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The adoption of a Capitals, Assets, and Resources-based (CAR) measurement of social class for the study of later life using the English Longitudinal Study of Ageing (ELSA)

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Social Class

- Weberian theories of social class dominate quantitative sociology
- Pioneered by Goldthorpe and colleagues, a neo-Weberian measure of social class (NS-SEC) is the official measure of class in the UK[1]
- An entirely occupation-based measure of class[2]
- Poses serious issues for the study of later life

[1] Breen, R. (2005) 'Foundations of a neo-Weberian class analysis', in E.O. Wright (ed.) Approaches to Class Analysis. 1st edn. Cambridge University Press, pp. 31–50. Available at: https://doi.org/10.1017/CBO9780511488900.003

[2] Oatley, S. (2026) 'Measuring social class', *Reference Module in Social Sciences*. Elsevier, p. B9780443266294002641. Available at: https://doi.org/10.1016/B978-0-443-26629-4.00264-1.

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The study of later life

- Definitions of later life are mixed
- For the purposes of our study we use our sample as a guide
- Individuals in the core member section of ELSA, 50+
- Typically referring to those individuals that are in retirement or the process of starting retirement

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Later Life and Social Class

- Later life research that wants to include an analysis of social class is forced into one of several unsavoury boxes[3–6]
- Using a legacy measure (typically occupation-based)
- Abandoning social class in favour of a 'proxy' measure such as SES
- Abandoning a class analysis altogether

[3]Lopes, A. (2011) 'Ageing and social class: towards a dynamic approach to class inequalities in old age', in *Age Discrimination and Diversity*. 1st edn. Cambridge University Press, pp. 89–110. Available at: https://doi.org/10.1017/cbo9780511777196.005.

[4]Lopes, A. (2013) 'Four Measuring social class in later life', in M. Formosa and P. Higgs (eds) *Social Class in Later Life*. Policy Press, pp. 53–72. Available at: https://doi.org/10.56687/9781447309482-008.

[5]Spiers, G.F. *et al.* (2022) 'Measuring older people's socioeconomic position: a scoping review of studies of self-rated health, health service and social care use', *Journal of Epidemiology and Community Health*, 76(6), pp. 572–579. Available at: https://doi.org/10.1136/jech-2021-218265.

[6]Formosa, M. (2014) 'Social Class Structure and Identity in Later Life', *Research on Ageing and Social Policy*, (1), pp. 2–27. Available at: https://doi.org/10.4471/rasp.2014.01.

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No measure of social class

- We know that social class matters for a wide range of sociological phenomena across the life course; why would this be different for later life?

- Sociological malpractice

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Using SES measures

- Not social class
- Most severely lack theoretical justification

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Using a ‘legacy’ occupation measure

- NS-SEC for example

- Positives:
  - Widely used (and validated)
  - Grounded in rich social theory
  - Reasonably easy for people to understand

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What is NS-SEC?

	NS-SeC class	Example occupations
1	Large employers and higher managerial and professional occupations	Directors of major organisations; officers in armed forces; senior officers in national government; clergy; medical practitioners; higher education teaching professionals
2	Lower managerial and professional occupations	Journalists, newspaper editors; musicians; nurses; paramedics; school teachers
3	Intermediate occupations	Graphic designers; medical secretaries; travel agents; ambulance staff (excluding paramedics); police officers (sergeant and below)
4	Small employers and own account workers	Farmers; hotel managers; product designers; roofers; taxi-cab drivers
5	Lower supervisory and technical occupations	Bakers; electricians; gardeners; road construction operatives; train drivers
6	Semi-routine occupations	Dental nurses; farm workers; housekeepers; scaffolders; traffic wardens
7	Routine occupations	Butchers; cleaners, domestics; furniture makers; labourers in building and woodworking trades; waiters, waitresses
8	Never worked and long term unemployed	
*	Full time students; occupations not stated or inadequately described; not classifiable for other reasons	

* "Not classified".

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Using a ‘legacy’ occupation measure

- Legacy measures =/= current social class position
- How does an occupation-only measure make sense to understand the social class positions of a majority population no longer in active employment?
- Is an individual who retired as a doctor at age 66 the same social class as they are at age 90?
- Legacy measures take an individual’s last occupation and attach that to an individual’s class position today

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Legacy measures have utility

- Legacy measures of social class matter for specific research questions
- Respiratory issues in later life
- But when the need for analysis is to study the current social class position, it lacks utility
- Legacy position and current position theoretically could be included alongside one another in a model

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Social Class and Later Life

- Social Class matters[7–9]
- Not appropriate to use an occupation-based measure
- This rules out current Weberian and Marxian constructions of social class

[7]Jagger, C., Spiers, N.A. and Clarke, M. (1993) 'Factors Associated with Decline in Function, Institutionalization and Mortality of Elderly People', *Age and Ageing*, 22(3), pp. 190–197. Available at: https://doi.org/10.1093/ageing/22.3.190.

[8]Lopes, A. (2011) 'Ageing and social class: towards a dynamic approach to class inequalities in old age', in *Age Discrimination and Diversity*. 1st edn. Cambridge University Press, pp. 89–110. Available at: https://doi.org/10.1017/cbo9780511777196.005.

[9]Formosa, M. (2014) 'Social Class Structure and Identity in Later Life', *Research on Ageing and Social Policy*, (1), pp. 2–27. Available at: https://doi.org/10.4471/rasp.2014.01.

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Bourdieu and Social Class

- Bourdieusian sociology views social class not as purely economic but as the result of different volumes of capital, which shape class habitus and practices across social space[10–11]
- Also known as the Capitals, Assets, and Resources (CAR) approach[12–13]
- Stratification at the point of consumption
- How class habitus relationally negotiates itself within a wider social field

[10] Savage, M., Warde, A. and Devine, F. (2005a) 'Capitals, assets, and resources: some critical issues1', The British Journal of Sociology, 56(1), pp. 31–47. Available at: https://doi.org/10.1111/j.1468-4446.2005.00045.x

[11] Bourdieu, P. (2010) Distinction. Routledge.

[12] Connelly, R., Gayle, V. and Playford, C. (2021) 'Social class inequalities in educational attainment: measuring social class using capitals, assets and resources', Contemporary Social Science, 16(3), pp. 280–293. Available at: https://doi.org/10.1080/21582041.2020.1805506.

[13] Savage, M. *et al.* (2013) 'A New Model of Social Class? Findings from the BBC's Great British Class Survey Experiment', *Sociology*, 47(2), pp. 219–250. Available at: https://doi.org/10.1177/0038038513481128.

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How do we operationalise this?

