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A different view of crime: shifting patterns of victimisation

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Background

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The crime drop

- Well known that crime has been falling in many countries - Scotland no exception
- But different patterns for different kinds of crime
  - Clear drop for motor vehicle crimes
  - but an increase for assaults and threats
  - Drop then levelling off for household crimes
  - No real change for personal thefts and robberies

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Different kinds of victim

- Hope and Norris (2012) identified several different groups of victim in a latent class analysis
- Looked at property and personal crimes separately
- Broadly similar results for Scottish and English & Welsh dataset
- Groups differed in amount of crime experienced but more importantly in the mix

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Questions

- Is the crime drop
  - due to reduction in size of the groups of victim who experience more crime,
  - due to reduction in crime experienced by each group of victim,
  - or both?
- Do all groups of victim experience the same drop in crime?

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Data

Scottish Crime and Justice Survey

We use data from the Scottish Crime and Justice Survey.

- Sample stratified by area, with the whole of Scotland included in the sampling frame (except a few very small islands)
- 9 sweeps (so far): 1993, 1996, 2000, 2003, 2004, 2006, 2008-2009, 2009-2010, and 2010-2011
- Different respondents selected at every sweep: not a panel survey
- We merge all sweeps into a single dataset
- Number of respondents ranges from 3034 in 2004 to 16036 in 2009-2010
- We scale the weights so that they add up to the same value in each sweep, thus giving each sweep equal weight

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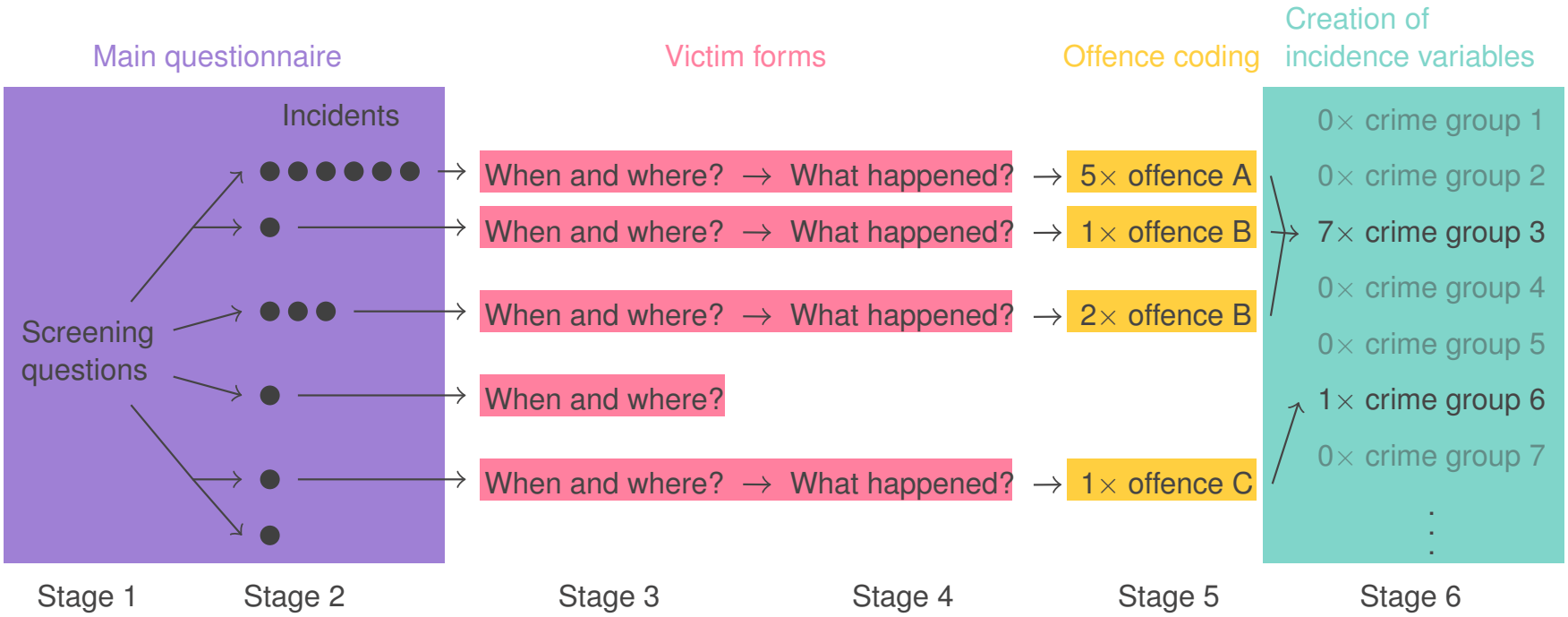
Creation of incidence variables



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Creation of incidence variables

- Multi-stage process
  1. Identify incidents
  2. Select incidents to ask about in victim forms
  3. Find out whether happened in Scotland during year-long reference period (if not, incident not eligible)
  4. Find out what happened in incident
  5. Assign most appropriate offence code
  6. Group offences into crime group and count number of incidents in each group
- Changes between sweeps in all of these stages but mostly minor
- Where we can, we introduce more consistency between sweeps than officially published rates have
- We don’t look at sexual offences, which were particularly affected by changes between sweeps

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Crime groups

We use the following crime groups in our model:

mvcri	Thefts and attempted thefts of/from motor vehicles, motor vehicle vandalism
house	Housebreakings and attempted housebreakings (to dwellings or to outhouses), theft inside and outside dwellings, vandalism not to motor vehicles (and not including fire raising)
assthe	Assaults and attempted assaults, threats
persrob	Theft from the person, other personal theft, robbery

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Model

Model

- Latent class model
- Incidences capped at 4 and treated as ordinal responses
- No explanatory variables
  - Would have liked to include time, but problems getting it to run
- Group (i.e. class) membership over time calculated from fitted probabilities for each individual after running the model
- Incidence over time calculated from fitted group membership probabilities and actual incidences (still capped at 4) for each individual after running the model

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Results

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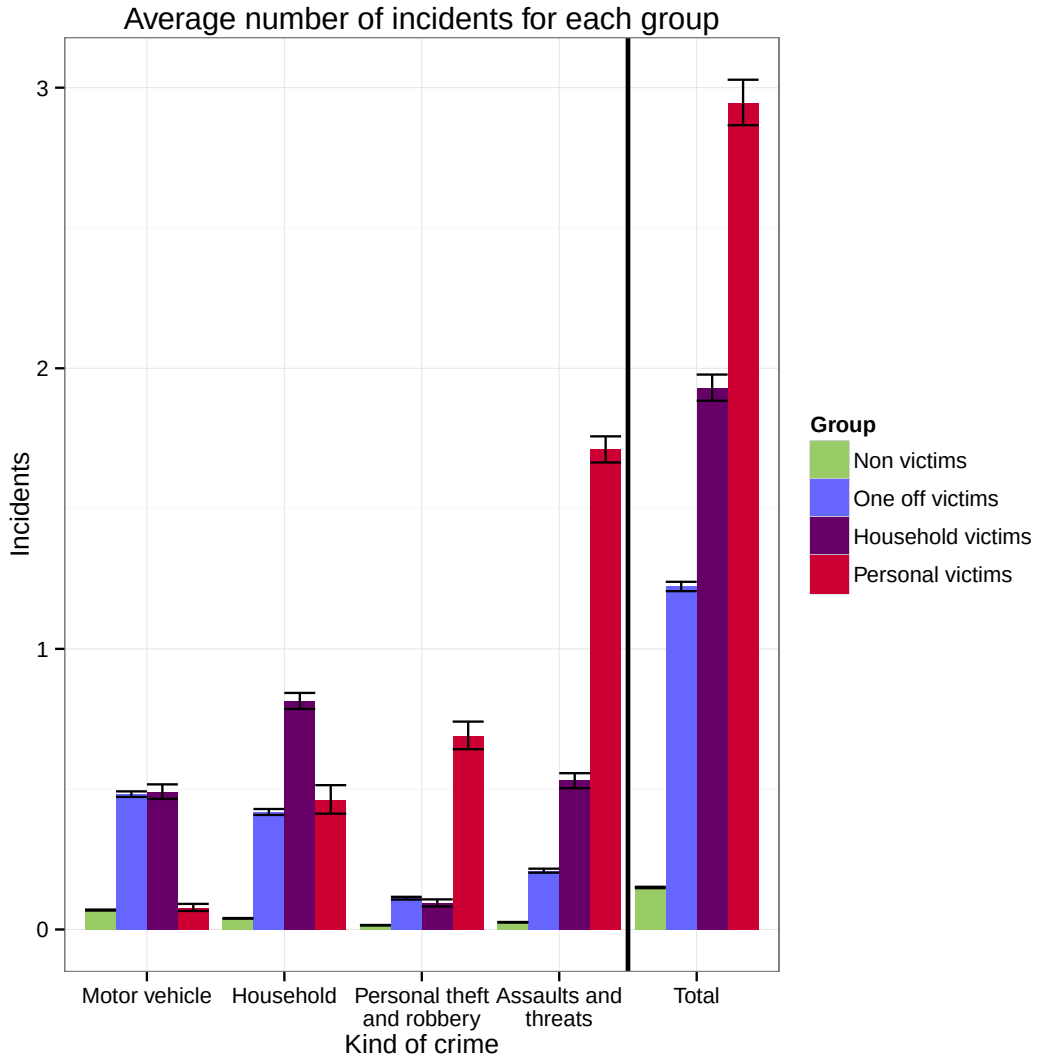
Groups



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Groups (1)

- 4 group model fits best
- The groups differ in the total amount of crime they experience:
  - Personal victims have the most total crime (c. 3 incidents each),
  - then household victims (c. 2 incidents each),
  - then one-off victims (c. 1 incident each),
  - then non-victims (c. 0 incidents each)

Groups (2)

- But the different classes also experience different mixes of crime:
  - Personal victims: the most personal thefts, robberies, assaults and threats. Some household thefts and vandalism. Little motor vehicle theft or vandalism.
  - Household victims: the most household thefts and vandalism. Considerably more motor vehicle thefts and vandalism than personal or non-victims. Some assaults and threats. Little personal theft or robbery.
  - One-off victims: $\sim$ 1 incident each, of motor vehicle theft/vandalism or of household theft/vandalism. Not very likely to experience personal thefts or robbery, or assaults or threats
  - Non-victims: not very likely to experience any kind of crime

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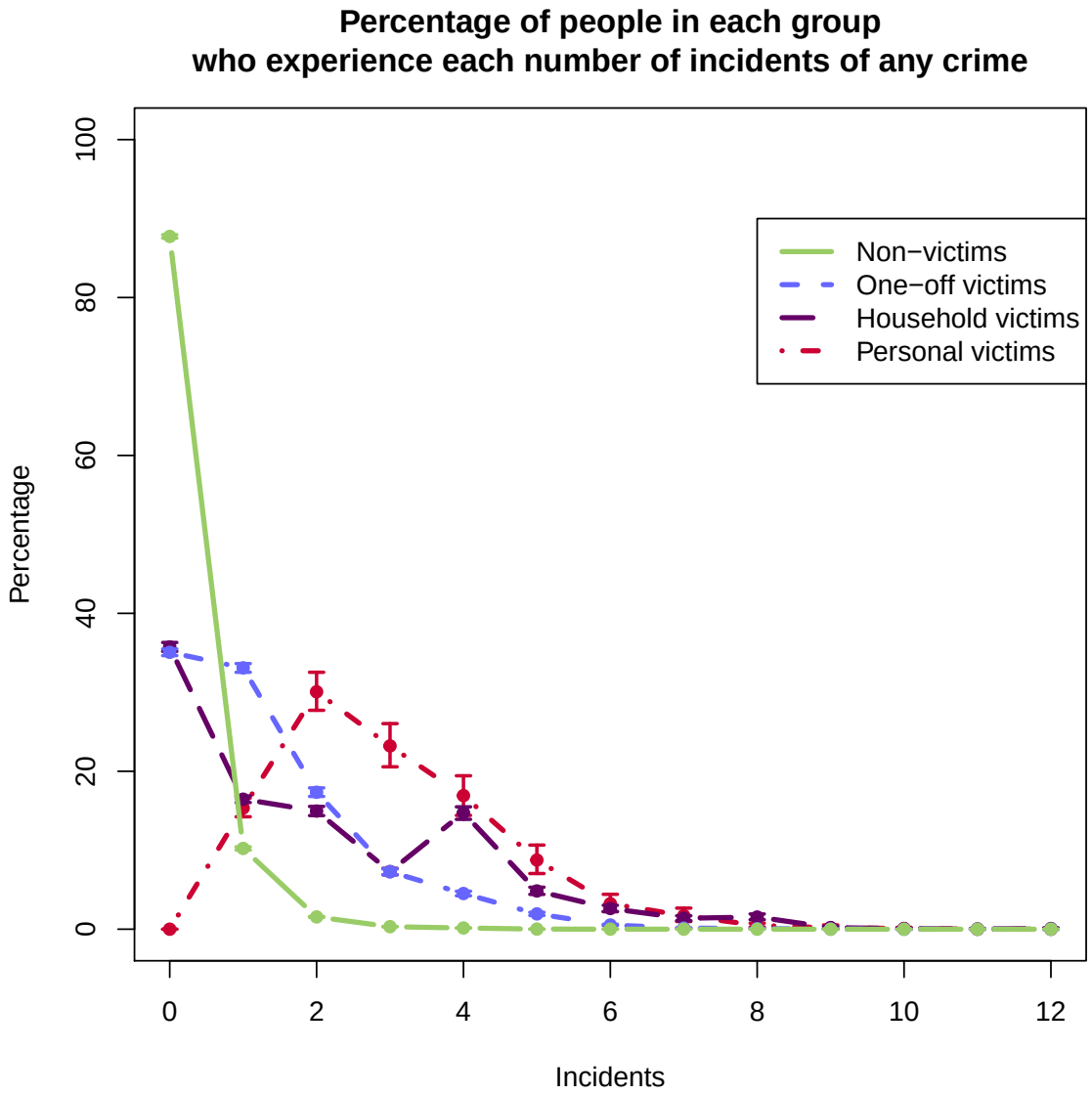
Distribution of incidents



