

Questions documentation

Ung2025/Young2025

The Norwegian Mother, Father and Child Cohort Study
(MoBa)

[Ung2025 - FHI](#)

Sample: 2nd generation above 18 years (at the time of sending invitations)

September 2025: Pilot (Version A) sent out to 1,998 participants

November 2025: Main collection (Version B) to 72,021 participants

Version	Date	Performed by	Description
1.0	01.01.2025	Helga Ask (NIPH)	Original version (including both Version A and B)

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Instrument

1. Name of original instrument/question:

Original name of scale (*no name* if only single question)

List wording of questions included in the section (with number from questionnaire in front) and write response categories (with values used in the dataset)

2. Description of original scale or selection of items used:

Description of analytical approaches for selecting just a sample of items from a scale

If single question. NOT RELEVANT

If selection of established short version, make referral to literature and/or use

Where does the Q/scale come from, what is it meant to measure. Description of number of items, subscales. Where the Q/scale has been used and any information that give insight into what instrument this is.

Primary references of the instrument as well as important secondary publications if relevant.

3. Rationale for choosing the instrument:

What is it meant to measure and IF RELEVANT: Why this measure was chosen (if relevant).

4. Modifications:

Describe modifications during the study from one version to another.

Write if omitted or added from one version to another

NOTE:

This instrument documentation was written based on version A and B of the questionnaire per 18.03.2026.

If you have any comments that may improve this document, please contact morbarndata@fhi.no.

Time spent on social media

Q	Response options	Variable name	
1A	How much time do you usually spend on the following during a weekday?		
	<i>[Matrix with radio buttons]</i>		
	1. Snapchat	1. 0–30 min 2. 30 min–1 hour 3. 1–2 hours 4. 2–3 hours 5. more than 3 hours 6. Use it never/rarely	UG11
	2. Instagram		UG12
	3. TikTok		UG13
	4. YouTube		UG14
	5. Facebook		UG15
6. Other social media	UG16		
1B	How much time do you usually spend on the following during a weekday?		
	<i>[Matrix with radio buttons]</i>		
	1. Snapchat	1. 0–30 min 2. 30 min–1 hour 3. 1–2 hours 4. 2–3 hours 5. more than 3 hours 6. Use it never/rarely	UG11
	2. Instagram		UG12
	3. TikTok		UG13
	4. YouTube		UG14
	5. Facebook		UG15
	6. Dating apps (Tinder, Hinge, happn, etc.)		UG107
	7. Messaging apps (WhatsApp, Facebook Messenger, Signal, etc.)		UG108
8. Other social media	UG16		

1. Name of original instrument/question:

These items do not originate from a standardized or validated external scale; they were developed specifically for this study.

2. Description of original scale or selection of items used:

The items were developed based on statistics about the most popular social media in Norway in specific age groups (Larsen 2025). Response categories were based on suggestions in Ernala et al. (2020), with slight modifications.

Larsen, L. (2025): Dette er de mest populære sosiale mediene. Statistisk Sentralbyrå.

<https://www.ssb.no/kultur-og-fritid/tids-og-medi bruk/statistikk/norsk-mediobarometer/artikler/dette-er-de-mest-populaere-sosiale-mediene>

Ernala, S. K., et al. (2020). How Well Do People Report Time Spent on Facebook? An Evaluation of Established Survey Questions with Recommendations. Proceedings of the 2020 CHI Conference on Human Factors in Computing Systems. Honolulu, HI, USA, Association for Computing Machinery: 1–14. <https://dl.acm.org/doi/10.1145/3313831.3376435>

3. Rationale for choosing the instrument:

Self-report assessment of which platforms individuals use and how much time they spend on each platform.

4. Modifications:

Response options 6 (dating apps) and 7 (messaging apps) have been added in version B, but were not included in version A.

Social Media use

Q	Response options	Variable name
2A	Regarding social media use, how often do you use it for the following?	
	<i>[Matrix with radio buttons]</i>	
	1. Use social media in relation to school/ work	UG17
	2. Post status updates, pictures or videos of myself/friends	UG18
	3. Make plans with friends, organize my daily life	UG19
	4. Chat with friends (individually or in groups)	UG20
	5. Check out what's happening among friends, groups I am part of or cultural events	UG21
	6. Post links or comments on issues or debates related to society, culture or politics	UG22
	7. Read news	UG23
8. Read / watch videos / follow influencers on topics such as fashion, makeup, exercise, and diet	UG24	
<ol style="list-style-type: none"> 1. Several times a day 2. Daily 3. Weekly 4. Seldom 5. Never 6. Do not use social media / not applicable 		
2B	Regarding social media use, how often do you use it for the following?	
	<i>[Matrix with radio buttons]</i>	
	1. Use social media in relation to school/ work	UG109
	2. Post status updates, pictures or videos of myself/friends	UG110
	3. Make plans with friends, organize my daily life	UG111
	4. Chat with friends (individually or in groups)	UG112
	5. Check out what's happening among friends, groups I am part of or cultural events	UG113
	6. Post links or comments on issues or debates related to society, culture or politics	UG114
	7. Read news	UG115
8. Read / watch videos / follow influencers on topics such as fashion, makeup, exercise, and diet	UG116	
<ol style="list-style-type: none"> 1. Several times a day 2. Daily 3. Weekly 4. Seldom 5. Never 6. Do not use social media / not applicable 7. Prefer not to answer 		