Table: Types of latent variable models [9]

		Latent Variable	
		Continuous	**Categorical**
Indicator	**Continuous**	Factor Analysis	Latent Profile Analysis
	Categorical	Latent Trait Analysis*	Latent Class Analysis

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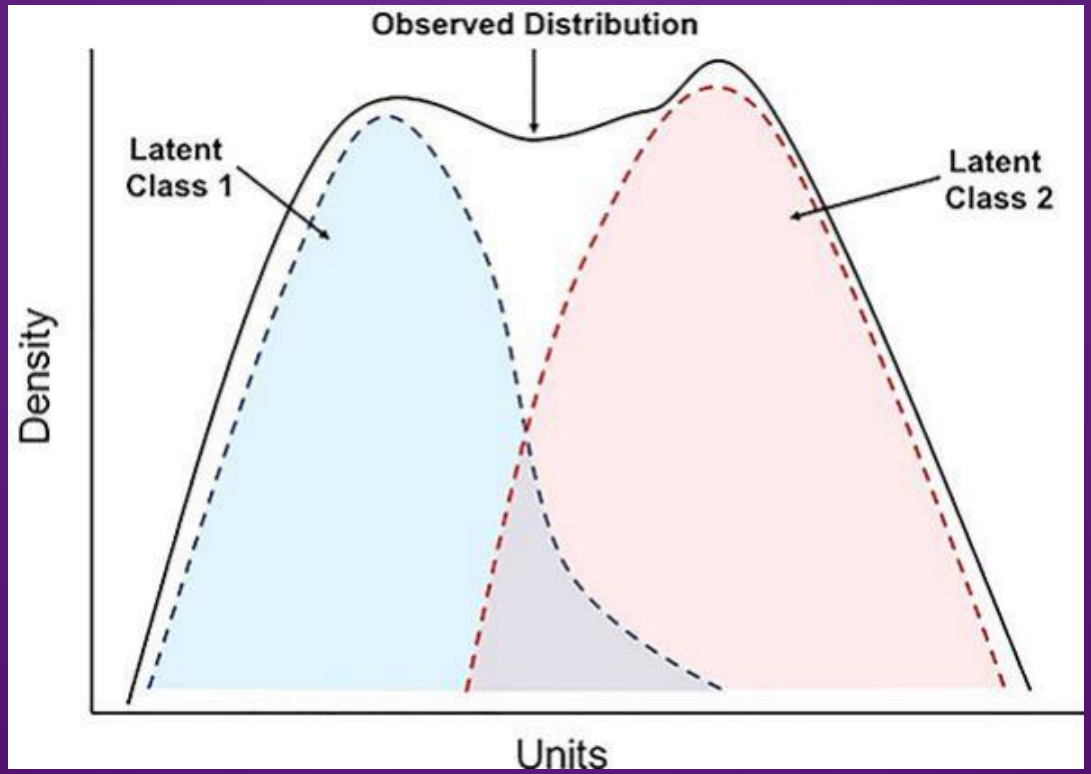
Latent Class Analysis



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Optimal Class Selection

- Fit Indices
  - AIC and BIC
- Model Testing
  - LMR and VLMR
    - Both used to test if model with k classes is better fit than model with k-1
- Model Characteristics
  - Number of classes, size of smallest classes, entropy (class separation)

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Data

- English Longitudinal Study of Ageing (ELSA)[14–15]
- Using cross-sectional data for now, Wave 10
  - Weights and complex survey design adjusted
- Sample
  - Core sample members 50+
  - Sample = 6,286

[14] Lloyd, L. *et al.* (2024) 'The dynamics of ageing: The 2021/2022 English Longitudinal Study of Ageing (Wave 10) Technical Report', *National Centre for Social Research* [Preprint].

[15] Banks, J., Batty, G. David, Breedvelt, J., Coughlin, K., Crawford, R., Marmot, M., Nazroo, J., Oldfield, Z., Steel, N., Steptoe, A., Wood, M., Zaninotto, P., 2026, English Longitudinal Study of Ageing: Waves 0-11, 1998-2024, [data collection], UK Data Service, 49th Edition, Accessed $accessDate$. SN: 5050, DOI: http://doi.org/10.5255/UKDA-SN-5050-36

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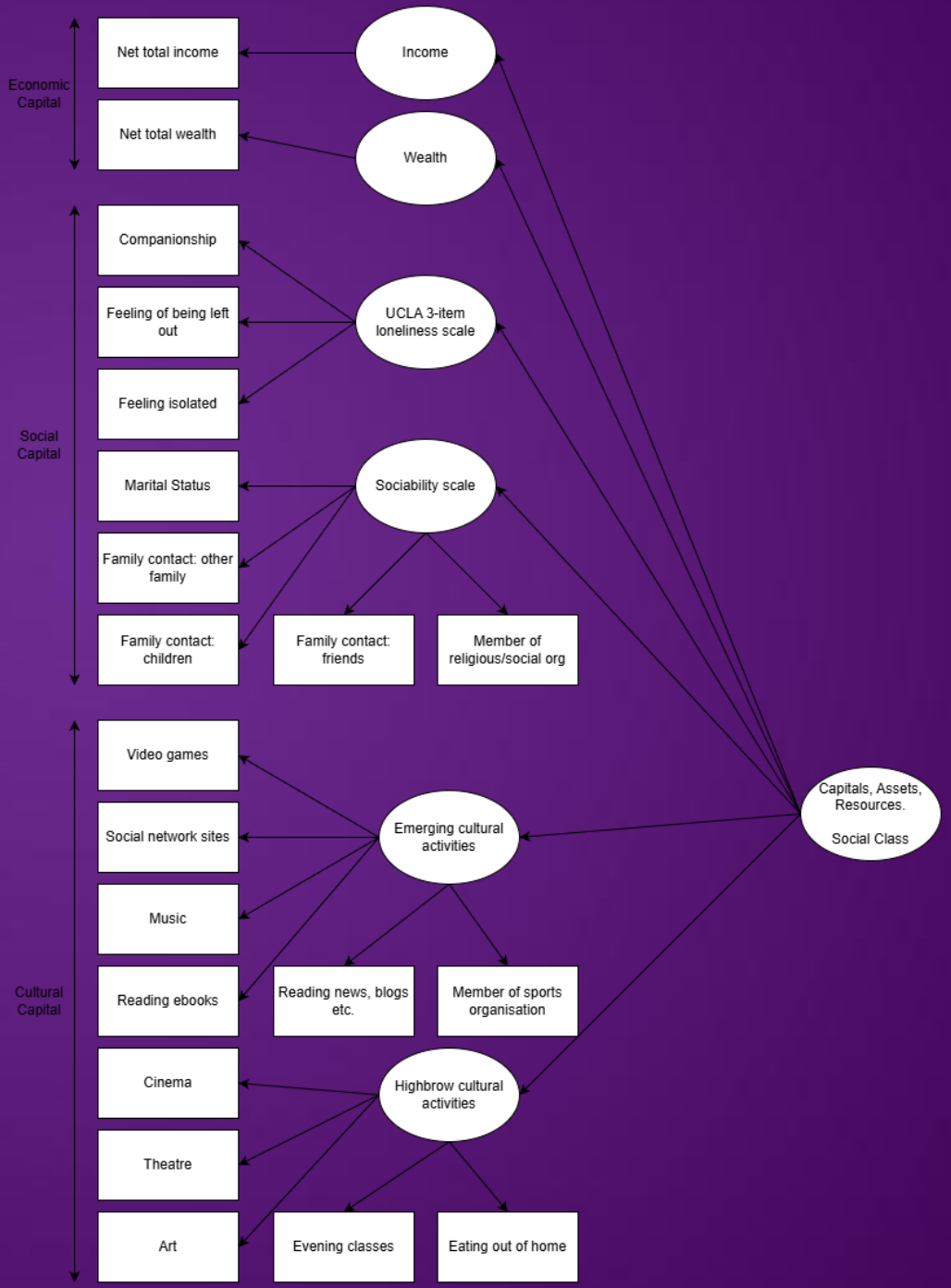
Manifest Indicators



