

Health Studies User Conference 2023: Coastal Community residence in adolescence and health in young adulthood



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Background

- CMO report: worst health and wellbeing outcomes in England
- Policy debates about the future of young people in these towns,
- largely because of the limited educational and employment opportunities
- BUT almost no research on the impact of growing up in coastal towns on young people and their future life chances.

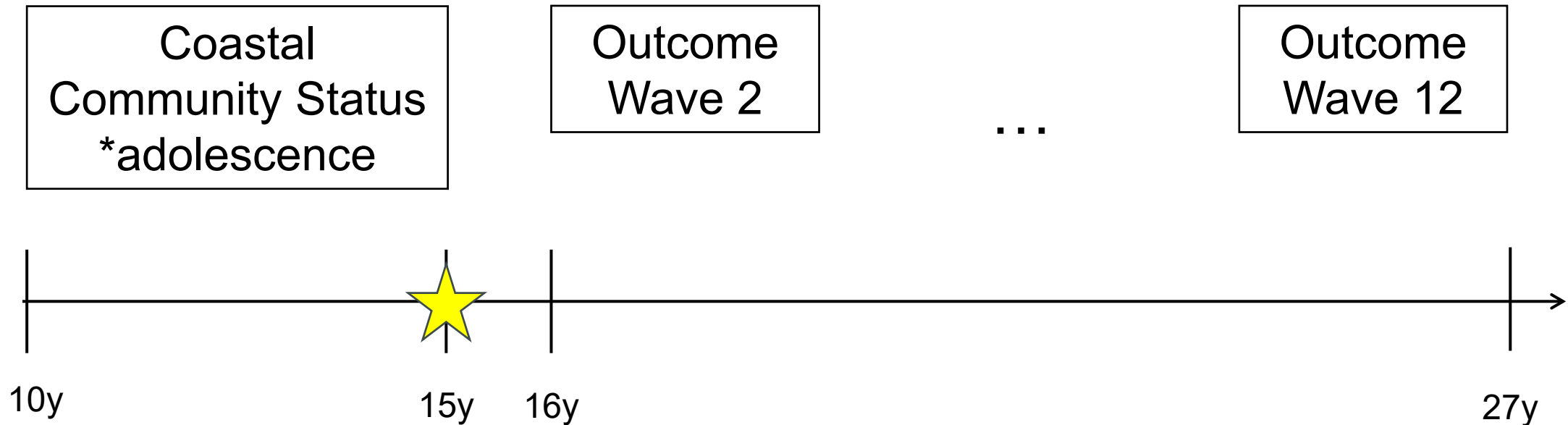


Objectives

1. Is residence in a coastal community in adolescence related to the development of poorer health in adulthood?

2. Does the coastal community effect on health differ by the level of area deprivation in the community?

Dataset: UKHLS youth self-completion questionnaire sample (ages 10-15 years) + Adult follow-up



*Adolescence

Age 15y if available (45%)...

or infill backwards (14y: 17%, 13y: 11%, 12y: 10%, 11y: 9%, 10y: 8%).