1. Name of original instrument/question: Social media activity items

2. Description of original scale or selection of items used:

These questions were developed by a team of Social Media experts at the University of Bergen and first used in Shot 2018, (Students' Health and Wellbeing Study), a survey of approximately 50,000 Norwegian college and university students (ages 18–35), both in Norway and studying abroad (Sivertsen et al., 2019b) <https://www.fhi.no/cristin-prosjekter/aktiv/shot-2018-studentenes-helse--og-trivselsundersokelse-2018-/>

According to (Kingsbury et al. 2021) the activity items can be categorized into:

1. *passive social* (“check out what's happening among friends, groups I'm in, or about cultural activities”), passive non-social (“read the news”),
2. *active non-social* (“use social media associated with my studies”),
3. *active social public* (“post status updates or pictures of myself/friends”; “post links or comments on issues or debates related to news, society, culture or politics”) and
4. *active social private use* (“make appointments with friends organize my daily life”; “Chat with friends (individually or in groups)”).

Base Reference/Primary Citation:

Kingsbury, M., Reme, B. A., Skogen, J. C., Sivertsen, B., Øverland, S., Cantor, N., ... & Colman, I. (2021). Differential associations between types of social media use and university students' non-suicidal self-injury and suicidal behavior. *Computers in human behavior*, 115, 106614.

Gerson, J., Plagnol, A. C., & Corr, P. J. (2017). Passive and active Facebook use measure (PAUM): Validation and relationship to the reinforcement sensitivity theory. *Personality and Individual Differences*, 117, 81-90.

3. Rationale for choosing the instrument:

Assessment of types of social media engagement (e.g., active vs. passive; public versus private). These questions were also included in MoBaYoung3 and will give information about social media use among young adults.

4. Modifications:

Compared to MoBaYoung3, the following item was added: “Read / watch videos / follow influencers on topics such as fashion, makeup, exercise, and diet”. Furthermore, the first item was changed to “in relation to school/work” (MoBaYoung3: “school/studies”) in consideration of the fact that some participants have transitioned into working life. In Norwegian, “school” is colloquially often understood to refer to both school and studies.

In version A, response option 6 (“Not applicable / prefer not to answer”) was added.

In version B, response option 6 was modified (“Do not use social media / not applicable”) and response option 7 (“Prefer not to answer”) was added.

Self-Presentation on social media

Q		Response options	Variable name
3A	To what extent do the following statements apply to you?		
	<i>[Matrix with radio buttons]</i>		
	I spend a lot of time and energy on content I post on social media.	<ol style="list-style-type: none"> 1. Not at all 2. Very little 3. Sometimes/partly true 4. A lot 5. Very much 6. Not applicable / prefer not to answer 	UG25
	It is important to me that my posts receive many likes and/or comments.		UG26
	It is important to me to have many followers on social media.		UG27
	I delete posts on social media that do not receive enough likes and/or comments.		UG28
	I retouch pictures of myself to look better before I post them on social media.		UG29
What others post (images/status updates/stories) makes me less satisfied with myself and my life.	UG30		
The response I get for what I post (images/status updates/stories) impacts how I feel.	UG31		
3B	To what extent do the following statements apply to you?		
	<i>[Matrix with radio buttons]</i>		
	I spend a lot of time and energy on content I post on social media.	<ol style="list-style-type: none"> 1. Not at all 2. Very little 3. Sometimes/partly true 4. A lot 5. Very much 6. Not applicable / I do not post anything 7. Prefer not to answer 	UG117
	It is important to me that my posts receive many likes and/or comments.		UG118
	It is important to me to have many followers on social media.		UG119
I delete posts on social media that do not receive enough likes and/or comments.	UG120		
I retouch/edit my body, face, skin, or hair to look better before posting pictures of myself on social media.	UG121		

	What others post (images/status updates/stories) makes me less satisfied with myself and my life.		UG122
	The response I get for what I post (images/status updates/stories) impacts how I feel.		UG123

1. Name of original instrument/question:

Self-Presentation and Upward Social Comparison Inclination Scale (SPAUSCIS)

Skogen, J. C., Hjetland, G. J., Bøe, T., Hella, R. T., & Knudsen, A. K. (2021). Through the Looking Glass of Social Media. Focus on Self-Presentation and Association with Mental Health and Quality of Life. A Cross-Sectional Survey-Based Study. *International Journal of Environmental Research and Public Health*, 18(6), 3319. <https://doi.org/10.3390/ijerph18063319>

Hjetland, G. J., Finserås, T. R., Sivertsen, B., Colman, I., Hella, R. T., & Skogen, J. C. (2022). Focus on Self-Presentation on Social Media across Sociodemographic Variables, Lifestyles, and Personalities: A Cross-Sectional Study. *International Journal of Environmental Research and Public Health*, 19(17), 11133. <https://doi.org/10.3390/ijerph191711133>

2. Description of original scale or selection of items used:

The scale assesses the degree of self-reported attention to self-presentation on social media as well as the importance of feedback from others.

