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Short report

Childhood and adulthood socio-economic position and midlife depressive and anxiety disorders

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Summary
This paper investigates how childhood socio-economic position influences the risk for midlife depressive and anxiety disorders at 45 years of age, assessed by the Clinical Interview Schedule in 9377 participants of the 1958 British Birth Cohort. Socio-economic position was measured by Registrar General Social Class in childhood and adulthood. The association of paternal manual socio-economic position with any diagnosis at 45 years of age was accounted for after adjustment for adult socio-economic position. Manual socio-economic position in women at 42 years of age was associated with midlife depressive disorder and any diagnosis; these associations were diminished by adjustment for childhood psychological disorders. Effects of childhood socio-economic position on adult depressive disorders may be mediated through adult socio-economic position.

Declaration of interest
None.

This paper examines the implications of low socio-economic position in childhood for midlife depressive and anxiety disorders in the 1958 British Birth Cohort. We examine the following questions: does childhood socio-economic position increase the risk for midlife disorders above and beyond adult socio-economic position and does the relationship between adult socio-economic position and risk of midlife disorders reflect the effects of childhood socio-economic position?

Method

The 1958 British Birth Cohort has been followed up at ages 7, 11, 16, 23, 33 and 42 years with a biomedical follow-up at 45 years.[1] After exclusions for death, emigration, permanent refusal, armed forces and long-term non-contacts, 11 971 participants still in contact with the study at the age of 45 years were invited to a nurse-led biomedical assessment that included measurement of respiratory function, eyesight, hearing and a computer-assisted personal interview. The achieved sample was 9377 with a response rate of 72% of the contacted sample, representing 59% of the eligible sample. Ethical approval for the survey was given by the South East Multi-Centre Research Ethics Committee.

Adult social position was based on current or most recent occupation at 42 years of age and categorised using the British Registrar General classification[2] as non-manual (I and II professional/managerial/technical, III other non-manual) and manual (III skilled manual, IV and V unskilled manual). Both men and women were allocated to a manual or non-manual socio-economic position on the basis of their own occupation. Childhood socio-economic position at 7 years of age was measured by the father's occupation using the same classification; no male head of the family was classified as manual.

Depressive and anxiety disorders in the previous week were measured by modules from the revised Clinical Interview Schedule[3] administered by a nurse using a computer-assisted personal interview at the age of 45 years. Diagnoses were derived according to standard algorithms for ICD–10 diagnoses. Non-comorbid diagnoses were derived for 'depressive episode', 'generalised anxiety disorder' and a summary measure of 'any diagnosis' that included generalised anxiety disorder, depressive episode, any phobia (excluding specific phobias) and panic disorder, including any comorbid disorders.

Psychological distress at ages 7 and 11 years was measured using the teacher-rated Bristol Social Adjustment Guides.[4] Internalising and externalising behaviours at age 16 years were measured using the teacher version of the Rutter scales.[5]

Logistic regression analyses were conducted to examine associations of socio-economic position indices in childhood and adulthood with diagnoses at 45 years of age. Interactions between socio-economic position and gender were examined to test whether social gradients differed between women and men in relation to diagnosis. Mediating or moderating effects of adulthood socio-economic position on the association between childhood socio-economic position and midlife disorder were tested by adjustments to the models and the inclusion of interaction terms respectively: adulthood associations were similarly adjusted for childhood socio-economic position. Multiple imputation was used to address missing data in the analyses, using the ICE program in Stata SE (version 8.2). All psychological health and socio-economic position variables were included in the imputation equations.[6] Inverse probability weights were derived to address attrition.

Results

Of the 9377 participants, 50% were female, 84% owned or were purchasing their home and 88% were employed. At age 45 years, 6% of the total sample met the criteria for 'any diagnosis' (7.2% of women; 4.8% of men). Among participants with paternal manual socio-economic position at age 7 years, 55.3% had attained non-manual socio-economic position by the age of 42 years.

