

Maximising comparability: Harmonisation of mental health measures in the British birth cohorts

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MRC Unit for Lifelong Health and Ageing at UCL : LHA
&
MRC National Survey of Health and Development : NSHD



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Acknowledgements

- CLS
 - George B. Ploubidis, PI
 - Alissa Goodman, Co-I
 - Praveetha Patalay, Co-I
 - Eoin McElroy, Research Associate
 - Aase Villadsen, Research Associate
 - Dawid Gondek, PhD Student
- MRC LHA
 - Marcus Richards, Co-I
- ALSPAC
 - Kate Northstone, Advisor
- UCL Clinical, Educational & Health Psychology
 - Pasco Fearon, Advisor
 - Marc Tibber, Advisor

Acknowledgements

The work described in this presentation was funded by CLOSER. CLOSER was funded by the Economic and Social Research Council (ESRC) and the Medical Research Council (MRC) between 2012 and 2017. Its initial five year grant has since been extended to March 2021 by the ESRC. (grant reference: ES/K000357/1). www.closer.ac.uk.

Outline

- Importance of harmonisation
- Harmonisation process
- Resources and outputs

Harmonisation

• Barriers to comparability +

- Content
- Scale
- Reporter

Strengths and Difficulties Questionnaire +

For each item, please mark the box for Not True, Somewhat True or Certainly True. It would help us if you answered all items as best you can even if you are not absolutely certain or the item seems daft! Please give your answers on the basis of the child's behaviour over the last six months or this school year.

Child's Name Male/Female

Date of Birth.....

	Not True	Somewhat True	Certainly True
Considerate of other people's feelings	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Restless, overactive, cannot stay still for long	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Often complains of headaches, stomach-aches or sickness	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Shares readily with other children (treats, toys, pencils etc.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Often has temper tantrums or hot tempers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rather solitary, tends to play alone	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Generally obedient, usually does what adults request	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Many worries, often seems worried	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

III BEHAVIOUR

15. Which statement in each group

- (a) Very popular with other children.....1
 Of average popularity.....2
 Tends to be ignored by other children.....3
- (b) Liable to get unduly rough during playtime.....1
 Takes a normal part in rough games.....2
 Rather frightened of rough games.....3
- (c) Avoids attention, hates being in the limelight.....1
 Does not unduly avoid or seek attention.....2
 Shows off; seeks attention.....3
- (d) A dare-devil.....1
 As cautious as the average child.....2
 Extremely fearful.....3

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Harmonisation

General Health Questionnaire (28-item)			
	Rater 1	Rater 2	Agreement
16. Felt constantly under strain	Tension/stress	Tension/stress	✓
3. Been feeling run down and out of sorts	Low mood		✗
17. Been able to enjoy your normal day-to-day activities		Low mood	✗

Rater 3

Harmonisation

	GHQ (28-item)	GHQ (12-item)	PSF5 (18 items)	Present State Examination	Malaise Inventory (9 item)	Malaise Inventory (24 items)	SF-36	CES-D	Kessler scale (4 items)
Low Mood	Red	Green	Green	Green	Green	Green	Green	Green	Green
Fatigue	Green	White	Green	Green	Green	Green	Green	Green	Green
Tense/stressed	Green	Green	Green	Red	Green	Green	Red	White	White
Sleep problems	Green	Green	Green	Green	White	Green	White	Green	White
Worry	Red	Red	Red	Green	Green	Green	Green	Green	White
General anxiety	White	White	Green	Green	Green	Green	Red	Green	White
Irritability	Green	White	White	Green	Green	Green	White	Green	White
Panic	Green	White	Green	Green	Green	Green	White	White	White
Hopelessness	Green	Red	Green	Green	White	White	Green	Green	Green
Loss of interest	Green	Green	Green	Green	White	White	Red	White	White
Concentration problems	White	Green	Green	Green	White	White	Green	Green	White
Impairment/functionality	Red	White	Green	Red	White	White	Red	White	White
Appetite disturbance	White	White	Green	Green	White	Green	White	White	White
Health Anxiety/perceived poor health	Green	White	Green	Green	White	Green	White	White	White
Restlessness	White	White	Green	Green	White	White	White	White	Green
Social phobia	White	White	Red	Green	White	Green	White	White	White
Cognitive impairment - Indecision	Green	Green	White	Green	White	White	White	White	White
Somatic complaints	Green	White	White	Green	White	Green	White	White	White
Wothlessness/self-esteem	Green	Green	White	Green	White	White	White	White	White
Motivation	Green	White	Green	White	White	White	White	Green	White
Suicidal ideation	Green	White	Green	Green	White	White	White	White	White

