

Questions documentation

16-years Mobile Phone Questionnaire (YQ1)

The Norwegian Mother and Child Cohort Study (MoBa)

Adolescent questionnaires series (MoBaYoung)

Version	Date	Performed by	Description
1.0	01.06.2022	Ragnhild Brandlistuen	Original version

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YQ1

1. Satisfaction with Life Scale (SWLS)

1. Name of original scale: The Satisfaction With Life Scale (SWLS)

Q		Response options	Variable name
	How satisfied are you with your life?		
	Version A, B and C		
2	The conditions of my life are excellent	1- Disagree completely 2- Disagree 3- Disagree somewhat 4- Don't agree or disagree 5- Agree somewhat 6- Agree 7- Agree completely	YA13
3	I am satisfied with my life		YA14
	Version C		
1	In most ways my life is close to my ideal		YA12
4	So far I have gotten the important things I want in life		YA15
5	If I could live my life over, I would change almost nothing		YA16
	Version A og B		
1	In most ways my life is close to my ideal		YA50
4	So far I have gotten the important things I want in life		YA49
5	If I could live my life over, I would change almost nothing		YA48

2. Description of original scale: Satisfaction With Life Scale (SWLS)

The SWLS (Diener et al., 1985) is a 5-item instrument designed to measure global cognitive judgments of satisfaction with one's life. All answers are scored on a 7-point scale from 'disagree completely' (1) to 'agree completely' (7).

Psychometric Information (sample, reliability, validity):

Internal consistency (Cronbach's alpha) for the SWLS is between .79 and .89. Test-retest coefficients are between .84 and .54, with the decline of stability of the scale over longer periods. The SWLS demonstrates adequate convergence with related measures ($r=.28\sim.82$), and it has been shown to have potential as a cross-cultural index of life satisfaction (Diener et al., 1985; Pavot & Diener, 1993; Pavot, et al., 1993; Shigehiro, 2006; Vittersø, Røysamb & Diener, 2002).

Base Reference/Primary Citation:

Diener, E., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The Satisfaction With Life Scale. *Journal of Personality Assessment*, 49, 71-75.

Pavot, W., & Diener, E. (1993). Review of the Satisfaction With Life Scale. *Psychological Assessment*, 5, 164-172.

Pavot, W., Diener, E., Colvin, R., & Sandvik, E. (1991). Further validation of the Satisfaction with Life Scale: Evidence for the cross-method convergence of self-report well-being measures. *Journal of Personality Assessment*, 57, 149-161.

Shigehiro, O. (2006). The concept of life satisfaction across culture: An IRT analysis. *Journal of Research in Personality* 40(4): 411-423.

Vittersø, J., Røysamb, E., & Diener, E. (2002). The concept of life satisfaction across cultures: Exploring its diverse meaning and relation to economic wealth. In E. Gullone & R. Cummins (Eds.), *The universality of subjective wellbeing indicators. A multidisciplinary and multi-national perspective* (pp. 81–103). Dordrecht, the Netherlands: Kluwer Academic Publishers.

3. Rationale for choosing the questions:

The Satisfaction With Life Scale is a well-established measure of life satisfaction.

4. Revision during the data collection period:

No substantial revisions have been made. The wording was updated from version A to C for item 1, 4 and 5 to be in accordance with the most recent Norwegian translation. Variables are coded YA48, YA49, YA50 for version A and B.

2. Differential Emotional Scale (DES), Enjoyment Subscale

1. Name of original scale: Differential Emotional Scale (DES), Enjoyment Subscale

Q		Response options	Variable name
	For the past 2 weeks, how often have you experienced the following?		
6	Felt glad about something	1-Rarely or never 2-Hardly ever 3-Sometimes 4-Often 5-Very often	YA17
7	Felt happy		YA18
8	Felt joyful, like everything is going your way		YA19

2. Description of original instrument: The Differential Emotional Scale (DES)

The Differential Emotional Scale (DES) derives from Izard's (1971) differential emotions theory. The DES consists of a series of subscales that capture various emotions. It is formulated around a thirty/forty-two-item adjective checklist, with three adjectives of each of the emotions. The DES has been developed through cross-cultural research and is thus considered to be emotion-specific. The scale comes in four forms. The items in this section were selected from Enjoyment subscale from DES-IV, which consists of 12 discrete subscales (Interest, Enjoyment, Surprise, Sadness, Anger, Disgust, Contempt, Fear, Shame, Shyness, and Guilt, Hostility Inward). Each item is administered on a 5-point (rarely/never to very often) scale.