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Economic Capital

- Total net income
  - Includes total income from employment, self-employment, private pension, state-pension, state benefits, and other income sources
- Total net wealth
  - Includes non-housing wealth related to financial and physical wealth as well as primary housing wealth
- Extreme outliers are winsorized

Note: Whilst income is recorded at the individual level, wealth is only available at the benefit unit level (BUL). The BUL is a couple or a single person plus any dependent children they may have and is often used when components (such as wealth) cannot be separated to the individual level.

We use the equivalised version of income to account for retired individuals having their partners net incomes inflate their total net. The equivalised form of net income uses the OECD equivalence scale

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Social Capital

- Traditionally used number of contacts + average CAMSIS of those contacts[13]

- Instead, we use the UCLA 3-item loneliness scale + a sociability score

[13] Savage, M. *et al.* (2013) 'A New Model of Social Class? Findings from the BBC's Great British Class Survey Experiment', *Sociology*, 47(2), pp. 219–250. Available at: https://doi.org/10.1177/0038038513481128.

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Social Capital

- UCLA 3-item loneliness scale[16–17]
  - Frequency of feeling left out
  - Frequency of feeling isolated
  - Frequency of feeling like you lacked companionship

- Higher values indicate greater loneliness

- Range of 3-9

[16]Hughes, M.E. *et al.* (2004) 'A Short Scale for Measuring Loneliness in Large Surveys: Results From Two Population-Based Studies', *Research on Aging*, 26(6), pp. 655–672. Available at: https://doi.org/10.1177/0164027504268574.

[17]Gale, C.R., Westbury, L. and Cooper, C. (2018) 'Social isolation and loneliness as risk factors for the progression of frailty: the English Longitudinal Study of Ageing', *Age and Ageing*, 47(3), pp. 392–397. Available at: https://doi.org/10.1093/ageing/afx188.

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Social Capital

- Sociability scale
  - Marital status
  - Having less than monthly contact with:
    - Children
    - Other members of family
    - Friends
  - Not being member of organisations/clubs/societies
- Higher values indicate lower levels of sociability
  - Range of 0-5

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Cultural Capital

- Split into highbrow and emerging cultural capital
- Not known ad hoc
- Inductive process of identification required

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Cultural Capital

- 11 measures of cultural activity identified within ELSA
- Multiple correspondence analysis used to plot clusters of like-minded activities together
- Identified highbrow/emerging cultural traits

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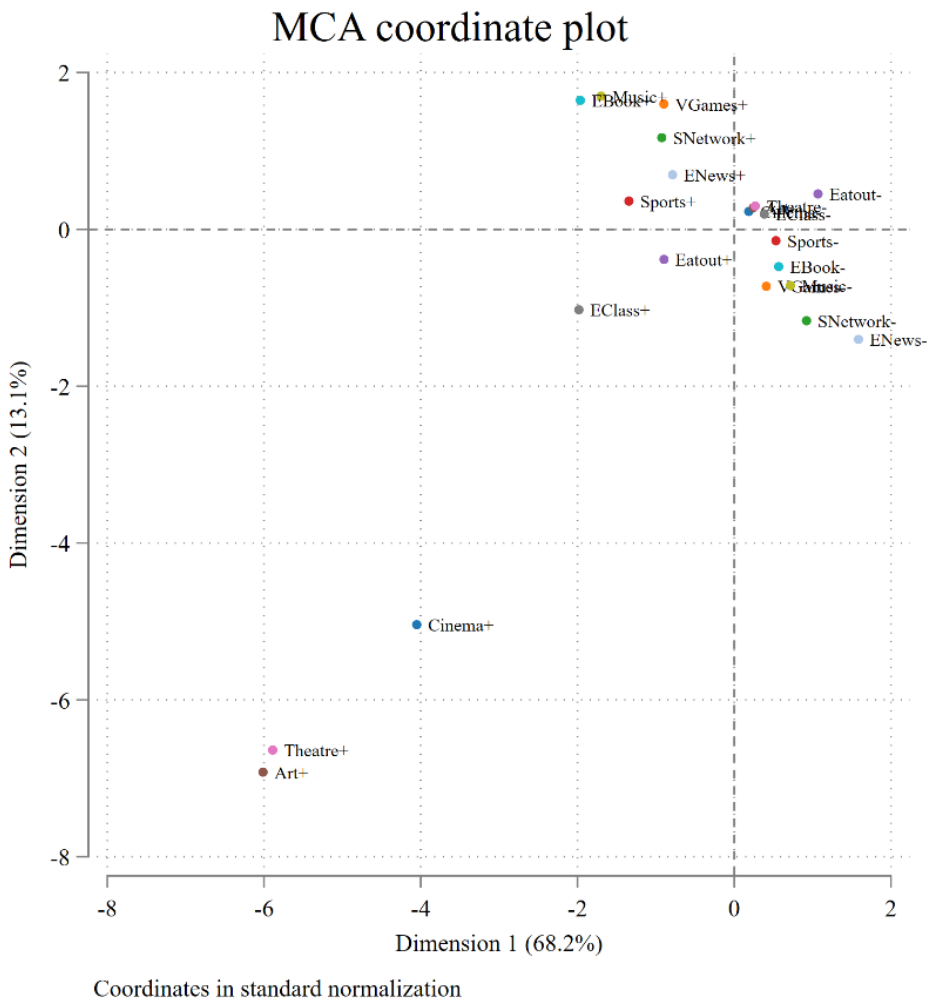

