Fás Aníos in Éirinn
Growing Up in Ireland

Rialtas na hÉireann
Government of Ireland

Neighbourhood characteristics and self-reported oral health among Irish adolescents: Findings from the Growing Up in Ireland (Child Cohort) Wave 3 study

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Past research findings

2024 (GUI child cohort waves 1, 2 and 3)

- Socioeconomic inequalities in Irish adolescents' parental and self-reported oral health.
- Oral health behaviours showed a socioeconomic gradient.





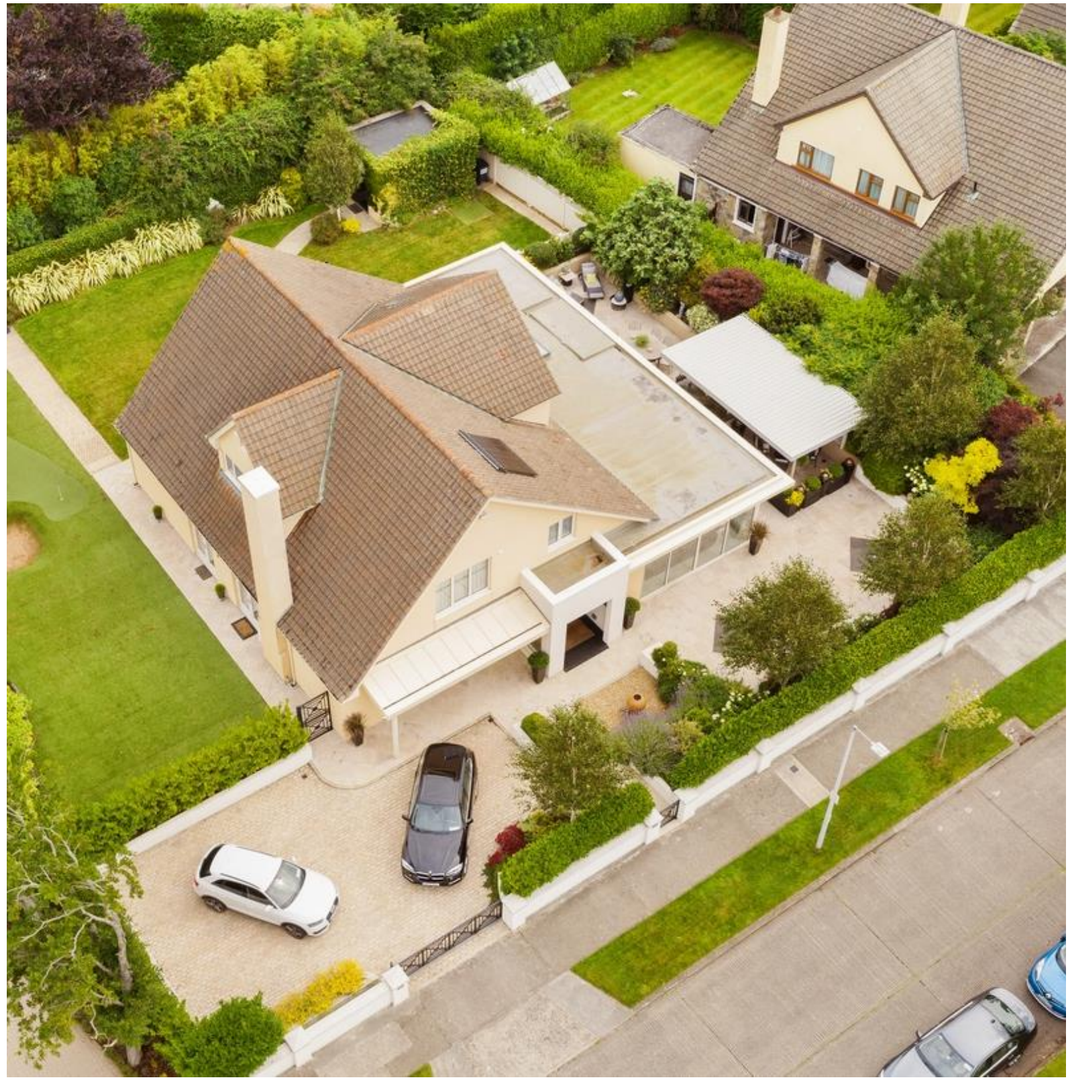
2025 (GUI child cohort waves 1, 2, 3 and 4)

- Toothbrushing remained unchanged, dietary behaviours improved, and preventive care utilisation declined.
- Gender and social differences in oral health behaviours.