3. Rationale for choosing the instrument:

Assessing the importance of self-presentation **on social media.**

4. Modifications:

In version A, there was a common response option for “not applicable / prefer not to answer”. In version B, the response option was split into two categories and extended to “not applicable / I do not post anything” and “prefer not to answer”.

In version B, the item about retouching was specified to address retouching of the own appearance on pictures. The purpose of that change was to address that automatic picture enhancement options (improving, for example, lighting and colors) had been introduced since the scale was developed. Such options are now readily available on smartphones and allow for simple but general edits of pictures.

Social media and social obligations / Fear of missing out

Q		Response options	Variable name
4A	<p>To what extent do the following statements apply to you?</p> <p><i>[Matrix with radio buttons]</i></p> <p>I fear I might miss out on something if I'm not on social media.</p> <p>Social media gives me a sense of control or overview of what is going on.</p> <p>I feel that I must like and/or comment on what my friends post on social media.</p> <p>I feel that I have to respond to all messages, "streaks," and similar things I receive.</p> <p>If I do not respond, like, or comment, then it can have negative consequences.</p> <p>If my friends do not like or comment on what I post on social media, I start thinking something is wrong.</p> <p>If I do not participate on social media, I'll fall behind.</p> <p>I keep close attention to what my friends/boyfriend/girlfriend/family does through social media (for example stories, Snap Map, ...).</p>	<ol style="list-style-type: none"> 1. Not at all 2. Quite little 3. Sometimes / partly 4. Quite a lot 5. Very much 6. Not applicable / prefer not to answer 	<p>UG32</p> <p>UG33</p> <p>UG34</p> <p>UG35</p> <p>UG36</p> <p>UG37</p> <p>UG38</p> <p>UG39</p>
4B	<p>To what extent do the following statements apply to you?</p> <p><i>[Matrix with radio buttons]</i></p> <p>I fear I might miss out on something if I'm not on social media.</p> <p>Social media gives me a sense of control or overview of what is going on.</p> <p>I feel that I must like and/or comment on what my friends post on social media.</p> <p>I feel that I have to respond to all messages, "streaks," and similar things I receive.</p> <p>If I do not respond, like, or comment, then it can have negative consequences.</p> <p>If my friends do not like or comment on what I post on social media, I start thinking something is wrong.</p> <p>If I do not participate on social media, I'll fall behind.</p>	<ol style="list-style-type: none"> 1. Not at all 2. Quite little 3. Sometimes / partly 4. Quite a lot 5. Very much 6. Not applicable 7. Prefer not to answer 	<p>UG124</p> <p>UG125</p> <p>UG126</p> <p>UG127</p> <p>UG128</p> <p>UG129</p> <p>UG130</p>

I keep close attention to what my friends/boyfriend/girlfriend/family does through social media (for example stories, Snap Map, ...).		UG131
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1. Name of original instrument/question:

“Social obligations”-subscale from an assessment of potentially problematic social media use, as developed by Finserås et al. (2023).

Finserås, T. R., Hjetland, G. J., Sivertsen, B., Colman, I., Hella, R. T., Andersen, A. I. O., & Skogen, J. C. (2023). Reexploring Problematic Social Media Use and Its Relationship with Adolescent Mental Health. Findings from the “LifeOnSoMe”-Study. *Psychology Research and Behavior Management, 16*, 5101–5111. <https://doi.org/10.2147/PRBM.S435578>

2. Description of original scale or selection of items used:

According to Finserås et al. (2023), the “social obligations on social media”-subscale reflects a feeling of a social obligation to be present on social media. Some items resemble the concept of fear of missing out on social media (FOMO). FOMO consists of two elements: Firstly, the perception of missing out on an experience that would have been rewarding. Secondly, behaviours that ensure maintenance of social connections. This is reflected in the majority of items of the social obligations-subscale.

3. Rationale for choosing the instrument:

Assessment of fear of missing out as a reason to use social media.

4. Modifications:

The introductory question (“To what extent...”) was somewhat simplified compared to the original.

Response options “not applicable” and “prefer not to answer” were distinct response options in version B, but not in version A.

