An intersectional analysis of stranger, acquaintance, and domestic violence victimisation in England and Wales using MAIHDA

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Background & Evidence Gap

- Violence victimisation peaked in 1995 (4.7%) and declined to 0.8% in 2022 (ONS, 2022).

- Certain marginalised groups bear disproportionate victimisation risks.

- Victims face emotional, physical, and social impacts.

- Additionally…

- Limited quantitative intersectional studies on violence victimisation.

- Prior focus on individual-level risk factors with interaction terms and intimate partner violence.

- Lack of comprehensive analysis of diverse violence types stranger, acquaintance, and domestic.

Theoretical framework

- *Intersectionality* Framework examining the interplay of identities and systems of oppression (Crenshaw, 1989, 1991).

- Incorporates gender, ethnicity, age, SEC, and disability.

- Challenges additive approaches, highlighting systemic inequalities.

Research Process
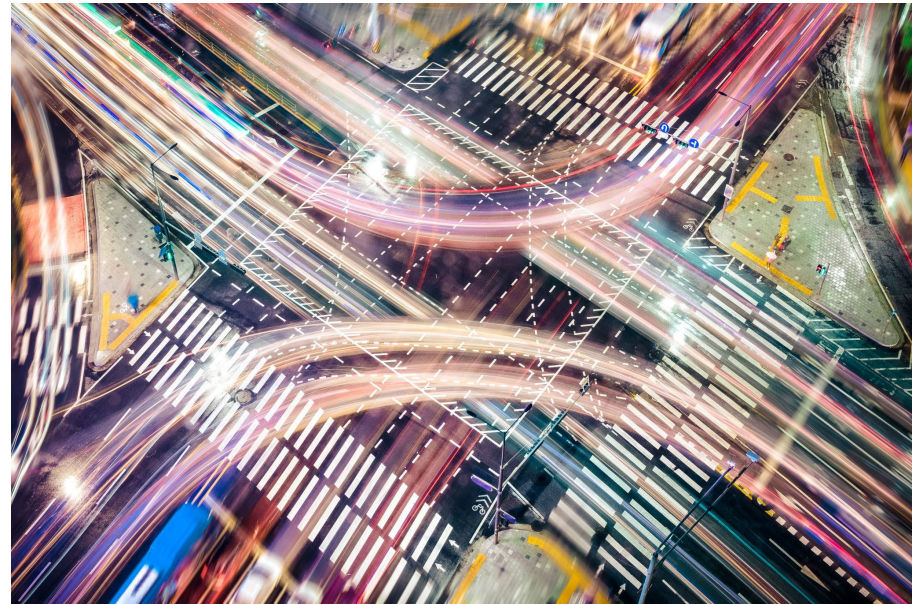
- **Objectives**

  - Map intersectional disparities in victimisation risks by intersectional strata.

  - Analyse violence victimisation by type (stranger, acquaintance, domestic).

  - Inform targeted interventions to address systemic inequalities in violence victimisation

- **Data Source**

  - Crime Survey for England and Wales (CSEW):

    - Years: 2015/16 to 2019/20

    - Sample: 165,661 respondents aged 16+ in private households.

    - Captures self-reported victimisation experiences in 12-month period.

Methodology

- **MAIHDA** (Multilevel Analysis of Individual Heterogeneity and Discriminatory Accuracy):

  - From a multilevel modelling perspective, the individual outcome is regressed on individual exposures in the usual way. The key novelty is that intersectional MAIHDA treats individuals (level-1) as nested within intersectional strata (level-2) formed by combinations of the key individual sociodemographic characterises of research focus. The regression intercept and slope coefficients are then modelled as varying across these strata (Evans et al., 2024; University of Bristol website).

- Strata defined by sex, ethnicity, age, SEC, and disability.