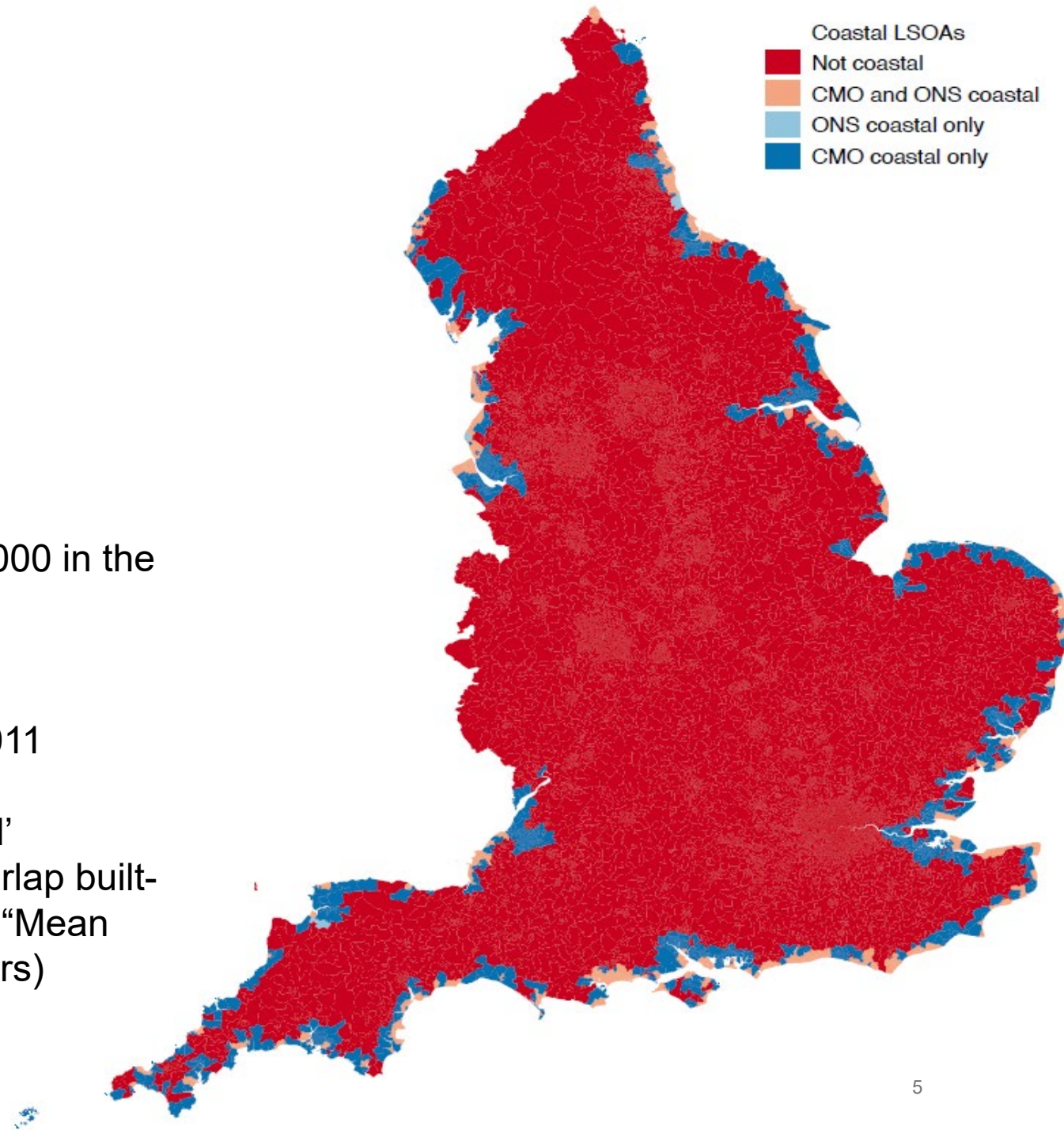
Exposure of interest: Coastal areas

1. ONS Coastal Towns

- Geography: Built Up Areas 2011
- 5,493 BUA's in England and Wales
 - -> 169 classified as 'Coastal'
 - Only used populations 5,000 -> 225,000 in the 2011 Census

2. Chief Medical Officer (CMO) report

- Geography: Lower-Super Output Areas 2011
- 32,844 LSOA's located in England
 - -> 6,344 LSOAs classified as 'Coastal'
 - defined as those which include or overlap built-up areas which lie within 500m of the "Mean High Water Mark" (excluding tidal rivers)