Smartphone use and sleep

Q		Response options	Variable name
5A	People have different habits when it comes to mobile phone use in the evening and at night. During the past 7 days, how often have you:		
	<i>[Matrix with radio buttons]</i>		
	Used a smartphone during the last 30 minutes before going to sleep	<ol style="list-style-type: none"> 1. None of the days 2. 1–2 days 3. 3–5 days 4. 6–7 days 5. Not applicable / prefer not to answer 	UG40
	Had a smartphone with me in the bedroom during the night		UG41
	Used a smartphone to read or send messages after going to bed		UG42
	Used a smartphone for social media, videos, or gaming after going to bed		UG43
	Turned off notifications before going to sleep		UG44
	Been woken up by a message or notification on the smartphone during the night		UG45
Woken up during the night and checked something other than the time on the smartphone	UG46		
5B	People have different habits when it comes to mobile phone use in the evening and at night. During the past 7 days, how often have you:		
	<i>[Matrix with radio buttons]</i>		
	Used a smartphone during the last 30 minutes before going to sleep	<ol style="list-style-type: none"> 1. None of the days 2. 1–2 days 3. 3–5 days 4. 6–7 days 5. Not applicable 6. Prefer not to answer 	UG132
	Had a smartphone with me in the bedroom during the night		UG133
	Used a smartphone to read or send messages after going to bed		UG134
	Used a smartphone for social media, videos, or gaming after going to bed		UG135
	Turned off notifications before going to sleep		UG136
	Been woken up by a message or notification on the smartphone during the night		UG137
Woken up during the night and checked something other than the time on the smartphone	UG138		

1. Name of original instrument/question:

These items do not originate from a standardized or validated external scale; they were developed specifically for this study.

2. Description of original scale or selection of items used:

Some of the items are based on recommendations related to mobile phone use and sleep: NOU 2024:20. (2024). *Det digitale (i) livet*. Kunnskapsdepartementet.

<https://www.regjeringen.no/no/dokumenter/nou-2018-2/id2588070/>

Some of the items are based on questions used by Joshi et al. (2022):

Joshi, S.C., Woodward, J. & Woltering, S. Nighttime cell phone use and sleep quality in young adults. *Sleep Biol. Rhythms* 20, 97–106 (2022). <https://doi.org/10.1007/s41105-021-00345-6>

3. Rationale for choosing the instrument:

The items were developed with the aim of assessing to what extent smart phone use comes at the expense of sleep and to assess bedtime routines related to smartphone use more broadly.

4. Modifications:

Response options “not applicable” and “prefer not to answer” were distinct response options in version B, but not in version A.

Sleep

Q		Response options	Variable name
6 A/B	<p>During the past three months, how many days a week have you been so sleepy/tired that it has affected you at school/work or in your private life?</p> <p><i>[Radio buttons]</i></p>	<ol style="list-style-type: none"> 1. 0 (no days in a week) 2. 1 3. 2 4. 3 5. 4 6. 5 7. 6 8. 7 (every day in a week) 	UG47

1. Name of original instrument/question:

Bergen Insomnia Scale

Pallesen, S., Bjorvatn, B., Nordhus, I. H., Sivertsen, B., Hjørnevik, M., & Morin, C. M. (2008). A New Scale for Measuring Insomnia: The Bergen Insomnia Scale. *Perceptual and Motor Skills*, 107(3), 691-706.

2. Description of original scale or selection of items used:

According to Pallesen et al. (2008), the Bergen Insomnia Scale was constructed on the basis of formal and clinical diagnostic criteria for insomnia. The full scale consists of 6 items, of which the first three pertain to sleep onset, maintenance, and early morning waking insomnia, respectively. The last three items refer to not feeling adequately rested, experiencing daytime impairment, and being dissatisfied with current sleep.

3. Rationale for choosing the instrument:

The item was selected to **measure to what extent sleep problems affect daily functioning.**

4. Modifications:

At the scale endpoints, it was specified that the question is about the number of days per week (during the past three months). This information is typically obvious from the full questionnaire, but less clear when only using this specific item.

Personality

Q		Response options	Variable name
Here are some characteristics which to some extent can be appropriate to describe you. Please rate to what extent you disagree or agree to these statements. I am someone who...			
<i>[Matrix with radio buttons]</i>			
7 A/B	1. Tends to be quiet	<ol style="list-style-type: none"> 1. Disagree strongly 2. Disagree a little 3. Neutral, no opinion 4. Agree a little 5. Agree strongly 	UG48
	2. Is compassionate, has a soft heart		UG49
	3. Tends to be disorganized		UG50
	4. Worries a lot		UG51
	5. Is fascinated by art, music, or literature		UG52
	6. Is dominant, act as a leader		UG53
	7. Is sometimes rude to others		UG54
	8. Has difficulty getting started on tasks		UG55
	9. Tends to feel depressed, blue		UG56
	10. Has little interest in abstract ideas		UG57
8 A/B	1. Is full of energy	<ol style="list-style-type: none"> 1. Disagree strongly 2. Disagree a little 3. Neutral, no opinion 4. Agree a little 5. Agree strongly 	UG58
	2. Assumes the best about people		UG59
	3. Is reliable, can always be counted on		UG60
	4. Is emotionally stable, not easily upset		UG61
	5. Is original, comes up with new ideas		UG62
	6. Is outgoing, sociable		UG63
	7. Can be cold and uncaring		UG64
	8. Keeps things neat and tidy		UG65
	9. Is relaxed, handles stress well		UG66
	10. Has few artistic interests		UG67

