

Article: **What shapes seven-year-olds' subjective well-being? Prospective analysis of early childhood and parenting using the Growing Up in Scotland Study.**

For Social Psychiatry and Psychiatric Epidemiology

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Details of measures and sample information (note, all information provided by mothers, with the exception of child cognitive score)

Construct	Indicator measures (for latent constructs)	Time period (s) when measured	Details	Mean (SE) or %	Factor loading(s) for latent construct (where applicable)
Child gender		10 months	Coded as 0=male, 1=female.	49.4% female	-
Birth order		10 months	Recoded as 0=not first born, 1=first born	48.2% first born	-
Child general health		10-22 months	Reported using a 5-point scale (1=very good to 5=very bad), with the average score used.	1.33 (0.01)	

Construct	Indicator measures (for latent constructs)	Time period (s) when measured	Details	Mean (SE) or %	Factor loading(s) for latent construct (where applicable)
Child developmental delay		22 months	Assessed using the parent-reported <i>Communication and Symbolic Behavior Scales Developmental Profile</i> [1], using the recommended cut-off.	6.1%	
Child cognitive score		38 months	Non-verbal reasoning was assessed by trained researchers using the Picture Similarities subscale of the British Ability Scales (BAS) II [2] Scores were standardised according to age-related norms	51.06 (0.19)	
Mother's age at birth of child		10 months	Mothers were grouped into four age bands: under 20, 20-29, 30-39 and 40 plus years.	Under 20-3.2%, 20-29 yrs – 35.3%, 30-39 yrs, 57.8%, 40+ - 3.7%	
Maternal educational level		10 months	Using the Scottish Credit and Qualifications framework, mothers' qualifications were divided into four groups: degree-level, advanced (Scottish Highers or equivalent), intermediate (upper-level Scottish Standard grades, or equivalent) or low (lower-level Scottish Standard grades or equivalent, or no qualifications). For more information, see http://www.sqa.org.uk/sqa/4596.557.html	Degree-32.6%, advanced – 34.5%, intermediate -23.1%, low – 9.8%	
Maternal ethnic group		10 months	Coded according to Scottish National Census classification. Recoded as 0=white, 1=Ethnic Minority.	2.4%	-
Maternal distress	Low maternal mental health	10,22,34 months	At 10 and 34 months, this was based on the Mental MCS-12 Scale [3], where the threshold for low health was a score ≤ 1 standard deviation below the mean. At 22 months, this was based on the combined Depression and Stress subscales of the DASS scale (REF), where the threshold for low health was a score ≥ 1 standard deviation above the mean. Coded 0=no, 1=yes.	13.6%, 15.2%, 14.8%	0.71, 0.78, 0.76

Construct	Indicator measures (for latent constructs)	Time period (s) when measured	Details	Mean (SE) or %	Factor loading(s) for latent construct (where applicable)
	Drug use	10, 34 months	Illegal drug use in the past 12 month, based on 9 items about any use of cannabis, amphetamines, cocaine, crack, ecstasy, heroin, methadone, LSD, another illegal drug. Coded 0=no, 1=yes.	3.1%, 3.3%	0.76, 0.69
Mother's low physical health		10 months	Physical health was measured using the Short Form Health Survey (SF-12) physical health subscale [4], and low health was defined as mothers with a score <1 SD from the mean.	10.9%	
Family poverty	Low family income	10,22,34 months	Family income was based on an item about the total household income from all sources before tax. Responses were on a 17-point banded scale. Income was equivalised to take account of household size and composition. Low income was defined as ≤60% of UK median income, and coded as 0=no, 1=yes.	21.8%, 19.4%, 19.3%	0.93, 0.89, 0.93
	Workless household	10,22,34 months	Mother and (where applicable) resident partner not in employment. Coded as 0=no, 1=yes.	9.1%, 8.9%, 8.6%	0.95, 0.99, 0.96
Father absence		10,22,34 months	Father not resident in household at one or more of 10,22 and 34 months surveys	16.1%	
Family size		10 months	Number of children (under 16 years old) in household. Families with four or more children were combined.	One-47.4%, two-35.8%, three-13.4%, four or more -3.4%	-
Area deprivation		10 months	Household postcode was linked to quintiles (q) of the Scottish Index of Multiple Deprivation 2006 [5] (here ranked from 1, least deprived to 5, most deprived). This classifies small areas on the basis of householders' income, employment, health, education, geographic access to services and housing.	q1- 22.8%, q2-22.2%, q3-22.5%, q4-16.7%, q5-15.8%	