Today: A Story of Two Worlds





Why do neighbourhoods matter?

Neighbourhood conditions can influence

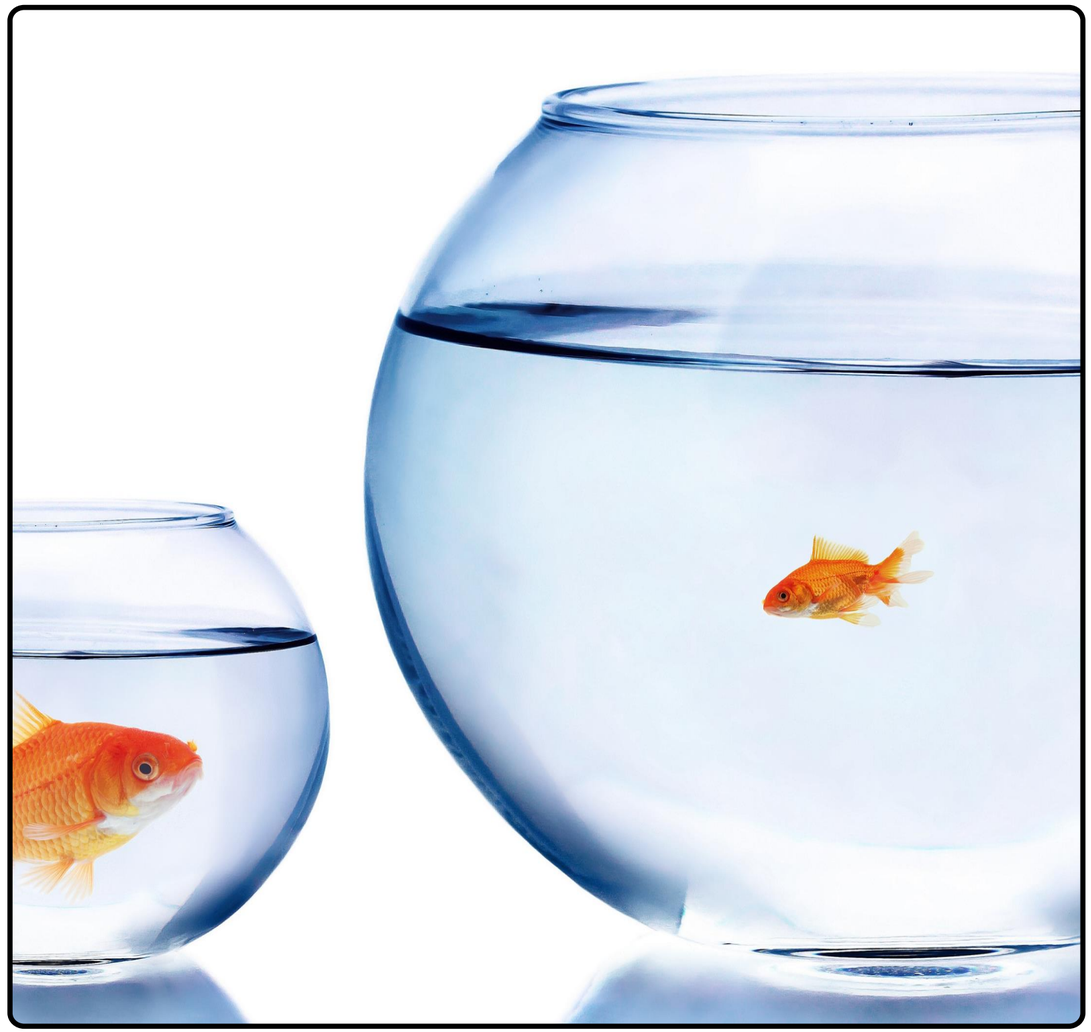
- Daily routines
- Healthy choices
- Stress
- Safety
- Access to services



Supportive environments can make it easier for adolescents to seek care and improve their oral health

Research Question

Is there a relationship between neighbourhood characteristics and self-reported oral health among Irish adolescents independently of family socioeconomic circumstances and individual oral behaviours?



