Longitudinal patterns of back pain across adulthood and their relationship with childhood factors: Evidence from the 1946 British birth cohort

Supplementary information

Figure S1: Four longitudinal classes of back pain from age 31 to 68 years, by sex (n=3271)

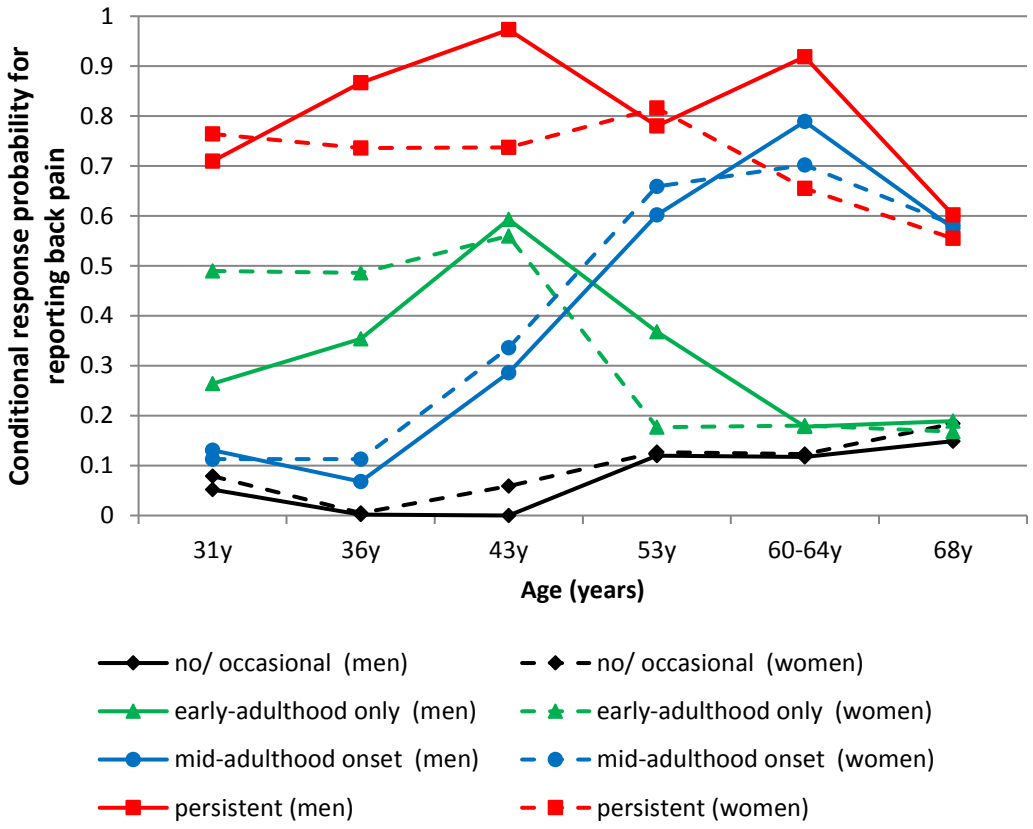

Table S1: LCA fit statistics for back pain across adulthood: Combined model, model with parameters constrained to be the same in both sexes (sex invariant) and model without such a constraint (sex variant)

	Combined	Sex variant	Sex invariant
Classes	4	4	4
No of parameters	27	55	31
Log likelihood	-8425.864	-10661.398	-10684.605
Information criteria			
Akaike Information Criteria (AIC)	16905.729	21432.796	21431.211
Bayesian Information Criteria (BIC)	17070.236	21767.903	21620.089
Adjusted BIC	16984.445	21593.143	21521.589
χ2 good-of-fit test			
Pearson χ2	0.25	.25	.11
LRT χ2	0.15	.27	.024
Smallest class %*	10.0	14.2	10.5
Entropy	0.568	0.725	0.711

*based on estimated posterior class membership probabilities

Table S2: Indices of model fit for longitudinal latent class models of back pain based on reports at ages 31, 36, 43, 53, 60-64 & 68 in MRC NSHD (n=1507 participants with all (6) waves of data)

	2 classes	3 classes	4 classes	5 classes
Chi-square goodness-of-fit tests				
Likelihood Ratio χ^2 p value [a]	<.001	<.001	0.113	0.324
Pearson χ^2 p value [b]	<.001	<.001	0.148	0.399
Bootstrapped LR difference test p value [c]	<.001	<.001	<.001	.102
Information criterion				
Akaike Information Criteria (AIC) [d]	9487.1	9399.3	9370.7	9370.1
Bayesian Information Criteria (BIC) [e]	9556.3	9505.6	9514.3	9550.9
Adjusted BIC [e]	9515.0	9442.1	9428.5	9442.9
Lo-Mendell-Rubin LRT (comparing current model to previous model) p value [f]	<.001	<.001	.0049	.523
Entropy [g]	0.714	0.702	0.646	0.552

[a] p>.05 indicates good fit
[b] p>.05 indicates good fit
[c] p<.05 indicates good fit
[d] Lowest value indicates best fit
[e] Lowest value indicates best fit
[f] P<.05 indicates addition of this class significantly improves fit
[g] Values close to 1 (range 0-1) indicate good classification accuracy (Entropy is a measure of between-class separation i.e. how well group membership is predicted given the observed data)

Figure S2: Four longitudinal classes of back pain from age 31 to 68 years, n=1507