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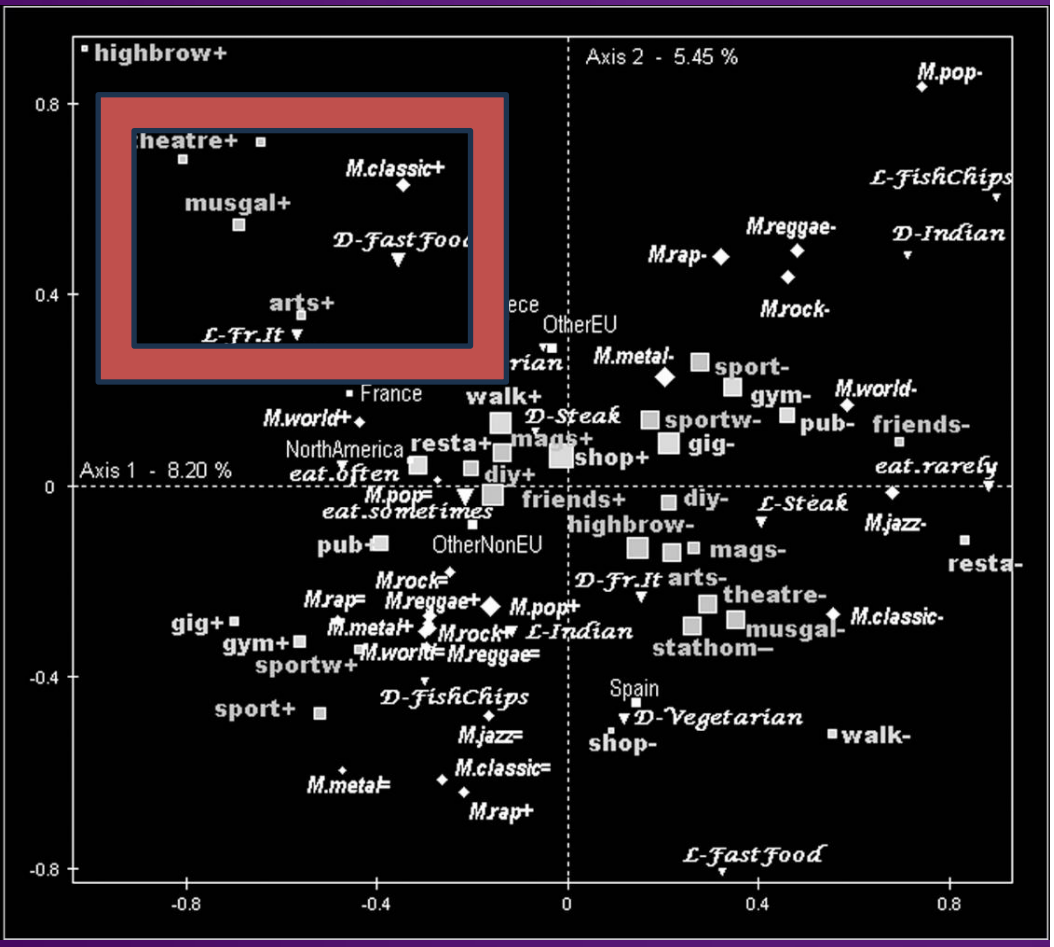

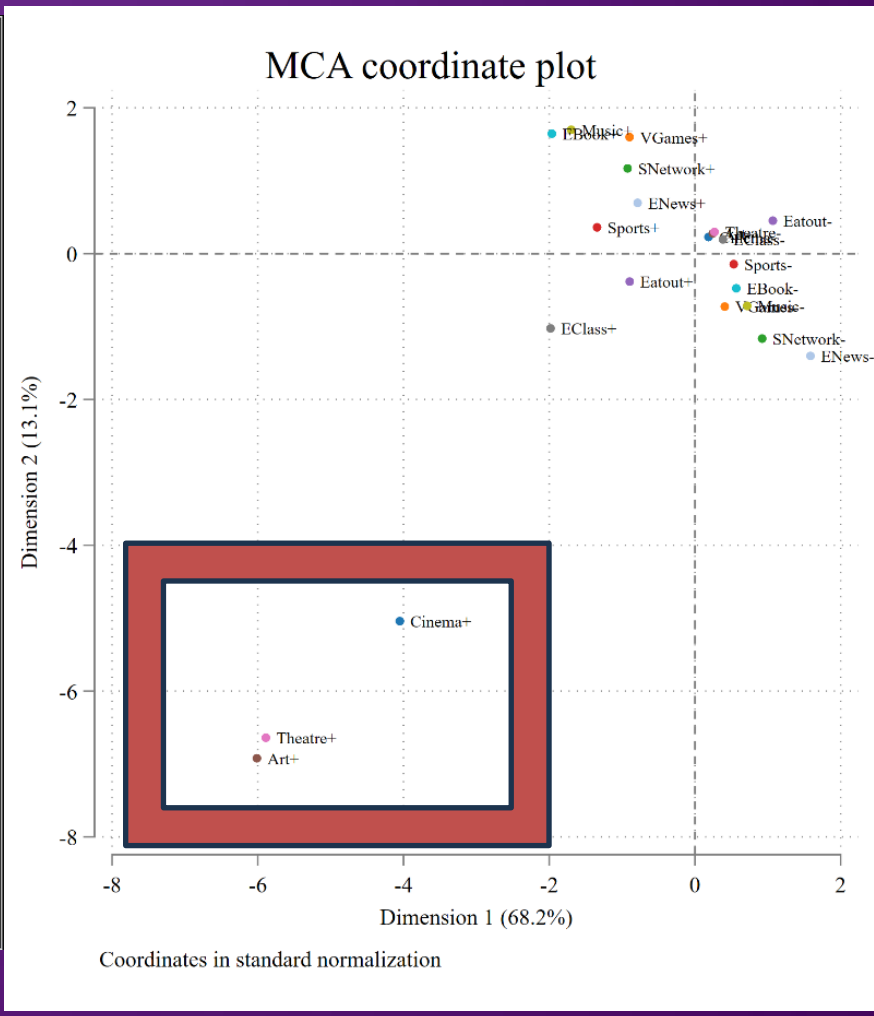

Note: left image taken from Savage et al (2013)

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Cultural Capital

- Dimension 1
  - Indicates active participation with activities
- Dimension 2
  - Identifies the clustering effect of type of activities
- Cluster 1 - <0 = Highbrow
- Cluster 2 - >0 = Emerging

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Cultural Capital

- Highbrow
  - Art gallery
  - Theatre
  - Movies
  - Evening classes
  - Eating outside the home

- Emerging
  - Video games
  - Social media
  - Member of club
  - Music online
  - Reading ebooks
  - Reading blogs