Social Strata

- **Five Variables**
  - Sex (Male/Female)
  - Ethnicity (White, Asian, Black, Mixed/Chinese/Other)
  - Age (16-24, 25-44, 45+)
  - Socioeconomic Class (Managerial, Intermediate, Routine, Never worked/Long term unemployed)
  - Long-standing disability (No/Yes)
- 191 (2*4*3*4*2 = 192) unique strata analysed.
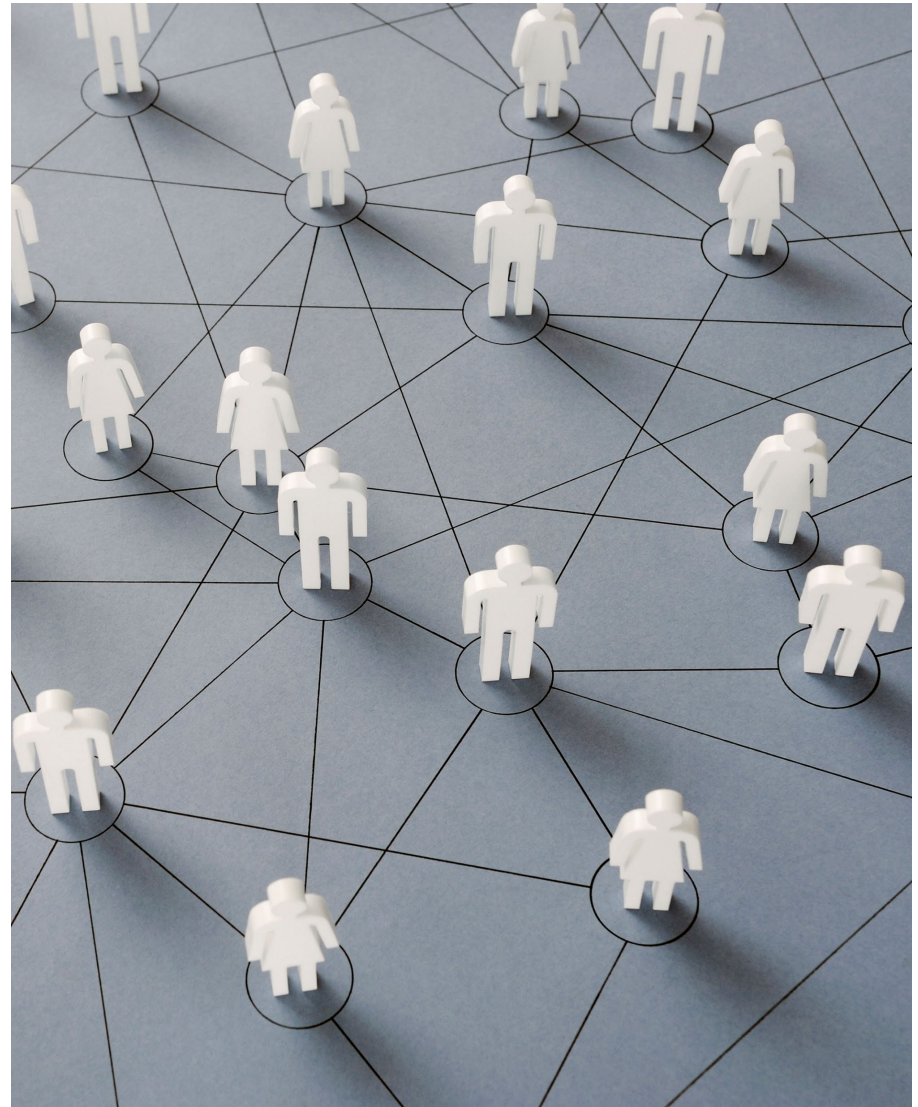
Outcome Variables
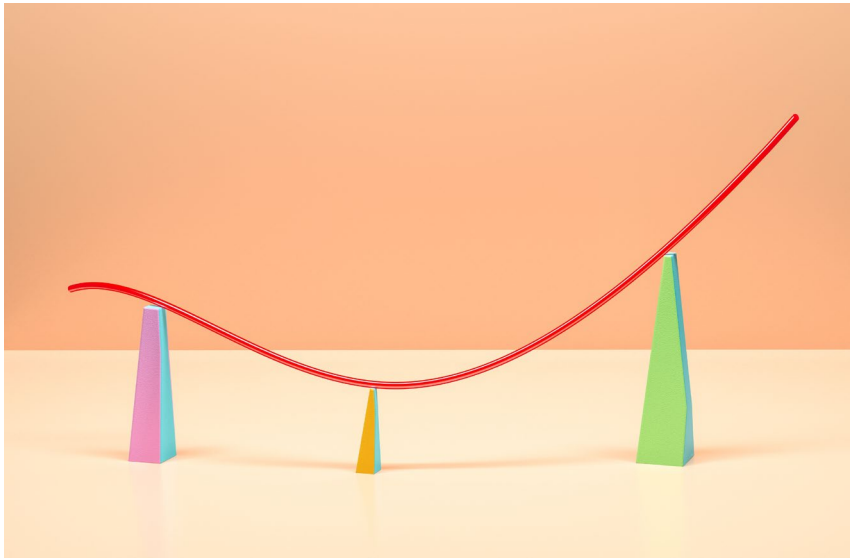
- Binary measures for three violence types:

