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The Scarring Effect of Youth Unemployment on Trajectories of Mental Health and Subjective Wellbeing

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Background (I)

- Evidence from multiple countries that those unemployed while young have worse outcomes ('scars') in later life.
 - Occupational outcomes (e.g., Gregg and Tominey, 2005)
 - Physical health (e.g., Nygren et al., 2015)
 - Somatic complaints (e.g., Brydsten et al., 2016)
 - Health behaviours (e.g., Mossakowski, 2008)
 - Mental health problems (e.g., Voßmer et al., 2018)
 - Subjective wellbeing (e.g., Bell and Blanchflower, 2011)
- Most studies on mental health and subjective wellbeing assess outcomes at single point(s) in time.
 - Yet, measuring trajectories important for understanding underlying processes (Lersch et al., 2018).
- Most of these also use data from older cohorts (e.g. NCDS or Northern Swedish Cohort).
 - Two studies with more recent data do not consistently show significant results (Bynner and Parson, 2002; McQuaid et al., 2014).

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Background (II)

- Arguments in the literature that the effects of unemployment have increased for women as they have entered the workforce in greater numbers.
- Finally, there is a wide body of research on the long-term costs of graduating during a recession, with several studies looking at whether this moderates the scarring effect of youth unemployment.
 - However, data used in these studies is inadequate.

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Research Questions

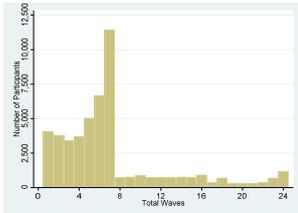
- What is the association between experiencing youth unemployment between ages 18-21 and trajectories in mental health and subjective wellbeing?
- Is this association different between genders? Is it changing by year of birth, and is it changing by year of birth differently by gender?
- Is the association moderated by economy-wide unemployment rates?

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Dataset

- British Household Panel Survey (BHPS)
 - Annual interviews from 1991-2008 (18 Waves)
 - ~ 10,000 participants per Wave from ~ 5,000 households
- Understanding Society (UKHLS)
 - Annual interviews from 2009-Present (7 Waves available)
 - ~ 50,000 participants per Wave from ~ 30,000 households
 - BHPS participants joined UKHLS in Wave 2.
- Sample sizes:
 - Observations: 7,144 - 358,425
 - Participants: 1,827 - 49,508

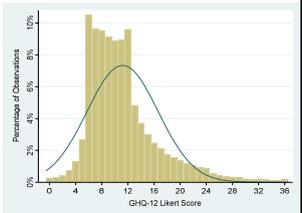


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Outcome I: GHQ-12 Likert Score

- 12 Item screening device for minor psychiatric disorders focussing on two areas:
 - Appearance of new, distressing phenomena
 - Inability to carry out normal functions
- Range = 0-36
 - Higher values indicate worse health
- Collected in BHPS Waves 1-18 and UKHLS Waves 1-7

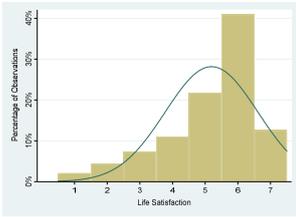


$\mu = 11.18$
 $SD = 5.43$

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UCL Outcome II: Life Satisfaction

- Single-item measuring person's subjective assessment of their life as a whole.
 - BHPS wording: "...how dissatisfied or satisfied are you with your life overall?"
 - UKHLS wording: "Please tick the number which you feel best describes how dissatisfied or satisfied you are with the following aspects of your current situation...your life overall."
- Range = 1-7
 - 7 = Completely Satisfied
- Collected in BHPS Waves 4-18 and UKHLS Waves 1-7

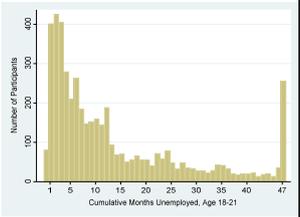


$\mu = 5.19$
 $SD = 1.42$

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UCL Exposure

- Cumulative months unemployment between ages 18-21 inclusive
- Collected from retrospective self-reports of main activity.
- Captured in three separate survey modules.
 - Full-time education > Annual History > Life History
- 'Seam' effects observed and recall bias likely (Paull, 2002)
- Range = 0-47
- Individuals Exposed = 4,694

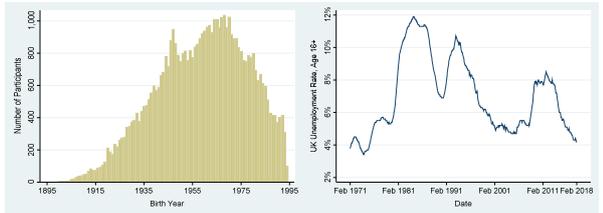


$\mu = 13.43; \text{Median} = 8$
 $SD = 13.51$

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UCL Moderators

- Birth Year
- Average monthly UK unemployment rate between ages 18-21



Median = 1960
min = 1895; *max* = 1994

$\mu = 7.74; SD = 2.29$
min = 4.03; *max* = 11.72

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UCL Methods

- Multi-level random effects models (observations clustered in individuals)
 - Continuous outcomes
 - Random intercepts only
 - Complete case analysis
- Baseline model:

$$y_{it} = \beta_0 + \left(\sum_{j=1}^3 \beta_j \cdot UnemMonths_{18-21} \cdot Age_{it}^j \right) + \beta_K X_{it} + u_i + \epsilon_{it}$$
- Covariates (X_{it}):
 - Age, Age², Age³ (Centred at age 22)
 - Birth Year (Centred at 1960)
 - Sex
 - 4 Year Average UK Unemployment Rate
 - Outcome at age 17 (some models)