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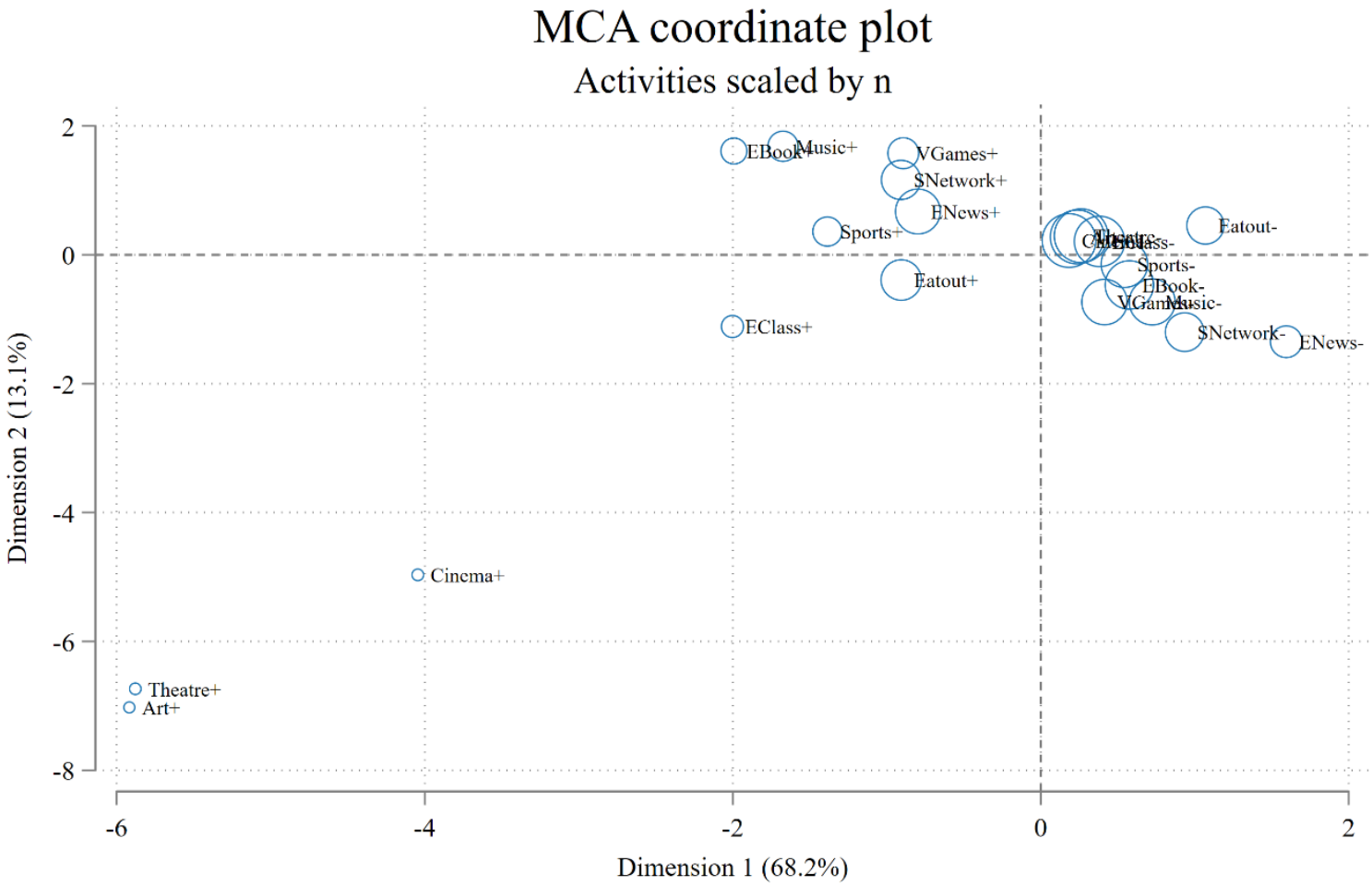

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Latent Class Analysis

- All summary measures are z_standardised to provide equal weighting in latent class model
- A total of 12 class models were produced
- K classes, log likelihood, BIC, AIC, LMR, VLRM, and entropy were collected
- As were the marginal probabilities of class membership

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Classes	Log Likelihood	%Δ Log Likelihood	Δ² Log Likelihood (pp)	BIC	%Δ BIC	Δ² BIC (pp)	AIC	%Δ AIC	Δ² AIC (pp)	LMR	P>LMR	VLMR	P>VLMR	Entropy
1	-42,150.85	–	–	84,406.46	–	–	84,325.69	–	–					
2	-40,228.32	4.56%	–	80,622.53	-4.49%	–	80,494.64	-4.58%	–	3,783.15	<0.001	3,845.05	<0.001	0.9693
3	-39,479.07	1.86%	-2.70	79,185.14	-1.78%	2.71	79,010.14	-1.85%	2.73	1,474.38	<0.001	1,498.51	<0.001	0.7908
4	-38,677.46	2.03%	0.17	77,643.05	-1.95%	-0.17	77,420.93	-2.01%	-0.16	1,577.40	0.025	1,603.21	0.024	0.7906
5	**-38,091.94**	**1.51%**	**-0.52**	**76,533.11**	**-1.43%**	**0.52**	**76,263.88**	**-1.50%**	**0.51**	**1,152.20**	**<0.001**	**1,171.05**	**<0.001**	**0.8218**
6	-37,908.70	0.48%	-1.03	76,227.74	-0.40%	1.03	75,911.39	-0.46%	1.04	360.59	0.002	366.49	0.002	0.7441
7	-37,610.12	0.79%	0.31	75,691.71	-0.70%	-0.30	75,328.25	-0.77%	-0.31	587.53	<0.001	597.14	<0.001	0.7500
8	-37,329.15	0.75%	-0.04	75,190.87	-0.66%	0.04	74,780.29	-0.73%	0.04	552.91	<0.001	561.96	<0.001	0.7530
9	-36,940.39	1.04%	0.29	74,474.48	-0.95%	-0.29	74,016.78	-1.02%	-0.29	765.00	0.240	777.51	0.234	0.8448
10	-36,908.47	0.09%	-0.95	74,471.75	-0.00%	0.95	73,966.94	-0.07%	0.95	62.81	0.678	63.84	0.678	0.7556
11	-36,700.76	0.56%	0.47	74,117.44	-0.48%	-0.48	73,565.51	-0.54%	-0.47	408.74	0.347	415.43	0.345	0.7607
12	-36,628.40	0.20%	-0.36	74,033.85	-0.11%	0.37	73,434.80	-0.18%	0.36	142.38	0.522	144.71	0.520	0.7613