Harmonisation



Measurement properties

- Harmonised items within and between cohorts
 - ✓ Do cohort members interpret mental health questions in the same way as they age?
 - ✓ Are there generational differences in the interpretation of items?
 - ✓ Are there within (age) and/or between (generational change) differences in reliability/precision?
 - ✓ How do the harmonised items compare to the overall scales? Are they capturing a similar construct?

Measurement properties

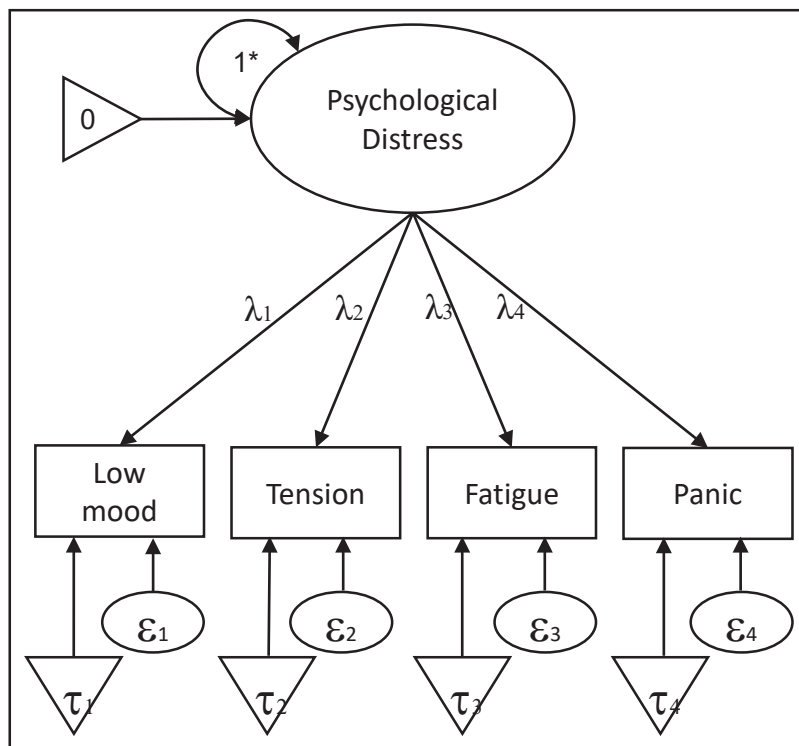
	NSHD	NCDS	BCS70
Age 36	Present State Examination (selected items)		
Age 42		Malaise Inventory (24 items)	Malaise (9 items)
		General Health Questionnaire (12 item) (GHQ-12)	
Age 43	Psychiatric Symptom Frequency Scale (18 items)		
Age 46			Malaise (9 items)
			SF-36 (10 items)
			CES-D scale (Center for Epidemiologic Studies Depression) (10 items)
Age 50		Malaise Inventory (9 item)	
		SF36	
Age 53	General Health Questionnaire		
Age 60-64	General Health Questionnaire		
Age 69	General Health Questionnaire		