9 A/B	1. Prefers others to take charge	1. Disagree strongly 2. Disagree a little 3. Neutral, no opinion 4. Agree a little 5. Agree strongly	UG68
	2. Is respectful, treats others with respect		UG69
	3. Is persistent, works until the task is finished		UG70
	4. Feels secure, comfortable with self		UG71
	5. Is complex, a deep thinker		UG72
	6. Is less active than other people		UG73
	7. Tends to find fault with others		UG74
	8. Can be somewhat careless		UG75
	9. Is temperamental, gets emotional easily		UG76

1. Name of original instrument/question:

The Big Five Inventory-2-Short (**BFI-2-S**)

2. Description of original scale or selection of items used:

The Big Five Inventory-2-Short is a short version of the Big Five Inventory-2 (Soto & John, 2017), which is a 60-item questionnaire to measure Big Five dimensions and 15 facets. BFI-2 was developed from BFI (John, Donahue, & Kentle, 1991), which is a 44-item measure for Big Five dimensions and facets. The BFI-2 advances the BFI in several ways, as it introduces a hierarchical structure, minimizes acquiescent responding, has greater predictive power and is easy to understand (Soto & John, 2017b).

The BFI-2-S measures Big Five dimensions with 6 items, under which each facet is measured with two items. Extraversion (1R, 6, 11, 16, 21R, 26R, with facets of Sociability (1R, 16), Assertiveness (6, 21R), and Energy Level (11, 26R)), Agreeableness (2, 7R, 12, 17R, 22, 27R, with facets Compassion [2, 17R], Respectfulness [7R, 22], and Trust [12, 27R]), Conscientiousness (3R, 8R, 13, 18, 23, 28R, with facets Organization [3R, 18], Productiveness [8R, 23], and Responsibility [13, 28R]), Negative Emotionality (4, 9, 14R, 19R, 24R, 29, with facets Anxiety [4, 19R], Depression [9, 24R], and Emotional Volatility [14R, 29]), and Open-Mindedness (5, 10R, 15, 20R, 25, 30R, with facets Intellectual Curiosity [10R, 25], Aesthetic Sensitivity [5, 20R], and Creative Imagination [15, 30R]). Unfortunately, the item 30 was not included in this MoBa data collection.

Psychometric information:

Internal consistency as measured by Cronbach's alpha for the Norwegian version of the BFI-2-S factors were .70 for extraversion, .64 for agreeableness, .72 for conscientiousness, .82 for negative emotionality, and .73 for open-mindedness (Føllesdal & Soto, 2022). The facet level reliability estimates varied between 0.27 (responsibility) and 0.76 (assertiveness).

Base Reference/Primary Citation:

Føllesdal H, Soto CJ. The Norwegian Adaptation of the Big Five Inventory-2. *Front Psychol.* 2022 May 18;13:858920. doi: 10.3389/fpsyg.2022.858920. PMID: 35664220; PMCID: PMC9158541.

John, O. P., Donahue, E. M., & Kentle, R. L. (1991). The Big Five Inventory--Versions 4a and 54. Berkeley: University of California, Berkeley, Institute of Personality and Social Research. Soto, C. J., & John, O. P. (2017a). Short and extra-short forms of the Big Five Inventory-2: The BFI-2-S and BFI-2-XS. *Journal of Research in Personality*, 68, 69-81. <https://doi.org/https://doi.org/10.1016/j.jrp.2017.02.004>

Soto CJ, John OP (2017b). The next Big Five Inventory (BFI-2): Developing and assessing a hierarchical model with 15 facets to enhance bandwidth, fidelity, and predictive power. *J Pers Soc Psychol.* 113(1):117-143. doi: 10.1037/pspp0000096. Epub 2016 Apr 7. PMID: 27055049.

3. Rationale for choosing the instrument:

The BFI-2-S is frequently used to measure Big Five dimensions in personality research.

4. Modifications:

By mistake, the last item in the original scale ("Has little creativity", no. 30) was not included in the instrument included in MoBa

Q		Response options	Variable name
10 A/B	Over the last two weeks, how often have you been bothered by the following problems? <i>[Matrix with radio buttons]</i>	<ol style="list-style-type: none"> 1. Not at all 2. Several days 3. More than half the days 4. Nearly every day 	
	1. Feeling nervous, anxious, or on edge		UG77
	2. Not being able to stop or control worrying		UG78
	3. Worrying too much about different things		UG79
	4. Trouble relaxing		UG80
	5. Being so restless that it is hard to sit still		UG81
	6. Becoming easily annoyed or irritable		UG82
	7. Feeling afraid, as if something awful might happen	UG83	
11 A/B	If you checked any problems, how difficult have they made it for you to do your work, take care of things at home, or get along with other people? <i>[Radio buttons]</i>	<ol style="list-style-type: none"> 1. Not difficult at all 2. Somewhat difficult 3. Very difficult 4. Extremely difficult 5. I have not experienced any of the problems 	UG84