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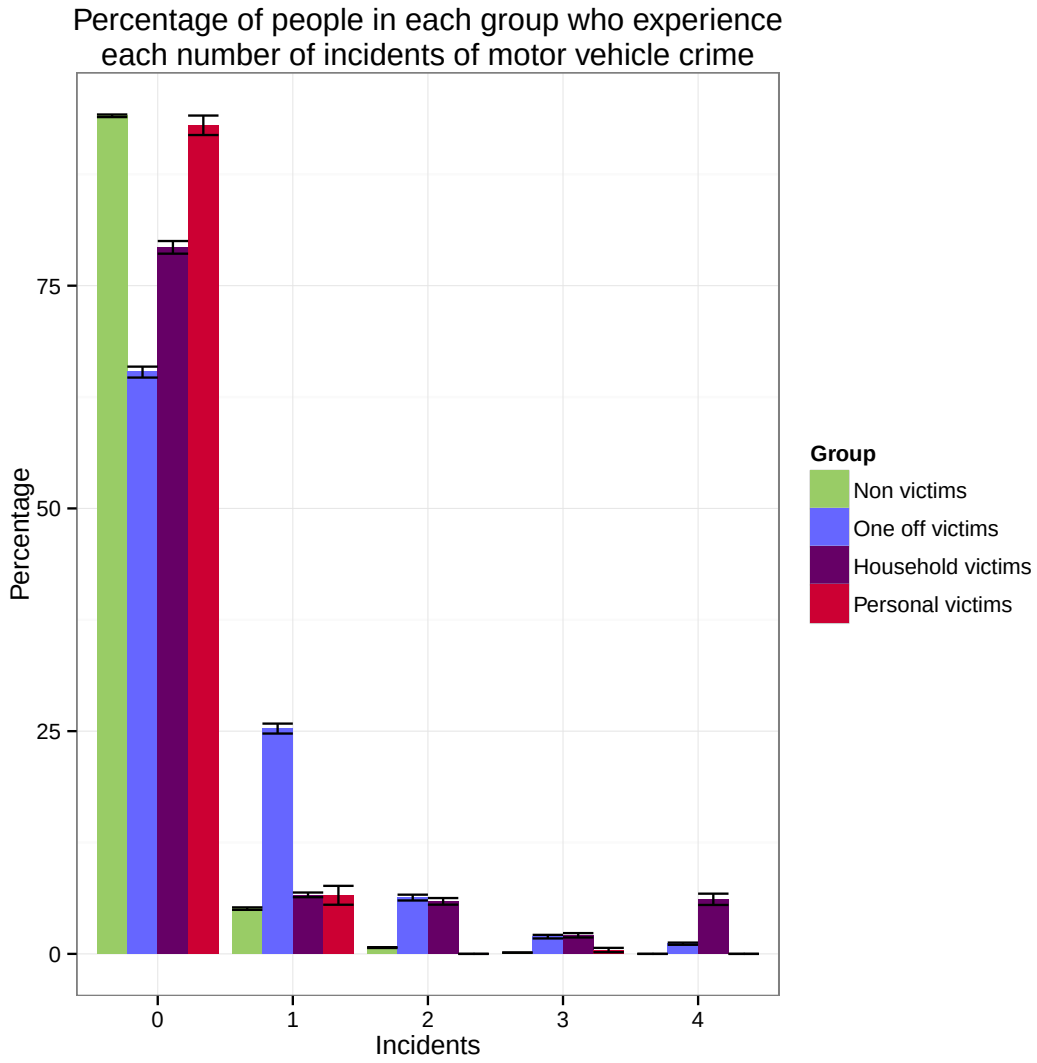
Distribution of incidents

- Just about all Personal victims experience at least one incident
- One-off and Household victims actually have similar probabilities of experiencing no incidents - but One-off victims are more likely than Household victims to experience just one event, and Household victims are more likely than One-off victims to experience 4 events (or more).

Distribution of incidents: motor vehicle crime



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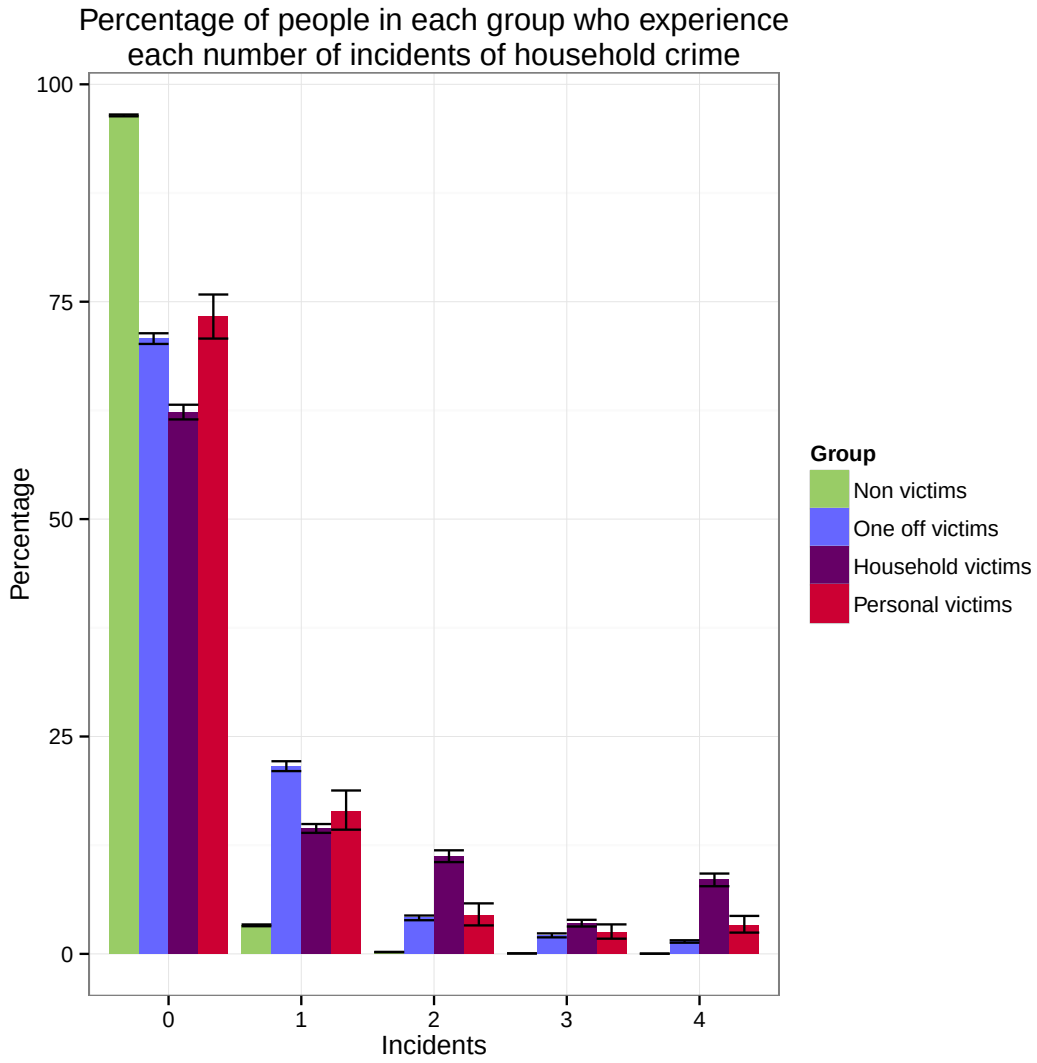
Distribution of incidents: motor vehicle crime

- While One-off and Household victims are similar in the average number of incidents of motor vehicle crime experienced, Household victims are more likely than One-off victims either to experience no incidents at all or to experience 4 or more incidents.

Distribution of incidents: household crime



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Distribution of incidents: household crime

- Although Household victims experience an average of 0.8 incidents of Household crime each, nevertheless about 60% of victims in this class experience no incidents of Household crime

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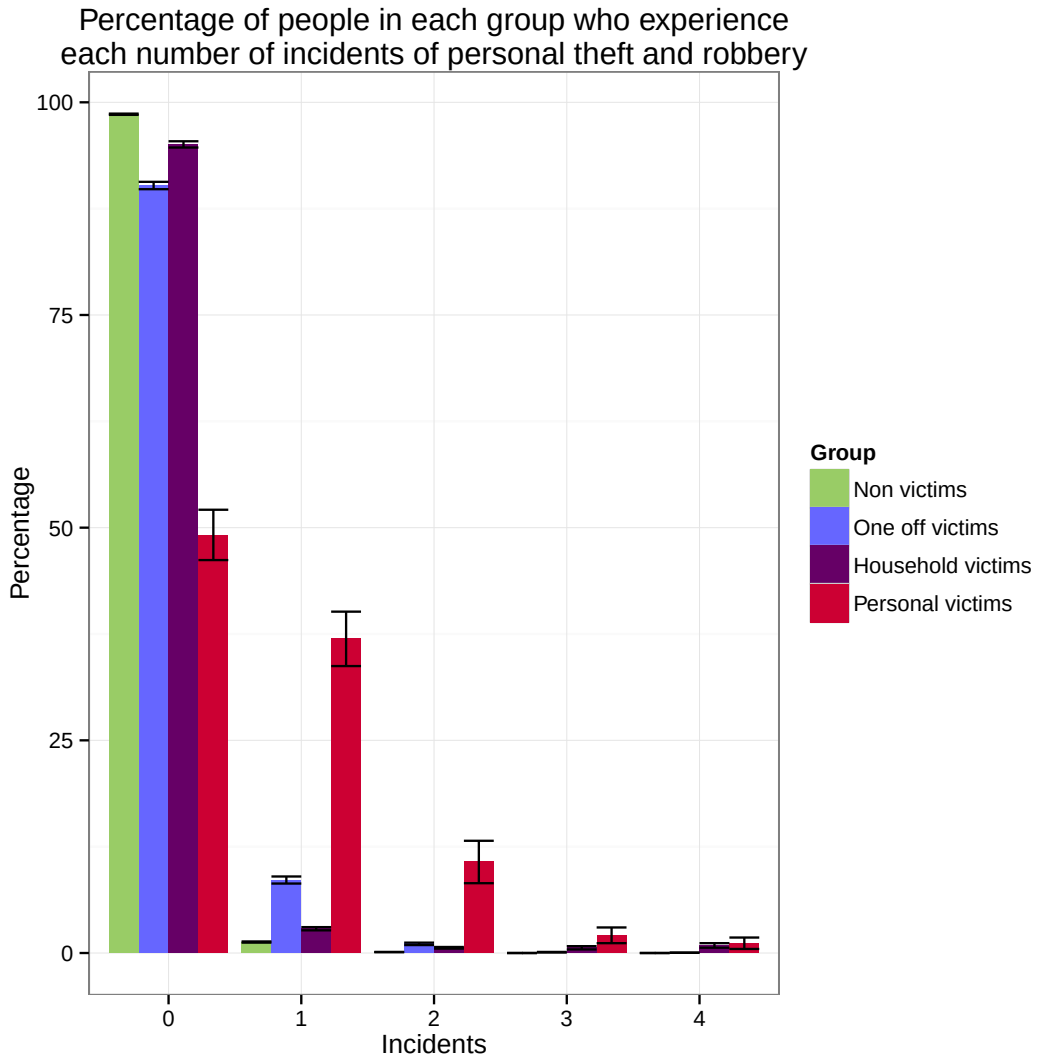
Distribution of incidents: personal theft and robbery



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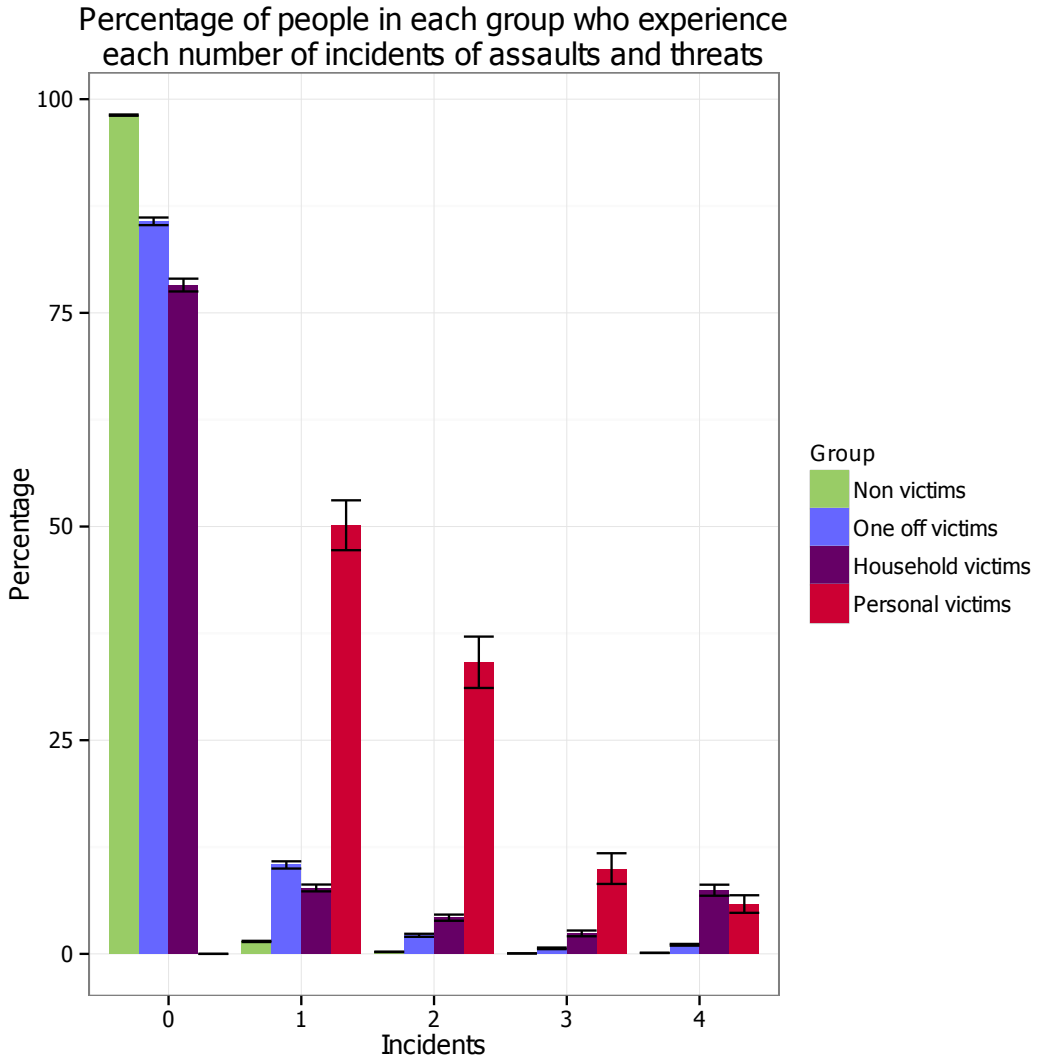
Distribution of incidents: personal theft and robbery

- About half the Personal victims experience at least one incident of personal theft or robbery, and over 10% experience two incidents or more

Distribution of incidents: assaults and threats



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Distribution of incidents: assaults and threats

- Just about all Personal victims experience at least one incident of assault or threats, and half experience two or more
- The vast majority of Household victims (over 75%) experience no incidents of assault or threats, but around 10% experience four or more incidents.