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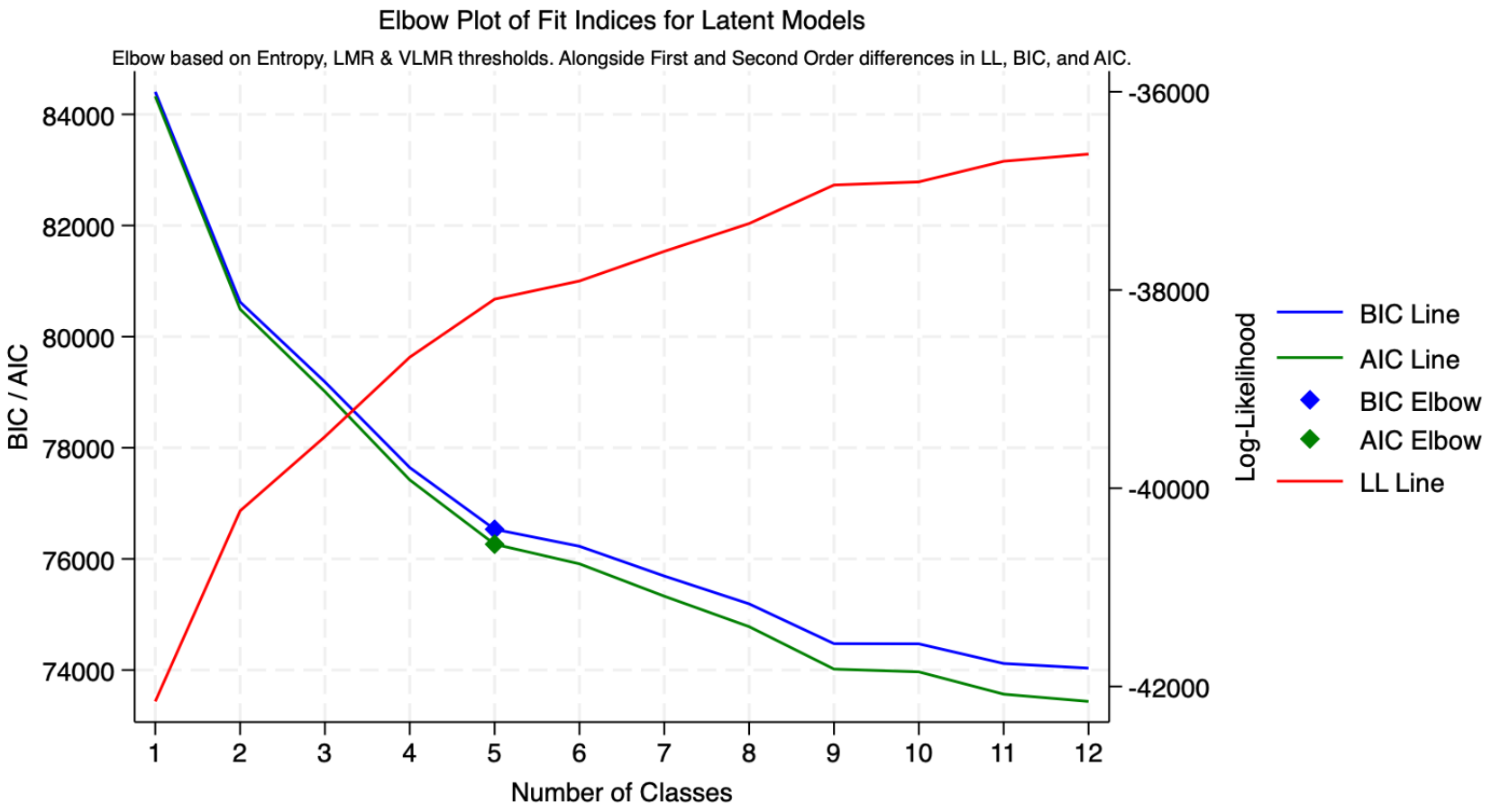

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Latent Class Analysis

- A five-class model was identified
- Membership was assigned on the basis of maximum probability

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Suggested Rank Order	Class	Frequency	Percent	Description	Potential Name
1	3	127	2.02	High income and very high wealth. Below average loneliness and low social isolation. Above average emerging.	Elite
2	2	460	7.32	Above average income and high wealth. Below average loneliness and low social isolation. Above average highbrow and emerging.	Established Middle Class
3	5	306	4.87	Very high income and above average wealth. Below average loneliness and low social isolation. Above average highbrow and emerging.	Culturally Engaged High Earners
4	4	4,227	67.24	Below average income and wealth. Low loneliness and below average social isolation. Average emerging.	Traditional Working Class
5	1	1,166	18.55	Very low income and wealth. Very high loneliness and high social isolation. Very low highbrow and below average emerging.	Precariat

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	Elite	Established Middle Class	Culturally Engaged High Earners	Traditional Working Class	Precariat	Total
Net Income per month	**£2,105**	£956	£2,093	£638	***£434***	£724
Total Net Wealth	**£4,623,841**	£1,685,634	£961,334	£437,579	***£241,396***	£612,262
Loneliness	3.85	3.89	4.12	***3.69***	**6.75**	4.34
Social Isolation	***0.34***	0.42	0.42	0.70	**1.50**	0.81
Highbrow	1.02	0.98	**1.45**	0.82	***0.47***	0.80
Emerging	3.04	2.94	**3.63**	2.71	***2.27***	2.70

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	Elite	Established Middle Class	Culturally Engaged High Earners	Traditional Working Class	Precariat	Sample Total
Mean Age	70	69	66	**70**	69	69
% Female	70 (55.1%)	238 (51.7%)	162 (52.9%)	2,360 (55.8%)	**715 (61.3%)**	3,545 (56.4%)
% Ethnic Minority	5 (3.9%)	15 (3.3%)	**24 (8.0%)**	250 (6.0%)	**84 (7.3%)**	378 (6.1%)
% Degree Owners	**68 (53.5%)**	**228 (50.2%)**	**156 (53.1%)**	1,068 (25.6%)	204 (17.7%)	1,724 (27.8%)

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	CAR Measure					
	Elite	**Established Middle**	**Culturally Engaged High Earners**	**Traditional Workers**	**Precariat**	**Total**
N	119 (2.0%)	433 (7.4%)	275 (4.7%)	3,951 (67.4%)	1,083 (18.5%)	5,861 (100.0%)
Legacy NS-SEC						
1.1	41 (34.5%)	106 (24.5%)	90 (32.7%)	477 (12.1%)	85 (7.8%)	799 (13.6%)
1.2	31 (26.1%)	166 (38.3%)	89 (32.4%)	1,059 (26.8%)	242 (22.3%)	1,587 (27.1%)
2	12 (10.1%)	50 (11.5%)	26 (9.5%)	569 (14.4%)	155 (14.3%)	812 (13.9%)
3	29 (24.4%)	68 (15.7%)	34 (12.4%)	492 (12.5%)	105 (9.7%)	728 (12.4%)
4	1 (0.8%)	9 (2.1%)	11 (4.0%)	296 (7.5%)	82 (7.6%)	399 (6.8%)
5	3 (2.5%)	20 (4.6%)	17 (6.2%)	587 (14.9%)	218 (20.1%)	845 (14.4%)
6	1 (0.8%)	10 (2.3%)	8 (2.9%)	436 (11.0%)	183 (16.9%)	638 (10.9%)
7	1 (0.8%)	4 (0.9%)	0 (0.0%)	35 (0.9%)	13 (1.2%)	53 (0.9%)

Note: Pearson chi2(28) = 448.01, p>0.001. Cramer's V = 0.14, n=5,861.

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Models

- Three sets of models presented
- Covering key aspects of social class[18]
  - Security (economic), prospects (cultural), stability (social)
- Three models within three sets
  - Model 1 = Legacy NS-SEC
  - Model 2 = CAR
  - Model 3 = Legacy + CAR

[18] Goldthorpe, J.H. and McKnight, A. (2004) 'The Economic Basis of Social Class', *Centre for Analysis of Social Exclusion* [Preprint].

