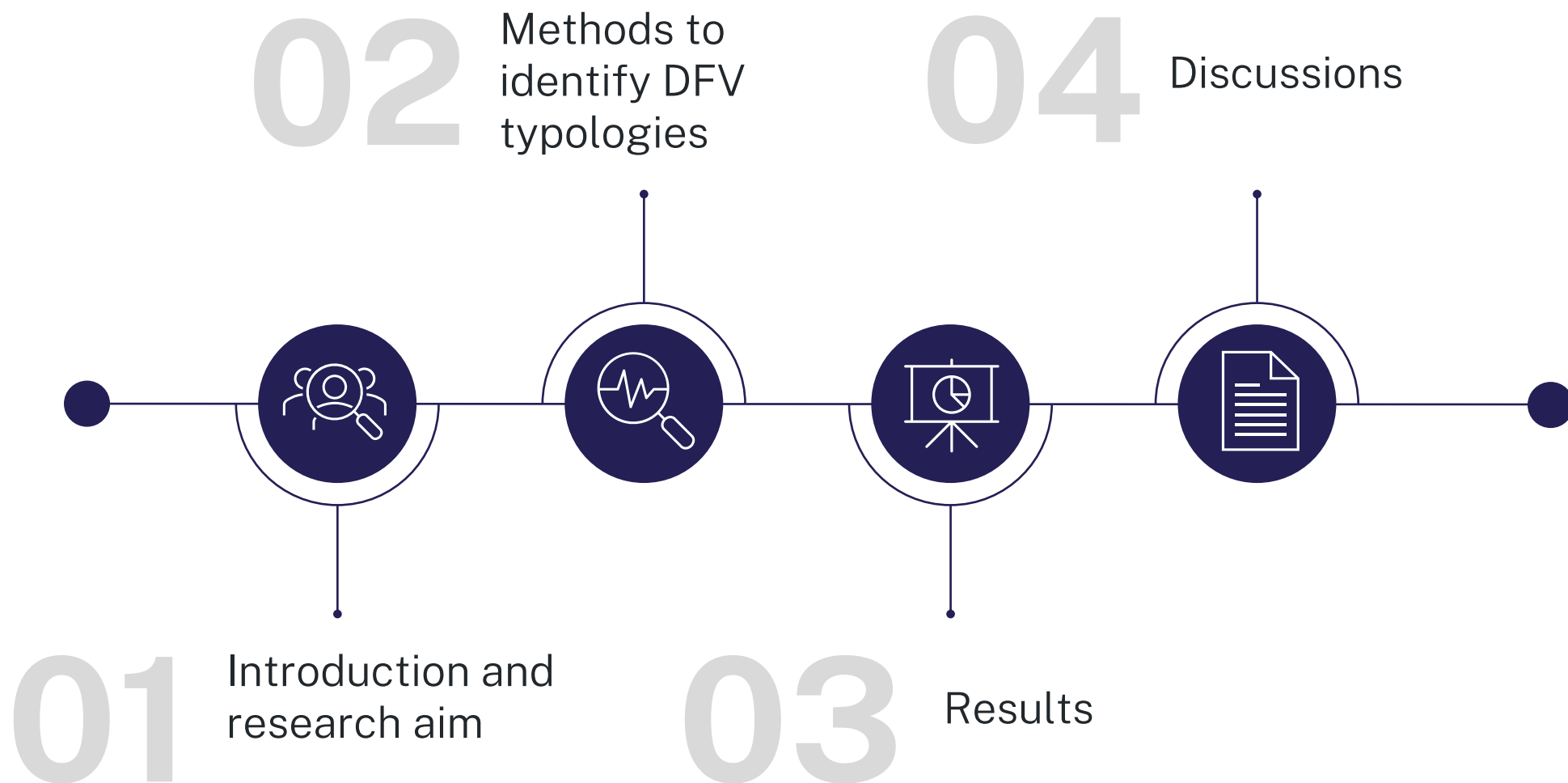# Evidence-based typology for the perpetrators of domestic and family violence in NSW

Applied Research in Crime and Justice Conference 2025

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5 August 2025

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02 Methods to identify DFV typologies

04 Discussions

01 Introduction and research aim

03 Results

1

Domestic and family violence (DFV) perpetrator typologies

Why typologies matter for policy design

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DFV remains a major concern in NSW, with significant investment in prevention and response