Methodology - 1

- **Study population:** GUI Child Cohort Survey, Wave 3
- **Sample size:** 6,216
- **Age of participants:** 17/18 years old
- **Study design:** Cross-sectional



Methodology - 2

Main explanatory variables: *Neighbourhood domain scores*

(Parent-reported neighbourhood characteristics)

H3. [CARD H3] How common would you say that each of the things listed below is in your area? For each item listed please say whether or not you think it is very common, fairly common, not very common, or not at all common.

	Very Common	Fairly common	Not very common	Not at all common
a. Rubbish and litter lying about	☐1	☐2	☐3	☐4
b. Homes and gardens in bad condition	☐1	☐2	☐3	☐4
c. Vandalism and deliberate damage to property	☐1	☐2	☐3	☐4
d. People being drunk or taking drugs in public	☐1	☐2	☐3	☐4

H4. [CARD H4] To what extent do you agree or disagree with these statements?

	Strongly Agree	Agree	Disagree	Strongly Disagree
a. This is a safe area for my 17-year-old	☐1	☐2	☐3	☐4
b. It is safe for me to walk alone in this area after dark	☐1	☐2	☐3	☐4
c. As a family we are happy living in this area	☐1	☐2	☐3	☐4
d. We as a family intend to continue living in this area	☐1	☐2	☐3	☐4
e. There are places in this area where teenagers can safely hang out	☐1	☐2	☐3	☐4
f. There are facilities such as youth clubs, swimming clubs, sports clubs, for teenagers in this area.	☐1	☐2	☐3	☐4

H5. [CARD H5] To what extent are you concerned about the activity of criminal gangs in your local area?

Very concerned ☐1 Quite concerned ☐2 A little concerned ☐3 Not concerned ☐4 Not applicable ☐5

Domain	Higher score
Physical environment • *Homes and gardens in bad condition* • *Rubbish and litter lying about*	Worse physical environment
Antisocial behaviour • *Concern about criminal gangs* • *People drunk or taking drugs in public* • *Vandalism*	More antisocial behaviour
Safety • *Safe area for a 17-year-old* • *Safe to walk alone after dark*	Less safe
Satisfaction • *Happy living in this area* • *Intend to continue living in this* area	Less satisfied
Amenities • *Youth facilities available* • *Safe places for teenagers*	Worse access

Methodology - 3

- **Outcome variable:** *Self-rated oral health*
  - *Optimal oral health (Excellent/Very good/Good)*
  - *Sub-optimal oral health (Fair/Poor))*

- **Covariates:** *Age, gender, family socio-economic status and oral health behaviours*

- **Multivariate logistic regression models**
  - *Initial: Weighted logistic regression using glm()*
  - *Extended: Survey-weighted logistic regression using svyglm()*

