 means "not at all like my child" and 5 means "totally like my child".

Factor loadings provided in Table 8 showed that the 5 items mapped together well. The internal reliability was good (Cronbach's α = 0.87). Self-control was constructed as an average score of the 5 items (M = 3.47, SD = 0.82, range: 1-5).

Table 8. Factor Loadings for the Self-Control Scale

CB_D6. Thinking about (CHILD), please tell me how much each statement applies to (CHILD). He/She …	Factor Loading
a. Waits for (his/her) turn in games and other activities.	0.79
b. Thinks before (he/she) acts, is not impulsive.	0.81
c. Is able to concentrate or focus on an activity	0.83
d. Sticks with an activity until it is finished	0.83
e. Is patient when (he/she) wants something	0.80
Number of items	**5**
Cronbach's alpha	**0.87**
Unweighted N	**3,968**

Parental Warmth (Child Level)

This 6-item Parental Warmth Scale (CB_F4a-f) developed by Child Trends, Inc was used in SG LEADS Wave 2 to measure the warmth of the relationship between the child and parent. The same measure was used in SG LEADS Wave 1. The primary caregiver is asked how often in the past month he/she showed warmth to the specific child, on a 5-point scale where 1 means "not in the past month" and 5 means "every day".

Factor analysis results suggested that the 6 items grouped well (see Table 9). The average score of all items on the scale was computed to indicate the primary caregiver's parental warmth to the specific child ($M = 4.62$, $SD = 0.54$, range: 1-5). The internal consistency was good (Cronbach's $\alpha = 0.89$) in the current sample.

Table 9. Factor Loadings for the Parental Warmth Scale

CB_F4. About how often in the past month have you:	Factor Loading
a. Hugged or shown physical affection to (CHILD)?	0.73
b. Told (CHILD) that you love (him/her)?	0.80
c. Spent time with (CHILD) doing one of (his/her) favourite activities?	0.83
d. Joked or played with (CHILD)?	0.84
e. Talked with (him/her) about things (he/she) is especially interested in?	0.83
f. Praised (CHILD) when (he/she) did something you appreciated?	0.81
Number of items	**6**
Cronbach's alpha	**0.89**
Unweighted N	**4,352**

Parental Discipline Index (Child Level)

The 5-item Parental Discipline Index measures the frequency that the primary caregiver disciplines the child through various methods such as physical punishment, taking away privileges, scolding, and time-out. The same measure was used in SG LEADS Wave 1. The primary caregiver rated the frequency he/she disciplined the specific child using different methods in the past month, on a 5-point scale at (CB_F7a-e) where 1 means "not in the past month" and 5 means "every day".

Factor analysis results suggested that the 5 items grouped well (see Table 10) in SG LEADS Wave 2. Parental discipline to the specific child was constructed as an average score of the five items on the scale ($M = 1.88$, $SD = 0.71$, range: 1-5). The internal consistency was acceptable (Cronbach's $\alpha = 0.76$) in the current sample.

Table 10. Factor Loadings for the Parental Discipline Index

CB_F6. About how often in the past month have you:	Factor Loading
a. Spanked (CHILD)?	0.75
b. Grounded (CHILD)?	0.72
c. Taken away TV or other privileges?	0.75
d. Had to scold or threaten your child for misbehaviour?	0.67
e. Sent (CHILD) to (his/her) room?	0.70
Number of items	**5**
Cronbach's alpha	**0.76**
Unweighted N	**4,352**

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