Psychological distress from adolescence to early old age: Evidence from the 1946, 1958 and 1970 British birth cohorts

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Background

- Mental health disorders are the leading cause of non-fatal disease burden
- Their impact has increased over the last three decades
- Vital to build a high-quality evidence-base to inform the development of interventions and policies
- Longitudinal studies can help us achieve this by identifying high-risk life periods—with modifiable risk factors—and facilitate prevention and early detection of disorder
Life course trajectory of psychological distress

Age vs cohort vs period effects in cross-sectional data or short follow ups
The UK’s Longitudinal Studies

TIMELINE

- Hertfordshire Cohort Study
- MRC National Survey of Health and Development
- 1958 National Child Development Study
- 1970 British Cohort Study
- Southampton Women’s Survey
- Understanding Society: The UK Household Longitudinal Study
- Avon Longitudinal Study of Parents and Children
- Millennium Cohort Study

Timeline:
- 1930
- 1940
- 1950
- 1960
- 1970
- 1980
- 1990
- 2000
- 2010
Primary aim: To study the profile of psychological distress across three British birth cohorts spanning adolescence to early old age.
Methods

- Outcome: **Binary indicator of ‘caseness’,** based on thresholds derived from measures of psychological distress
- Best estimate of the **prevalence of psychological distress** at a given timepoint
- Long follow up to age 69 allowed us to capture the **empirical distribution** of psychological distress from adolescence to early old age
- Missing data (attrition and item non-response) dealt with Multiple Imputation with chained equations, 50 imputations
- 2 parameter IRT models – measurement invariance
- Piecewise multilevel growth model
Prevalence (%) of psychological distress – 1946 cohort

Males

Prevalence %

Age 15-16: 7%
Age 23-26: 8%
Age 30: 3%
Age 33-36: 10%
Age 42-43: 12%
Age 46: 16%
Age 50-53: 14%
Age 60-64: 12%
Age 69: 11%

1946 cohort

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Prevalence (%) of psychological distress – 1946 & 1958 cohorts

![Bar chart showing prevalence percentages of psychological distress for different age groups and cohorts.](chart.png)
Prevalence (%) of psychological distress – All cohorts

Males

- Age 15-16
- Age 23-26
- Age 30
- Age 33-36
- Age 42-43
- Age 46
- Age 50-53
- Age 60-64
- Age 69

Legend:
- 1946
- 1958
- 1970

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Prevalence (%) of psychological distress – All cohorts

Males

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Prevalence (%) of psychological distress

Females

Prevalence %

Age 15-16 | Age 23-26 | Age 30 | Age 33-36 | Age 42-43 | Age 46 | Age 50-53 | Age 60-64 | Age 69

1946 | 1958 | 1970

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Prevalence (%) of psychological distress

Females

Prevalence %

Age 15-16, Age 23-26, Age 30, Age 33-36, Age 42-43, Age 46, Age 50-53, Age 60-64, Age 69

1946, 1958, 1970
Modelling the trend

- Logit piecewise multilevel growth models
- Binary outcome
- Non-linear growth
- Measurements nested within individuals

Spline

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Method artefact?

• Selection to mortality?
• Are the cohorts more selected – compared to their target populations - on mental health?
• Is mental health more strongly associated with mortality in the birth cohorts compared to the population?
• No – mortality rates in the three cohorts are representative of those observed in their target populations
• Any effects of selective mortality due to mental health reflect a population selection process and not sample specific bias
• **Method artefact?** Different measures of psychological distress
• **Harmonisation** of psychological distress questions across and within cohorts
• Old School – 2 + 1 psychologists assessed which items tap into the **same** symptom
Sensitivity analysis within cohorts: 1946 cohort, 10 harmonised and invariant items
Sensitivity analysis within cohorts: 1958 cohort, Malaise Inventory, invariant within cohort
Sensitivity analysis within cohorts: 1970 cohort, Malaise Inventory, invariant within cohort.
Harmonisation: Sensitivity analysis based on 4 comparable items within and across cohorts

<table>
<thead>
<tr>
<th>Present State Examination</th>
<th>Psychiatric Symptom Frequency Questionnaire</th>
<th>General Health Questionnaire</th>
<th>Malaise Inventory</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do you often feel on edge, keyed up, mentally tense or strained?</td>
<td>Over the last year have you felt on edge, keyed up or mentally tense?</td>
<td>Have you recently felt constantly under strain?</td>
<td>Are you constantly keyed up and jittery?</td>
</tr>
</tbody>
</table>
Method artefact?

- Caseness? Binary vs continuous variables
- Conventional wisdom: Continuous variables contain more information
- Assumption: Reliability/measurement error constant across the whole range of the measure of interest
- Reasonable for height, weight, blood pressure
- Mental health?
Malaise Inventory SIFs
Key findings

• Elevated psychological distress in middle-adulthood

• Highest psychological distress in the 1970 born cohort

• Possibly higher psychological distress in 1958 vs 1946
Reasons for ‘midlife mental health crisis’?

• Not known - We can only speculate
• Most probably not a period effect
• Age effects – Social aspects of ageing
• Midlife tends to involve a “peak” in career, with midlife adults acquiring increasing responsibility as the “decision makers” in society
• Elevated job-related stress in midlife & declining quality of leisure time as well as time with friends and family may translate into higher psychological distress in midlife
• More research is needed to empirically test these hypotheses
Reasons for improvement in early old age?

• Declining psychological distress due to a relief from major midlife stressors?

• Shift from attainment-related goals, such as status or skills, towards those that help them maintain emotional stability — socioemotional selectivity

• Perhaps mental health problems more specific to old age are not well-captured by conventional symptom scales, hence underestimating frequency of distress

• Nonetheless, the evidence on differential association between risk factors and psychological distress across different life course stages is currently lacking
MENTAL HEALTH CRISIS IN MIDLIFE

What is the mental health midlife crisis?
- Lower wellbeing
- Worse mental health
- Higher stress
- Lower satisfaction with a range of life domains

Life-course prevalence of common mental disorders

Evidence from British birth cohorts

What are the causes?

Please share your views and experiences online or talk to us face-to-face.

Need for research!

Your views on causes

Hypotheses

Testable with UK longitudinal data

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