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Models

- Controls for age, ethnic minority status, and sex
- Similar reference category profiles
  - NS-SEC ref = 6
  - CAR ref = Trad working class
- AMEs reported for non-linear models to get around scaling comparability issues
- QVs reported for linear models

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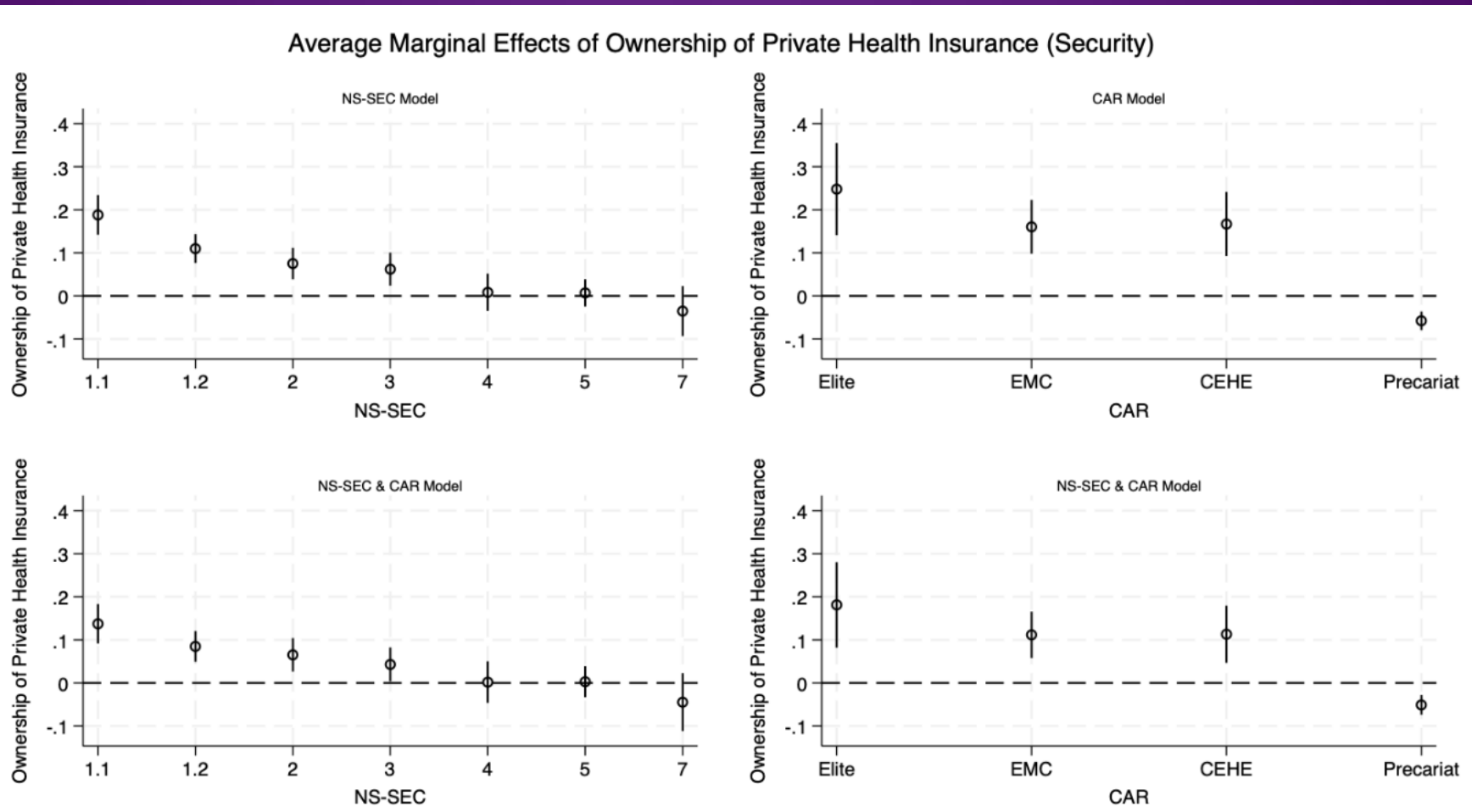

Reference Categories are NS-SEC 6 and CAR TWC.
Data Source: ELSA Wave 10. N=5,779. Adjusted for Complex Survey Design.

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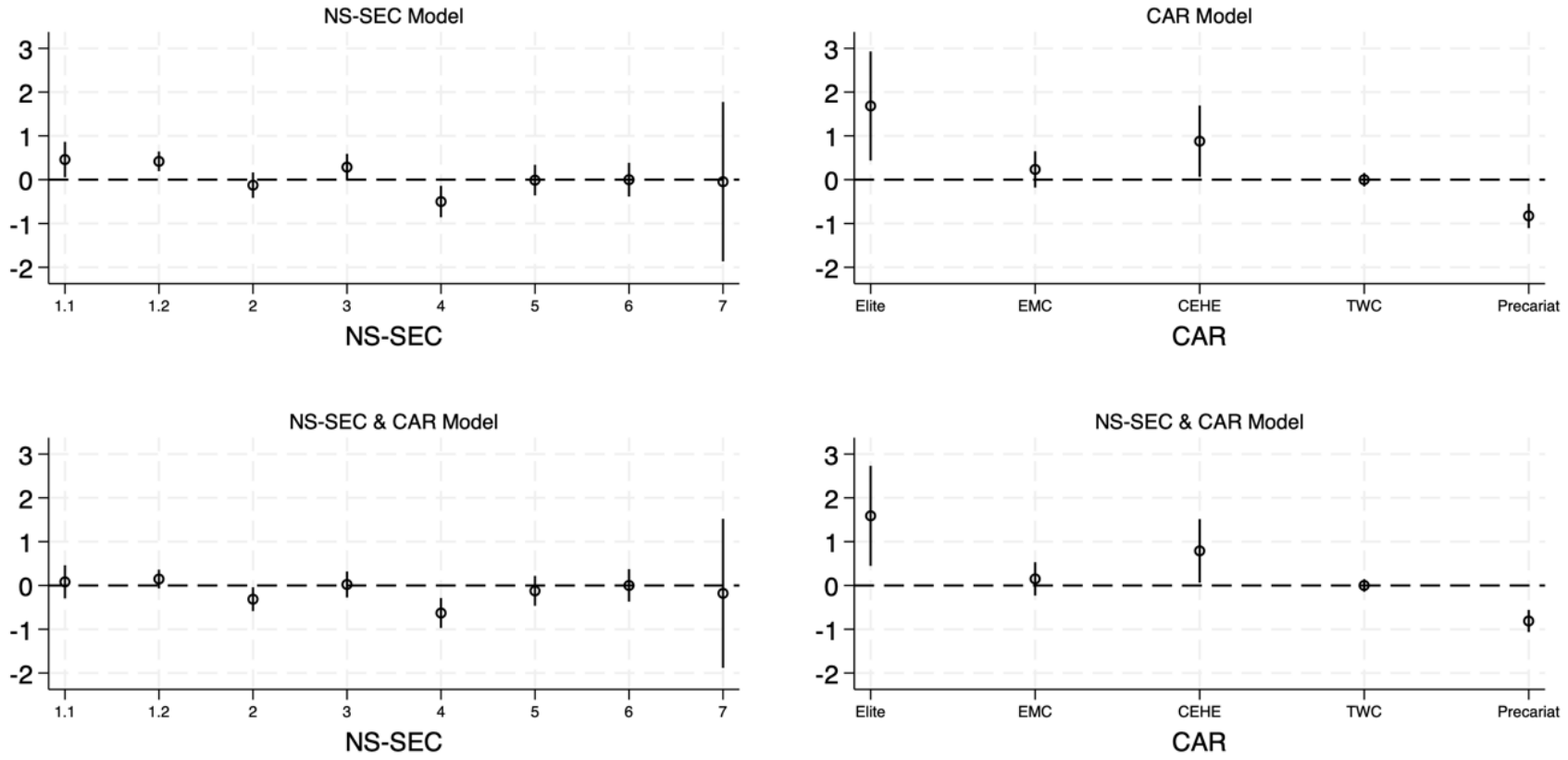
Number of Close Friends (Stability)