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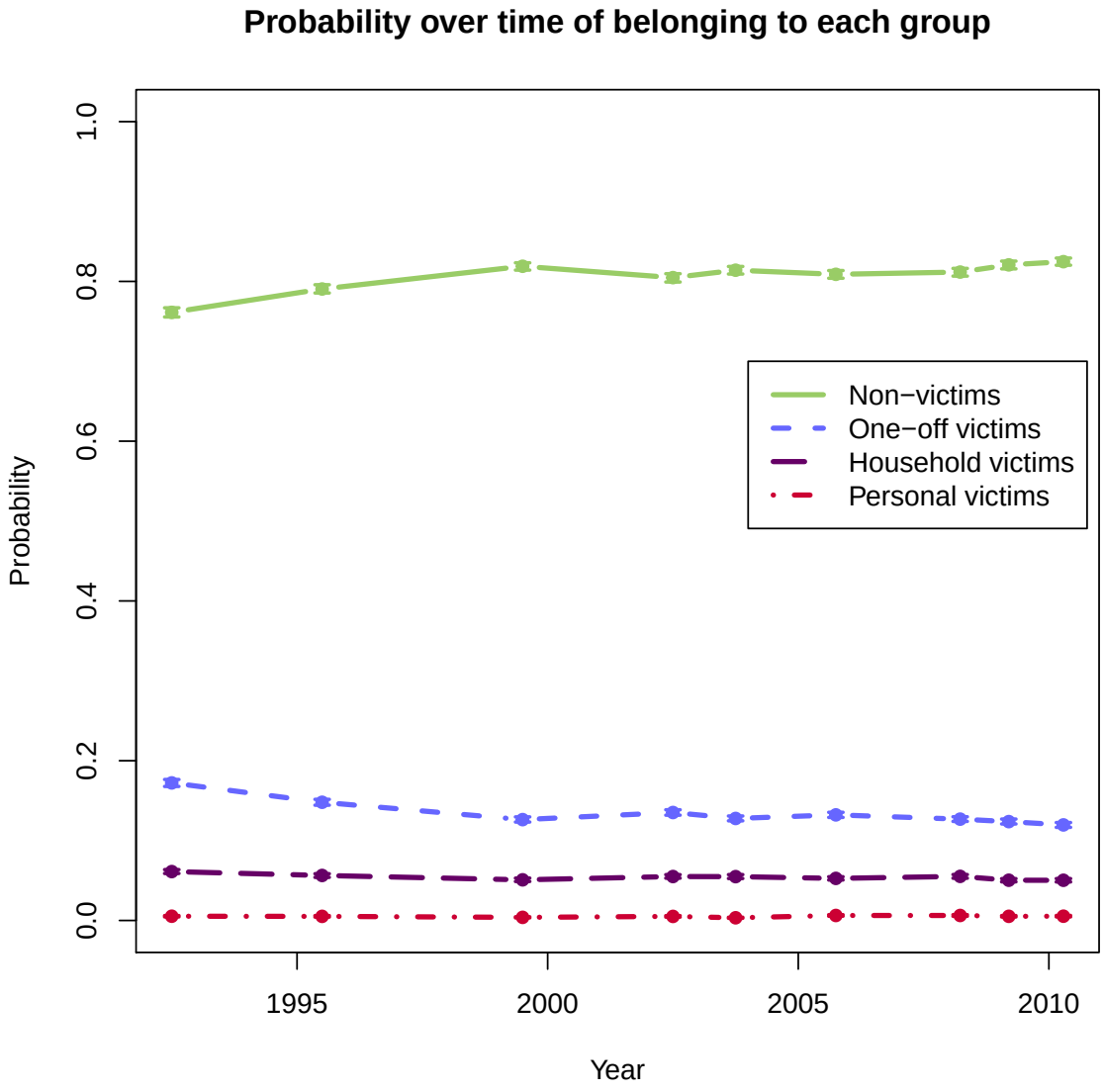
Group probabilities over time



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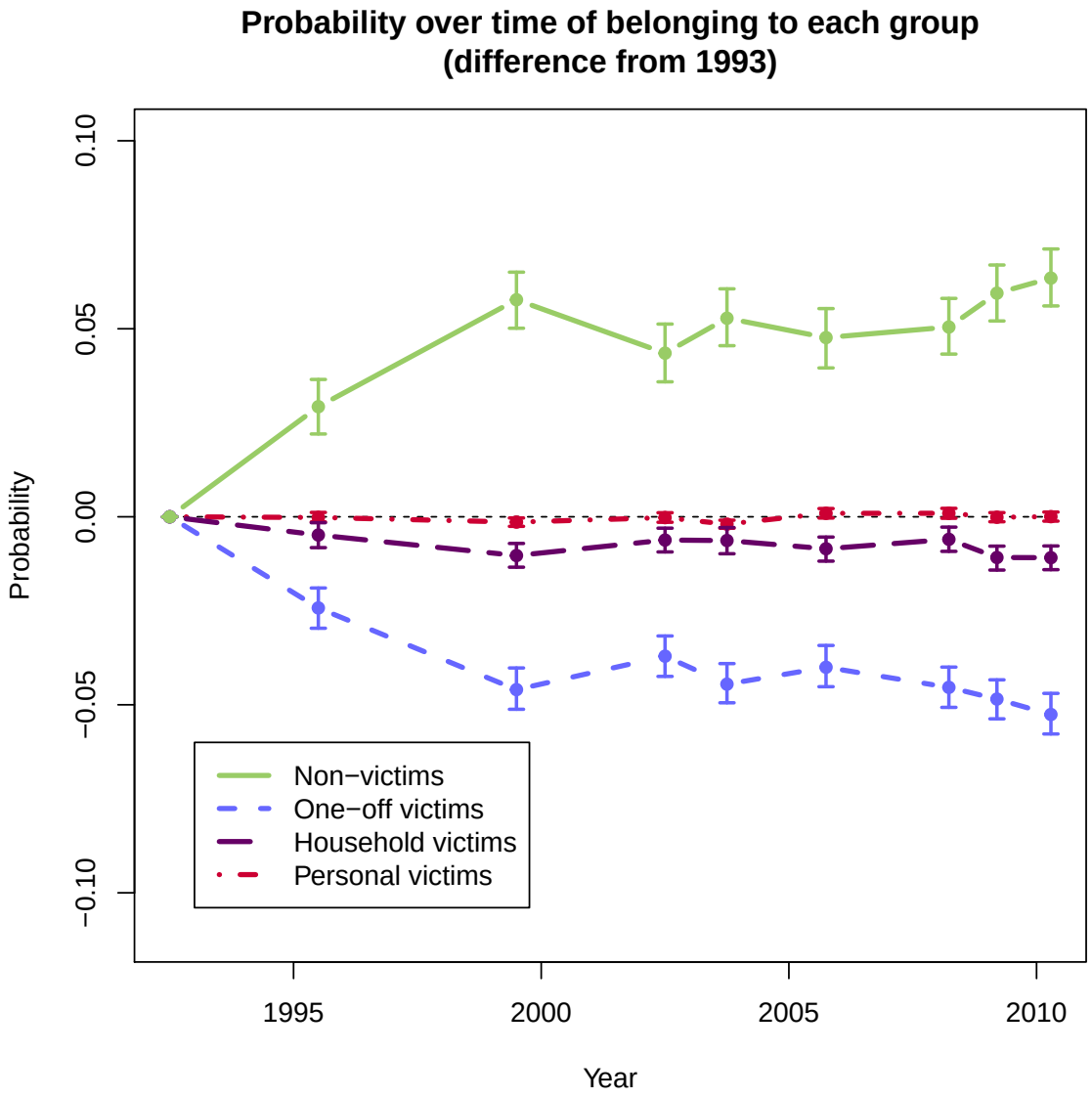

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Group probabilities over time

- The average probabilities of belonging to each group (and so group sizes) change over time
- Increase in non-victims over time and corresponding decrease in one-off and household victims, suggesting people may move down group as time goes on
- Personal victims unchanged
- This fits with what we know about crime trends: motor vehicle and household crime are decreasing while personal thefts and robberies remain stable, and assaults and threats are increasing
- So the crime drop seems to be partly due to changes in the size of each group of victim

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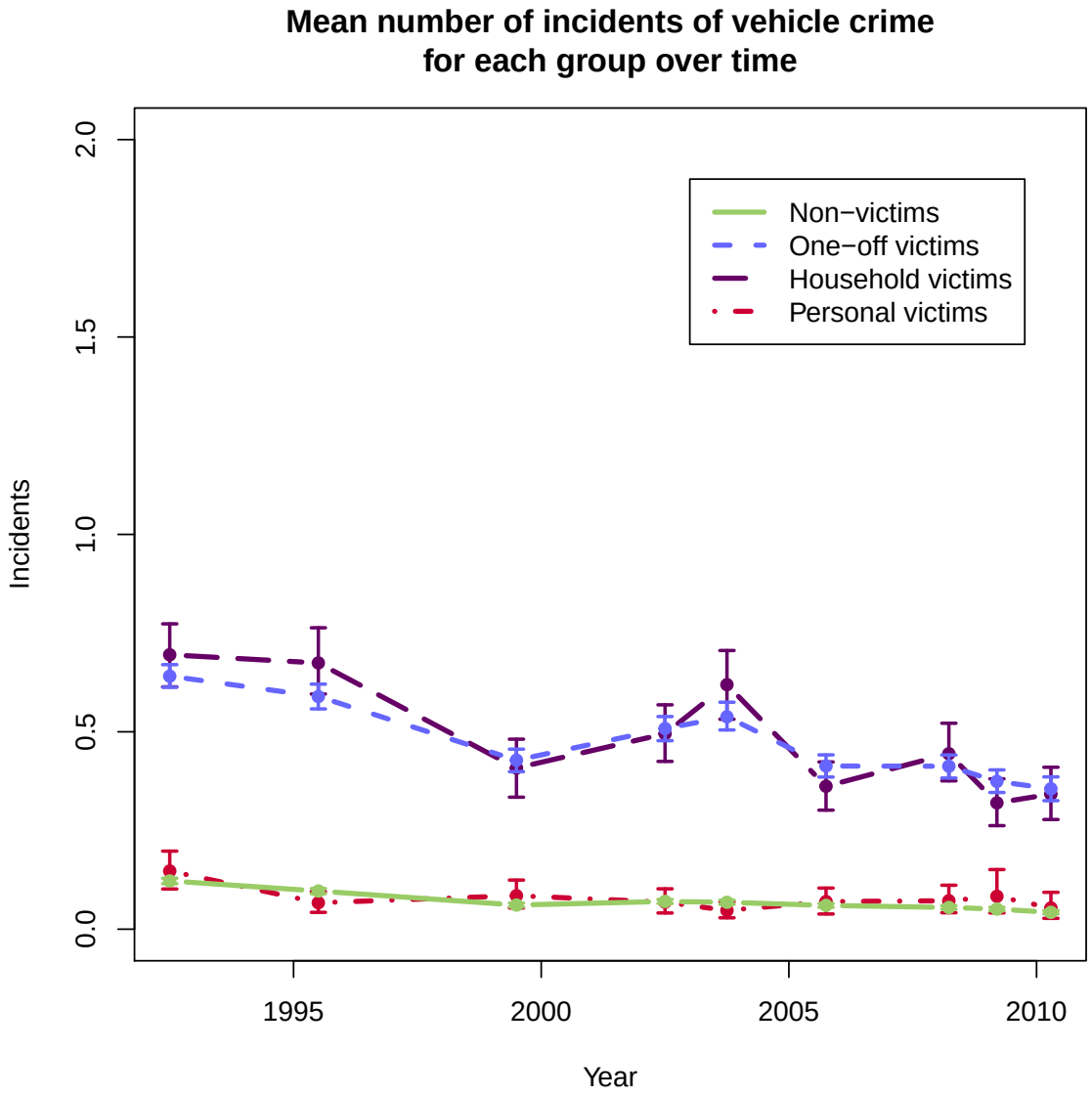
Incidence of motor vehicle crime



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Incidence of motor vehicle crime

- Decreases for household and one-off victims
  - The patterns for these two groups are very similar
- Decrease for non-victims
- Decrease for the personal victims from the 1993 value, but no evidence of any change after that