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UCL Results (I)

Research Question:

- What is the association between experiencing youth unemployment between ages 18-21 and trajectories in mental health and subjective wellbeing?

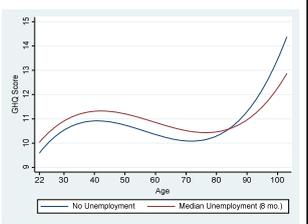
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UCL Results (I): GHQ-12

- Research Question:
 - What is the association between experiencing youth unemployment between ages 18-21 and trajectories in mental health and subjective wellbeing?

Variable	(1)	(2)
<i>Unem</i>	.0555***	.0434***
<i>Unem · Age</i>	-.0018**	-.0008
<i>Unem · Age²</i>	.0001***	0.0011
<i>Unem · Age³</i>	-1.56e-06***	0.0001

*** $p < 0.01$; ** $p < 0.05$; * $p < 0.1$



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Results (I): Life Satisfaction

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Variable	(1)	(2)
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<i>Unem · Age</i>	.0009***	-.0009
<i>Unem · Age²</i>	-.00004***	-.0002
<i>Unem · Age³</i>	5.50e-07***	9.23e-06

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Results (II)

Research Question:

- Is the association different between genders? Is it changing by year of birth, and is it changing by year of birth differently by gender?

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Results (II)

Variables	GHQ - 12		Life Satisfaction	
	Male	Female	Male	Female
<i>Unem</i>	0.0293	0.0605***	-0.0200***	-0.00177
<i>Unem · Age</i>	0.00138	-0.00166	0.000856	-0.00262**
<i>Unem · Age²</i>	-7.96e-06	3.78e-05	-3.83e-05	9.84e-05**
<i>Unem · Age³</i>	-1.09e-07	6.46e-08	4.13e-07	-8.81e-07
<i>Unem · BirthYear</i>	0.000628	-0.000277	8.93e-06	-0.000666*
<i>Unem · BirthYear · Age</i>	-7.12e-05	0.000172	-1.47e-05	5.98e-05
<i>Unem · BirthYear · Age²</i>	1.87e-06	-6.61e-06*	1.94e-07	9.12e-08
<i>Unem · BirthYear · Age³</i>	15.33e-09	7.71e-08**	-1.90e-09	1.36e-08
Observations	156,685	201,740	135,574	176,054
Individuals	22,064	27,444	21,100	26,452
LR Test	0.9005	0.2126	0.7302	0.0065***