Psychometric Information:

Construct validity of the DES has been documented for the different versions, including DES-IV (see e.g. Blumber & Izard, 1985; Kotsch, *et al.*,1982). For DES-IV, Alpha coefficients range from .56 to .85 (mean = .74). Internal reliability is .83 for Enjoyment (Izard *et al.*, 1993).

Base Reference/Primary Citation:

Blumberg, S. H., & Izard, C. E. 1985. Affective and cognitive characteristics of depression in 10- and 11-year-old children. *Journal of Personality and Social Psychology*, 49,194-202.

Izard, C. E. (1971). *The Face of Emotion*. New York, NY: Appleton-Century-Crofts.

Izard,CE, Libero, DZ, Putnam, P, & Haynes,O. (1993). Stability of emotion experiences and their relations to traits of personality. *Journal of Personality and Social Psychology*, 64(5): 847-860.

Kotsch, W.E., Gerbing, D.W., and Schwartz, L.E. (1982). The construct validity of the Differential Emotional Scale as adapted for children and adolescents. In C.E. Izard (Ed.), *Measuring emotions in infants and children* (Vol. 1, pp. 251-278). Cambridge, England: Cambridge University Press

3. Rationale for choosing the questions:

Enjoyment represents one of the basic emotional tendencies, typically not covered in symptom scales of mental health problems. The Enjoyment sub-scale captures positive affect, considered a component of subjective well-being. The DES-subscale was considered well-established measures of emotional tendencies.

4. Revision during the data collection period:

No revisions have been made in the questions.

3. Anxiety and Depression

1. Name of original scale: Hopkins Symptom Checklist-25 (HSCL-25)

Q	Response options	Variable name
Have you been bothered by any of the following during the last two weeks?		
9	1. Feeling fearful	YA20
10	2. Nervousness or shakiness inside	YA21
11	3. Feeling hopeless about the future	YA22
12	4. Feeling blue	YA23
13	5. Worrying too much about things	YA24
14	6. Feeling everything is an effort	YA25
15	7. Feeling tense or keyed up	YA26
16	8. Suddenly scared for no reason	YA27
17	9. Anxiety or panic attack	YA28
18	10. Feelings of worthlessness	YA29

Description of original instrument: The Hopkins Symptoms Checklist-25 (HSCL-25/SCL-25)

The Hopkins Symptoms Checklist (HSCL) with 90 items was originally designed by Parloff, Kelman, and Frank (1954) at Johns Hopkins University and measures several types of symptoms of mental disorders, two of which are anxiety and depression. It was later described and validated by Derogatis *et al.* (1973). Hesbacher, *et al.*, (1980) demonstrated the usefulness of a 25-item version of the HSCL-90.

Description of SCL-10

The SCL-10 consist of the SCL-8 (items 1-8) and two additional items (9 and 10). The eight-item version correlates 0.94 with the global score from the original instrument (Tambs & Røysamb, 2014). Based on factor and regression analyses of previous data sets, two items were added to the SCL-8 scale to further improve reliability and discrimination between anxiety and depression in MoBa Young. The ten-item version constitute the short version SCL-10. Five items (i.e. 1, 2, 7, 8 and 9) capture symptoms of anxiety and five items (i.e. 3,4,5,6 and 10) tap symptoms of depression. Response categories are "not bothered," "a little bothered," "quite bothered," "very bothered," rated 1 to 4, respectively.

Psychometric Information:

The sum of the four depression items in the SCL-8 correlates at 0.92 with the depression score from the full SCL-25, and the sum of the four anxiety items correlates at 0.90 with the anxiety score from the SCL-25. The unweighted sum of the eight items gives almost the same correlation as does a weighted sum, expressed as the multiple R or square root of the explained variance, $\sqrt{0.89} = 0.94$. Cronbach alpha for the eight item version was estimated to 0.88 for the global score, 0.83 for depression and 0.78 for anxiety.