Current interventions often treat perpetrators as a homogenous group

Thousands of perpetrators differ in background, behaviour, risk, and service needs
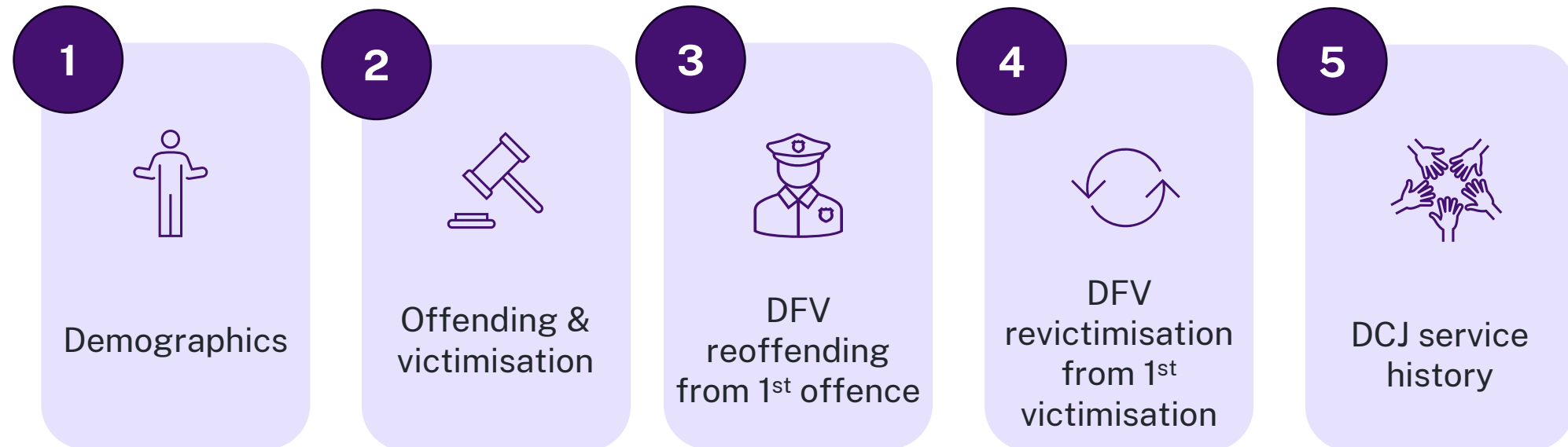
A typological approach can improve targeting, effectiveness, and resource allocation

Supports NSW Government priorities for data-driven, evidence-based policy

Research aim

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To classify almost 200,000 DFV perpetrators into distinct groups, and describe their characteristics:

1
Demographics

2
Offending & victimisation

3
DFV reoffending from 1st offence

4
DFV revictimisation from 1st victimisation

5
DCJ service history

Enables policymakers to allocate resources more effectively by tailoring interventions to specific perpetrator profiles

Examples could be interventions targeted toward DFV perpetrators:

- Young Aboriginal women in regional areas

    History of OOHC, facing elevated risk factors and limited service access

- Non-Aboriginal men in metropolitan areas

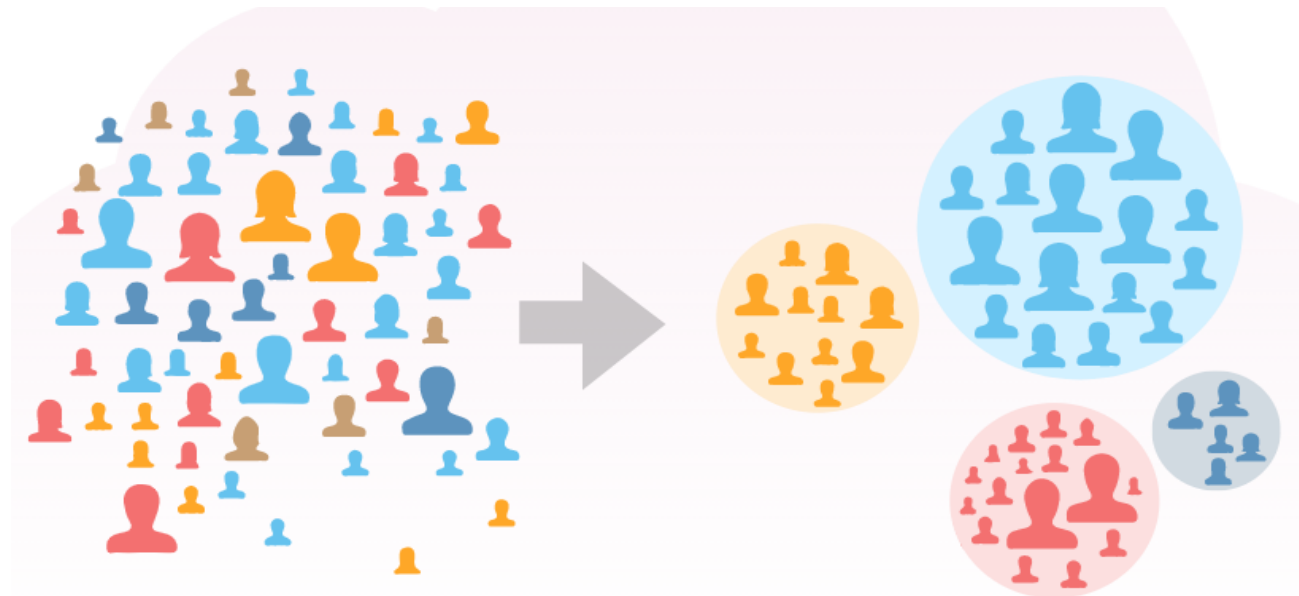   Victims of DFV, living in public housing, complex support needs
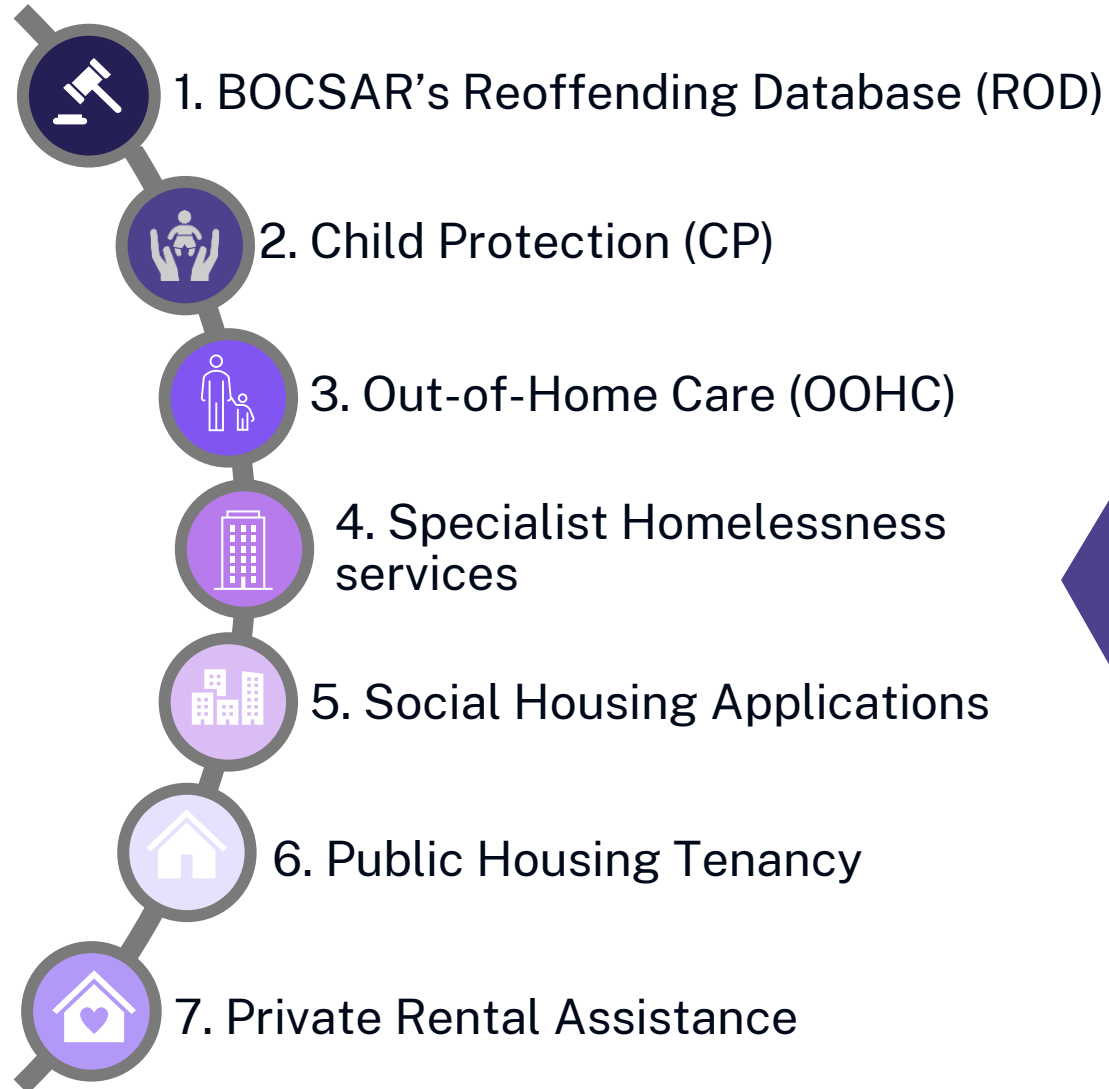

Figure source: Reed, 2023

2

Methods to identify DFV typologies

Linked DCJ Dataset

Client records from seven DCJ databases and combined to individual level

196,697

Individuals with DFV-related charges finalised between 10 March 2008 & 1 January 2023

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1. BOCSAR's Reoffending Database (ROD)

2. Child Protection (CP)

3. Out-of-Home Care (OOHC)

4. Specialist Homelessness services

5. Social Housing Applications

6. Public Housing Tenancy

7. Private Rental Assistance

229 variables per individual

- 4 demographics
- 2 DFV-related rates
- 223 DCJ service-related variables

Characteristics of the research sample

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4 demographics:

78%
Male

27%
Aboriginal

1% aged under 18
17% aged 18-29

41% SEIFA percentile
Live in more
disadvantaged areas

223 DCJ service-related variables: (sample average)

1.7
Number of DFV-related charges

1.6
Events as a DFV-related victim

2.2
Number of Risk of Serious Harm (ROSH) reports

0.2
Number of Out-of-Home Care placements

55.5
Days of support from Specialist Homelessness
Service provider

# DFV reoffending and revictimisation rates within 12 months (%) by gender, Aboriginality and age

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		DFV reoffending	DFV revictimisation
Full sample		**9.6**	**7.6**
	Male	**10.1**	4.4
	Female	8.0	**18.6**
	Aboriginal	**13.3**	**13.5**
	Non-Aboriginal	8.2	5.3
	Child	**10.7**	**11.5**
	Adult	9.6	7.5