  - Stranger Violence

  - Acquaintance Violence

  - Domestic Violence

Sample Characteristics

Strata variables (refence category: ref)		ID coding	Frequency	Percentage
Gender	Man (ref)	1	76,235	46.0
	Woman	2	89,426	54.0
Ethnicity	White (ref)	1	149,453	90.2
	Asian or Asian British	2	8,261	5.0
	Black or Black British	3	4,311	2.6
	Mixed or Chinese/Other	4	3,636	2.2
Age	16-24 (ref)	1	7,417	4.5
	25-44	2	51,765	31.2
	45 plus	3	106,479	64.3
SEC	Higher managerial (ref)	1	61,719	37.3
	Intermediate occupations	2	39,837	24.0
	Routine and manual occupations	3	58,315	35.2
	Never worked and long-term unemployed	4	5,790	3.5
Disability	No long-standing illness (ref)	1	127,425	76.9
	Long-standing illness	2	38,236	23.1
Outcome variables				
Stranger violence	No	–	164,540	99.3
	Yes	–	1,121	0.7
Acquaintance violence	No	–	164,712	99.4
	Yes	–	949	0.6
Domestic violence	No	–	165,131	99.7
	Yes	–	530	0.3

Model Results

	Stranger null		Stranger full		Acquaintance null		Acquaintance full		Domestic null		Domestic full	
	OR	95% CI	OR	95% CI	OR	95% CI	OR	95% CI	OR	95% CI	OR	95% CI
Main effects: Regression coefficients												
(Intercept)	0.01 ***	0.01 – 0.01	0.04 ***	0.03 – 0.05	0.01 ***	0.01 – 0.01	0.02 ***	0.01 – 0.02	0.00 ***	0.00 – 0.00	0.00 ***	0.00 – 0.01
Female (ref: Male)			0.37 ***	0.32 – 0.43			0.71 ***	0.59 – 0.85			2.27 ***	1.78 – 2.90
Asian (ref: White)			0.71 *	0.52 – 0.97			0.47 ***	0.31 – 0.71			0.45 **	0.26 – 0.79
Black			1.09	0.76 – 1.57			1.03	0.69 – 1.54			0.8	0.45 – 1.42
Mixed, Chinese, Other			1.25	0.89 – 1.76			0.82	0.52 – 1.28			0.71	0.38 – 1.32
Age, 25-44 (ref: Age, 16-24)			0.41 ***	0.33 – 0.51			0.48 ***	0.37 – 0.62			0.55 ***	0.40 – 0.76
Age, 45 plus			0.17 ***	0.14 – 0.21			0.19 ***	0.15 – 0.25			0.16 ***	0.11 – 0.22
SEC, Intermediate (ref: Managerial)			0.95	0.78 – 1.14			1.03	0.80 – 1.34			0.95	0.69 – 1.30
SEC, Routine			0.79 **	0.66 – 0.94			1.23	0.98 – 1.55			1.1	0.82 – 1.47
SEC, Never worked			0.63 *	0.44 – 0.92			1.12	0.78 – 1.61			1.03	0.66 – 1.62
Disability, Long standing (ref: No long standing)			1.64 ***	1.39 – 1.95			2.16 ***	1.77 – 2.64			3.04 ***	2.40 – 3.86
Random effects: Variances												
Stratum-level	0.8		0.02		0.69		0.05		1.13		0.05	
Individual-level~	3.29		3.29		3.29		3.29		3.29		3.29	
Summary statistics												
VPC	20%		1%		17%		2%		26%		2%	
PCV			98%				93%				96%	
AIC	12954		12832		11445		11346		6832		6739	
AUC	0.713		0.699		0.677		0.667		0.753		0.738	
LRT	χ^2 (1) = 485.21***		χ^2 (9) = 139.96***		χ^2 (1) = 249.85***		χ^2 (9) = 102.34***		χ^2 (1) = 319.72***		χ^2 (9) = 102.74***	
N stratum	191		191		191		191		191		191	
N individuals	165,661		165,661		165,661		165,661		165,661		165,661	