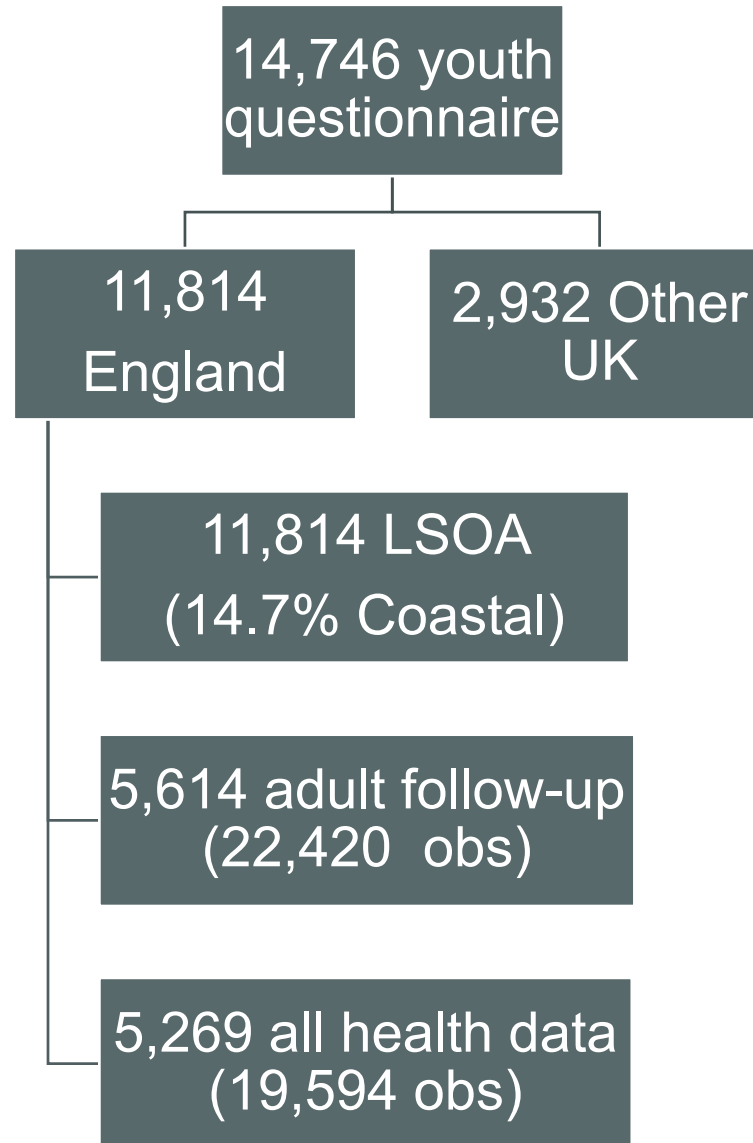


O3. Good Health and Wellbeing:

Assessed for each respondent at all study waves completed when they were aged 16+ years (maximum 11 waves).

- **Self-rated health (bad vs good):** *excellent, very good, good, fair, or poor*
- **Long-term condition:** *anything that has troubled you over a period of at least 12 months or that is likely to trouble you over a period of at least 12 months.”*
- **QHQ-36:** *score ranges from 0 (the least distressed) to 36 (the most distressed)*
- **SF-12: physical (PCS) and mental (MCS):** *In the SF-12, six mental health-related questions were asked about mental well-being in the last four weeks. Scores range 0 (low functioning) to 100 (high functioning).*

Sample



Statistical analysis

- Regressions models with fixed effects at the individual and study wave (2-12), adjusted for:
 - clustering of individuals within LSOAs
 - and longitudinal study weighting (l_indscus_lw)
- Covariate adjustment (Gender, ethnicity, Household income, area deprivation and age at health outcome measurement).
- Also tested for effect modification between coastal community and area deprivation (Townsend index), through fitting interaction terms to models.
- The coefficients from final models were then used to estimate adjusted predictions (probabilities) for each health outcome using marginal effects at the means (MEM).