- **R Statistical software**

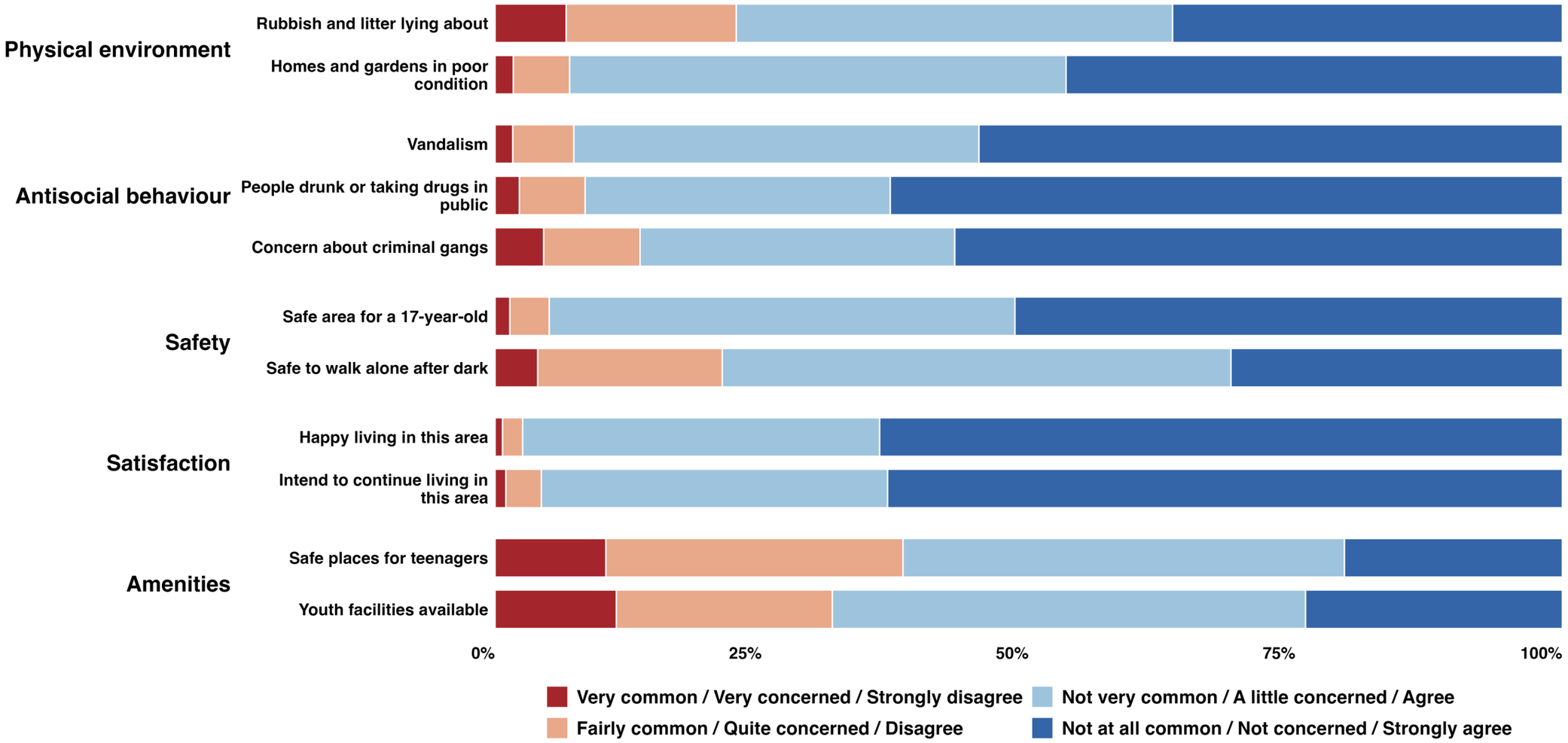


How would you rate your oral health?

1. ***Excellent***
2. ***Very Good***
3. ***Good***
4. ***Fair***
5. ***Poor***

Results - 1

Parent-reported neighbourhood characteristics distribution



Results - 2

Neighbourhood domain scores summary

Domain	Items	n	Mean (SD)	Median (IQR)	Inter-item r	Reliability
Physical environment	2	6,155	1.77 (0.69)	2.00 (1.00–2.00)	0.57	0.73[a]
Antisocial behaviour	3	6,155	1.53 (0.58)	1.33 (1.00–2.00)	0.44	0.69[b]
Safety	2	6,152	1.75 (0.62)	2.00 (1.00–2.00)	0.48	0.64[a]
Satisfaction	2	6,154	1.41 (0.55)	1.00 (1.00–2.00)	0.75	0.86[a]
Amenities	2	6,150	2.24 (0.79)	2.00 (2.00–3.00)	0.48	0.65[a]