Quasi-Variance Confidence Intervals



Three models presented. First model is an NS-SEC only model, Second is a CAR only model, Third is a combined model.

Data Source: ELSA Wave 10. N=4,676. Adjusted for Complex Survey Design.

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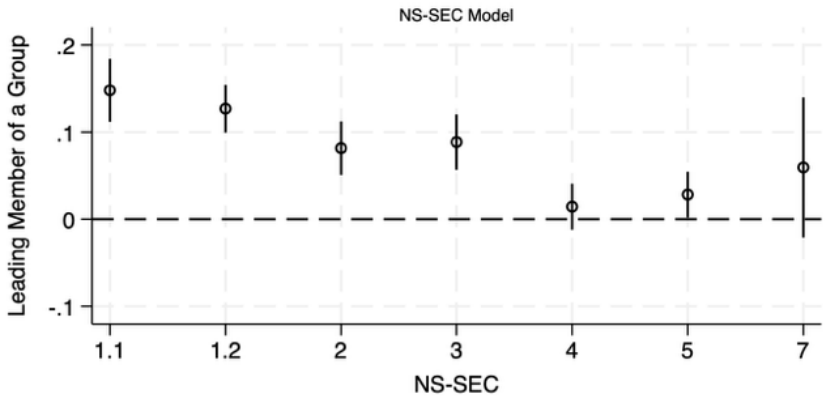
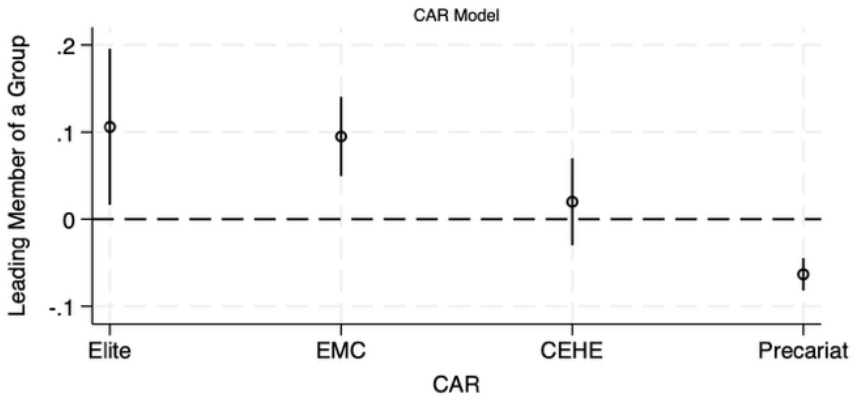
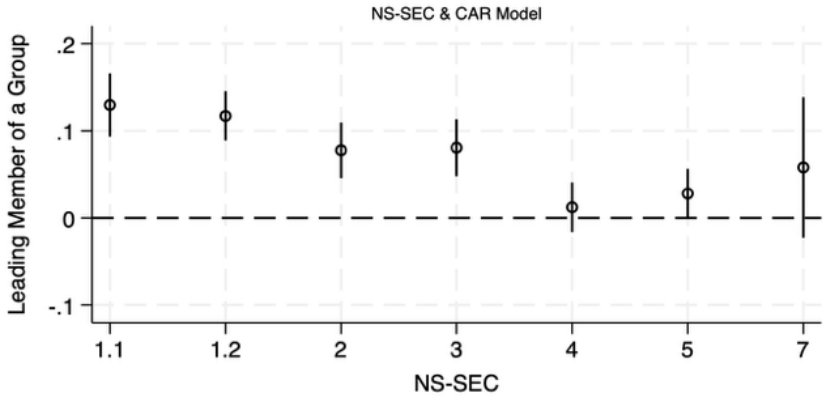
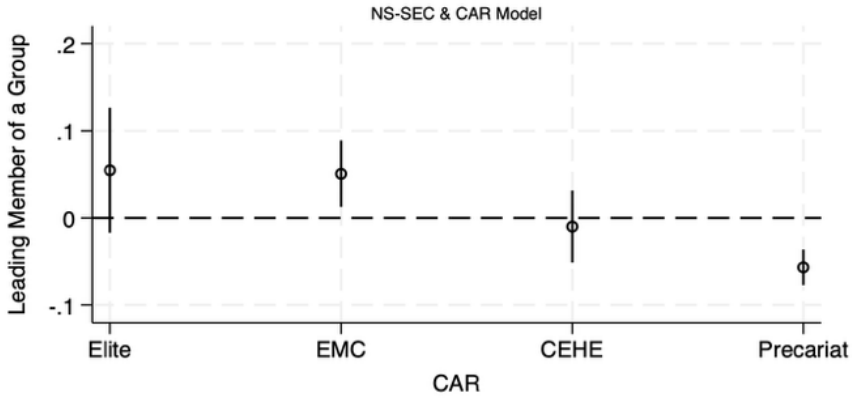
Average Marginal Effects of Being a Leading Member of a Group (Prospects)









Reference Categories are NS-SEC 6 and CAR TWC.

Data Source: ELSA Wave 10. N=5,642. Adjusted for Complex Survey Design.

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Conclusions

- A CAR-based measure of social class sharply contrasts with traditional Weberian measures based on employment and occupation.
- We successfully constructed a measure that does not rely on last occupation, drawing on Bourdieusian sociology and prior CAR applications
- Findings demonstrate that NS-SEC and CAR are both statistically and conceptually distinct, providing new opportunities to incorporate both measures in later life research.

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Thank you + Questions?

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