

Supplementary materials

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Table 1S*Item Pool for Interview, Issues Identified and Post-Interview Revisions*

Item wording	Interviews with children	Interviews with teachers	Decision / Revised wording
1. Jestem w stanie jasno myśleć. [I can think clearly].	“Thinking clearly” (“jasno myśleć”) is too abstract, children either do not understand it or refer to thinking correctly.	“Jasno” may be understood as “correctly” by children. It may not be clear for some children whether the item refers to the present moment or how they feel usually.	The wording is not suitable. To replace with item wording 11 or 12.
2. Panikuję lub boję się z powodu drobnych rzeczy. [I feel panicky or afraid about little things].	No problems	No problems / no specific comments	To keep as it is
3. Czuję się spokojny/a i zrelaksowany/a. [I feel calm and relaxed].	No problems	No problems / no specific comments	To keep as it is
4. Czuję się bezradny/a, gdy mam jakiś problem. [I feel helpless when I have a problem].	No problems	Some children may not fully understand the item on the cognitive level, but one the emotional one – without any problems.	To keep as it is

Item wording	Interviews with children	Interviews with teachers	Decision / Revised wording
6. Martwię się, gdy dzieje się coś nieoczekiwanego.	“Nieoczekiwanego” is difficult for some children	The word “nieoczekiwanego” could be replaced with a simpler synonym, for instance “niespodziewanego” or “zaskakującego”.	To replace with “niespodziewanego” (a simpler synonym)
7. Dobrze śpiam. [I sleep well].	No problems	No problems / no specific comments	To keep as it is
8. Łatwo się złościę lub denerwuję. [I get angry or upset easily].	No problems	No problems / no specific comments	To keep as it is
9. Trudno mi się uspokoić, gdy przeżywam zbyt wielkie lub zbyt silne emocje. [It is hard to calm down when my feelings are too big or too strong].	No problems	No problems / no specific comments	To keep as it is
10. Co by się nie działo, poradzę sobie z tym. [Whatever happens, I can cope with it].	No problems	No problems / no specific comments	To keep as it is

Item wording	Interviews with children	Interviews with teachers	Decision / Revised wording
11. Umiem się skupić. [I can think clearly].	No problems. The wording implies that the ability to concentrate is trainable.	The wording aligns well with the everyday experience as children are often told to concentrate on a task. It may not be clear for some children whether the item refers to the present moment or how they feel/can do usually.	Potentially to rephrase in a way that implies that the item is about the present (“Jestem w stanie się skupić.”)
12. Jestem w stanie zebrać myśli. [I can think clearly].	No problems, the wording implies that the question refers to the present.		Potentially to keep in the questionnaire along with item 11; a final decision after a pilot study (or invariance analyses with the UK data)

Cognitive interviews

Participants

Students: gender (G-girl, B-boy)/ age / grade / parental education / place of residence

1. G / 10 / G4 / upper secondary (ISCED 3) / rural area
2. G / 10 / G4 / PhD (ISCED 8) / > 100 000 inhabitants
3. B / 9 / G2 / master's degree (ISCED 7) / 100 000-500 000 inhabitants
4. B / 9 / G3 / bachelor's degree (ISCED 6) / 20-100 000 inhabitants
5. B / 10 / G4 / bachelor's degree (ISCED 6) / 100 000-500 000 inhabitants
6. B / 9 / G3 / master's degree (ISCED 7) / 100 000-500 000 inhabitants
7. G / 10 / G3/ upper secondary (ISCED 3) / 100 000-500 000 inhabitants
8. G / 9 / G2 / post-secondary non-tertiary (ISCED 4) / 100 000-500 000 inhabitants

Teachers: two teachers for G1-3, one G5 teacher (Polish), all women

Interview with children

Interviewer: *Thanks for agreeing to take part and for answering my questions. It will be great to hear what you think about the survey. I don't want you to answer the questions – I would like to know whether you like them and understand them. There are no right or wrong answers!*

Questions for children

Instruction questions:

1. Look at the instructions. Are there any difficult or tricky words?
2. Now, take a look at how to respond. Can you try to explain how to answer using the stars?

Items questions:

1. Tell me in your own words how you understand this statement, you can give an example.
2. Are there any difficult words? If so, which one?

3. Do you think that someone may not want to answer this?
4. Can you think of other questions that might be good to use?

General comments by children:

- “Nieoczekiwanego” (“unexpected” in item nr 6) is a difficult word (3 children)
- “Klasówka” (“class test” in instruction) could be replaced with “sprawdzian” (a synonym) (2 children)
- One child indicated that the labels assigned to 1 and 5 stars were not entirely clear (1 child)
- Some children indicated that the items were about how they felt usually, some – recently, and others – at the moment.