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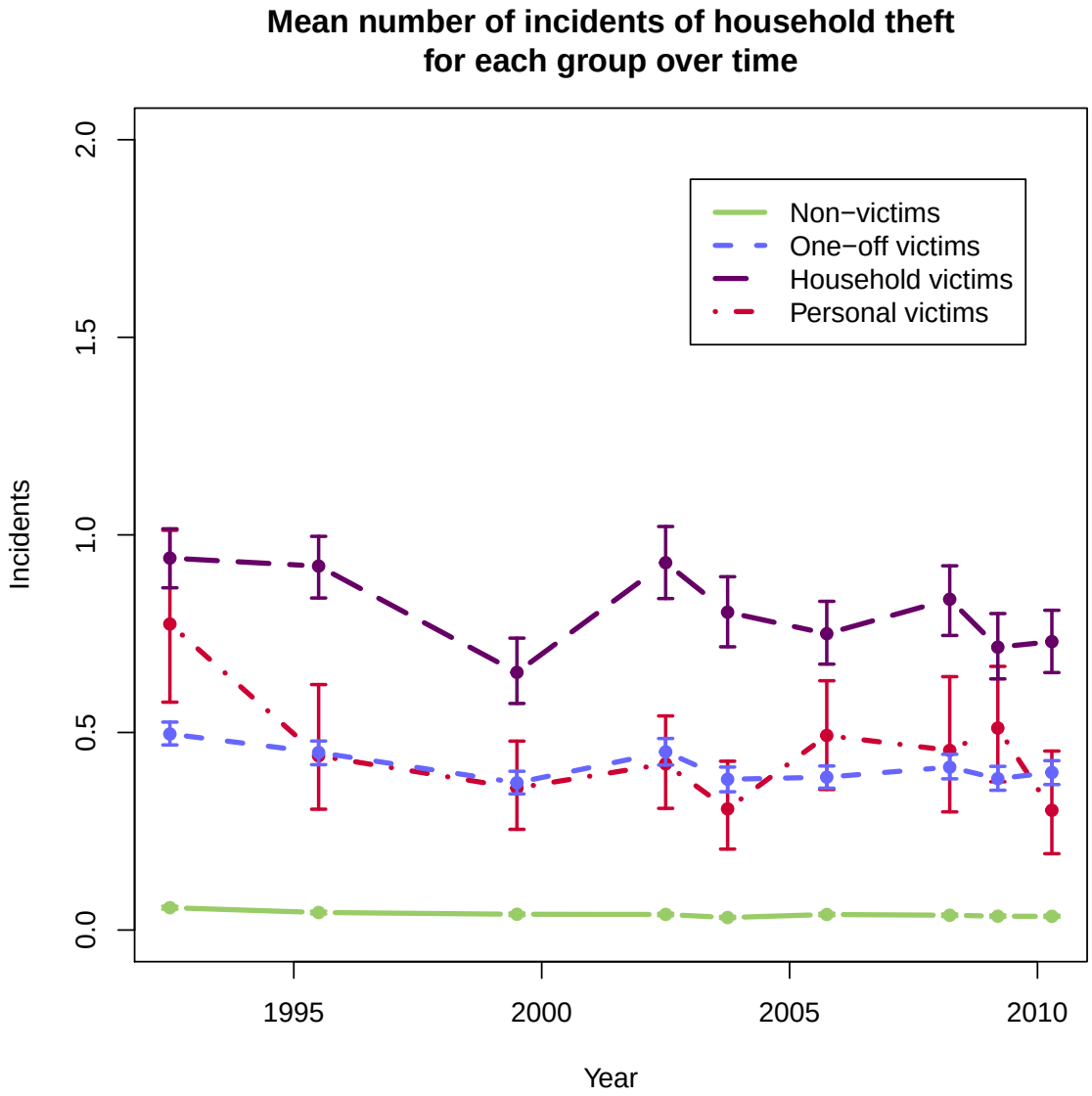
Incidence of household crime



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Incidence of household crime

- Decreases for non-victims, one-off victims and household victims
- Again, decrease for the personal victims from the 1993 value but no evidence of a downward trend thereafter

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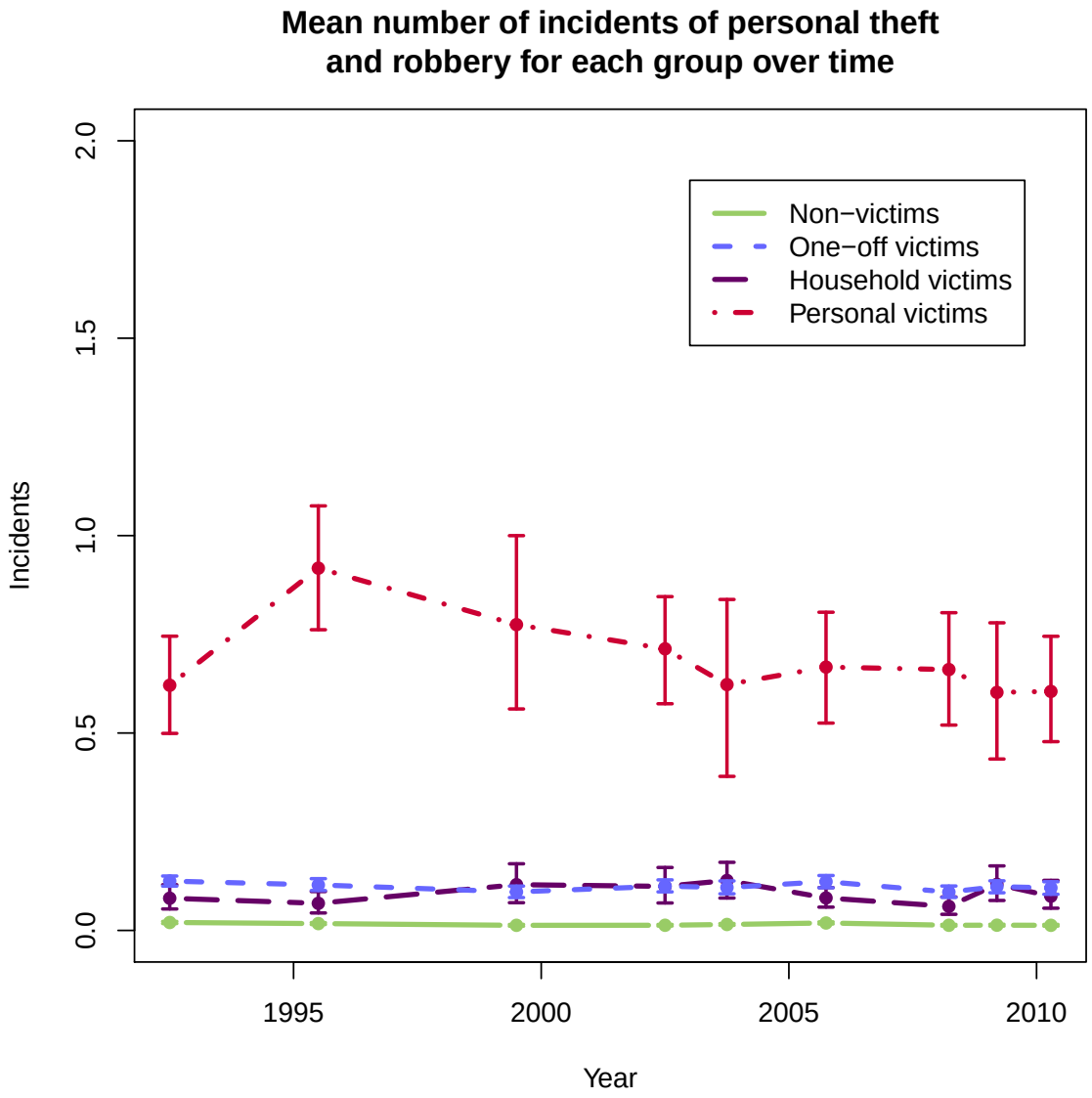
Incidence of personal theft and robbery



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Incidence of personal theft and robbery

- For all groups, pattern is of some relatively high and some relatively low years rather than an increasing or decreasing trend.
  - 1993 was a high year for non-victims
  - 1996 was a high year for personal victims and non-victims but a low year for household victims
  - 2000 was a low year for one-off victims
  - 2004 was a high year for household victims
  - 2006 was a high year for non-victims
  - 2008-2009 was a low year for one-off and household victims

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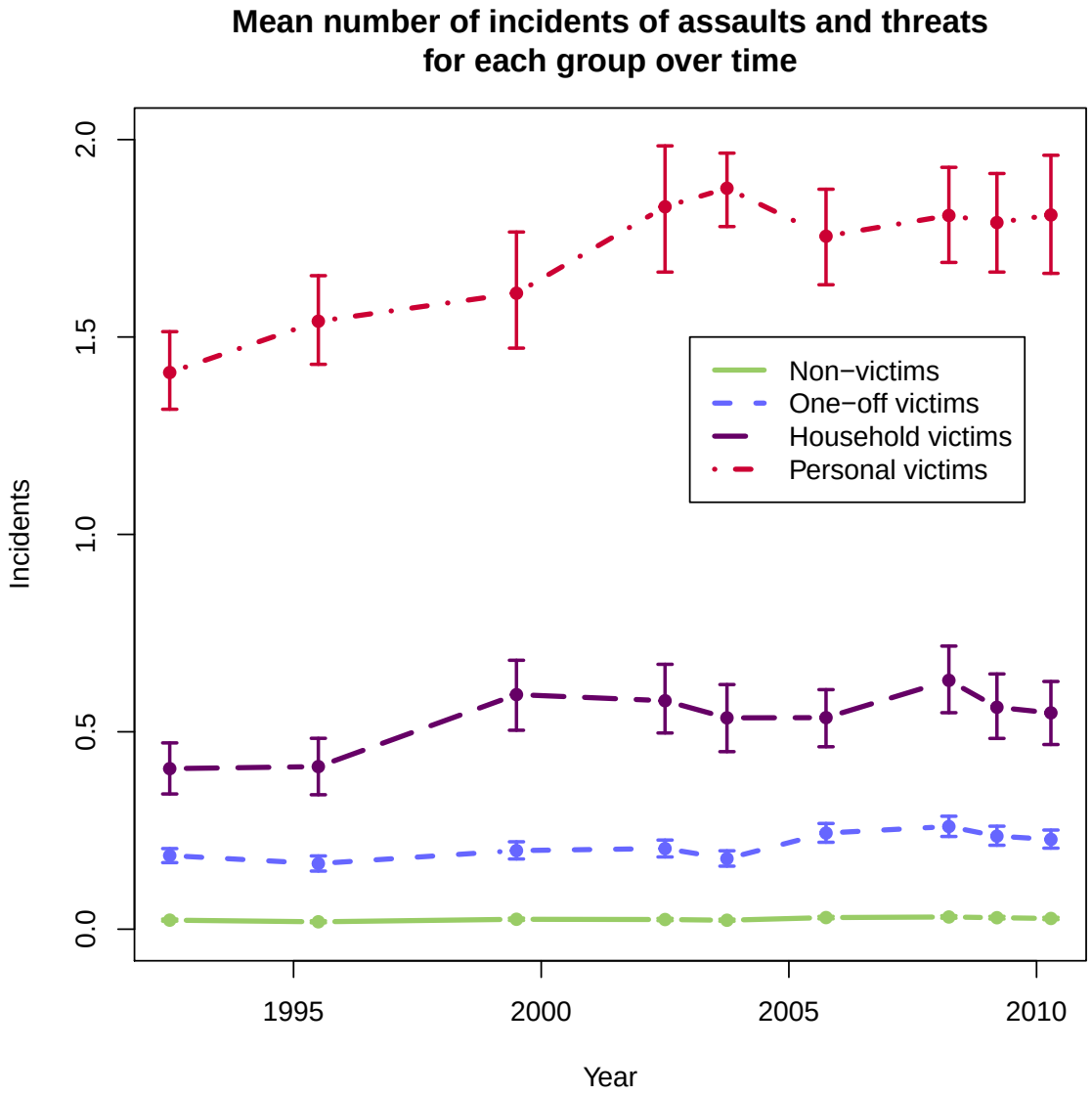
Incidence of assaults and threats



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Incidence of assaults and threats

- No evidence of any increases or decreases continuing throughout the period for any group
- For the personal victims, later years generally show an increase compared to 1993 to 2000
- For household victims, later years generally show an increase compared to 1993 and 1996
- For one-off and non-victims, 2006 to 2010-2011 generally show an increase compared to earlier years