Manual social position at 7 years of age was associated with a small increased risk for any diagnosis at 45 years of age (OR=1.26, 95% CI 1.02–1.57) that was eliminated after adjustment for adult socio-economic position (online Table DS1). Manual socio-economic position at 42 years of age was associated with a significantly increased risk of any diagnosis and depressive episode in women but not in men (Table 1). No association was found between adult socio-economic position and generalised anxiety disorder. Adjustment for socio-economic position in childhood made only minimal change to the risks for any diagnosis or depressive episode associated with adult socio-economic position. After additional adjustment for childhood psychological disorders these associations were diminished in size but remained substantial in magnitude. Analysis of complete data demonstrated the same pattern of results, albeit with weaker associations; adjustment for childhood psychological disorders removed the significant effect of manual midlife socio-economic position on any diagnosis (online Tables DS2 and DS3).

Table 1 Associations between social position at 42 years of age and Clinical Interview Schedule diagnoses at 45 years of age (*n*=9377)

			Unadjusted		Adjusted childhood socio-economic position[b]		Adjusted childhood psychological disorders[c]	
	n[a]	With diagnosis, %[a]	OR	95% CI	OR	95% CI	OR	95% CI
Any diagnosis[d]								
Non-manual	5893	5.3	1.00		1.00		1.00	
Manual	3484	7.4	M: 1.18	0.85–1.61	M: 1.06	0.76–1.48	M: 0.91	0.65–1.27
			F: 1.95***	1.53–2.51	F: 1.84***	1.43– 2.38	F: 1.59***	1.22–2.08
Depression[d]								
Non-manual	5893	1.3	1.00		1.00		1.00	
Manual	3484	1.8	M: 0.77	0.38–1.58	M: 0.77	0.36–1.62	M: 0.62	0.29–1.33
			F: 2.61***	1.65–4.13	F: 2.53***	1.59–4.04	F: 2.10**	1.28–3.44
Generalised anxiety disorder								
Non-manual	5893	3.0	1.00		1.00		1.00	
Manual	3484	3.4	1.26	0.95–1.68	1.16	0.86–1.58	1.01	0.74–1.38

F, female; M, male. a. Not weighted: all other analyses imputed and weighted. b. Additionally adjusted for social class and tenure at 7 years of age. c. Additionally adjusted for cumulative number of internalising and externalising disorders in childhood up to age 16 years. d. $P \leqslant 0.001$ for interaction social position at 42 years of age and gender. *P=0.05, **P=0.01, ***P=0.001.

Discussion

This is one of very few studies examining links between childhood socio-economic position and midlife depressive and anxiety disorders.

Sample attrition was the main limitation although imputation and weighting was designed to minimise this. Missing data on less advantaged socio-economic position was associated with previous poorer mental health. Generalisability is limited by studying one age group, subject to specific cohort influences; nevertheless, the associations between socio-economic position and psychiatric diagnoses are similar in nationally representative samples. Registrar General Social Class is not always sensitive to recent changes in occupational structure, may be less meaningful in women and may not take account of partner occupational status.[7]

The loss of the small association between manual socio-economic position in childhood and any diagnosis at midlife after adjustment for adult socio-economic position suggests that the effects of childhood socio-economic position are largely mediated through adult socio-economic position, through pathways that lead from disadvantaged childhoods to disadvantaged adulthoods.

The effects of less advantaged socio-economic position in adulthood are not primarily the result of childhood socio-economic position because adjustment for less advantaged socio-economic position in childhood did not account for the association of adult socio-economic position and midlife disorders. Any diagnosis and depressive episode were strongly influenced by adult social disadvantage as has been shown in other birth cohort studies[8,9] and cross-sectional studies.[10,11] In addition, decline in socio-economic status has also been linked to increased risk of depression.[12] The stronger association in women than men was unexpected; associations between socio-economic position and common mental disorders were weaker in women than men in a national UK survey.[10] Adult socio-economic position has a greater influence on depressive episode than on generalised anxiety disorder in this cohort possibly because anxiety disorders may vary less by occupationally based social class than by material disadvantage. It is also possible that non-manual participants are more comfortable in reporting anxiety symptoms than manual participants, thus obscuring an effect of social disadvantage. Although the association of adult socio-economic position with any diagnosis and depression is not explained by childhood socio-economic position, the association diminished slightly after adjustment for childhood psychological disorders. This may relate to the effect of childhood psychological disorders on adult socio-economic position; further work is needed to investigate this.

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EXTRA CONTENT ONLINE

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