Key Findings

Stranger Violence

- High-risk groups: Young, disabled men
- VPC: 20% variance explained by strata in the null model but reduced to 1% when main effects added

Acquaintance Violence

- High-risk groups: Young, disabled men
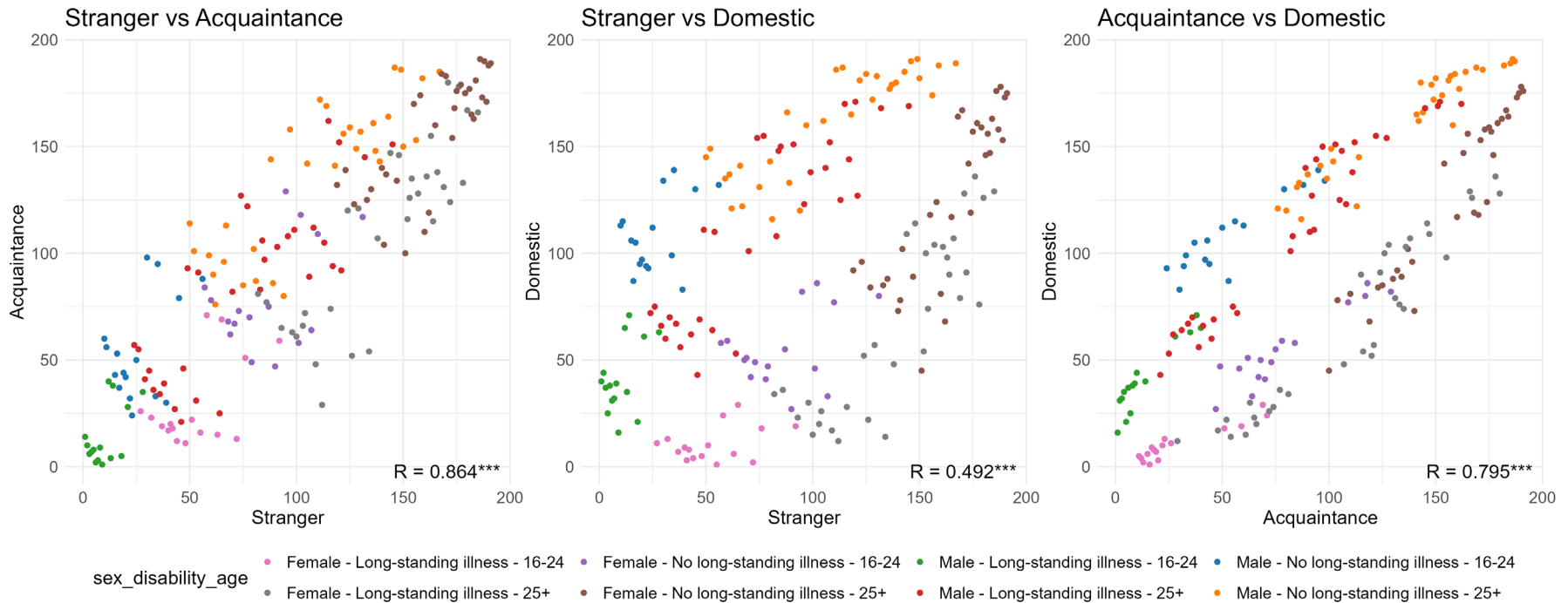- VPC: 17% variance explained by strata in the null model but reduced to 2% when main effects added