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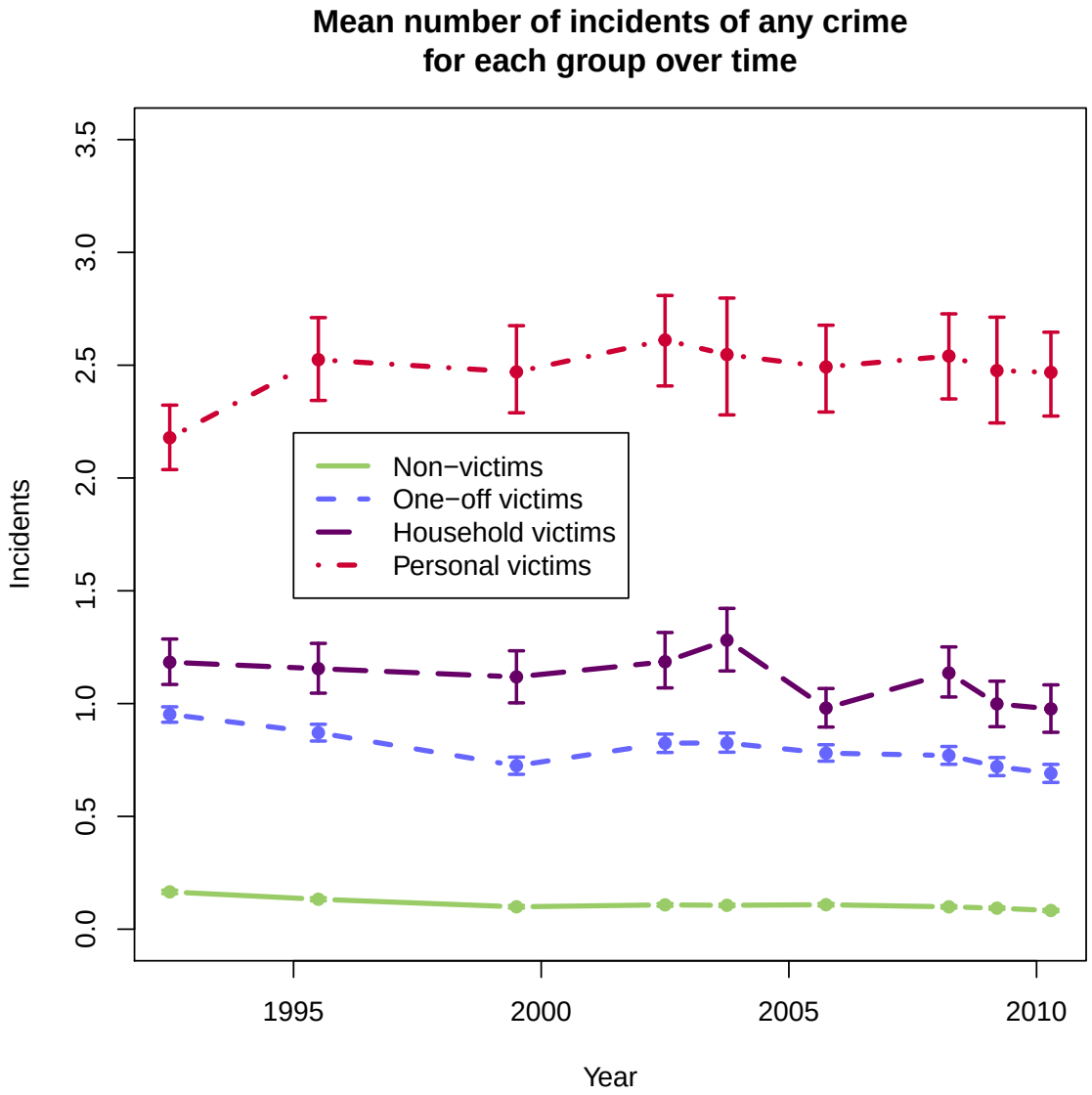
Incidence of all crime



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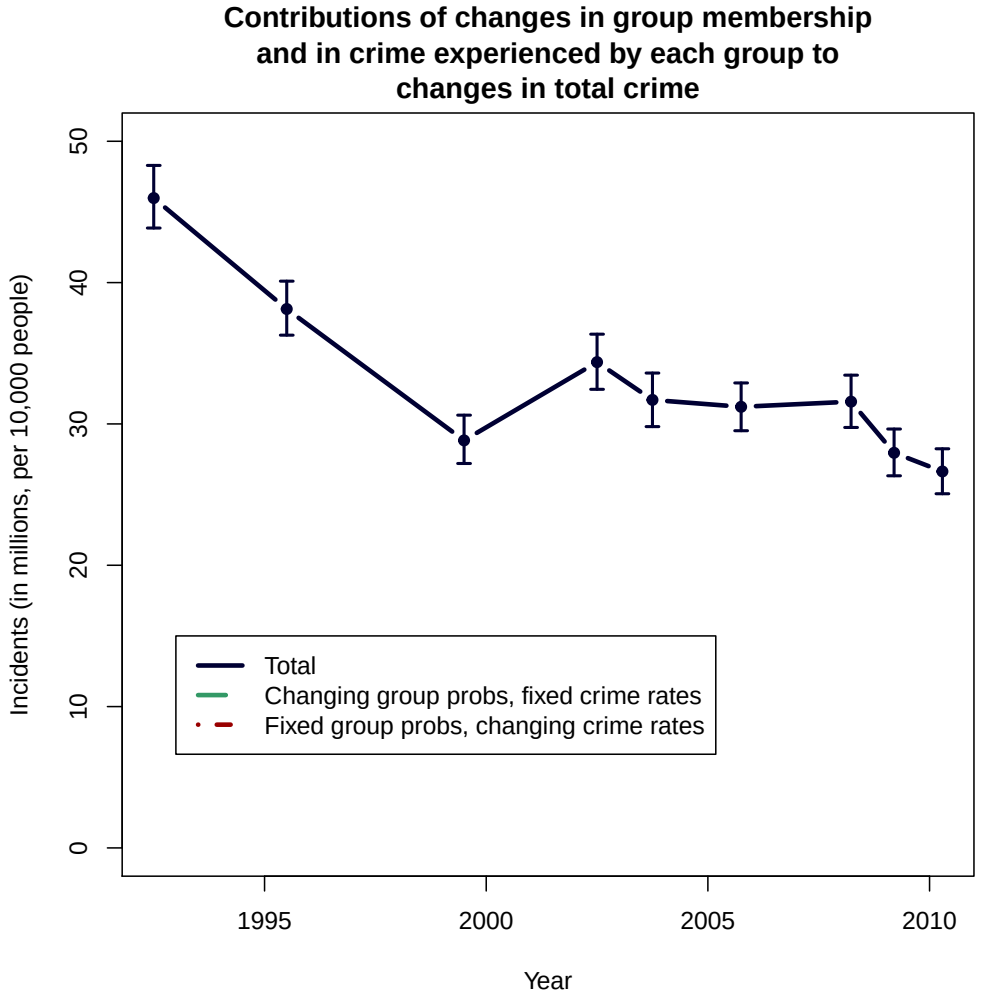
Incidence of all crime

- Decrease for the non-victims, one-off victims and household victims
- No evidence of any change for the personal victims

Victim classes and the crime drop

Crime drop due both to changes in group sizes and experiences



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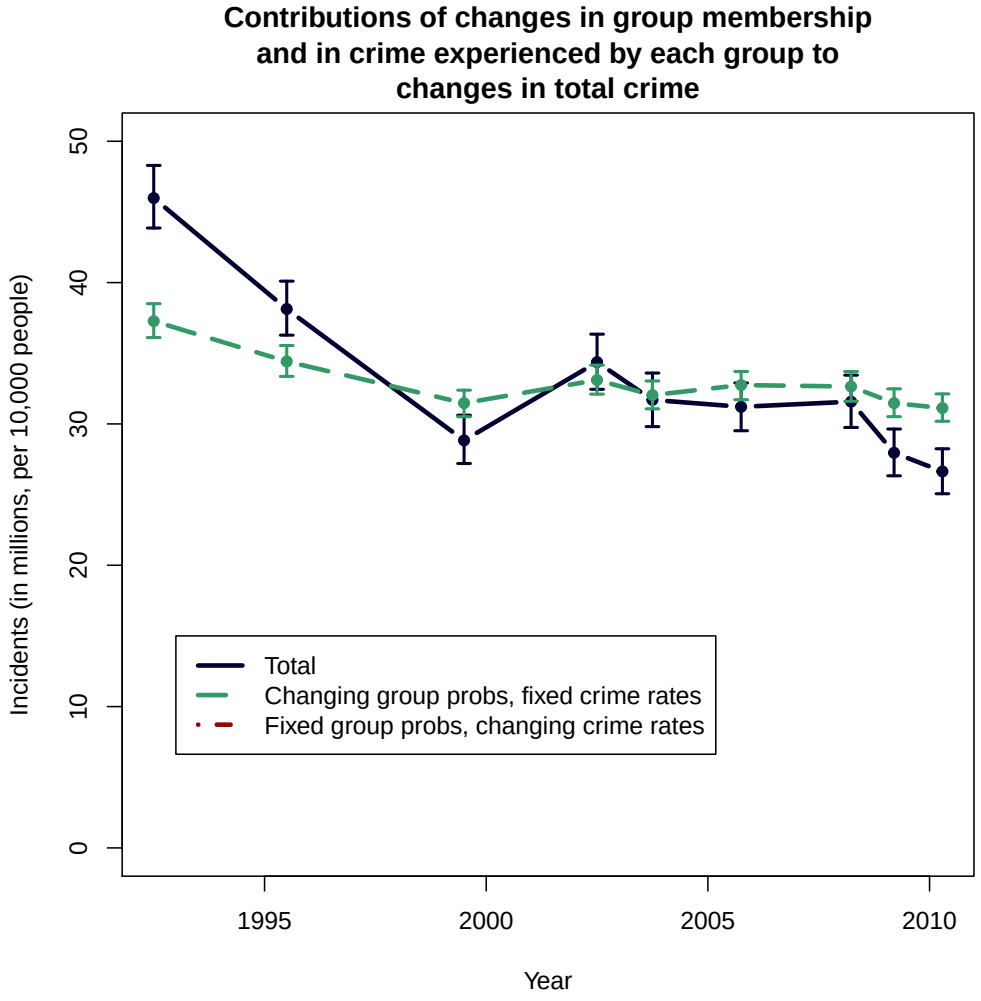

Victim classes and the crime drop

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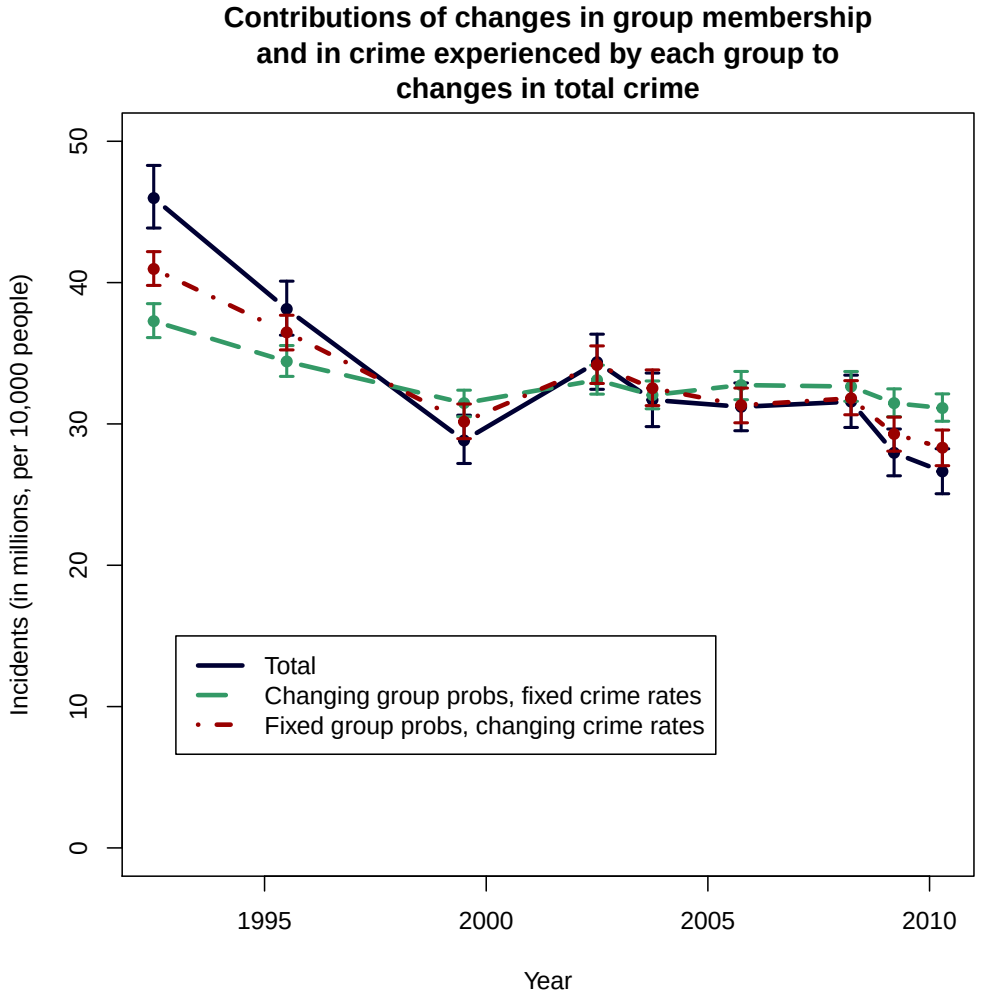

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Conclusions

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Summary (1)

- We find 4 groups, which differ not only in the total amount of crime but also in the mix of crime they experience
- The proportions in each group change over time:
  - non-victims increase
  - one-off and household victims decrease
  - personal victims stay the same
- So the crime drop appears to be partly due to changes in the relative sizes of each group of victims

Summary (2)

- Total crime decreases for all groups except the personal victims
  - Motor vehicle and household crime decrease for non-victims, one-off victims and household victims, but personal victims only see a reduction from the 1993 level and no change thereafter
  - Personal theft and robbery have no general upward or downward trend for any group
  - Assaults and threats are higher in later than in earlier years for all groups
- So the crime drop also appears to be partly due to decreases in the number of incidents experienced by some groups of victims

Summary (3)

- But those (i.e. personal victims) who experience the most crime are the least likely to see a reduction
- Even if most household and one-off victims become non-victims, personal victims will remain $\Rightarrow$ crime drop is unsustainable

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Future work

- Add explanatory variables to try to find out what kind of people are Non-, One-off, Household, and Personal victims

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Exploratory: predicting Personal victims

- Initial exploratory analysis suggests that Personal victims are more likely than other groups to
  - be under 25
  - be male
  - live in certain LAs
  - rent or live in accommodation that's rent free or tied to their job
  - if they rent, rent from private landlords
  - be unmarried, not in a civil partnership and not living in a couple
  - be in employment, unemployed, or in education
  - be in semi-routine occupations or be full-time students
  - be of no religious affiliation
  - live in purpose-built blocks of flats or tenements
  - live in flats with lockable common entrances
  - live in large urban areas

but these relationships may or may not be causal!

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Exploratory: predicting Non-victims

- Initial exploratory analysis suggests that Non-victims are more likely than other groups to
  - be over 60
  - be female
  - live in certain LAs
  - be married, in a civil partnership, or living in a couple, or be a surviving spouse
  - be retired
  - be Chinese or Indian
  - belong to the Church of Scotland
  - be long-term unemployed
  - live in detached houses
  - live in small remote towns or in rural areas

Again, these relationships may or may not be causal!