Male, Aboriginal, and children have higher reoffending rates in DFV

Female, Aboriginal, and children have higher revictimisation rates in DFV

10

A two-fold approach to group the large-scale data

1 229 columns to describe each person
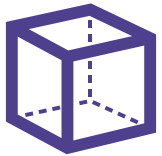
Factor Analysis of Mixed Data (FAMD)

Generate new proxies as linear combinations of all 223 columns, which we call '*Principal Components*' (PCs)
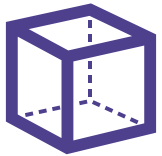
2 196,697 people to be grouped

K-prototype Clustering Analysis

Use the PCs and excluded six demographics from Step 1, we then classify each DFV perpetrator into one and only one group

Our ultimate goal is to classify all DFV perpetrators into distinct groups

A two-fold approach to group the large-scale data

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1 229 columns to describe each person

Factor Analysis of Mixed Data (FAMD)

The number of PCs

How to interpret the PCs

2 196,697 people to be grouped

K-prototype Clustering Analysis
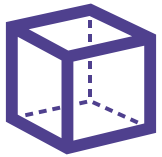
The number of groups

How to describe the groups

Our ultimate goal is to classify all DFV perpetrators into distinct groups

3

Results

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1 229 columns to describe each person

2 196,697 people to be grouped

Factor Analysis of Mixed Data (FAMD)

K-prototype Clustering Analysis

Number of Principal Components (PCs): 4

How to interpret the PCs:

- PC1: Crime as a perpetrator
- PC2: Crime as a victim
- PC3: YOA cautions, contact with CP for neglect and OOHC
- PC4: YOA cautions and contact with CP for abuse

Columns left:

- 4 PCs + 6 demographics

Number of groups: 8

How to describe the groups:

- In-group summary
- Between-group comparison
  - Demographics
  - PCs

14

The number of PCs is set as 4, which explains 24% of the variance in the sample data

Explained variance (%)

- 10.7
- 6.1
- 4.8
- 2.2

Crime as a perpetrator

Crime as a victim

YOA cautions, contact with CP for neglect and OOHC

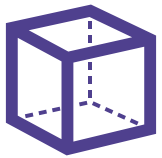YOA cautions and contact with CP for abuse

Principal components
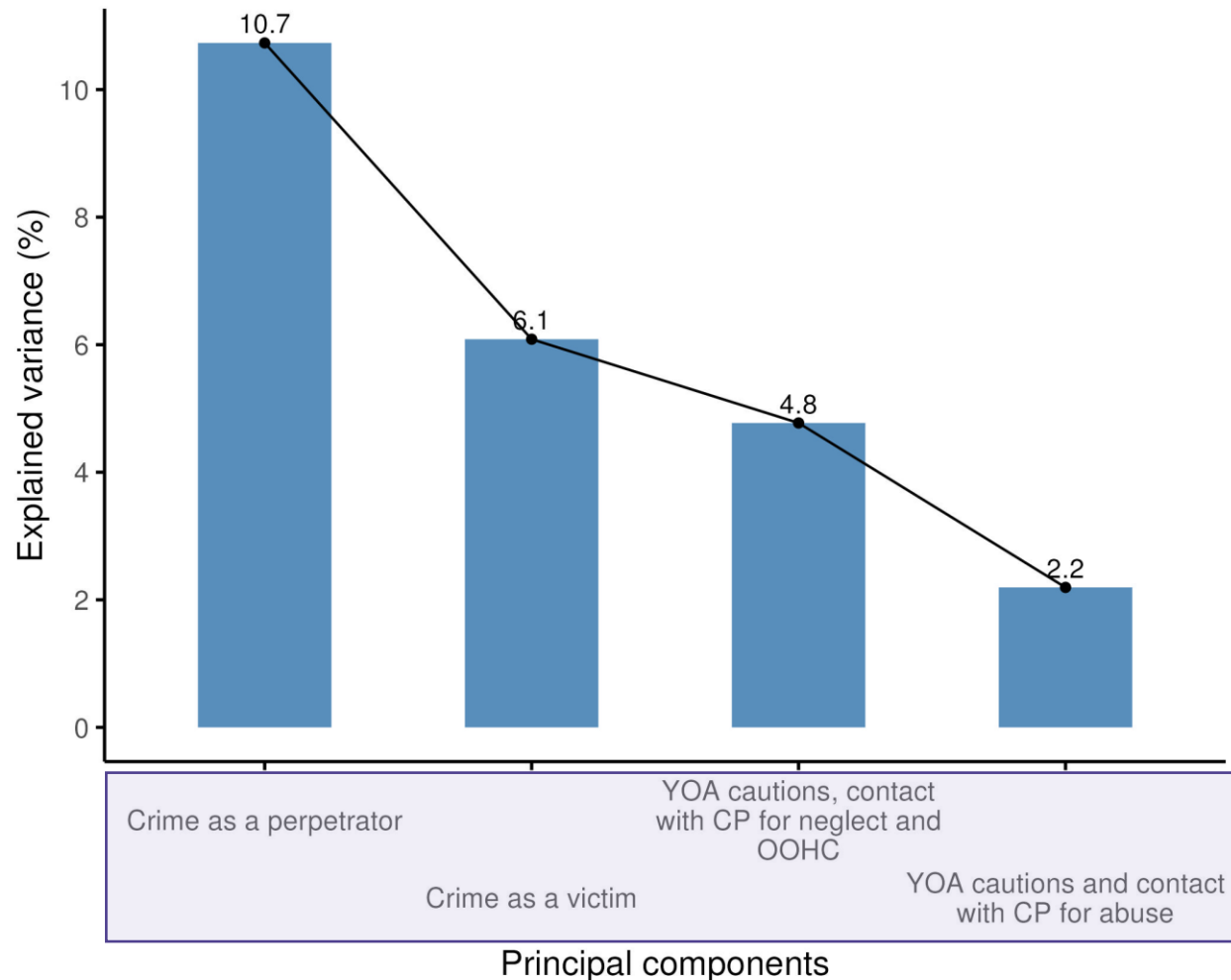
- The 1st PC explains the most variance (11%)
- The 2nd PC explains 6%
- The 3rd PC explains 5%