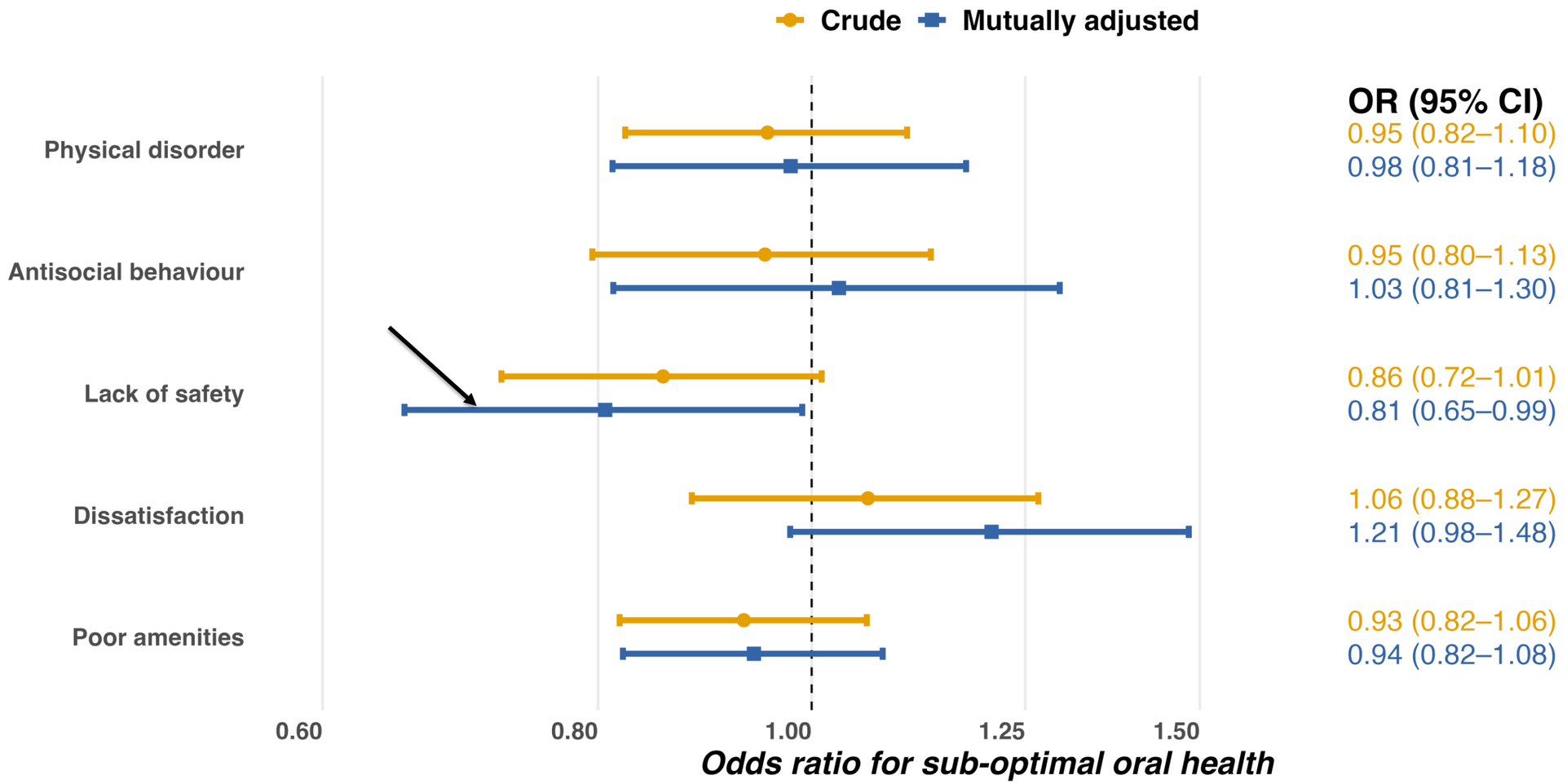
Scores range 1–4; higher = poorer neighbourhood. Domain score = mean of available items. N = 6,216.[a] Spearman–Brown coefficient (two-item scales); [b] Cronbach's α (three-item scale). Reliability and inter-item correlations are based on complete cases for each domain.

Prevalence of suboptimal oral health

Sample	Unweighted n (%)	Weighted n (%)
Overall	408 (6.8)	430 (7.2)
Males	290 (9.6)	325 (10.2)
Females	118 (3.9)	106 (3.8)

