Health Literacy and Mental Health in Older Adults

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Introduction

Population ageing is accelerating globally, creating major challenges for health systems as mental health disorders among older adults remain underdiagnosed. Health literacy -particularly self-efficacy - is increasingly recognized as a key determinant of health equity, shaping outcomes across all populations, including older adults.

Aims

To identify health literacy factors associated with self-reported mental health and examine demographic determinants of self-efficacy.

Methods

This study analysed Welsh data from the OECD Population Health Survey, which collected patient-reported outcomes across 199 randomly selected general practices. Participants aged 46+ were invited; this analysis focused on 13,704 respondents aged 65+. Data was collected July–October 2023 via paper, online, and telephone, with Welsh-language options. Mental health was assessed using PROMIS Global Health v1.2 (T-scores: 21.2–67.6). Health literacy used adapted items from validated instruments, including the Person-Centred Coordinated Care Experience Questionnaire and Medicare Patient Engagement Questions. Four self-efficacy items formed a composite Health Confidence Index (HCI), scored 0–3.

Responses were linked to deprivation quintiles using WIMD 2019. Covariates included age group, gender, education, chronic conditions, and medication count.

Analyses were conducted in R Studio (v4.4.3). Linear regression assessed associations between health literacy and mental health; non-proportional odds models explored demographic predictors of low confidence. Model selection used AIC and BIC for parsimony and interpretability.

Results 1. Self-Efficacy and Mental Health

Linear regression explained 33.8% of the variance in mental health scores ($R^2 = 0.338$), confirming a strong association between self-efficacy and mental health. Confidence managing own health and wellbeing was the most influential predictor (β = 2.61, 95% CI [2.36, 2.86], p < 0.001), with each one-unit increase linked to a 2.61-point improvement on the PROMIS mental health scale. Other confidence dimensions - following care instructions (β = 1.15), identifying medical care needs (β = 0.87), and following lifestyle guidance (β = 0.66) - also showed significant positive effects. A composite Health Confidence Index (HCI) amplified this relationship, with each unit increase associated with a 5.18-point improvement.

Variable		Estimates	95% CI	p_value	n
`Confidence Managing Health`		***	2.61 (2.36, 2.86)	2.2e-16	9160
`Confidence Following Instructions - Care`		***	1.15 (0.84, 1.48)	8.36e-14	9160
`Confidence Following Instructions - Lifestyle`		***	0.66 (0.37, 0.93)	1.52e-06	9160
`Confidence Identifying Medical Care Needs`		***	0.86 (0.63, 1.12)	4.67e-13	9160
`Informed on health topics`		***	-0.39 (-0.59, -0.18)	1.23e-04	9160
`Difficulty understanding health information`		***	0.48 (0.30, 0.66)	9.44e-08	9160
`Health managed collaboratively`		***	0.59 (0.42, 0.76)	4.87e-12	9160
`Health Information discussed with professionals`		***	-0.34 (-0.52, -0.16)	1.38e-04	9160
Medications	1-2		0.56 (-0.11, 1.16)	1.08e-01	2145
	3-4		0.17 (-0.54, 0.79)	6.31e-01	2302
	5-9	***	-1.44 (-2.19, -0.73)	1.34e-04	2305
	10+	***	-3.75 (-4.74, -2.74)	7.26e-14	429
Deprivation_Quintile	20-40% most deprived	**	0.93 (0.33, 1.56)	1.87e-03	1382
	40-60% most deprived	**	0.91 (0.29, 1.49)	1.32e-03	1997
	60-80% most deprived	***	1.33 (0.74, 1.90)	1.37e-06	2590
	20% least deprived	***	1.49 (0.94, 2.09)	1.14e-07	2264
Education_brackets	Medium	*	0.53 (0.11, 0.94)	1.32e-02	2208
	High	***	0.98 (0.61, 1.35)	7.17e-07	4529
Sex	Female	***	-1.62 (-1.91, -1.34)	2.2e-16	4430
Age_brackets	75-84 years old		-0.14 (-0.97, 0.67)	7.55e-01	2984
	85 years or older	*	-2.17 (-4.11, -0.27)	4.38e-02	562
Chronic_conditions	1	***	-1.63 (-2.35, -0.90)	2.54e-05	2777
	2	***	-2.96 (-3.70, -2.04)	5.60e-12	2451
	3 plus	***	-5.86 (-6.73, -4.94)	2.2e-16	2467
Age: Chronic Conditions	75-84 years old:1		0.07 (-0.94, 1.07)	9.00e-01	837
	85 years or older:1		0.76 (-1.27, 3.02)	5.37e-01	143
	75-84 years old:2		0.57 (-0.46, 1.58)	2.85e-01	858
	85 years or older:2		2.17 (-0.04, 4.37)	7.65e-02	158
	75-84 years old:3 plus	***	1.77 (0.78, 2.81)	7.76e-04	938
	85 years or older:3 plus	*	3.06 (0.93, 5.28)	1.02e-02	216