Corresponding values calculated with the MoBa data (questionnaires at week 15 of pregnancy, week 30 of pregnancy, 6 months, 18 months, 36 months) varied from 0.83 to 0.88 (mean value 0.85) for global distress, from 0.74 to 0.83 (mean=0.78) for depression, and from 0.74 to 0.77 (mean=0.75) for anxiety. (Tambs & Røysamb, 2014).

Base Reference/Primary Citation:

Derogatis, L.R., Lipman, R.S. & Covi L. 1973. The SCL-90: an outpatient psychiatric rating scale. *Psychopharmacology Bulletin* 9: 13-28.

Hesbacher, P.T., Rickels, R., Morris, R.J., Newman, H., and Rosenfeld, M.D. 1980. Psychiatric illness in family practice. *Journal of Clinical Psychiatry*, 41: 6-10.

Parloff, M.B., Kelman, H. C., and Frank, J. D. 1954. Comfort, effectiveness, and self-awareness as criteria for improvement in psychotherapy. *American Journal of Psychiatry*, 3:343-351.

Tambs, K. & Røysamb, E. (2014). Selection of questions to short-form versions of original psychometric instruments in MoBa. *Norsk Epidemiology (Special issue for MoBa)*.

Tambs, K., & Moum, T. (1993). How well can a few questionnaire items indicate anxiety and depression?. *Acta Psychiatrica Scandinavica*, 87(5), 364-367.

3. Rationale for choosing the questions:

SCL-8 (items 1-8) have been repeatedly used in MoBa to measure symptoms of anxiety and depression in both mothers and fathers. Two items were added to the SCL-8 scale to improve reliability and discrimination between anxiety and depression.

4. Revision during the data collection period:

No revisions have been made

4. Social phobia

1. Name of original scale: Mini Social Phobia Inventory (miniSPIN)

Q		Response options	Variable name
	How much have the following problems bothered you during the past week?		
19	Fear of embarrassment cause me to avoid doing things or speaking to people	1-Not at all 2-A little bit	YA30
20	I avoid activities in which I am the centre of attention	3-Somewhat 4-Very much	YA31
21	Being embarrassed or looking stupid are among my worst fears	5-Extremely	YA32

2. Description of original instrument: Mini Social Phobia Inventory (miniSPIN)

The Mini-SPIN (Connor, et al., 2001) is 3-item self-rated scale derived from the Social Phobia Inventory (SPIN; Connor, et al., 2000). The questions are constructed to measure the level of fear, embarrassment and avoidance in the context of social situations. Each item is evaluated on a 5-point Likert scale (1-5 points for replies from “not at all” to “extremely”).

Psychometric Information:

With a cutoff of 6 or more points, its sensitivity and specificity reaches 88.7% and 90.0% respectively (Connor et al. 2001). The miniSPIN showed good test-retest reliability ($r = 0.70$), and excellent internal consistency, $\alpha = .91$ (Seeley-Wait, et al., 2009). The miniSPIN also demonstrated adequate concurrent, convergent and divergent validity, and satisfactory discriminative validity in a Swedish sample (Ek & Ostlund, 2013).

Base Reference/Primary Citation:

Connor et al., 2000K.M. Connor, J.R.T. Davidson, L.E. Churchill, A. Sherwood, E. Foa, R.H. Weisler Psychometric properties of the Social Phobia Inventory (SPIN): New self-rating scale British Journal of Psychiatry, 176 (2000), pp. 379–386.

Connor KM, Kobak KA, Churchill LE, Katzelnick D, Davidson JR. Mini-SPIN: a brief screening assessment for generalized social anxiety disorder. Depression and Anxiety 2001; 14:137-140.

Ek, A. & Ostland, P. 2013. Internet validation and psychometric evaluation of the Mini Social Phobia Inventory applied to one clinical and two nonclinical samples. Retrieved on 25. 04.2014 from <http://www.diva-portal.org/smash/get/diva2:632130/FULLTEXT01.pdf> .

Seeley-Wait E, Abbott MJ, Rapee RM. Psychometric properties of the Mini-Social Phobia Inventory. Prim Care Companion J Clin Psychiatry. 2009;11(5):231-236.