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Exploratory: predicting One-off victims

- Initial exploratory analysis suggests that One-off victims are more likely than other groups to
  - be aged 35 to 44 (compared to Non-victims and Personal victims)
  - live in certain LAs
  - be married, in a civil partnership, or living in a couple (compared to Household and Personal victims)
  - be in employment (compared to Non-victims and Household victims)

  Again, these relationships may or may not be causal!

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Exploratory: predicting Household victims

- Initial exploratory analysis suggests that Household victims are more likely to
  - be aged 35 to 44 (compared to Non-victims and Personal victims)
  - live in certain LAs
  - rent (compared to Non-victims and One-off victims)
  - if they rent, rent from the Local Authority (compared to Non-victims and Personal victims)
  - be unmarried, not in a civil partnership and not living in a couple (compared to Non-victims and One-off victims)
  - be unemployed, or sick or disabled (compared to One-off victims)
  - live in urban areas other than large ones

  Again, these relationships may or may not be causal!

References

Hope, T. and Norris, P. (2012) Heterogeneity in the Frequency Distribution of Crime Victimization. *Journal of Quantitative Criminology* DOI: 10.1007/s10940-012-9190-x

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More about our research

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Contents

Main presentation

- Background
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Extra slides

- Change in our 4 crime groups: graphs
- What Hope and Norris found, in more detail
- Contributions of incidence and prevalence to change in 4 crime groups
- LAs each victim group is disproportionately likely to live in

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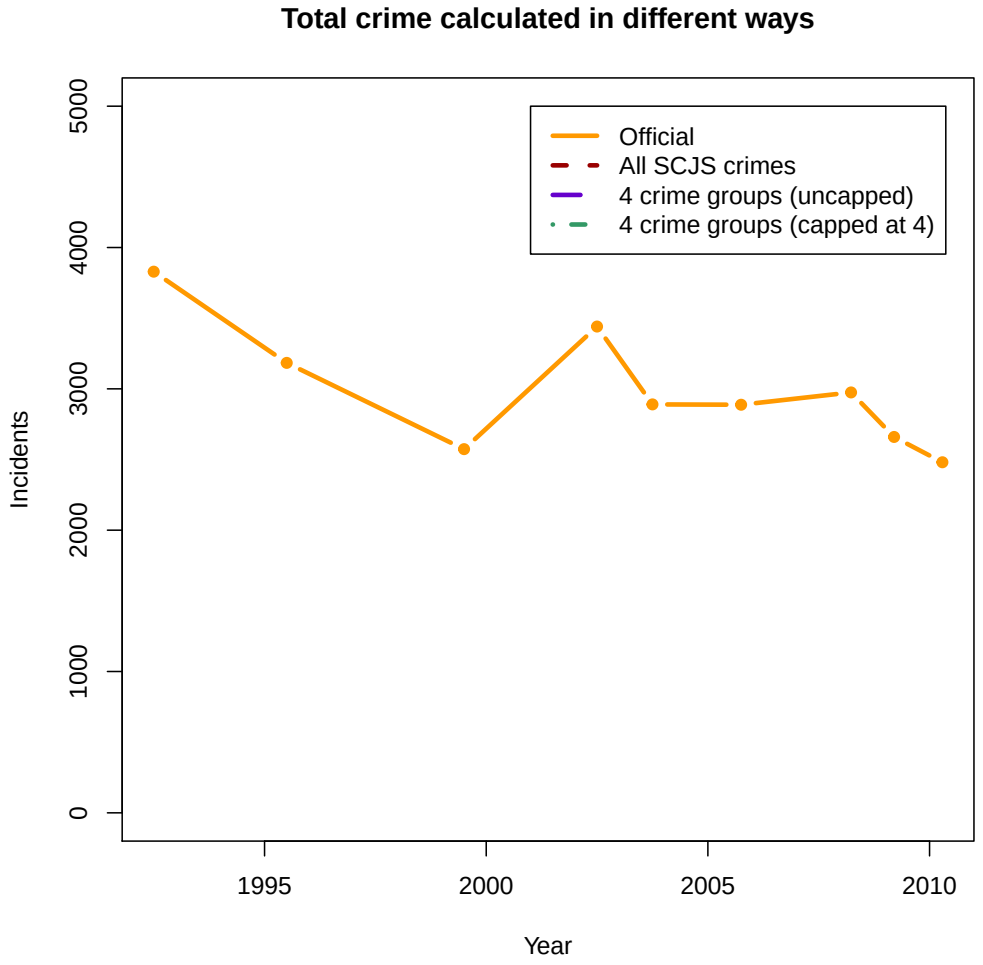
Graphs of change in crime

The crime drop in Scotland, as shown by the SCJS



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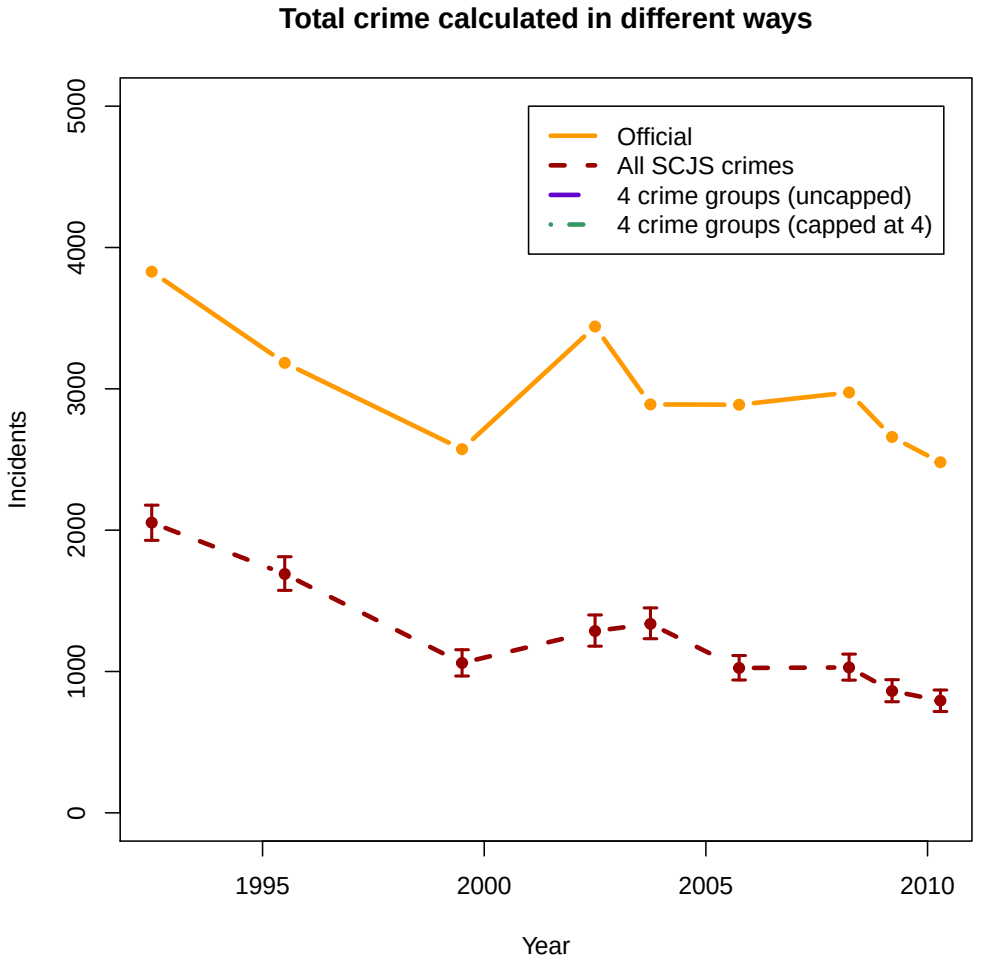

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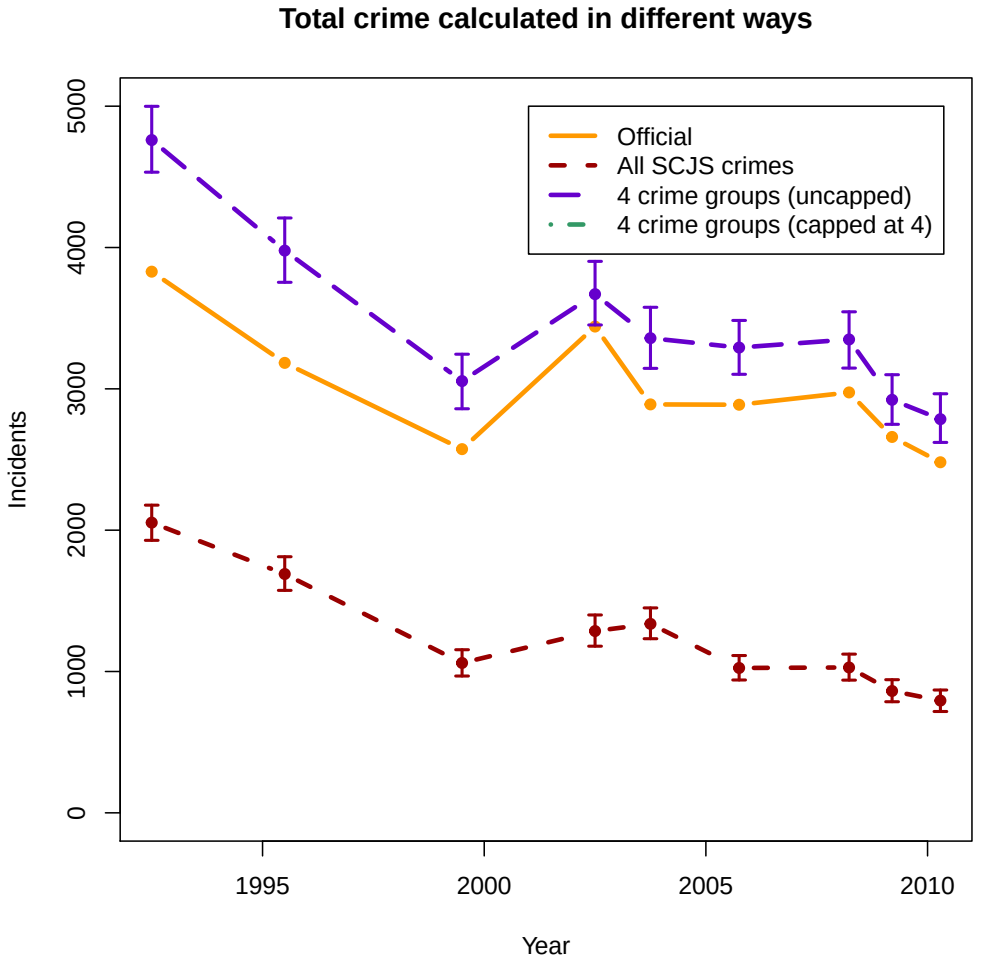

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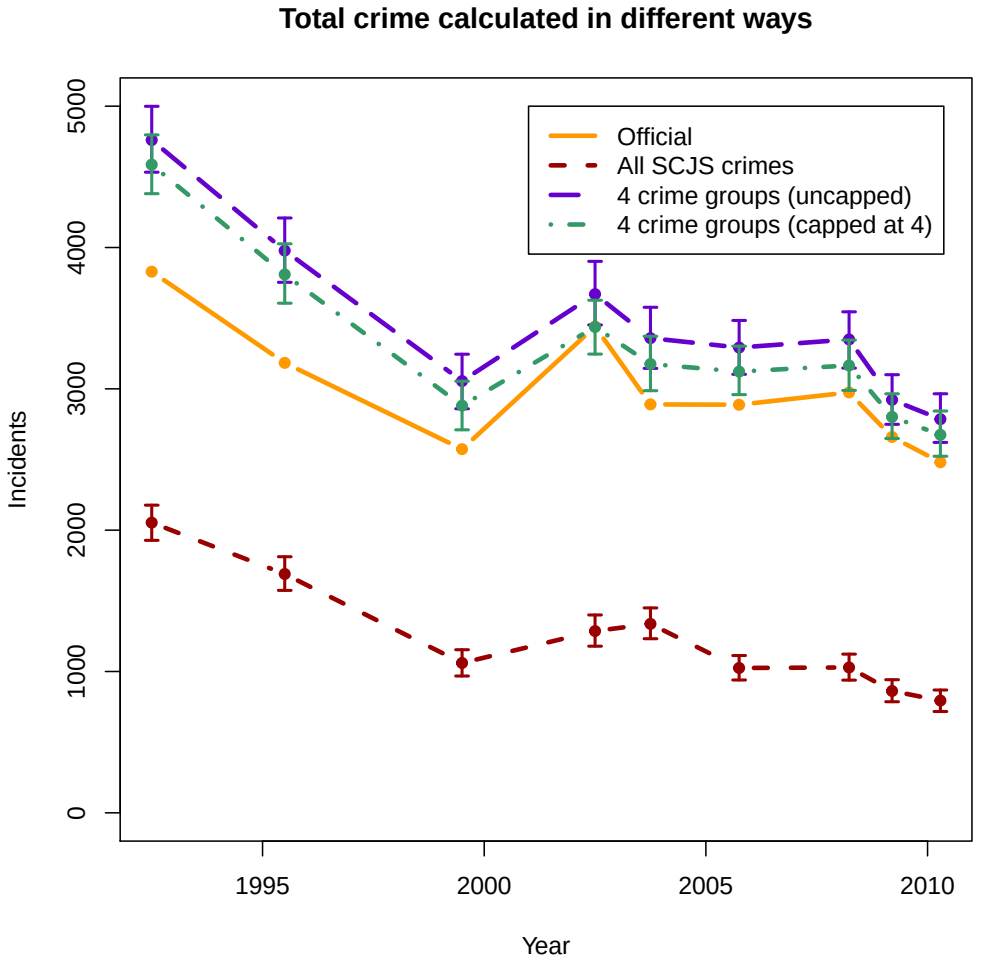
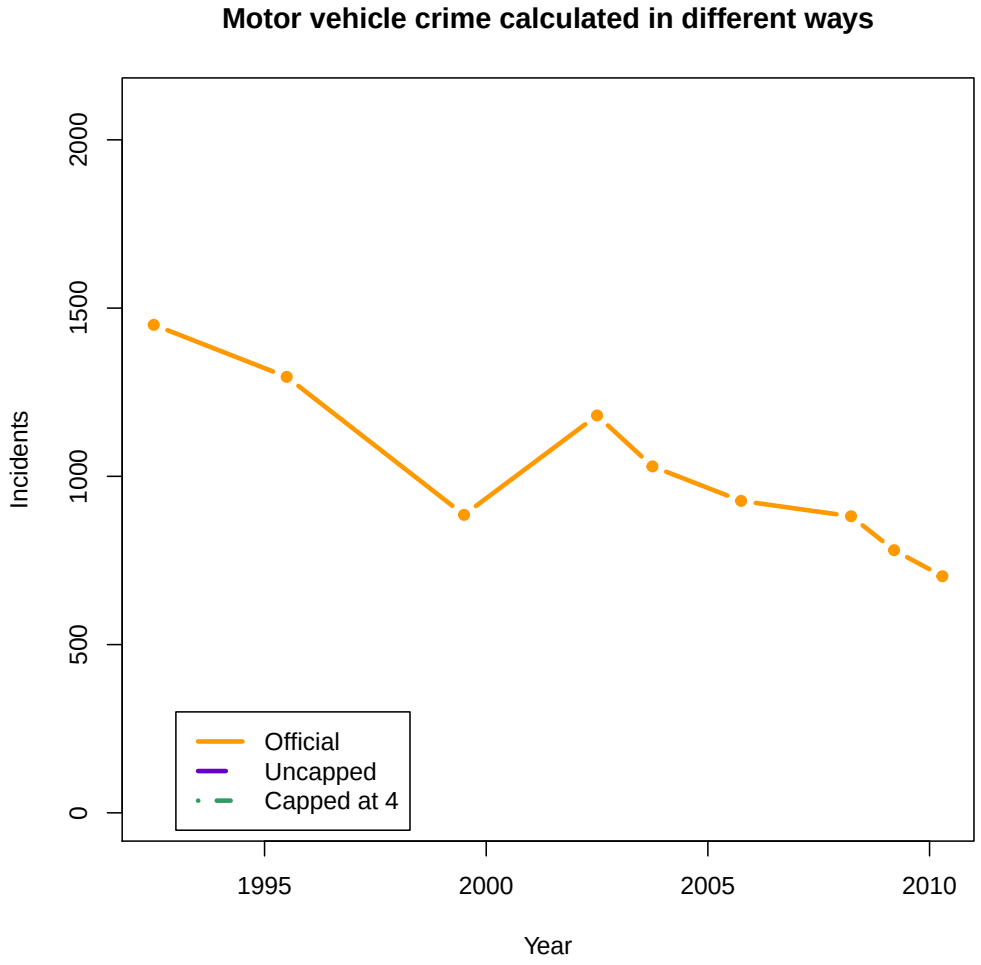