- Together, the first 4 PCs explains 24% of all information recorded across DCJ's major databases

- Interpret PCs based on the most contributing variables
- "Crime as a perpetrator" as PC 1

1 229 columns to describe each person

Factor Analysis of Mixed Data (FAMD)

The number of PCs: 4

How to interpret the PCs:

- PC1: Crime as a perpetrator
- PC2: Crime as a victim
- PC3: YOA cautions, contact with CP for neglect and OOHC
- PC4: YOA cautions and contact with CP for abuse
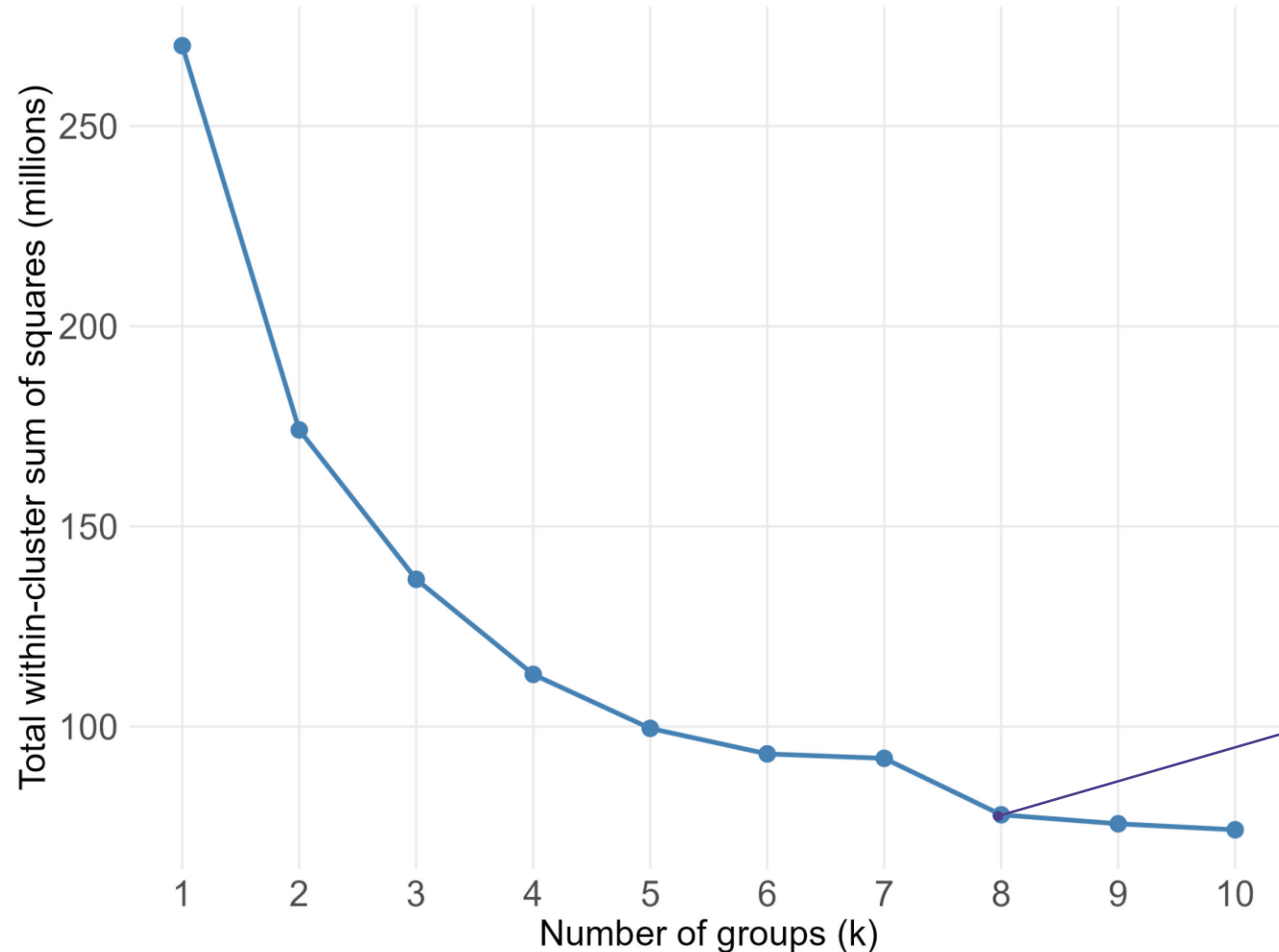
2 196,697 people to be grouped