Measurement properties

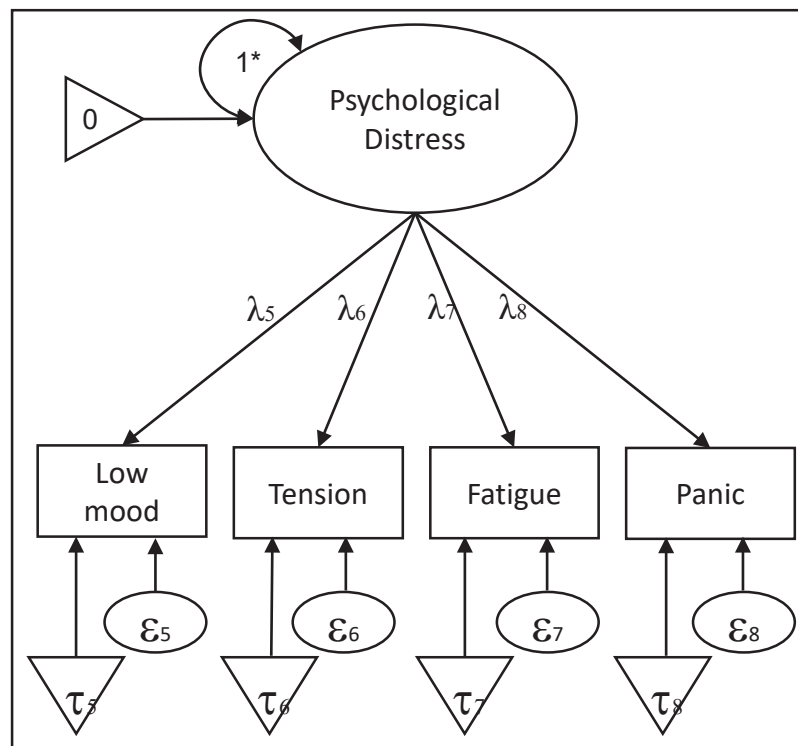
	General Health Questionnaire (28-item) (GHQ-28)	Psychiatric Symptom Frequency Scale (18 items)	Present State Examination (selected items)	Malaise Inventory (9 item)
Low Mood	17. Been able to enjoy your normal day-to-day activities	2. have you been in low spirits or felt miserable	20. Do you keep reasonably cheerful or have you been very depressed or low spirited recently? Have you cried at all? (Rate depressed mood)	2. Do you often feel miserable or depressed?
Fatigue	2. Been feeling in need of a good tonic	14. have there been days when you tired out very easily?	3. Have you been exhausted and worn out during the day or evening even when you haven't been working very hard? (rate tiredness/exhaustion) (slightly doubtful about this one)	1. Do you feel tired most of the time?
Tension	16. Felt constantly under strain	1. have you felt on edge of keyed up or mentally tense	7. Do you often feel on edge, or keyed up, or mentally tense or strained? (rate nervous tension)	7. Are you constantly keyed up and jittery?
Panic	19. Been getting scared or panicky for no good reason	8. have you been in situations when you felt shaky or sweaty or your heart pounded or you could not get your breath?	11. Have you had times when you felt shaky or your heart pounded or you felt sweaty and you simply had to do something about it? (rate panic attacks)	9. Does your heart often race like mad?