Domestic Violence

- High-risk groups: Young, disabled women
- VPC: 26% variance explained by strata in the null model but reduced to 2% when main effects added

Interaction Effects

- Interaction effects accounted for 2%7% unexplained variance.

- Highlights need for tailored policy interventions.

Visual Insights

Comparison of coefficients and confidence intervals across models

Visual Insights
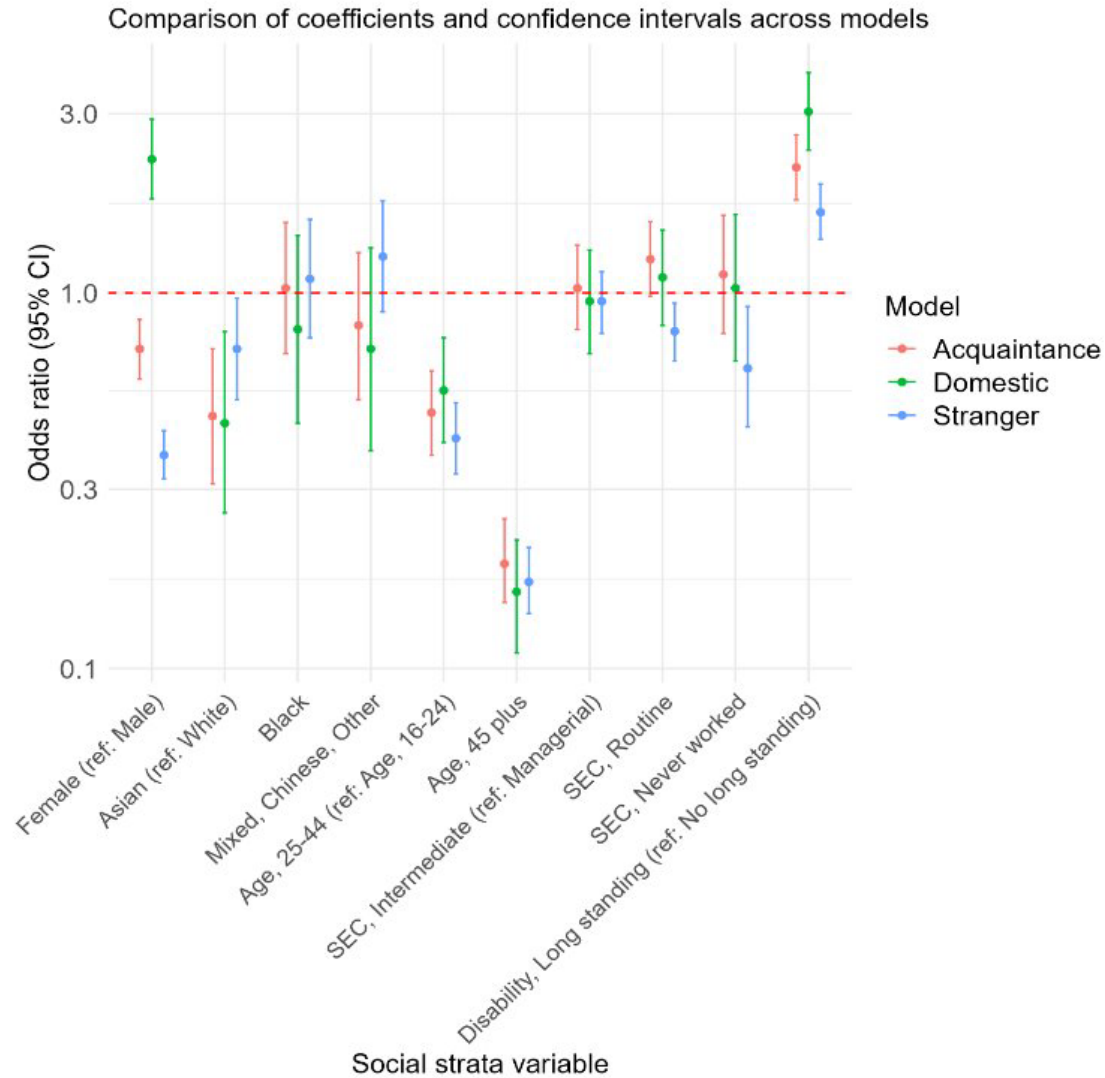
Scatterplot matrix of stratum ranks across models