Construct	Indicator measures (for latent constructs)	Time period (s) when measured	Details	Mean (SE) or %	Factor loading(s) for latent construct (where applicable)
Rurality and remoteness		10 months	Household postcode location used the six-part Scottish urban-rural indicator (see http://www.scotland.gov.uk/Topics/Statistics/About/Methodology/UrbanRuralClassification) . This divides areas into large urban areas (settlements of 125,000 people), other urban areas (settlements 10,000-<125,000), accessible small towns (settlements of 3,000-<10,000), remote small towns, accessible rural and remote rural. Accessible areas are those within a 30 minute drive time of a settlement of 10,000 or more, while for remote areas the drive time is more than 30 minutes. Two groupings of non-urban areas were explored. The first combined small towns in accessible and remote areas, and combined accessible and remote rural locations, to produce a small town vs rural grouping. The second combined accessible small towns and rural areas, and combined remote small towns and rural areas to give an accessible vs remote grouping.	At 10 months: Large urban 36%, other urban 29%, small town 13%, rural 22%, accessible 26%, remote 9%	-
Dysfunctional parenting	Parent-child conflict	58 months	A standardised score using 7 items from Pianta scale [6], Cronbach alpha=0.82. Conflict was measured using seven items, for example: “(Child’s name) and I always seem to be struggling with each other” using a 5-point scale (1=definitely does not apply to 5=definitely applies).	0.00 (0.01)	0.55
	Household organisation	58 months	A standardised score using 3 items from the confusion, hubbub, and order scale ([7]), Cronbach alpha=0.65. Agreement with : “It’s really disorganised in our home”, “You can’t hear yourself think in our home” and “The atmosphere in our home is calm” (item reversed), using a 5-point scale (1=strongly disagree, to 5= strongly agree).	0.00 (0.01)	0.59
	Parenting stress	58 months	A standardised score using four items from the Parental Stress scale ([8]), Cronbach alpha 0.71. Agreement with: ““Being a parent is harder than I thought it would be”, “I feel trapped by my responsibilities as a parent”, “I find that taking care of my child(ren) is much more work than pleasure”, “I often feel tired, worn out, or exhausted from raising a family” using a 5-point scale (1=strongly disagree, to 5=strongly agree).	0.00 (0.01)	0.66

Construct	Indicator measures (for latent constructs)	Time period (s) when measured	Details	Mean (SE) or %	Factor loading(s) for latent construct (where applicable)
Protectiveness		46 months	A standardised scale based on four items from the Parent Supervision Attributes Profile Questionnaire [9] Cronbach alpha=0.67. Agreement with items asked in relation to looking after the child playing outside: "I stay close enough to my child so that I can get to him/her quickly", "I think of all the dangerous things that could happen", "I make sure I know where my child is and what he/she is doing", "I feel very protective of my child" using a 5-point scale (1=strongly disagree, to 5=strongly agree).	0.00 (0.02)	-
Home learning		46, 58 and 70 months	Frequency of four home learning activities used standardised scales based on information at three timepoints: looking at books or read stories (Cronbach alpha 0.65), activities involving painting or drawing (Cronbach alpha=0.61); reciting nursery rhymes or sung songs (Cronbach alpha=0.64); playing at recognising letters, words, numbers or shapes (Cronbach alpha=0.70), scale based on the number of days in the past week (range 0-7).	0.00 (0.02), 0.00 (0.02), 0.00 (0.02), 0.00 (0.02)	0.59, 0.63, 0.48, 0.60