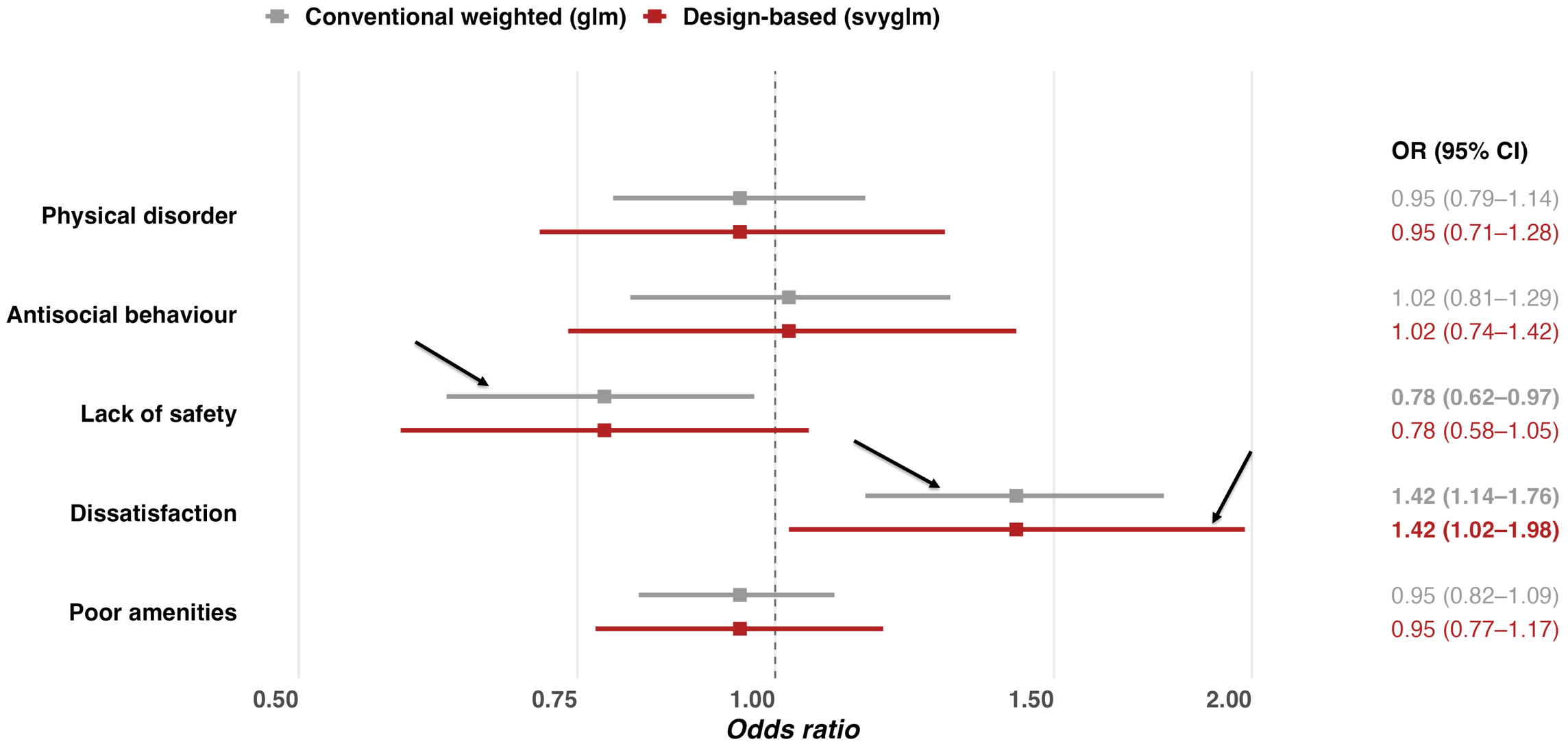
Results - 3

Crude vs mutually adjusted models (Unweighted)



Results - 4

Fully adjusted models (Conventional vs design-based weighting)



Results - 5

Fully adjusted models (Conventional vs design-based weighting)

Domain	Conventional weights (glm) Odds ratio (95% CI)	Design based (svyglm) Odds ratio (95% CI)
Physical environment	0.95 (0.79–1.14)	0.95 (0.71–1.28)
Antisocial behaviour	1.02 (0.81–1.29)	1.02 (0.74–1.42)
Safety	**0.78 (0.62–0.97)**	0.78 (0.58–1.05)
Satisfaction	**1.42 (1.14–1.76)**	**1.42 (1.02–1.98)**
Amenities	0.95 (0.82–1.09)	0.95 (0.77–1.17)
Female gender	**0.33 (0.26–0.43)**	**0.33 (0.24–0.46)**

Strengths and Limitations

- Large, nationally representative cohort
- Multiple neighbourhood domains and comprehensive adjustments
- Low prevalence of the outcome
- No clinical oral examination
- Cross-sectional design
- Recall, reporting and social desirability bias



Future research

- Objective neighbourhood and oral health assessments
- Family SES × neighbourhood interaction
- Access to healthy foods and health services
- Longitudinal analysis
- Full survey design



Policy recommendations

- Recognise neighbourhood context: Identify families who would benefit from support
- Target young men: Through schools, sports clubs, youth services and digital channels
- Monitor socioeconomic inequalities over time
- Strengthen surveillance



Conclusions

- Parents’ dissatisfaction with their neighbourhood was associated with higher odds of sub-optimal oral health (OR 1.42, 95% CI 1.02–1.98).

- Females had substantially lower odds of sub-optimal oral health than males (OR 0.33; 95% CI 0.24–0.46).



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Thank you……

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