Measurement properties

Cohort 1

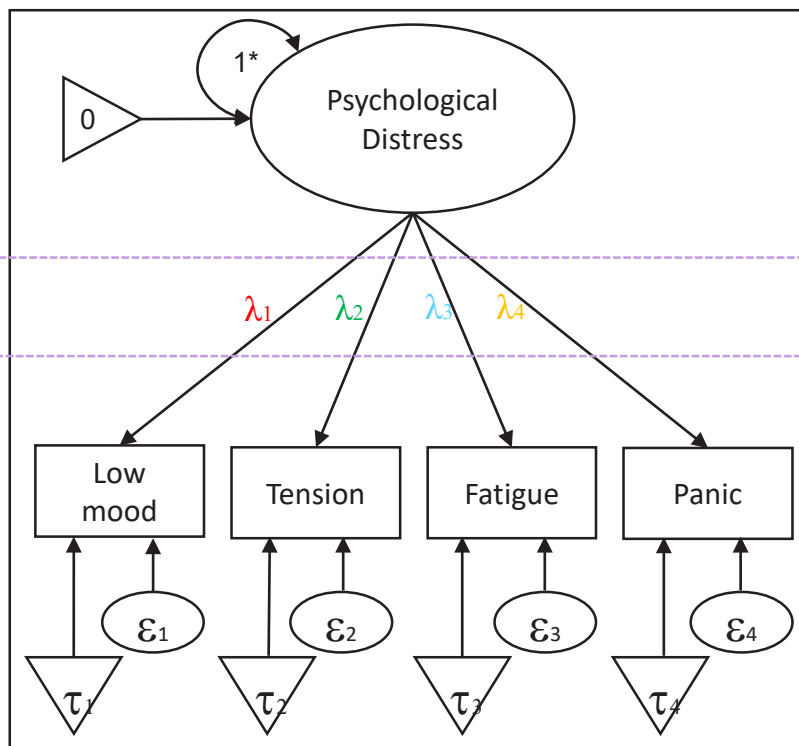


Cohort 2

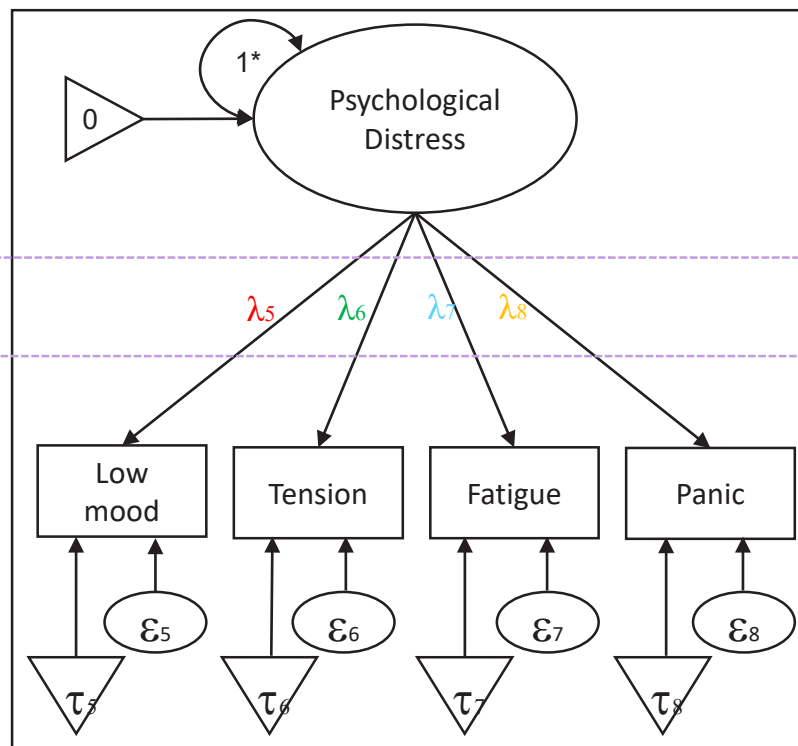


Measurement properties

Cohort 1

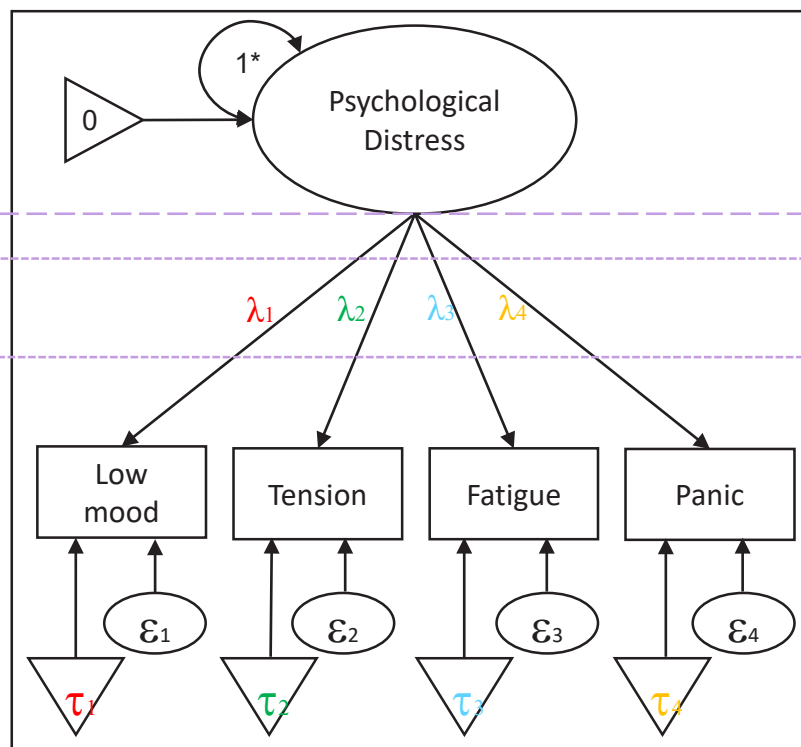


Cohort 2

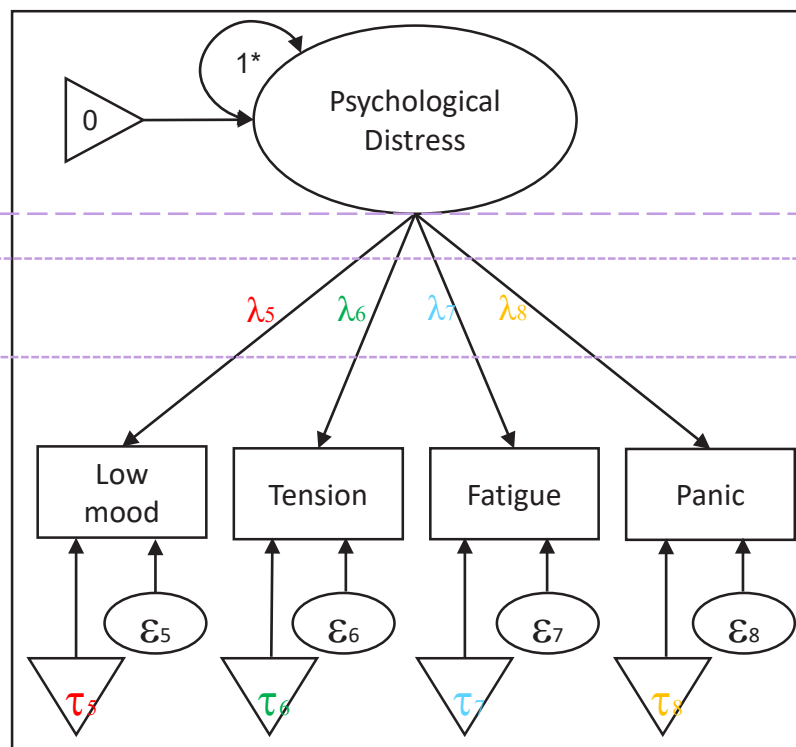