1. Name of original instrument/question:

The Generalized Anxiety Disorder questionnaire (GAD-7)

2. Description of original scale or selection of items used:

(Copied from Nerys Williams, The GAD-7 questionnaire, *Occupational Medicine*, Volume 64, Issue 3, April 2014, Page 224, <https://doi.org/10.1093/occmed/kqt161>)

The Generalized Anxiety Disorder (GAD-7) questionnaire is a seven-item, self-report anxiety questionnaire designed to assess the patient's health status during the previous 2 weeks. The items enquire about the degree to which the patient has been bothered by feeling nervous, anxious or on edge, not being able to stop or control worrying, worrying too much about different things, having trouble relaxing, being so restless that it is hard to sit still, becoming easily annoyed or irritable and feeling afraid as if something might happen. The questionnaire was

designed by Spitzer *et al.* and published in 2006. It is quick to administer and is now used in research and clinical settings.

The questionnaire has been validated for use as a screening tool and severity measure (Swinson, *et al.*), in primary care (Ruiz *et al.*) and in general populations (Lowe *et al.*).

Scores of 0, 1 or 2 are given for experiencing symptoms ‘not at all’, for ‘several days’, for ‘more than half the days’ and for ‘nearly every day’, respectively. The scores are then totalled and presented from 0 to 21. Scores of 5, 10 and 15 represent cut-off points for mild, moderate and severe anxiety, respectively. When screening for an anxiety disorder, a recommended cut-off point for referral for further evaluation is 10 or greater.

The last item is used to assess functional impairment, not anxiety severity, and therefore does not contribute to the total GAD-7 score.

Using the threshold score of 10, the GAD-7 has sensitivity of 89% and specificity of 82% for generalized anxiety disorder. It is also moderately good at screening for other anxiety disorders—panic disorder (sensitivity 74%, specificity 81%), social anxiety disorder (sensitivity 72%, specificity 80%) and post-traumatic stress disorder (sensitivity 66%, specificity 81%) (Kroenke, *et al.*).

Williams, The GAD-7 questionnaire, *Occupational Medicine*, Volume 64, Issue 3, April 2014, Page 224, <https://doi.org/10.1093/occmed/kqt161>

Spitzer RL Kroenke K Williams JB *et al.* A brief measure for assessing generalized anxiety disorder: the GAD-7. *Arch Intern Med* 2006;166:1092–1097.

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Ruiz MA Zamorano E Garcia-Campayo J *et al.* Validity of the GAD-7 scale as an outcome measure of disability in patients with generalized anxiety disorders in primary care. *J Affect Disord* 2011;128:277–286.

Lowe B Decker O Muller S *et al.* Validation and standardization of the Generalized Anxiety Disorder Screener (GAD-7) in the General Population. *Med Care* 2008;46:266–274.

Kroenke K Spitzer RL Williams JB *et al.* Anxiety disorders in primary care: prevalence, impairment, comorbidity, and detection. *Ann Intern Med* 2007;146:317–325.

3. Rationale for choosing the instrument:

This scale is used across several international cohorts, it was included to enable collaboration and comparison across cohorts.

Obj Modifications: No changes.

Q		Response options	Variable name
12 A/B	Over the last 2 weeks, how often have you been bothered by any of the following problems? <i>[Matrix with radio buttons]</i>		
	1. Little interest or pleasure in doing things	1. Not at all 2. Several days 3. More than half the days 4. Nearly every day	UG85
	2. Feeling down, depressed, or hopeless		UG86
	3. Trouble falling or staying asleep, or sleeping too much		UG87
	4. Feeling tired or having little energy		UG88
	5. Poor appetite or overeating		UG89
	6. Feeling bad about yourself — or that you are a failure or have let yourself or your family down		UG90
	7. Trouble concentrating on things, such as reading the newspaper or watching television		UG91
	8. Moving or speaking so slowly that other people could have noticed? Or the opposite — being so fidgety or restless that you have been moving around a lot more than usual		UG92
9. Thoughts that you would be better off dead or of hurting yourself in some way	UG93		
13 A/B	If you checked off any problems, how difficult have these problems made it for you to do your work, take care of things at home, or get along with other people? <i>[Radio buttons]</i>	1. Not difficult at all 2. Somewhat difficult 3. Very difficult 4. Extremely difficult 5. I have not experienced any of the problems	UG94

1. Name of original instrument/question:

Patient Health Questionnaire-9 (PHQ-9)

2. Description of original scale or selection of items used:

Copied from Nerys Williams, PHQ-9, *Occupational Medicine*, Volume 64, Issue 2, March 2014, Pages 139–140, <https://doi.org/10.1093/occmed/kqt154>:

The Patient Health Questionnaire (PHQ) is a self-administered version of the Primary Care Evaluation of Mental Disorders diagnostic instrument for common mental disorders. The PHQ-9 is the depression module, which scores each of the nine diagnostic criteria for major depression

in Diagnostic and Statistical Manual Fourth Edition as '0' (not at all) to '3' (nearly every day) (<http://www.patient.co.uk/doctor/patient-health-questionnaire-phq-9>). The nine items cover experience of pleasure, feeling down, sleep disruption, energy levels, appetite, feeling a failure, trouble concentrating, speaking slowly or being fidgety and having negative thoughts around suicide or self-harm over the previous 2 weeks.