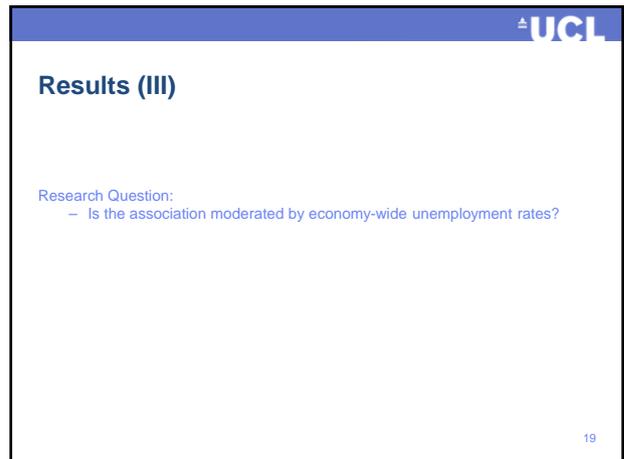
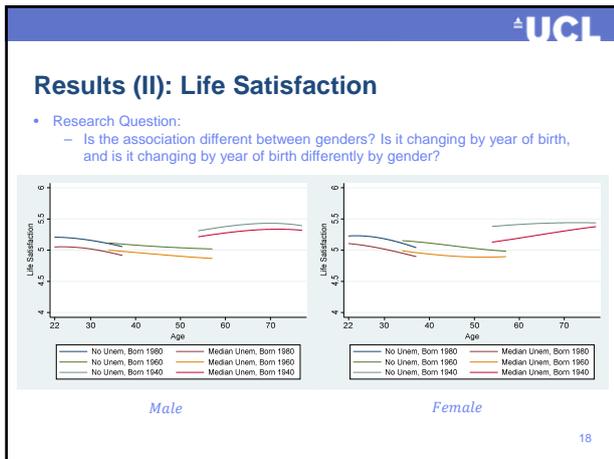
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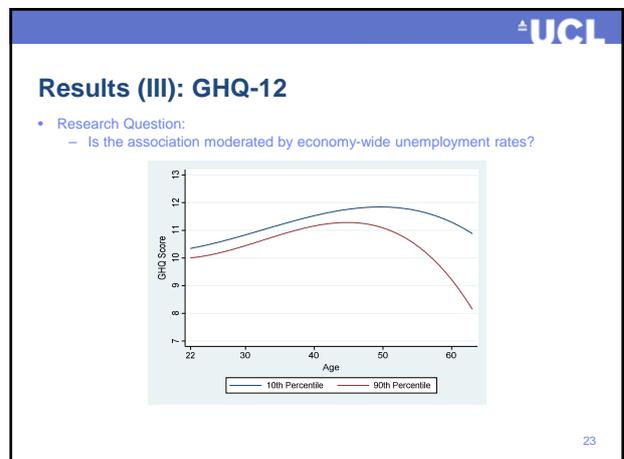
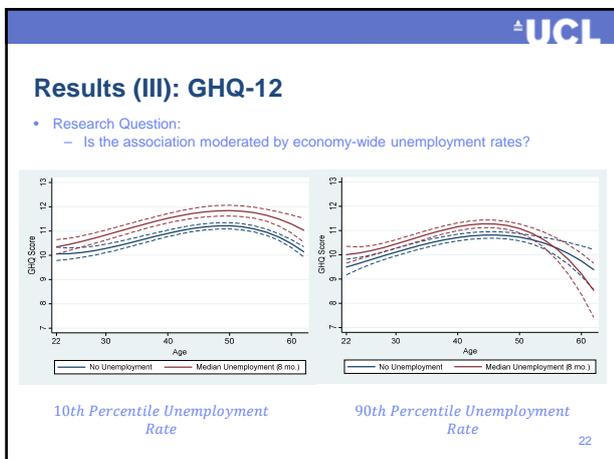
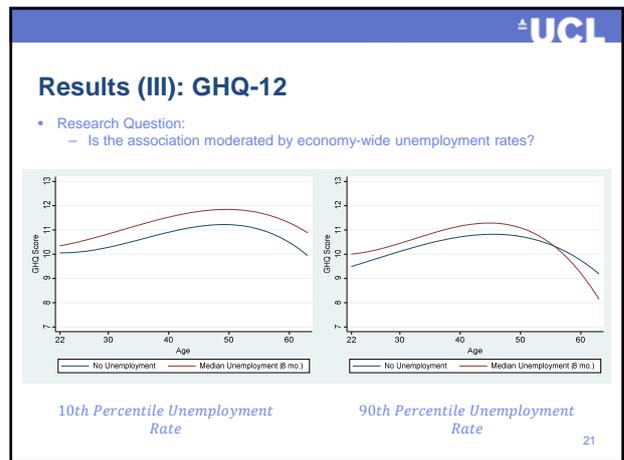


Results (III)

Variables	GHQ - 12	Life Satisfaction
Unem	0.0132	-0.0228**
Unem · Age	0.0168**	-0.00161
Unem · Age ²	-0.00103**	0.000143
Unem · Age ³	1.95e-05**	-3.11e-06
Unem · UnemRate	0.00449	0.000415
Unem · UnemRate · Age	-0.00207**	0.000167
Unem · UnemRate · Age ²	0.000141**	-1.59e-05
Unem · UnemRate · Age ³	-2.86e-06**	3.73e-07
UnemRate	-0.0914**	0.0560**
UnemRate · Age	0.0129*	-0.00921**
UnemRate · Age ²	-0.000686*	0.000389**
UnemRate · Age ³	8.59e-06	-4.65e-06*
Age	-0.0700	0.0835**
Age ²	0.00855**	-0.00483**
Age ³	-0.000166**	7.49e-05**
LR Test	0.0137**	0.3007

*** p < 0.01, ** p < 0.05, * p < 0.1

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Results (III): GHQ-12

- Research Question:
 - Is the association moderated by economy-wide unemployment rates?

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Results (III): Life Satisfaction

- Research Question:
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Results (III): Life Satisfaction

- Research Question:
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Results (III): Life Satisfaction

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Summary

- RQ1: On average, difference in GHQ-12 and life satisfaction trajectories between those with experience of youth unemployment and those without grows in the short-term before converging in late age. This may be partly explained by attrition. Significant difference between the unemployed and non-unemployment remains when outcomes at age 17 included in models.
- RQ2: Evidence that mental health and life satisfaction is worse in later cohorts across both genders, though this is not consistent across each outcome. Little evidence that the difference between the those with youth unemployment experience and those without is also larger in later cohorts.
- RQ3: Trajectories in mental health and life satisfaction appear worse following low unemployment periods. The difference between those with youth unemployment experience and those without is larger following low unemployment periods. This may be explained by selection effects.

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Future Work

- Missing Data
- Local Area Unemployment Rates
- Structural Equation Modelling

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