Interview with teachers

Interviewer: *Thank you for agreeing to take part and for sharing your opinion on the survey. It is designed to identify perceived stress in children aged 9 to 11 years old. I would like to know what you think of the instructions and questions, whether they are adequate for students (e.g., if there are any tricky or difficult words). Your opinion is very important. I would like you to answer a few questions concerning this survey. Can we start?*

Instruction questions:

1. Will a student in the first semester of the third grade be able to read the questionnaire instructions on their own?
2. At what age (or in which grade) will a student be able to read the instructions for this questionnaire on their own?
3. Will the instructions be understandable to a student in the first semester of the third grade?
4. Will the star rating scale for answering be understandable to a student in the first semester of the third grade?
5. Would you suggest a different response scale instead of stars?
6. Are there any words in the instructions that might be too difficult or unclear for a student in the first semester of the third grade?

7. Would the questionnaire be more understandable if an adult read it to the child?
8. If you could improve this questionnaire, what would it be?

Item questions:

1. In your opinion, will this statement be understandable for a student in the first semester of the third grade?"
2. Are there any words in it that might be too difficult or unclear? If so, which ones, and what other words could they be replaced with?
3. Can a student not want to answer this question?

Comments by teachers:

- The instruction is adequate for Grade 3 students
- The response scale (stars) is very child-friendly.
- The scale is short, which is a strength.
- It may be better for an adult to read the items to children with poor reading skills.
- It may not be clear for children whether the items refer to how they feel usually or how they feel right now.
- The answers may serve as a good starting point to a conversation on stress and coping strategies.

Wording of the Polish version of the PeSSKi used in the pilot study

Poniżej znajduje się kilka zdań, które opisują, co dzieci czasem myślą lub czują.

Czy możesz przeczytać te zdania i powiedzieć, jak dobrze opisują one CIEBIE?

Pamiętaj – każdy jest inny!

Niektóre zdania mogą opisywać Cię bardzo dobrze.

Inne wcale.

Jeszcze inne tylko trochę.

Pokaż nam za pomocą ★ gwiazdek ★, jak dobrze każde zdanie opisuje Ciebie.

Bądź szczery – to nie jest sprawdzian – nie ma tu dobrych ani złych odpowiedzi.

Teraz pokażemy Ci, jak odpowiadać za pomocą gwiazdek.

Gwiazdki powiedzą nam, jak bardzo dane zdanie opisuje CIEBIE!

Gwiazdki powiedzą nam, jak ostatnio myślisz i jak się czujesz.

Jeśli zdanie bardzo dobrze opisuje, jak ostatnio myślisz i jak się czujesz, zamaluj wszystkie gwiazdki.

5 gwiazdek oznacza "bardzo dobrze mnie opisuje". ★ ★ ★ ★ ★

1 gwiazdek oznacza "wcale mnie nie opisuje". ★

Teraz Ty spróbuj – zamaluj dużo gwiazdek!



Teraz zamaluj niewiele gwiazdek.



ŚWIETNIE 🏆

ZACZYNAMY!!

Pamiętaj,

5 gwiazdek oznacza "bardzo dobrze mnie opisuje". ★ ★ ★ ★ ★

1 gwiazdka oznacza "wcale mnie nie opisuje". ★

Jestem w stanie się skupić.



Panikuję lub boję się z powodu drobnych rzeczy.



Czuję się spokojny/a i zrelaksowany/a.



Czuję się bezradny/a, gdy mam jakiś problem.



Czuję się dobrze w nowych miejscach, wśród nowych ludzi lub rzeczy.



Martwię się, gdy dzieje się coś niespodziewanego.



Dobrze śpiam.



Łatwo się złościę lub denerwuję.



Trudno mi się uspokoić, gdy przeżywam zbyt wielkie lub zbyt silne emocje.



Co by się nie działo, poradzę sobie z tym.



Jestem w stanie zebrać myśli.



Item wording: Comments by Children

Third-graders:

- Item nr 2: What does “drobnych rzeczy” (*“little things”*) mean? (1 student)
- Item nr 4: What does “bezradny” (*“helpless”*) mean? (1 student)
- Item nr 7: Is it about the number of hours or unexpected situations during sleep? (2 students)
- Is it possible to colour half a star? (2 students)

Fourth-graders

- Item nr 4: What does “bezradny” (*“helpless”*) mean? (1 student)
- Item nr 1: What does „skupić się” (*“think clearly”*) mean? (2 students)
- Is it possible to colour half a star? (1 student)

Fifth-graders:

- Is it possible to colour half a star? (2 students)

Table 2S

Correlations of the PeSSKi with Other Scales (not used in the study due to low α)

Scale	PeSSKi	Cronbach's α
Parent SDQ – Conduct Problems	.31	.67
Parent SDQ – Peer Relationships Problems	.42	.55
Parent PREIS – Reactions to Being Evaluated	-.15	.62
Parent PREIS – Social Relationships	-.39	.58
Parent PREIS – Emotional Competence	-.44	.54

Note. Parent SDQ = Parent's form of the *Strengths and Difficulties Questionnaire* (Goodman, 1994, Polish adaptation by Mazur et al., 2007); Parent PREIS = Parent's form of the *Profile of Emotional and Social Development* (Knopik & Domagała – Zysk, 2021)

Table 3S

Item-Test and Item-Rest Correlations, and Average Inter-item Covariance in the Pilot Study