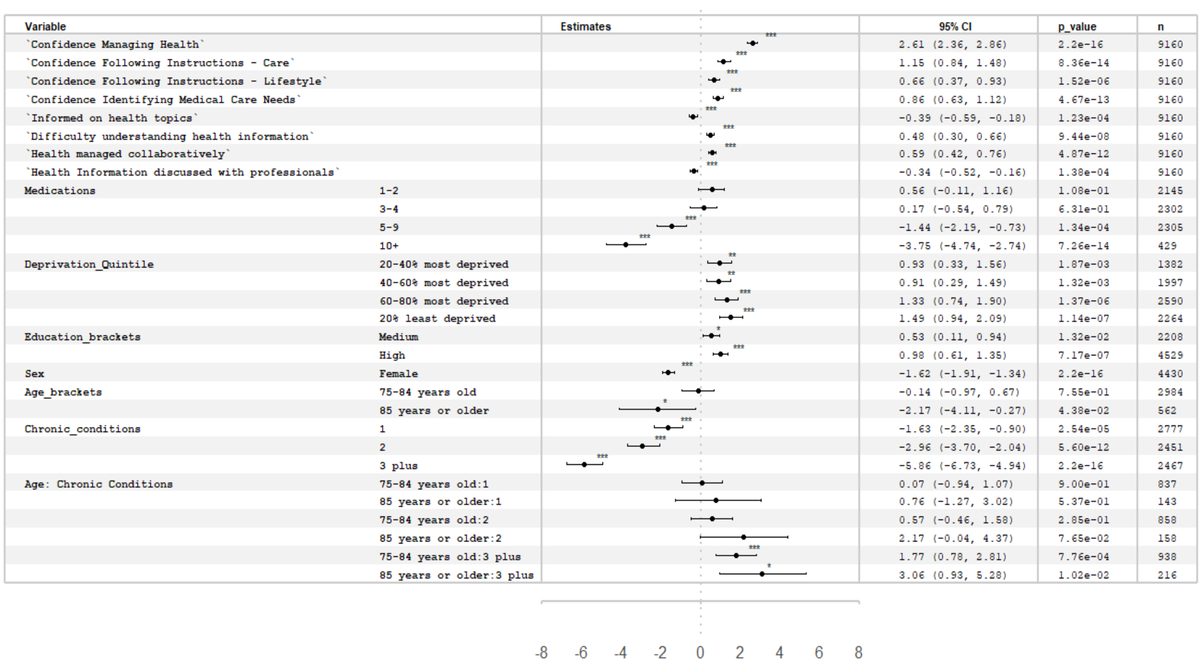

Figure 1. Linear Regression: Health Literacy and Demographics against Mental Health Score

Results 2. Drivers of Self-Efficacy

Non-proportional odds modelling identified key demographic drivers of low confidence. Across all confidence domains, individuals with three or more chronic conditions had the highest odds of low self-efficacy (OR up to 6.10). Older age (≥85 years) and lower educational attainment were also significant predictors, while deprivation strongly influenced confidence in following care instructions. Sex reported as Male emerged as an additional factor for lifestyle-related confidence. These findings highlight multimorbidity, advanced age, and socioeconomic disadvantage as critical barriers to self-efficacy. Targeting these groups through tailored interventions offers the greatest potential for improving health confidence and, by extension, mental health outcomes.