The Patient Health Questionnaire (PHQ) is a self-administered version of the PRIME-MD diagnostic instrument for common mental disorders. The PHQ-9 is the depression module, which scores each of the 9 DSM-IV criteria as "0" (not at all) to "3" (nearly every day).

The PHQ-9 can be self-administered or administered by a clinician. At an initial visit the PHQ-9 can be used to assist with diagnosis and identification of problem symptoms. At the follow-up visit, the PHQ-9 is used to measure treatment response and identify specific symptoms that are not responding. Thus the questionnaire is a useful tool to assist clinicians in diagnosing depression and monitoring the response to treatment. It is also a reliable and valid measure of depression severity. These characteristics plus its brevity also make the PHQ-9 a useful clinical and research tool. Some clinicians use the first two items of the PHQ-9 ('Over the last 2 weeks, how often have you been bothered by any of the following problems? 1. Little interest or pleasure in doing things and 2. Feeling down, depressed or hopeless?') as an initial screen for depression. If the patient responds affirmatively to either of these two items, the remaining seven items are asked. This can be an efficient way to screen large groups of patients to improve detection of undiagnosed depression (Friedman et al). Research has shown that certain scores on the PHQ-9 are strongly correlated with a subsequent diagnosis of major depression although not everyone with an elevated PHQ-9 is certain to have major depression.

The questionnaire is free to use and is widely used in general practice. The trademark is held by the pharmaceutical company Pfizer who own the copyright for the use of the PHQ and PHQ-9. The validity of the questionnaire has been assessed against an independent structured mental health professional interview. PHQ-9 score ≥ 10 had a sensitivity and a specificity of 88% each for major depression (Kroenke et al, Dietrich et al).

Li C Friedman B Conwell Y Fiscella K . Validity of the Patient Health Questionnaire 2 (PHQ-2) in identifying major depression in older people. *J Am Geriatr Soc* 2007;55:596–602.

Kroenke K Spitzer RL Williams JB . The PHQ-9: validity of a brief depression severity measure. *J Gen Intern Med* 2001;16:606–613.

Dietrich AJ Oxman TE Burns MR Winchell CW Chin T . Application of a depression management office system in community practice: a demonstration. *J Am Board Fam Pract* 2003;16:107–114.

3. Rationale for choosing the instrument: This scale is used across several international cohorts, it was included to enable collaboration and comparison across cohorts.

4. Modifications: No changes.

Loneliness

Q		Response options	Variable name
14 A/B	For each question below, please indicate how often you have felt that way during the last 6 months:		
	<i>[Matrix with radio buttons]</i>		
	How often do you feel that you lack companionship?	1. Never 2. Seldom 3. Sometimes 4. Often 5. Very often	UG95
	How often do you feel left out?		UG96
How often do you feel isolated from others?	UG97		

1. Name of original instrument/question:

UCLA Loneliness Scale

2. Description of original scale or selection of items used:

In Young2025 loneliness was assessed 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, Hawkley 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 instrument:

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). This version is previously used in MoBaYoung.

4. Modifications: No changes.

Social contact

Q		Response options	Variable name
A/B	Indicate how often, on average, you have contact with the following family members/friends: By contact we mean an in-person meeting, a phone call, or other contact through e.g. social media <i>[Dropdown list]</i>		
15	Your biological mother	<ol style="list-style-type: none"> 1. Daily 2. 5–6 days per week 3. 3–4 times per week 4. 1–2 times per week 5. 1–2 times per month 6. Less often than 1–2 times per month 7. Never 8. Not applicable 9. Prefer not to answer 	UG98
16	Your biological father		UG99
17	Stepparent / non-biological parent		UG100
18	Your grandparents		UG101
19	Your siblings		UG102
20	Other relatives		UG103
21	Friends		UG104

1. Name of original instrument/question:

These items do not originate from a standardized or validated external scale; they were developed specifically for this study

2. Description of original scale or selection of items used:

This module consists of a set of custom-developed items designed to measure frequency of social contact with different categories of close relations. The item asks participants to report how often, on average, they have contact with specific groups of family members and friends.

3. Rationale for choosing the instrument:

Quantify participants' level of regular social interaction across important relationship categories. Provide an estimate of average weekly or monthly social contact, useful for analyses involving social support, social isolation, and interpersonal connectedness.