K-prototype Clustering Analysis

The number of groups

How to describe the groups
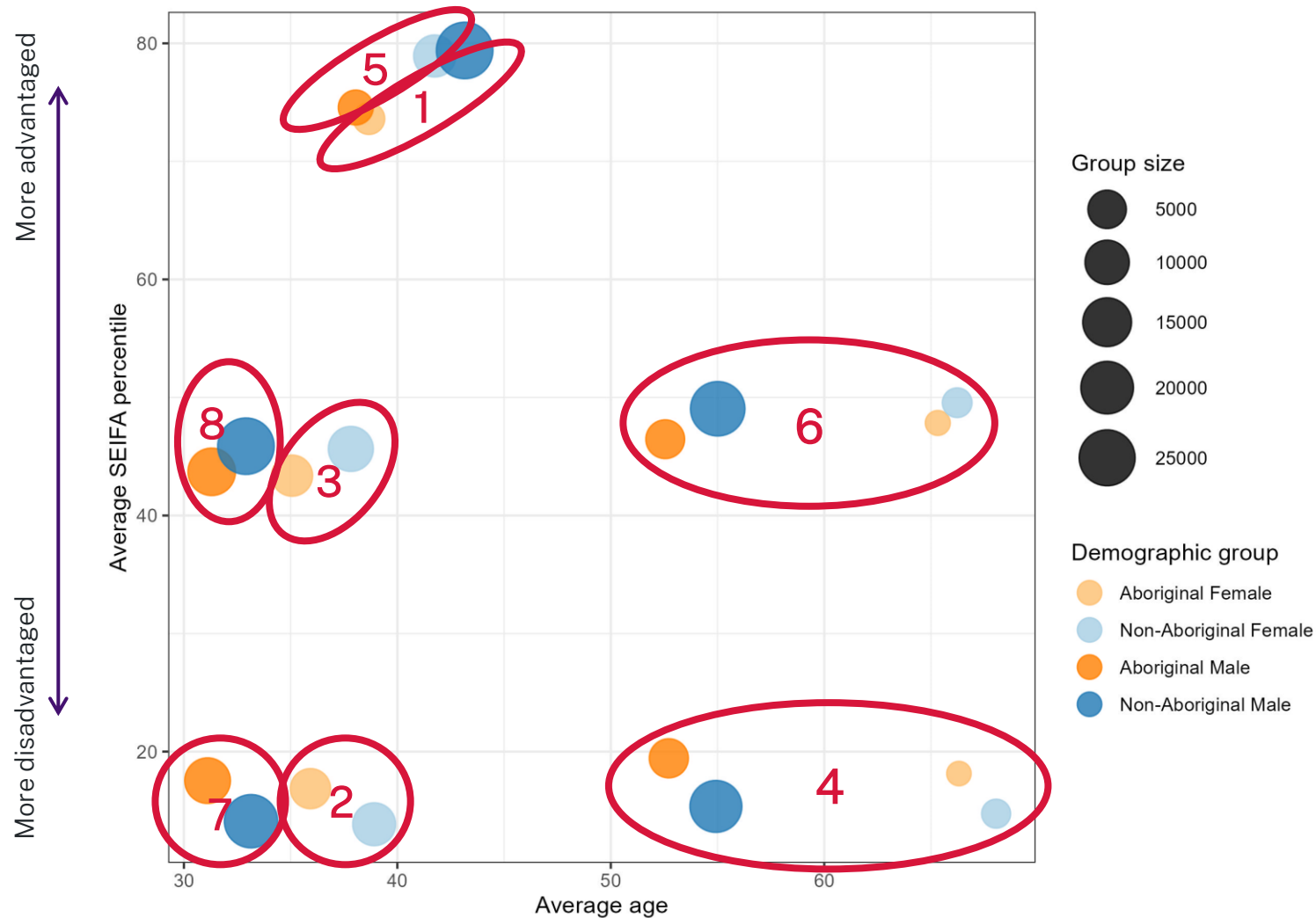
Choose the number of groups, i.e., *k* in K-prototypes Clustering

As k increases, the dissimilarity between DV perpetrators within groups decreases, k = 1, ..., 196,697