Results

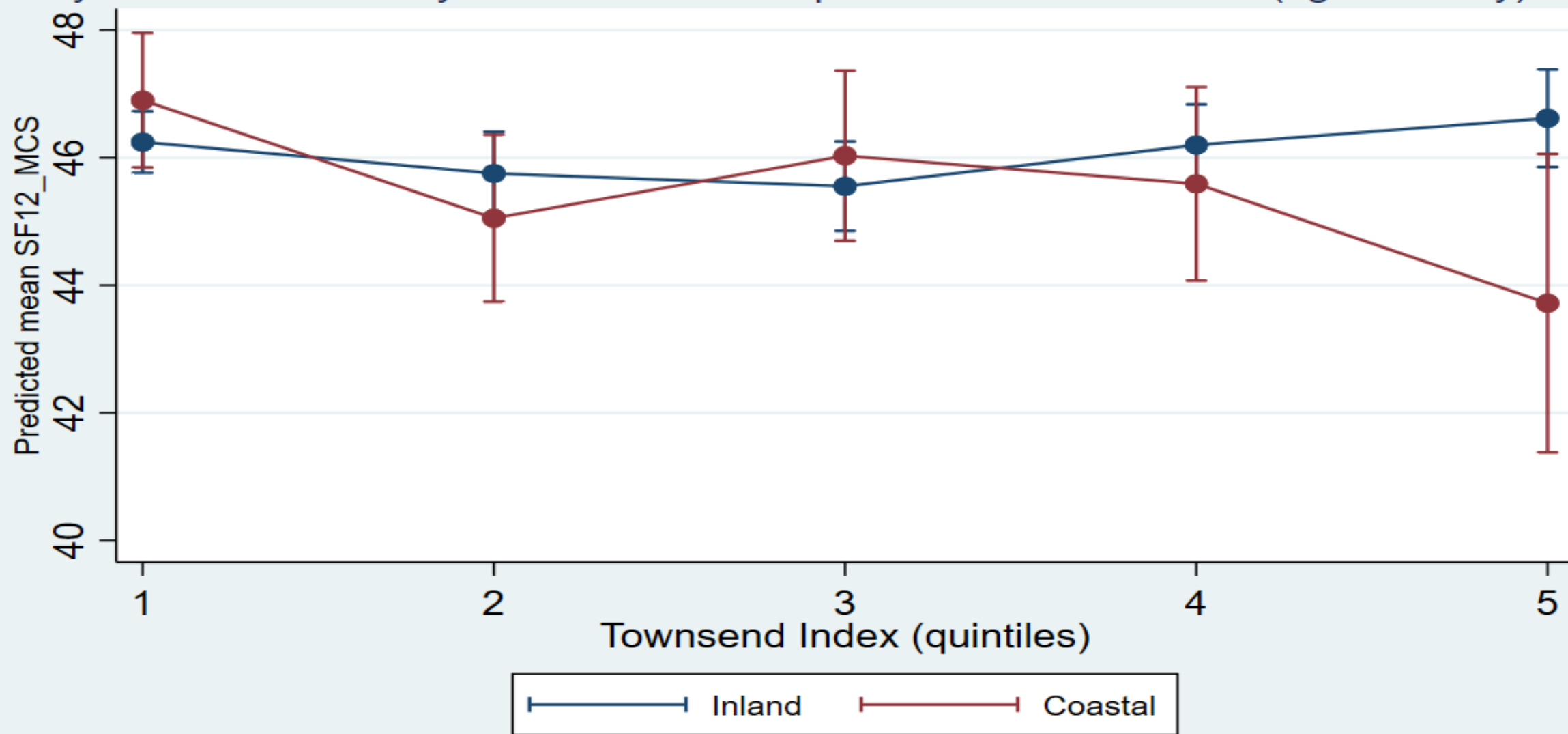
1. In age-adjusted analysis:

- Only for two outcomes, was coastal community residence in adolescence associated with poorer health:
 - Odds **long-term condition or disability** in adulthood 1.48 times higher (95% CI: 1.09, 2.01) for coastal vs Inland adolescents.
 - Mean difference **SF-12 mental health** component scores in adulthood -0.80 times lower (95% CI: -1.56, -0.03) for coastal vs Inland adolescents.

2. BUT....

- There was evidence of an interaction between coastal community residence in adolescence and area deprivation...