4. Modifications: No changes.

Sex and Gender

Q		Response options	Variable name
22	<p>What sex were you registered as at birth? That is, the sex recorded on your birth certificate / in the National Population Register.</p> <p><i>[Radio buttons]</i></p>	<ol style="list-style-type: none"> 1. Girl 2. Boy 3. Sex was registered as undetermined at birth 4. Prefer not to answer 	UG139
22.1	<p>We can only use a limited number of categories when analyzing the data. Which of these categories best matches how you think about yourself today?</p> <p><i>This element will only be displayed if option “Sex was registered as undetermined at birth” was selected in question 22: “What sex were you registered as at birth?”</i></p> <p><i>[Radio buttons]</i></p>	<ol style="list-style-type: none"> 1. Man 2. Woman 3. Trans man 4. Trans woman 5. Non-binary / gender-fluid 6. Agender (no gender) 7. Other 8. No preference 9. Don’t know 10. Prefer not to answer 	UG140
22.2	<p>Do you identify with the sex you were registered with at birth?</p> <p><i>This element will only be displayed if “Girl”, “Boy”, or “Prefer not to answer” was selected in question 22: “What sex were you registered as at birth?”</i></p> <p><i>[Radio buttons]</i></p>	<ol style="list-style-type: none"> 1. Yes 2. No 3. Don’t know 4. Prefer not to answer 	UG141
22.2.1	<p>We can only use a limited number of categories when analyzing the data. Which of these categories best matches how you think about yourself today?</p> <p><i>This element will only be displayed if “No” or “Don’t know” was selected in question 22.2: “Do you identify with the sex you were registered with at birth?”</i></p> <p><i>[Radio buttons]</i></p>	<ol style="list-style-type: none"> 1. Man 2. Woman 3. Trans man 4. Trans woman 5. Non-binary / gender-fluid 6. Agender (no gender) 7. Other 8. No preference 9. Don’t know 10. Prefer not to answer 	UG142

1. Name of original instrument/question:

These items do not originate from a standardized or validated external scale; they were developed specifically for this study

2. Description of original scale or selection of items used:

The items are designed to capture sex assigned at birth (as recorded in official registries), current gender identity, with inclusive response categories, and degree of identification with sex assigned at birth.

3. Rationale for choosing the instrument:

To ensure accurate and inclusive measurement of sex and gender in a diverse youth population

4. Modifications:

These items were not included in the pilot (Version A)

Prosocial behavior

Q	Response options	Variable name
23	To what extent have the following statements applied to you over the past 6 months?	
	<i>[Matrix with radio buttons]</i>	
	1. Not true 2. Somewhat true 3. Certainly true	I try to be nice to other people. I care about their feelings.
		I usually share with others
		I am helpful if someone is hurt, upset or feeling ill
		I am kind to children
		I often offer to help others (family members, friends, colleagues)
		UG143
		UG144
		UG145
		UG146
		UG147

1. Name of original instrument/question:

Strength and Difficulties Questionnaire, version for ages 18+ years.

2. Description of original scale or selection of items used:

The Strength and Difficulties Questionnaire (SDQ) is “a brief behavioural screening questionnaire that provides balanced coverage of children and young people’s behaviours, emotions, and relationships. The SDQ has been designed to meet the needs of researchers, clinicians, and educationalists.” (Goodman 1997). Items used here present the prosocial subscale and are taken from a variant of the SDQ that is adjusted to fit individuals aged 18 and older. Other scales included in the full instrument are emotional symptoms, conduct problems, hyperactivity/inattention and peer relationship problems. More info about the SDQ be found here: <https://sdqinfo.org/a0.html>

Goodman, R. (1997), The Strengths and Difficulties Questionnaire: A Research Note. Journal of Child Psychology and Psychiatry, 38: 581-586. <https://doi.org/10.1111/j.1469-7610.1997.tb01545.x>

3. Rationale for choosing the instrument:

Assessment of prosocial behavior.

4. Modifications:

These items were not included in the pilot (Version A).

Pregnancy

Q		Response options	Variable name
24	<p>Are you currently pregnant, or do you plan to become pregnant within the next year?</p> <p><i>This element will only be displayed if “Girl” is selected in question 22: “What sex were you registered as at birth?”</i></p> <p><i>[Radio buttons]</i></p>	<ol style="list-style-type: none"> 1. I am currently pregnant and plan to carry the pregnancy to term 2. I am currently pregnant but am unsure whether I will carry the pregnancy to term 3. I am currently pregnant but do not wish to carry the pregnancy to term 4. I plan to become pregnant within the next year 5. None of these 6. Prefer not to answer 	UG148

1. Name of original instrument/question:

Single item

2. Description of original scale or selection of items used:

This item was included to recruit participants to other MoBa data collections: If participants responded “I am currently pregnant and plan to carry the pregnancy to term” or “I am currently pregnant but am unsure whether I will carry the pregnancy to term”, the participant was sent to the form “Health and Pregnancy (Ung2025)”. If participants responded “I plan to become pregnant within the next year” the participant was sent to the form “Exciting opportunity to participate in a pregnancy study”.

3. Rationale for choosing the instrument:

This item was included to recruit participants to other MoBa data collections.

4. Modifications: This item was not included in the pilot (Version A)