Changing crime

Looking at different types of crime:



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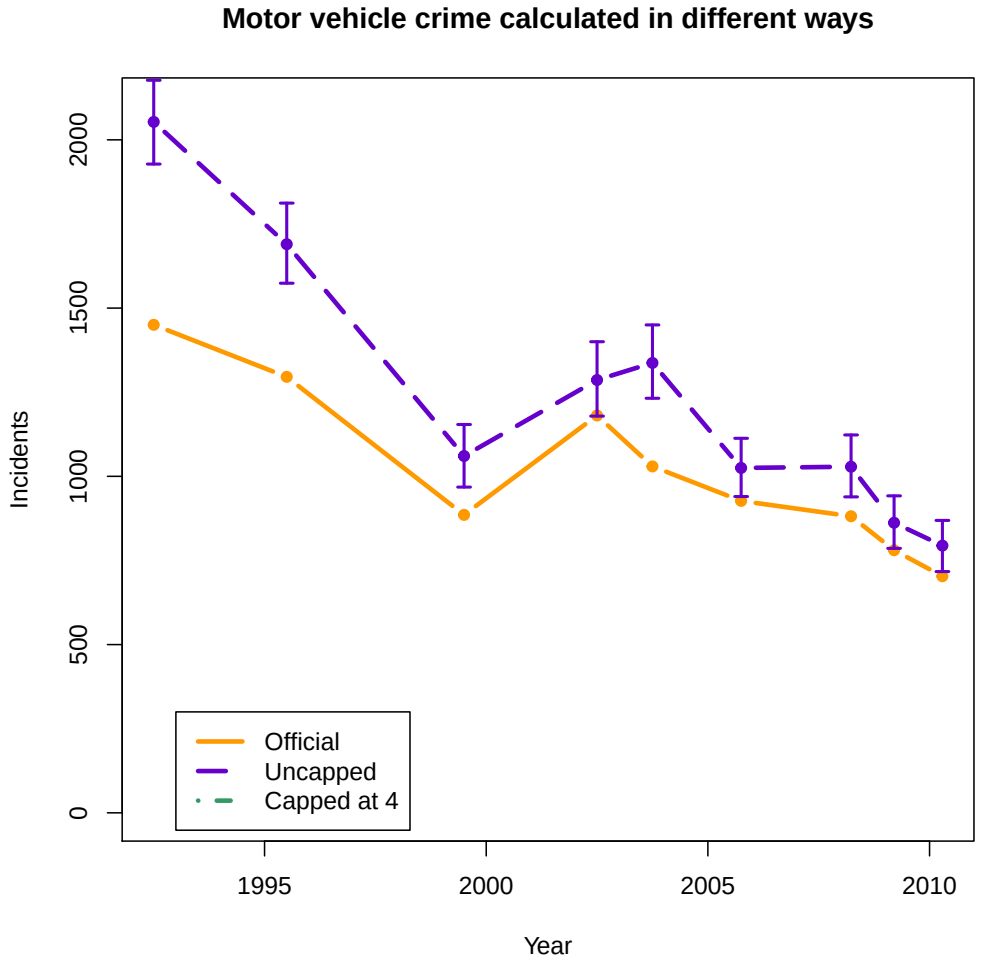

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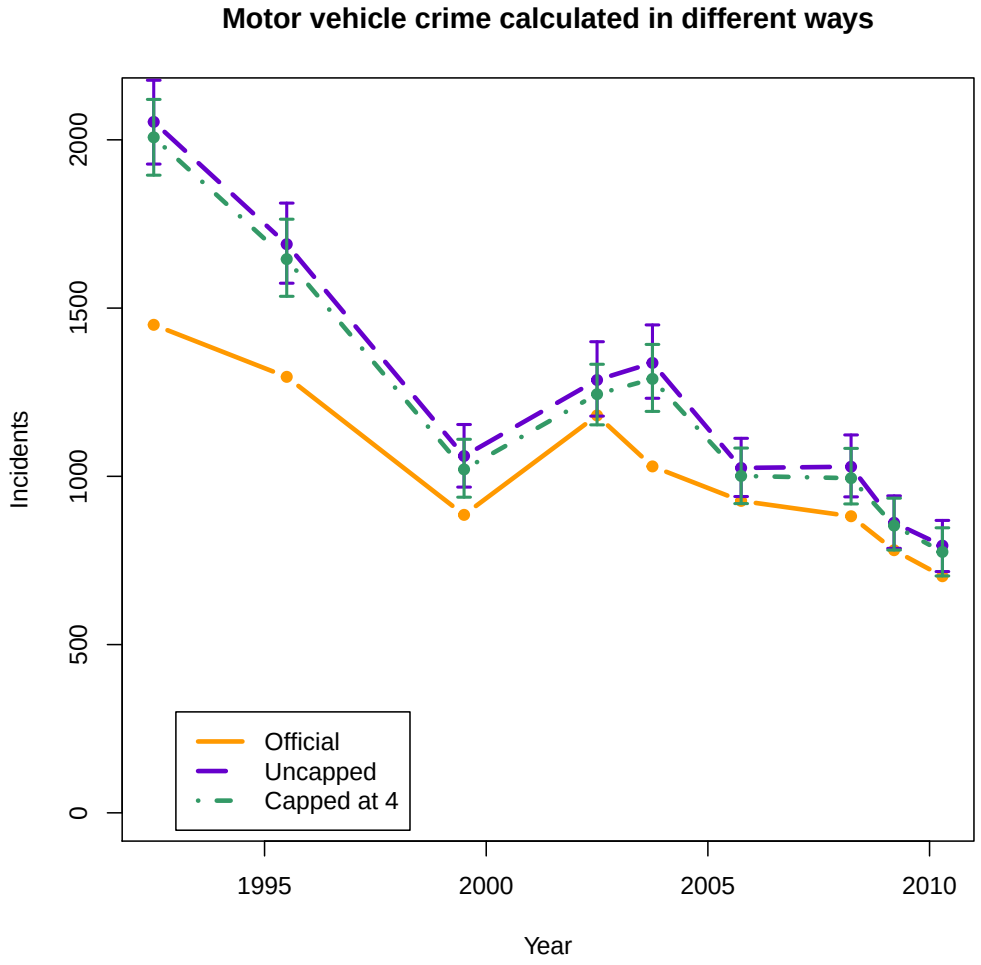

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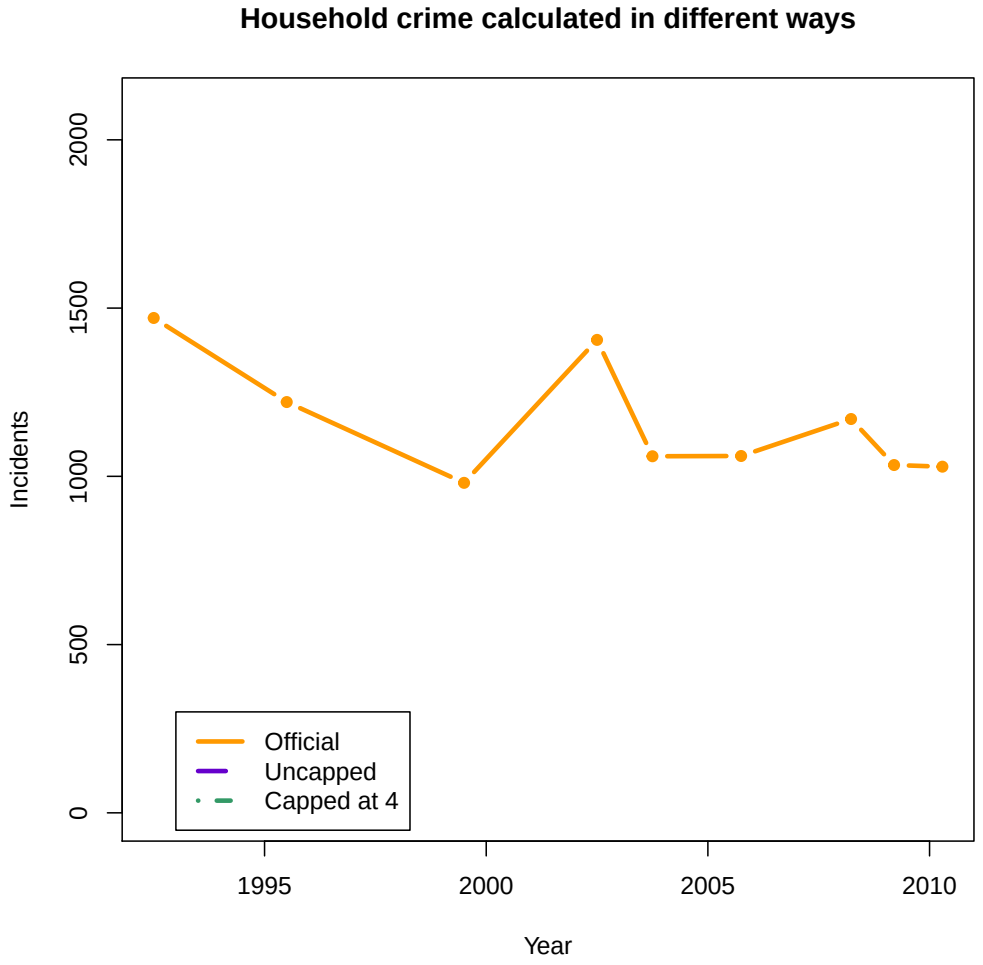