Look for an "elbow" point in the plot where the rate of decrease sharply shifts

Choose k=8 as the optimal number of clusters

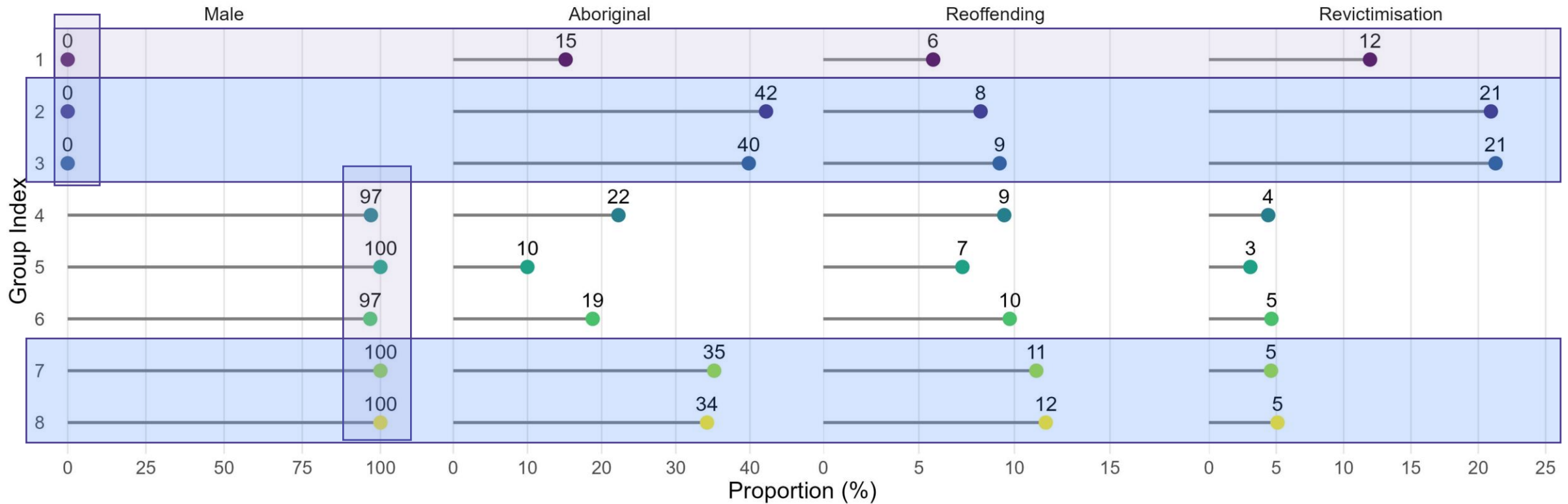# Classify all 196,697 individuals into k=8 groups

Group index (1-8) only indicates group size
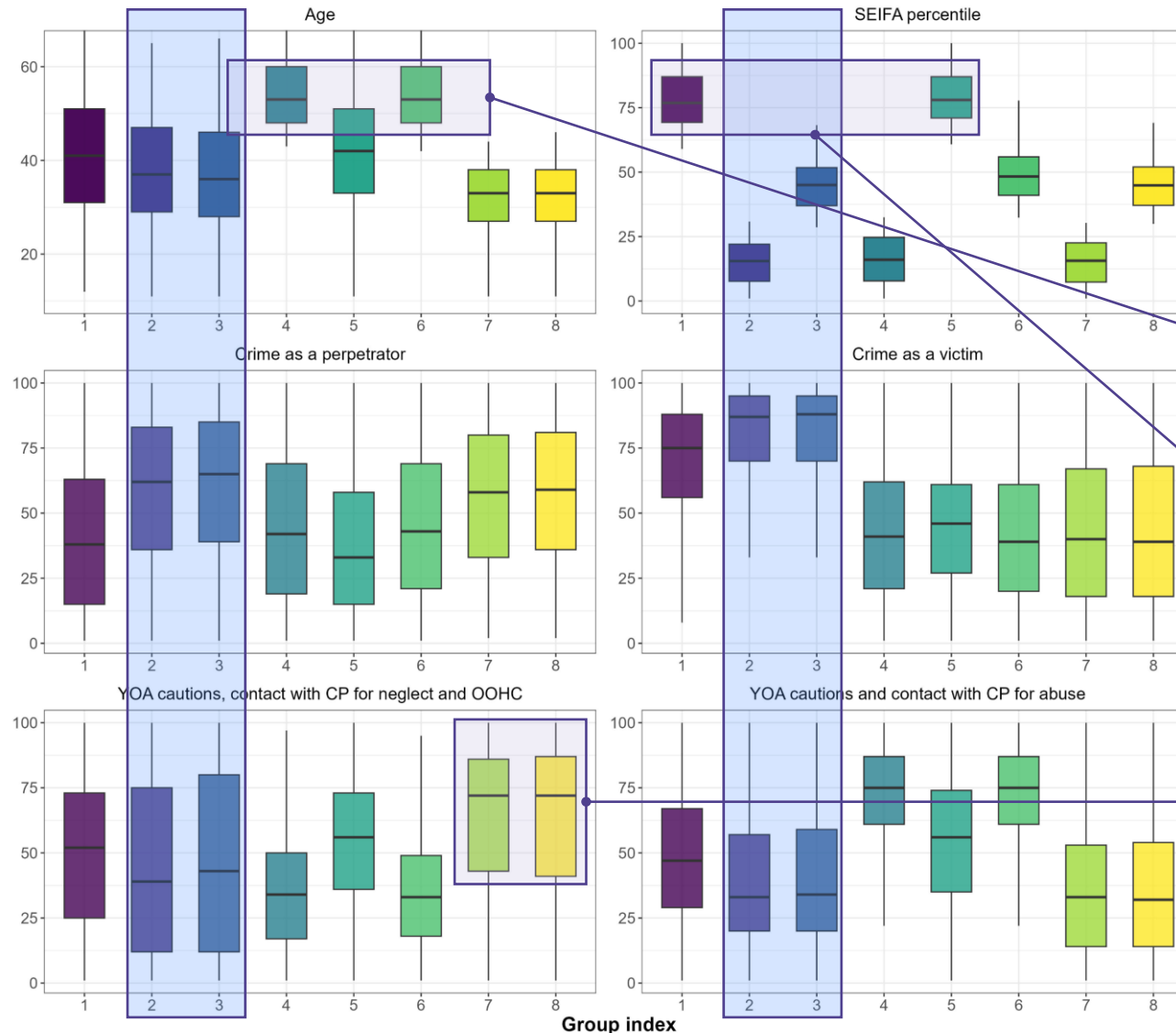
Group 8 is the largest with 39,205 people