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Supplementary file 2

Article What shapes seven-year-olds' subjective well-being? Prospective analysis of early childhood and parenting using the Growing Up in Scotland Study

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Early childhood and parenting measures: adjusted associations with mother-reported seven-year olds' socio-emotional adjustment: results of adjusted models

		Mother-reported outcomes at 94 months											
Measure (with reference group for categorical measures)	Effect/contrast	Peer relationship problems				School adjustment				Emotional problems			
		Stage 1		Stage 2		Stage 1		Stage 2		Stage 1		Stage 2	
		β (SE)	p	β (SE)	p	β (SE)	p	β (SE)	p	β (SE)	p	β (SE)	p
<u>Early childhood (10-34 months)</u>													
Maternal education (degree)	advanced	0.07 (0.11)	0.485	0.13 (0.10)	0.177	0.00 (0.05)	0.992	-0.01 (0.05)	0.843	0.09 (0.10)	0.330	0.15 (0.09)	0.096
	intermediate	0.28 (0.12)	0.019	0.30 (0.12)	0.009	-0.09 (0.05)	0.117	-0.06 (0.05)	0.275	0.24 (0.12)	0.037	0.23 (0.11)	0.042
	low	0.48 (0.15)	0.001	0.37 (0.13)	0.006	-0.09 (0.06)	0.183	0.01 (0.06)	0.929	0.51 (0.12)	<0.001	0.32 (0.11)	0.005
Maternal distress	higher	0.26 (0.04)	<0.001	0.07 (0.07)	0.279	-0.08 (0.03)	0.003	0.01 (0.04)	0.809	0.34 (0.06)	<0.001	0.08 (0.08)	0.360
Family poverty	higher	0.16 (0.05)	0.001	0.13 (0.05)	0.008	-0.05 (0.02)	0.020	-0.04 (0.02)	0.057	0.15 (0.06)	0.015	0.11 (0.06)	0.058
Absent father (no)	yes	0.25 (0.11)	0.019	0.18 (0.10)	0.060	-0.15 (0.06)	0.005	-0.12 (0.05)	0.026	0.29 (0.10)	0.004	0.20 (0.09)	0.032
Area deprivation	higher	0.08 (0.03)	0.007	0.07 (0.03)	0.028	-0.02 (0.02)	0.158	-0.02 (0.02)	0.260	0.02 (0.03)	0.489	0.01 (0.03)	0.772
Remoteness (large urban)	other urban	-0.03 (0.12)	0.768	-0.02 (0.12)	0.859	0.16 (0.06)	0.005	0.14 (0.06)	0.012	-0.06 (0.09)	0.537	-0.03 (0.09)	0.782
	accessible	-0.06 (0.10)	0.574	-0.01 (0.09)	0.933	0.07 (0.05)	0.203	0.05 (0.05)	0.346	-0.04 (0.11)	0.692	0.01 (0.10)	0.894
	remote	0.31 (0.09)	0.001	0.33 (0.10)	0.001	0.08 (0.09)	0.376	0.07 (0.08)	0.424	0.23 (0.13)	0.073	0.24 (0.13)	0.075
<u>Parenting (46-70 months)</u>													
Home learning activities	more frequent			0.04 (0.05)	0.338			0.10 (0.02)	<0.001			-0.08 (0.05)	0.080
Dysfunctional parenting (lower)	higher			0.31 (0.04)	<0.001			-0.12 (0.02)	<0.001			0.40 (0.05)	<0.001
Protectiveness	higher			0.04 (0.04)	0.319			-0.03 (0.03)	0.306			0.00 (0.05)	0.955

Note: Measures were mutually adjusted, and also adjusted for child gender, birth order, health (10-22 months), developmental delay (22 months) and cognitive score (34 months); mother's ethnicity, age at birth of child and low physical health (10 months); and number of children in the household. Figures in bold show associations that were statistically significant at the $p < 0.05$ level.