3. Rationale for choosing the questions:

Mini-SPIN is a compact screening instrument for social anxiety disorder.

4. Revision during the data collection period:

No revisions have been made.

5. Loneliness

1. Name of original scale: UCLA Loneliness Scale

Q		Response options	Variable name
	For each question below, please indicate how often you have felt that way during the last 6 months:		
22	How often do you feel that you lack companionship?	1-never	YA33
23	How often do you feel left out?	2-seldom	YA34
24	How often do you feel isolated from others?	3-sometimes	
		4-often	
		5-very often	YA35

2. Description of original instrument and selected items:

In MoBaYoung loneliness was assess using an abbreviated version of the widely used UCLA Loneliness Scale, “The Three-Item Loneliness Scale (T-ILS)” (Hughes et al. 2004). The T-ILS has displayed satisfactory reliability and both concurrent and discriminant validity. The Cronbach’s alpha of the T-ILS total score was previously reported to be .88 (Hysing et al. 2020).

Base Reference/Primary Citation:

Hughes ME, Waite LJ, Hawkey LC, Cacioppo JT. A Short Scale for Measuring Loneliness in Large Surveys: Results From Two Population-Based Studies. Res Aging. 2004;26(6):655-672.

Russell, D. (1996). The UCLA Loneliness Scale (Version 3): Reliability, validity, and factor structure. *Journal of Personality Assessment*, 66, 20–40.

Hysing, M., Petrie, K. J., Bøe, T., Lønning, K. J., & Sivertsen, B. (2020). Only the lonely: a study of loneliness among university students in Norway.

3. Rationale for choosing the questions:

The T-ILS was chosen as a short scale for measuring loneliness in MoBa as it is a frequently used measure with good psychometric properties. The version used in MoBa is identical to the version used in The SHoT study 2018 (Students' Health and Wellbeing Study).

4. Revision during the data collection period:

No revisions have been made

6. Disruptive behaviour (Conduct disorder)

1. Name of original scale: The Rating Scale for Disruptive Behaviour Disorders (RS-DBD)

Q		Response options	Variable name
Have you joined in or done any of this in the past year?			
Version C			
25	1. Bullied, threatened, or intimidated others	1- Never 2- 1 time 3- 2-4 times 4- 5-10 times 5- 11-20 times 6- More than 20 times	YA36
26	2. Deliberately destroyed other's property		YA37
27	3. Been truant from school		YA38
28	4. Used an object that can cause serious physical harm to others (e.g. a bat, stone, knife, heavy toy)		YA39
29	5. Made hateful comments to others online (e.g. comment fields, commented pictures)		YA40
30	6. Shared naked pictures/videos of others online without permission		YA41
Have you joined in or done any of this in the past 6 months?			
Version A and B			
25	1. Bullied, threatened, or intimidated others	1- Never 2- 1 time 3- 2-4 times 4- 5-10 times 5- 11-20 times 6- More than 20 times	YA56
26	2. Initiated physical fights		YA44
27	3. Been physically cruel to others		YA45
28	4. Harassed or injured animals physically		YA46
29	5. Stolen items of nontrivial value without confronting a victim (e.g. shoplifting)		YA47
30	6. Deliberately destroyed other's property		YA51
31	7. Been truant from school		YA52
32	8. Used an object that can cause serious physical harm to others (e.g. a bat, stone, knife, heavy toy)		YA53
33	9. Made hateful comments to others online (e.g. comment fields, commented pictures)		YA54
34	10. Shared naked pictures/videos of others online without permission		YA55

2. Description of original instrument:

The Rating Scale for Disruptive Behavior Disorders (RS-DBD; Silva et al., 2005) consists of 41 DSM-IV items; with 18 items related to ADHD, 8 items related to Oppositional Defiant (OD), and 15 items to Conduct Disorder (CD). MoBaYoung Q1 uses 4 of the same 8 CD items that were used in MoBa

Q-14aar. Each item was rated on a six-point scale adapted for MoBa to allow a more fine-grained description of behaviour (compared to the original 4 point scale).

In addition, two items constructed for MoBa was added (item 5 and 6) to measure online disruptive behavior. Each item was rated on a six-point scale to obtain more variance (compared to the original 4-point scale).