Measurement properties

Cohort 1



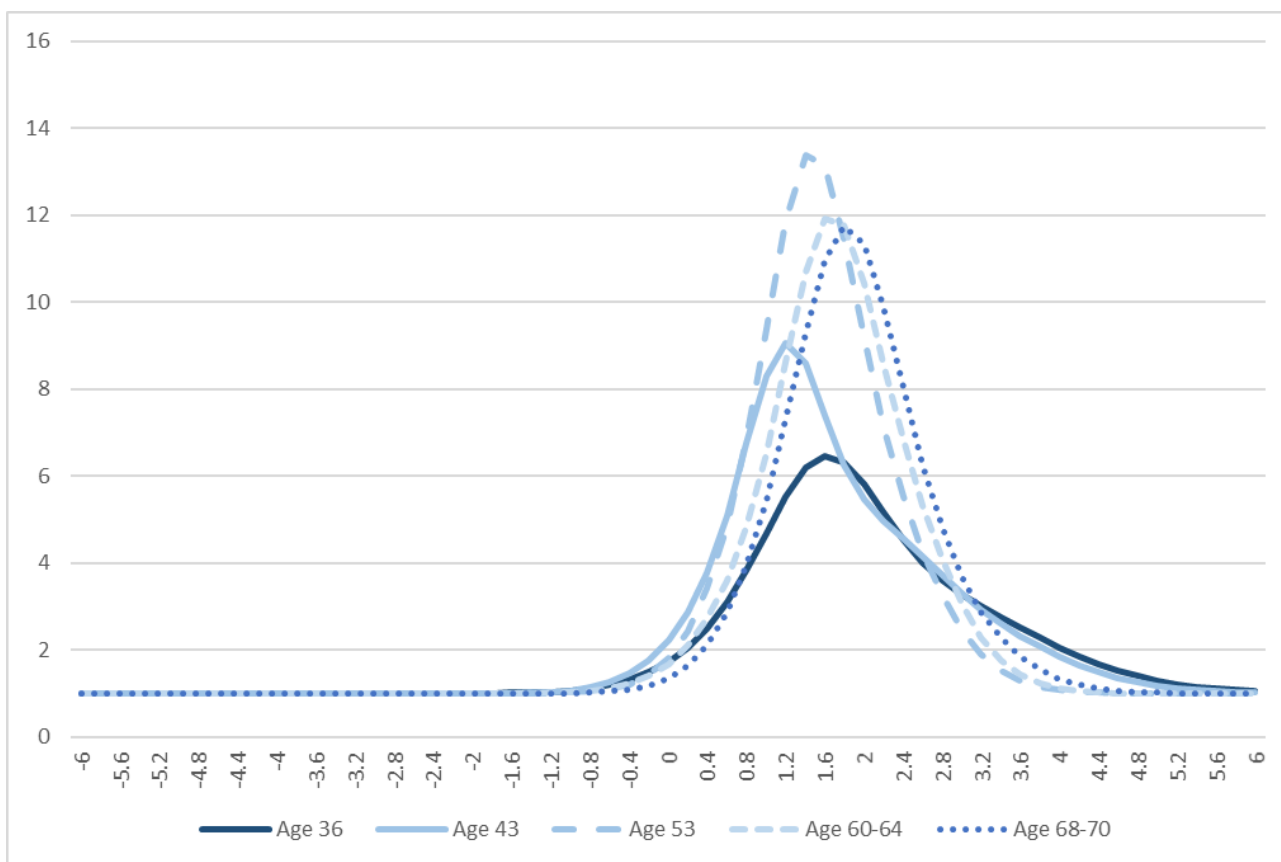
Cohort 2



Measurement properties

Goodness of fit criteria									
			Chi-square (d.f.)	RMSEA	CFI	TLI	Δ RMSEA	Δ CFI	Δ TLI
	Model	Configural	256.591 (18)	0.042	0.994	0.983			
		Metric	383.003 (42)	0.033	0.992	0.990	0.009	0.002	0.007
		Scalar	4576.551 (66)	0.095	0.896	0.915	0.053	0.098	0.068
		Partial Scalar	1835.781 (58)	0.064	0.959	0.962	0.022	0.035	0.021
		Partial Scalar 2	775.514 (50)	0.044	0.983	0.982	0.002	0.011	0.001