PeSSKi Item	Version 1 of item 1			Version 2 of item 1		
	Item-test	Item-rest	Avg.interitem	Item-test	Item-rest	Avg.interitem
	corr.	corr.	corr.	corr.	corr.	corr.
1.	.57	.41	.18	.47	.29	.18
2.	.60	.46	.18	.59	.44	.17
3.	.53	.37	.19	.55	.38	.17
4.	.53	.37	.19	.54	.37	.18
5.	.46	.29	.20	.47	.29	.19
6.	.39	.26	.22	.34	.13	.20
7.	.57	.43	.19	.57	.42	.17
8.	.56	.41	.18	.61	.45	.17
9.	.44	.36	.20	.39	.21	.20
10.	.62	.47	.18	.60	.45	.17

Table 4S*Descriptive Statistics for the PeSSKi Items in the Pilot Study*

PeSSKi Item	<i>N</i>	<i>Mean</i>	<i>p50</i>	<i>Sd</i>	<i>Kurt.</i>	<i>Skew.</i>	<i>Min</i>	<i>p25</i>	<i>p75</i>	<i>Max</i>
1 ver. 1	72	2.31	2	1.27	-1.13	0.40	1	1	3	5
1 ver. 2	72	2.19	2	1.16	-0.65	0.65	1	1	3	5
2	72	1.95	1	1.20	-0.12	1.01	1	1	3	5
3	72	2.58	3	1.16	-0.43	0.37	1	2	3	5
4	72	2.25	2	1.00	-0.02	0.58	1	1.5	3	5
5	72	3.05	3	1.47	-1.31	-0.12	1	2	4	5
6	72	2.48	2	1.28	-0.74	0.50	1	1	3	5
7	72	2.51	2	1.29	-0.83	0.45	1	1	3	5
8	72	2.95	3	1.32	-1.08	0.07	1	2	4	5
9	72	3.36	3	1.37	-1.17	-0.24	1	2	5	5
10	72	2.61	3	1.15	-0.76	0.14	1	2	3	5

Note. 1 ver. 1 (version 1 of item 1) = *Jestem w stanie się skupić*; 1 ver. 2 (version 2 of item 1) = *Jestem w stanie zebrać myśli*.

Table 5S*Descriptive Statistics for the Scales in the Main Study*

Scale	<i>N</i>	<i>Mean</i>	<i>SD</i>	<i>Skew.</i>	<i>Kurt.</i>	<i>Min.</i>	<i>Max.</i>
Used in the Analyses							
PeSSKi, ver. 1 of item 1	334	2.52	0.82	0.66	0.05	1	5
PeSSKi, ver. 2 of item 1	334	2.53	0.84	0.65	-0.06	1	5
Child KIU – School enjoyment	333	2.44	0.71	-0.55	-0.76	1	4
Child SDQ – Emotional symptoms	332	1.56	0.49	1.10	0.89	1	3
Child SDQ – Hyperactivity	332	1.68	0.54	0.62	-0.66	1	3
Parent SDQ – Prosocial Behaviour	339	2.50	0.43	-0.94	0.89	1	3
Parent SDQ – Emotional Symptoms	339	1.59	0.45	0.65	-0.30	1	3
Parent SDQ – Hyperactivity	339	1.64	0.56	0.50	-0.95	1	3
Parent PREIS – Coping strategies	341	3.49	0.68	-0.41	0.03	1.17	4.83
Parent PREIS – Antisocial behaviour	341	2.15	0.85	0.66	-0.31	1	4.71
Parent PREIS – Self-knowledge and self-concept	341	4.04	0.66	-1.06	1.63	1	5

Not Used in the Analyses

Parent SDQ – Conduct Problems	339	1.39	0.39	1.10	0.55	1	2.6
Parent SDQ – Peer Relationships Problems	339	1.40	0.34	1.05	0.80	1	2.6
Parent PREIS – Reactions to Being Evaluated	341	3.16	0.90	0.00	-0.64	1	5
Parent PREIS – Social Relationships	341	3.93	0.62	-0.61	0.03	2	5
Parent PREIS – Emotional Competence	341	3.63	0.67	-0.43	-0.04	1.2	5

Table 6S*Bifactor Models for the PeSSKi*

PeSSKi Item	Version 1 of Item 1			Version 2 of Item 1		
	Stress	Positive	Negative	Stress	Positive	Negative
1	.77***	.38**		.86***	0.32**	
2	.65***		.50***	.69***		.44***
3	.85***	.47**		.80***	.38**	
4	.63***		.81***	.67***		.82***
5	.50***	.37*		.49***	.38**	
6	.41***		.481**	.46***		.42*
7	.52***	.55**		.51***	.76**	
8	.81***		.38*	.85***		.29*
9	.86***		.51**	.89***		.44**
10	.78***	-.20		.75***	-.10	
ECV	66.90%			69.10%		
Omega	.83			.84		
OmegaH	.69	.04	.11	.71	.04	.08
OmegaH/omega	82.61%	4.40%	12.99%	84.72%	5.23%	10.04*
OmegaS		.13	.29		.15	.236

Note. *** $p < .001$; ** $p < 0.05$; * $p < .01$

Figure 1S

PeSSKi's Internal Structure: Tested Models