Psychometric Information: There was a significant correlation between parent and teacher ratings CD: $r=.61$. The alphas for parent and teacher ratings were .78 and .81, respectively. The RS-DBD shows convergent validity with the relevant factors of the parent and teachers Conners' scale (Silva et al., 2005).

Base Reference/Primary Citation:

Silva, R. R., Alpert, M., Pouget, E., Silva, V., Troster, S., Reyes, K., et al. (2005). A rating scale for disruptive behaviour disorders, based on the DSM-IV item pool. *Psychiatric Quarterly*, 76, 327-339.

3.Rationale for choosing the questions:

The RS-DBD is one of the few rating scales that is keyed from the DSM diagnostic criteria. It provides a useful index for *severity* of disruptive behavior.

4. Revision during the data collection period:

Version A that was used as a pilot study included 8 questions from the RS-DBD. Four items were cut in the revised version B due to low variance.

In version A and B (pilot) the question referred to **the past 6 months**. This was changed in version C to be in accordance with the 14year questionnaire.

7. Quality of life

Name of original scale: The Cantril Self-Anchoring Striving Scale (Cantril ladder)

Q	Response options	Variable name
Below you see a scale from 0 to 10, where 0 is the worst and 10 is the best life for you.		
31	0 – worst 1 2 3 4 5 6 7 8 9 10 - best	YA42

2. Description of original instrument:

The Cantril Scale is a simple visual adaptable scale used to assess general life satisfaction (Cantril 1965). The original scale consists of the following: *Please imagine a ladder with steps numbered from zero at the bottom to 10 at the top. The top of the ladder represents the best possible life for you and the bottom of the ladder represents the worst possible life for you. On which step of the ladder would you say you personally feel you stand at this time? (ladder-present). On which step do you think you will stand about five years from now? (ladder-future).*

An adapted version for use among adolescents in the Health Behaviour in School-aged Children (HBSC) surveys has been validated in adolescent populations (Levin & Currie, 2014). In MoBa the adapted version of the Cantril scale was used to measure life satisfaction in the present.

Psychometric Information:

The Cantril Scale has shown good reliability in the Health Behaviour in School-aged Children (HBSC) surveys of adolescent samples, and showed good convergent validity with other emotional well-being measures, perceived health and subjective health (Levin & Currie, 2014). Data from the HBSC 2010 survey revealed that the mean Cantril Scale scores for all countries was 7.58 and that 28 of 31 countries had a mean value between 7 and 8 (Looze, Huijts, Stevens, Torsheim, & Vollebergh, 2018). Most HBSC studies have used a cut-off point of 0–5 versus 6–10 to categorise low vs. high score. Others applied scores of 9–10 as a distinct measure of high life satisfaction versus low and medium scores of 0–8 (Due et al. 2019).

Base Reference/Primary Citation:

Cantril, H. (1965). *The pattern of human concerns*. New Brunswick, NJ: Rutgers University Press.

Diener E, Emmons RA, Larsen RJ, et al. The Satisfaction With Life Scale. *J Pers Assess* 1985;49(1):71-5. doi: 10.1207/s15327752jpa4901_13

Levin, K.A., & Currie, C. (2014). Reliability and validity of adapted version of the Cantril Ladder for use with adolescent sample. *Social Indicator Research*, 119, 1047–63.

Gallup (2009). *World Poll Methodology*. Technical Report. Washington, DC.

Due, P., Eriksson, C., Torsheim, T., Potrebny, T., Välimaa, R., Suominen, S., ... & Damgaard, M. T. (2019). Trends in high life satisfaction among adolescents in five Nordic countries 2002–2014. *Nordisk välfärdsforskning/ Nordic Welfare Research*, 4(02), 54-66.

3. Rationale for choosing the questions:

Life satisfaction is an important indicator when assessing positive mental health aspects in populations, including among adolescents. The Cantril scale is a widely used measure of life satisfaction. It is used in Gallup surveys across the globe as well as for adolescents in the Health Behaviour in School-aged Children (HBSC) survey in 42 countries/regions including in Norway. The measure was chosen in MoBa as an easy-to-use measure of life satisfaction for adolescents.

4. Revision during the data collection period:

An error in the wording in version A was corrected in version C.