Measurement properties



Summary

- Subsets of harmonized items can be derived using a content validation approach
- Potential sources of bias such as age effects, survey design, period effects, or cohort specific effects **have minimal influence** on the way participants interpret and respond to these items
- Harmonised items are broadly representative of the scales they were derived from (capture the same construct)

Outputs

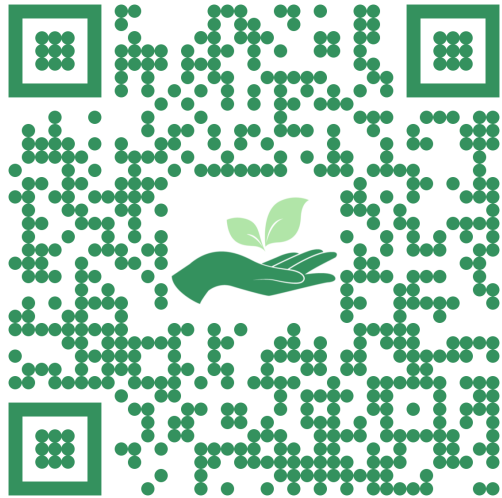
CLOSER Resource Report: Mental Health Harmonisation

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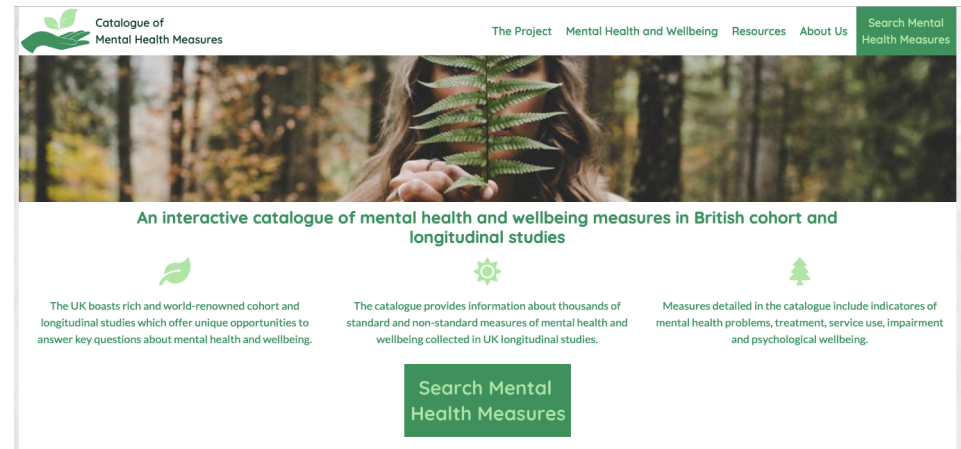
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Final harmonised item tool IM - Excel