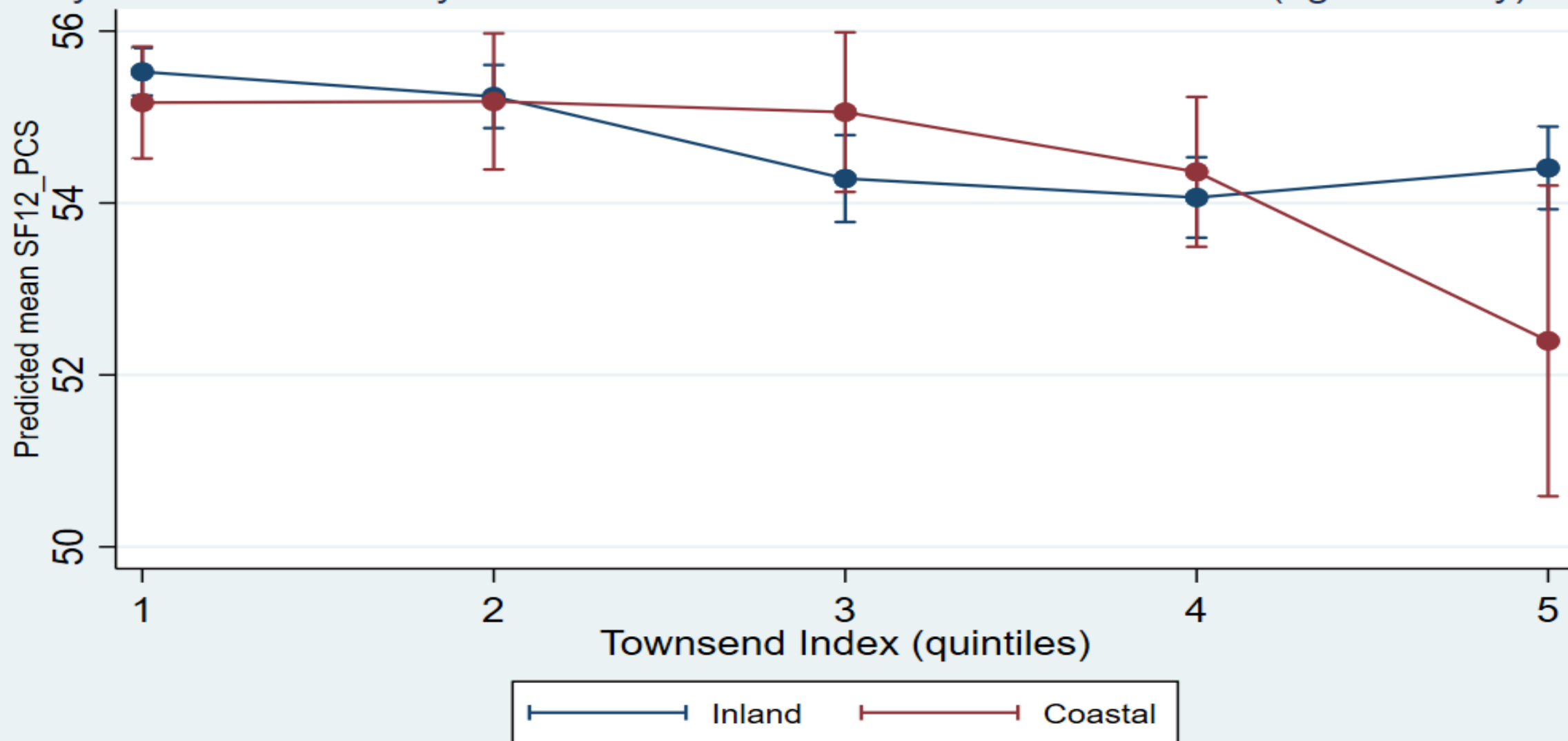
Figure 1. Predicted mean SF-12 Mental Component Score in adulthood (16+) by Coastal community status and Area deprivation in adolescence (aged 10-15y)



Source: UKHLS 2009-2022, n=5,213 (observations= 19,395)

*Adjusted for sex, ethnicity, age at health measurement and age 15y: area deprivation (Townsend index), household income (OECD-adj) and life satisfaction.

Figure 2. Predicted mean SF-12 Physical Component Score in adulthood (16+) by Coastal community status and Townsend Index in adolescence (aged 10-15y)



Source: UKHLS 2009-2022, n=5,213 (observations= 19,395)

*Adjusted for sex, ethnicity, age at health measurement and age 15y: area deprivation (Townsend index), household income (OECD-adj) and life satisfaction.

Summary

- Young adults who lived in any coastal community in adolescence had more long-term conditions or disability and lower mental health than those who were adolescents Inland.
- BUT, living in a deprived coastal community in adolescence amplified health inequalities in young adulthood.
 - Stronger for mental health outcomes: MCS, GHQ and long-term conditions.
 - Weaker for physical health outcomes: PCS and SRH (explained by covariates).



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