Visual Insights

Bournemouth University

Top 5 stratum ranks - predicted percent
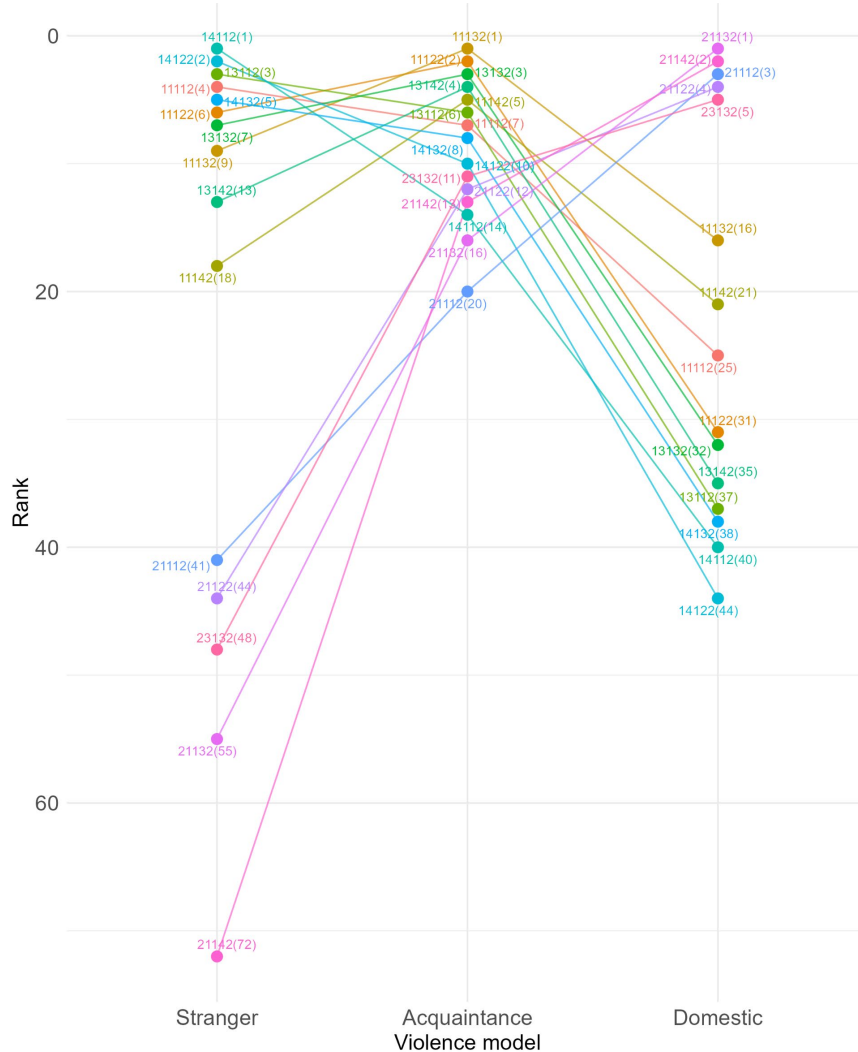