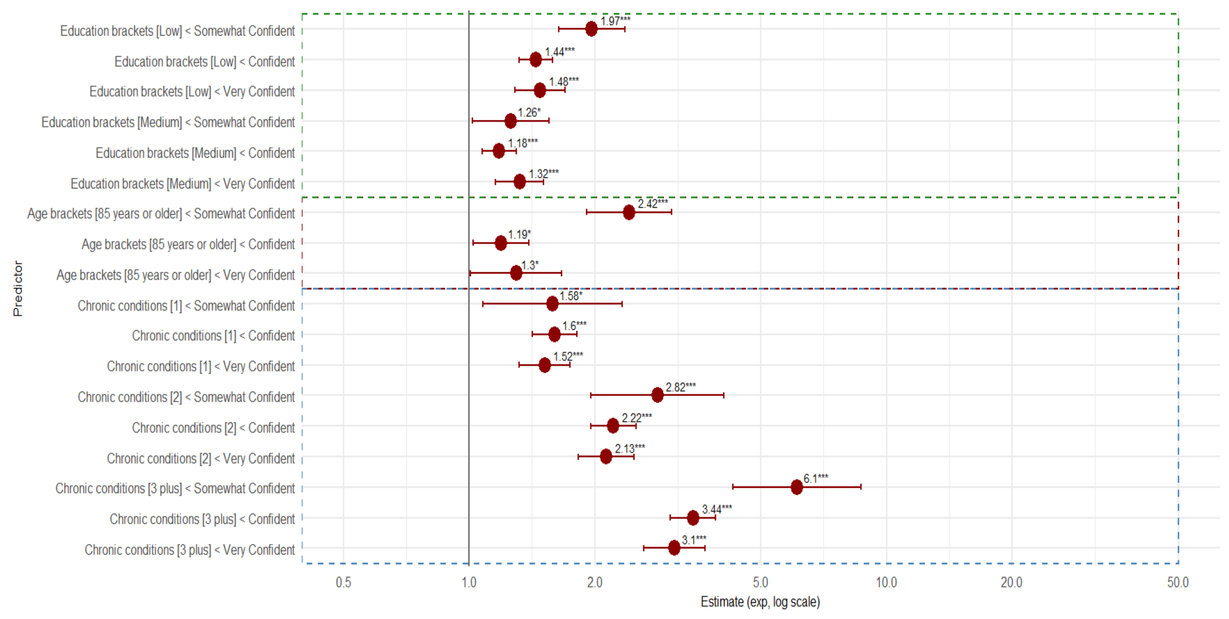

Figure 2. Non-Proportional Odds Model: Odds Ratio Estimates for Demographics and Confidence managing own health and wellbeing

Results 2. Drivers of Self-Efficacy (contd.)

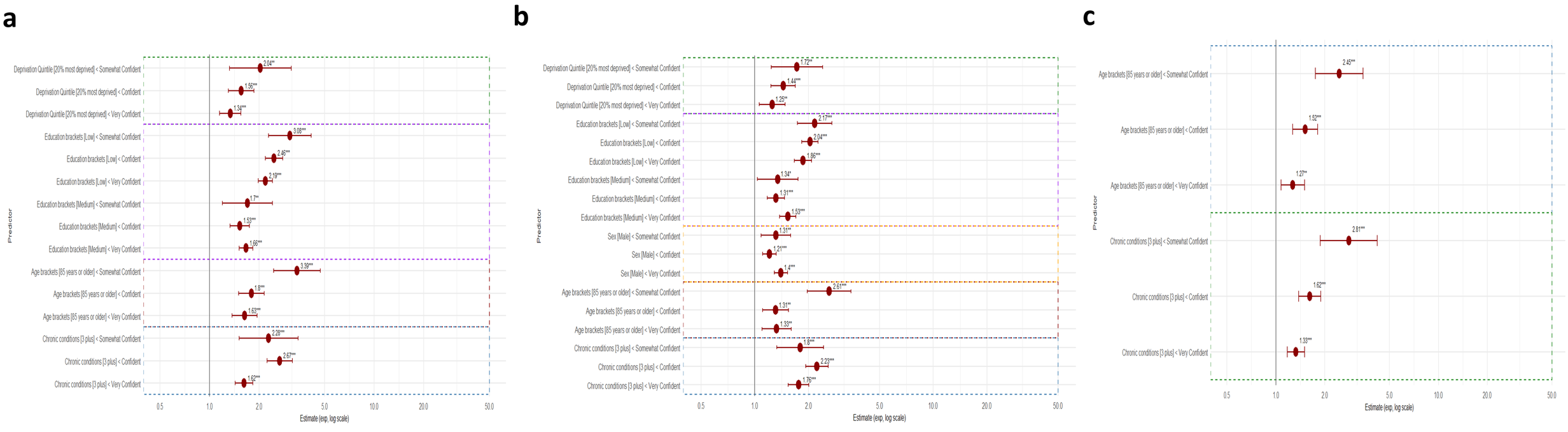

Figure 3:(**a**) Non-Proportional Odds Model: Odds Ratio Estimates for Demographics and Confidence following instructions about caring for yourself at home (**b**) Non-Proportional Odds Model: Odds Ratio Estimates for Demographics and Confidence following instructions about changing habits and lifestyle (**c**) Non-Proportional Odds Model: Odds Ratio Estimates for Demographics and Confidence identifying medical care needs

Conclusions

This study demonstrates that self-efficacy is a critical determinant of mental health among older adults in Wales. Confidence in managing health and following care instructions showed the strongest positive associations with mental health scores, while multimorbidity and medication burden were significant negative predictors. Demographic factors such as advanced age, low education, and deprivation further influenced confidence levels, identifying priority groups for intervention. Enhancing health confidence through targeted strategies could yield meaningful improvements in mental health and help reduce health inequalities. These findings support scalable, evidence-informed approaches to strengthen self-efficacy in ageing populations.