Group 1 is the smallest with 9,288 people

Proportions of four binary characteristics across eight groups of DFV perpetrators

K=8 groups of DFV perpetrators: characteristics

Boxplots for the distributions of six numerical characteristics across eight groups

Groups 4 and 6 are the oldest groups

Groups 1 and 5 reside in wealthy areas

Groups 7 and 8 have more police cautions as a young person and contact with the child protection system for reasons related to neglect/OOHC

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Summary characteristics of the eight groups

1 Women (late 30s–40s), reside in wealthy areas, low risk of reoffending, moderate risk of revictimisation, minimal justice and child protection contact

2 Women (30s), reside in low SES areas, extremely high risk of revictimisation, high justice system involvement

3 Women (30s), reside in middle SES areas, extremely high risk of revictimisation, high justice system involvement

4 Men (50s), reside in low SES areas, moderate risk of reoffending, low risk of revictimisation, low system contact, minimal early life data

5 Men (40s), reside in wealthy areas, moderate risk of reoffending, low risk of revictimisation, low justice system involvement

6 Men (50s), reside in middle SES areas, moderate risk of reoffending, low risk of revictimisation, low justice system involvement, minimal early life data

7 Men (30s), reside in low SES areas, high risk of reoffending, low risk of revictimisation, high justice system involvement, early contact with justice and child protection systems

8 Men (30s), reside in middle SES areas, high risk of reoffending, low risk of revictimisation, high justice system involvement, early contact with justice and child protection systems

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Discussions

Key Findings and Policy Implications

First data-driven typology of DFV perpetrators in NSW using linked administrative data

- Eight distinct perpetrator groups identified, differentiated by gender, Aboriginality, age, SES, justice and child protection involvement
- Strong associations observed between gender, SES, Aboriginality, and system contact

- Typology supports more targeted, cost-effective DFV responses across NSW
- Policymakers and researchers should continue to work together to design, develop, deliver and evaluate the effectiveness of criminal justice interventions

Limitations

01

Incomplete historical data (e.g., OOHC records pre-1987) may affect classification accuracy
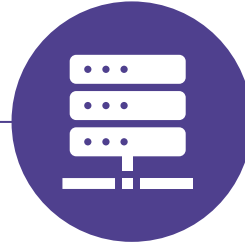
02

Methodological choices (e.g., variable inclusion/exclusion) influence group formation

03

Typologies limited to data availability (e.g., more demographics, other service database)
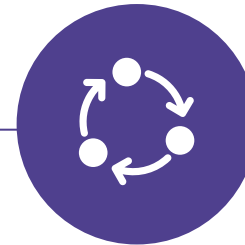
04

Group number and component selection involve subjective judgment

Thank you!

Email: Fan.Cheng@dcj.nsw.gov.au

Report to be published at https://www.bocsar.nsw.gov.au/

Summary characteristics of the eight groups

	Gender	Age	SES	Reoffending risk	Revictimisation risk	Involvement with Criminal Justice & Child Protection (CJS & CP) systems
1		30s-40s	High	Low	Moderate	Low with CJS & CP
2		30s	Low	Moderate	High	High with CJS
3		30s	Mid	Moderate	High	High with CJS
4		50s	Low	Moderate	Low	Low with CJS; minimal early life data
5		40s	High	Low	Low	Low with CJS
6		50s	Mid	Moderate	Low	Low with CJS; minimal early life data
7		30s	Low	High	Low	High with CJS & CP
8		30s	Mid	High	Low	High with CJS & CP