Top 5 stratum ranks - predicted count
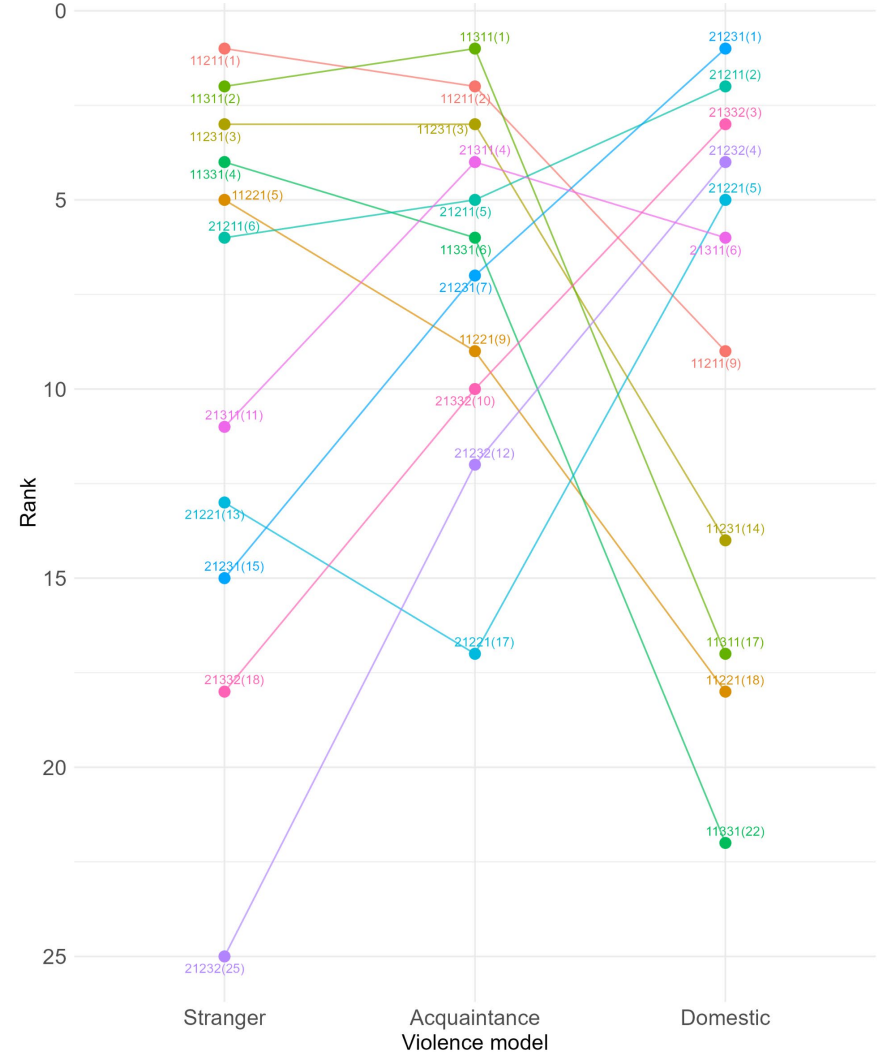
Policy implications