Measure	Cohort	Age (Range)	Age (Year)	Low Mood	Fatigue	Tense/stressed	Sleep p
SF-36 (10 items)	ALSPAC	20s	18	6. Have you felt downhearted and low / 8. Have you been a happy person	9. Did you feel tired / 1. Did you feel full of life / 5. Did you have a lot of energy / 7. Did you feel worn out	4. Have you felt calm and peaceful	
MFQ	ALSPAC	20s	18	1. I felt miserable or unhappy / 3. I laughed a lot / 7. I cried a lot / 12. I felt happy	4. I felt so tired I just sat around and did nothing		
SF-36 (10 items)	ALSPAC	20s	21	6. Have you felt downhearted and low / 8. Have you been a happy person	9. Did you feel tired / 1. Did you feel full of life / 5. Did you have a lot of energy / 7. Did you feel worn out	4. Have you felt calm and peaceful	
MFQ	ALSPAC	20s	21	1. I felt miserable or unhappy / 3. I laughed a lot / 7. I cried a lot / 12. I felt happy	4. I felt so tired I just sat around and did nothing		
MFQ	ALSPAC	20s	22	1. I felt miserable or unhappy / 3. I laughed a lot / 7. I cried a lot / 12. I felt happy	4. I felt so tired I just sat around and did nothing		
Malaise inventory (24-item version)	NCDS	20s	23	3. Do you often feel depressed?	2. Do you often feel tired most of the time?	16. Are you constantly keyed up and jittery?	6. Do you 7. Do you
MFQ	ALSPAC	20s	23	1. I felt miserable or unhappy / 3. I laughed a lot / 7. I cried a lot / 12. I felt happy	4. I felt so tired I just sat around and did nothing		
General Health Questionnaire (12-item version) (GHQ-12)	Next Steps	20s	25	9. been feeling unhappy and depressed? / 12. been feeling reasonably happy, all things considered?		5. Felt constantly under strain	2. Lost r
Malaise inventory (24-item version)	BCS	20s	26	3. Do you often feel depressed?	2. Do you often feel tired most of the time?	16. Are you constantly keyed up and jittery?	6. Do you 7. Do you
General Health Questionnaire (12-item version) (GHQ-12)	BCS	30s	30	9. been feeling unhappy and depressed? / 12. been feeling reasonably happy, all things considered?		5. Felt constantly under strain	2. Lost r



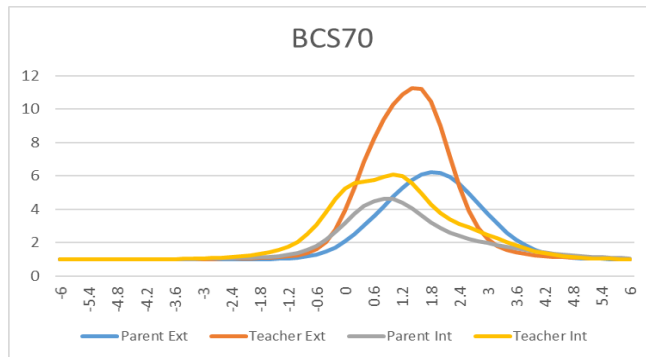
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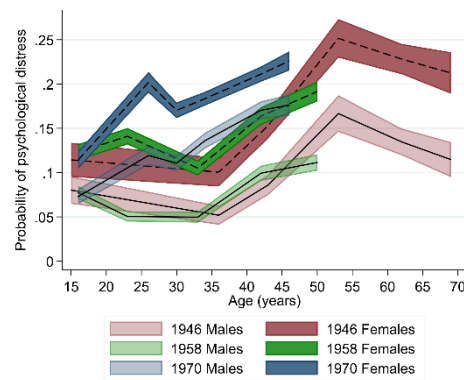
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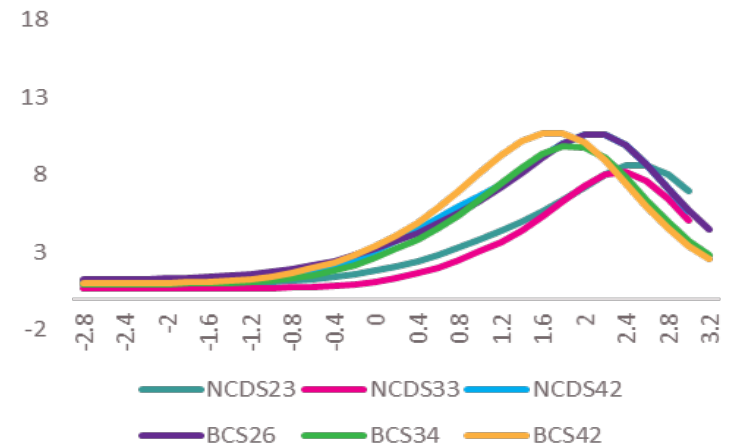
Outputs



(Villadsen et al., in prep)



(Gondek et al., under review)



(Ploubidis et al., accepted, in press)

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Thank you for listening!



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