- Target interventions for:
    - Young, disabled men: Stranger/acquaintance violence.
    - Young, disabled women: Domestic violence.
- Prioritise training for law enforcement and social services.
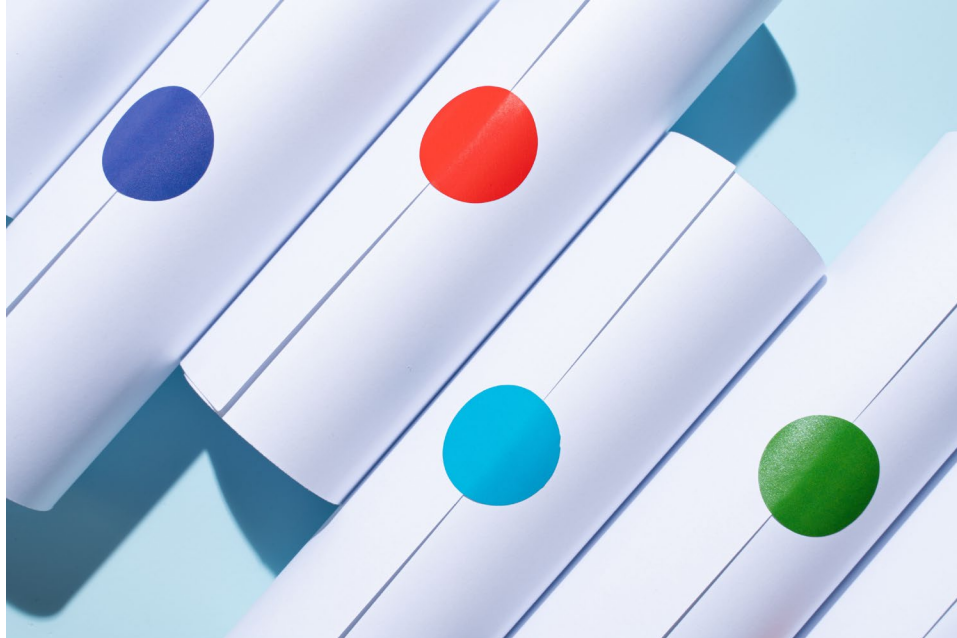
Limitations

- Binary gender variable; lacks insights into non-binary individuals.
- Disability types not differentiated.
- Underrepresentation of care home populations.
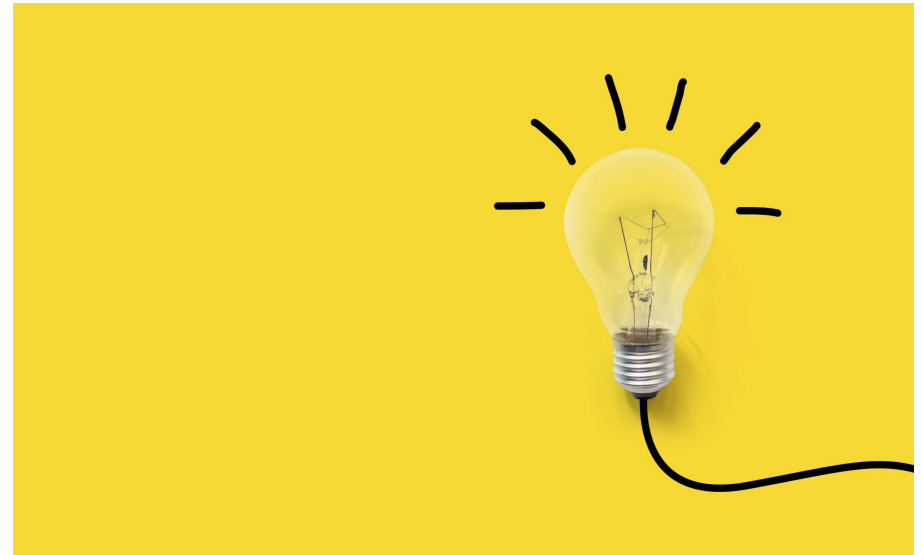
Future Research Directions

- Include gender minorities and specific disability types.

- Explore underreporting patterns by demographic strata.

- Assess longitudinal intervention impacts.

Conclusion

- Demonstrates systemic and intersectional inequalities.

- Highlights young, disabled individuals as highly vulnerable groups.

- Calls for intersectionality-driven policymaking and resource allocation.

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