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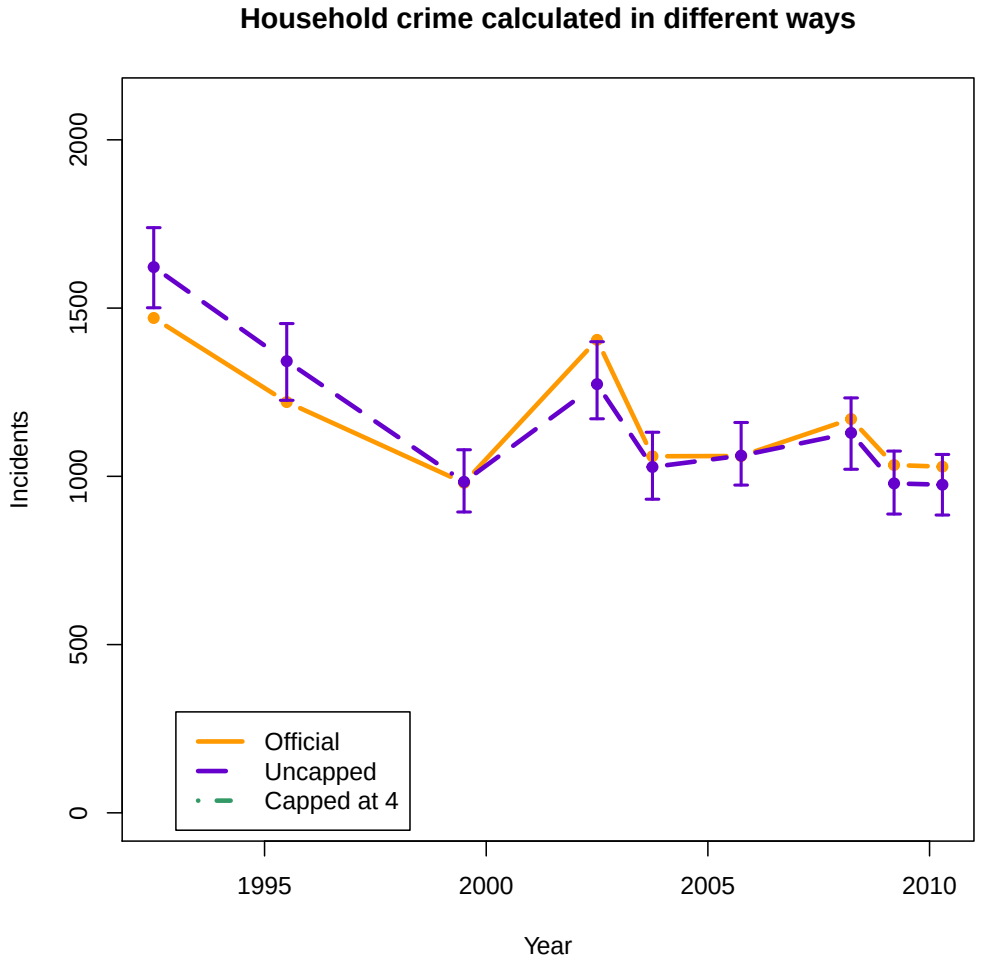

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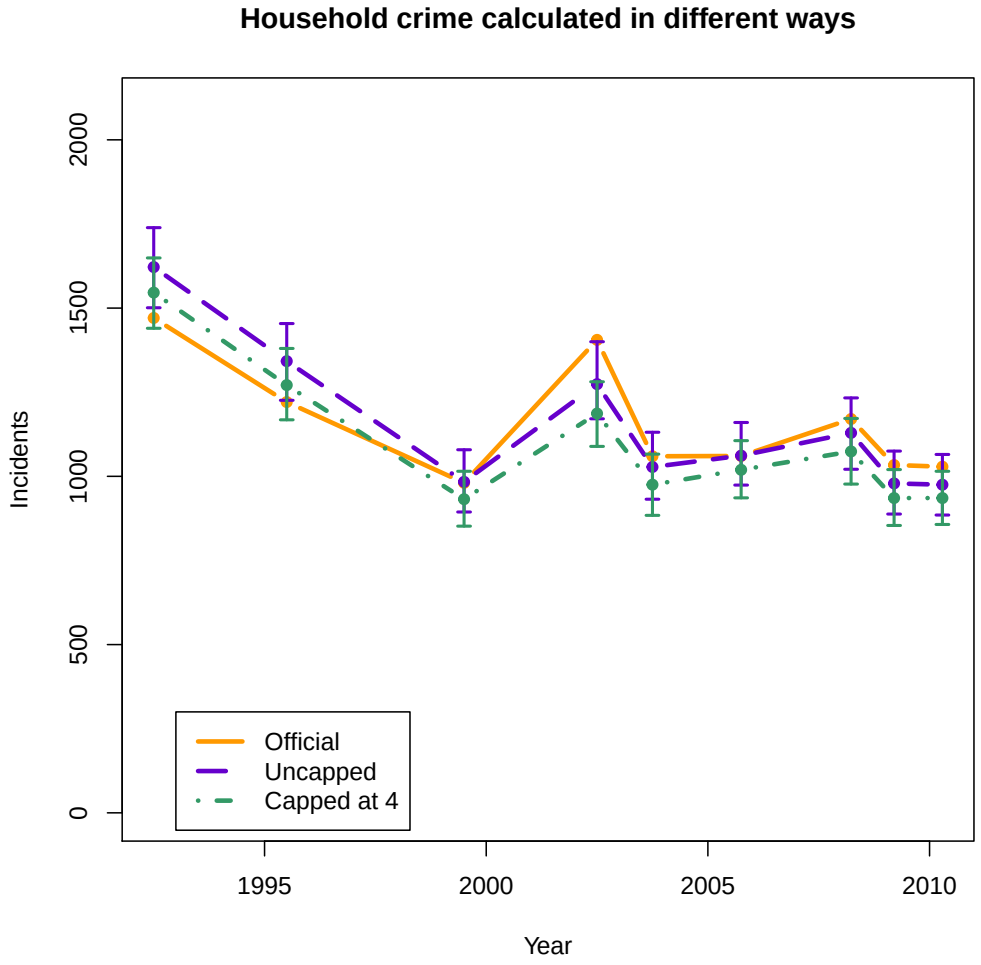

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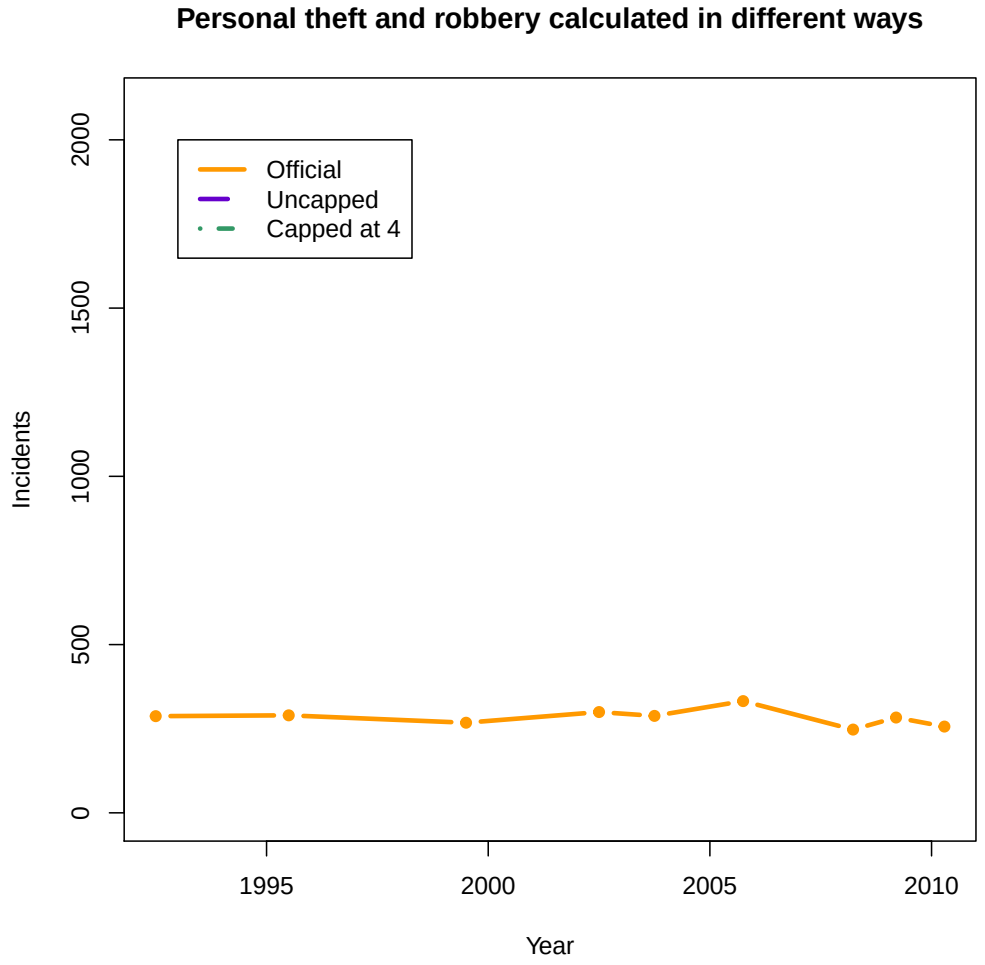

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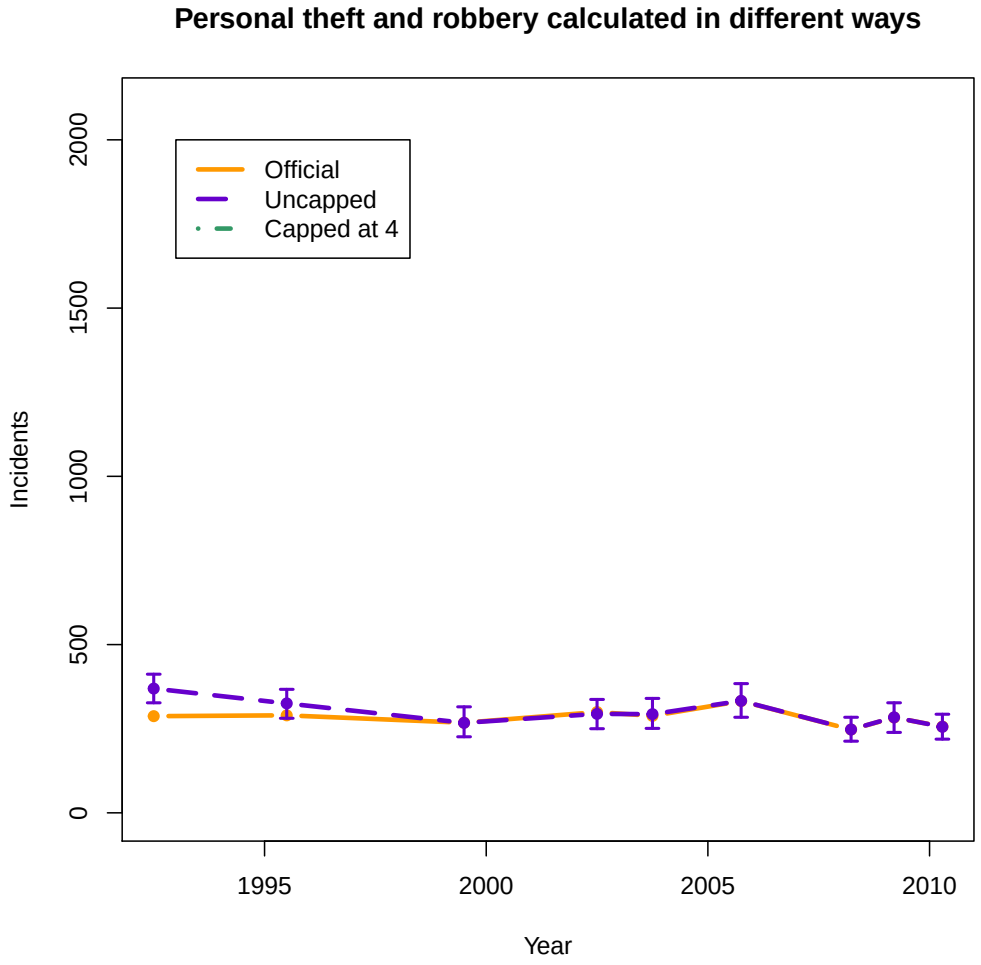

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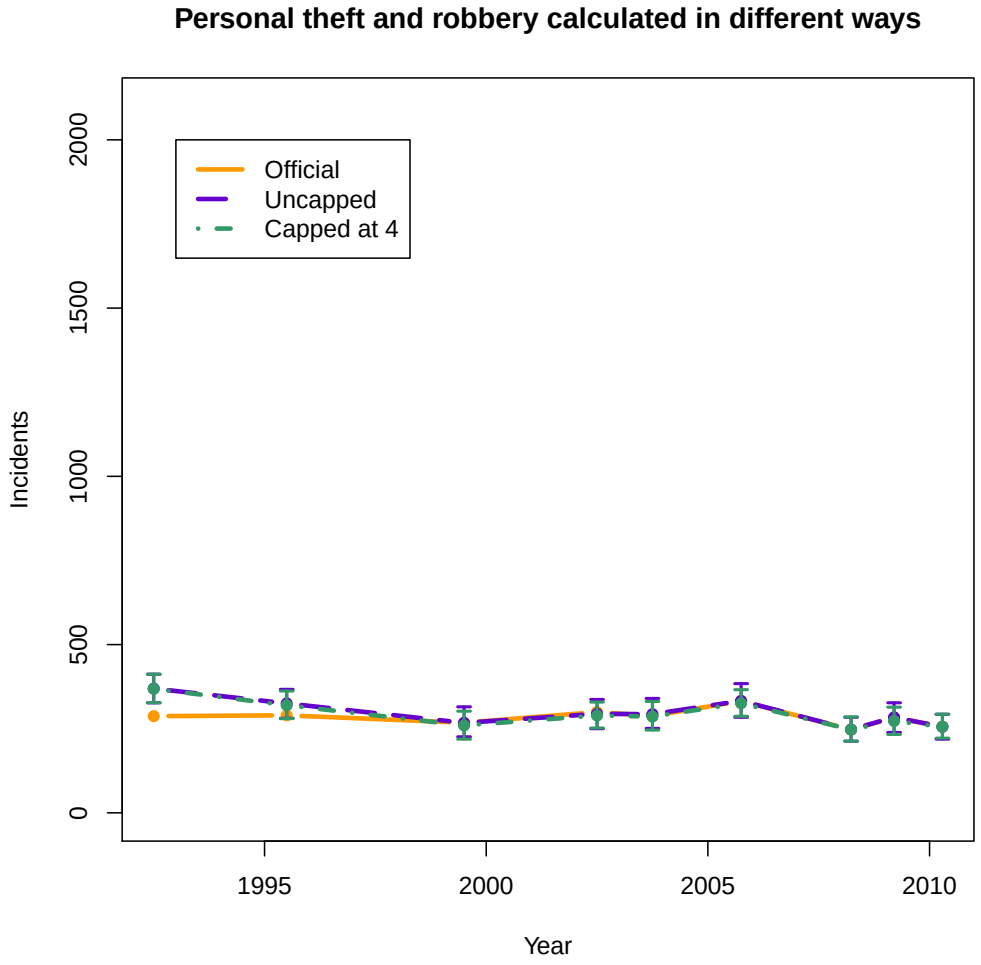

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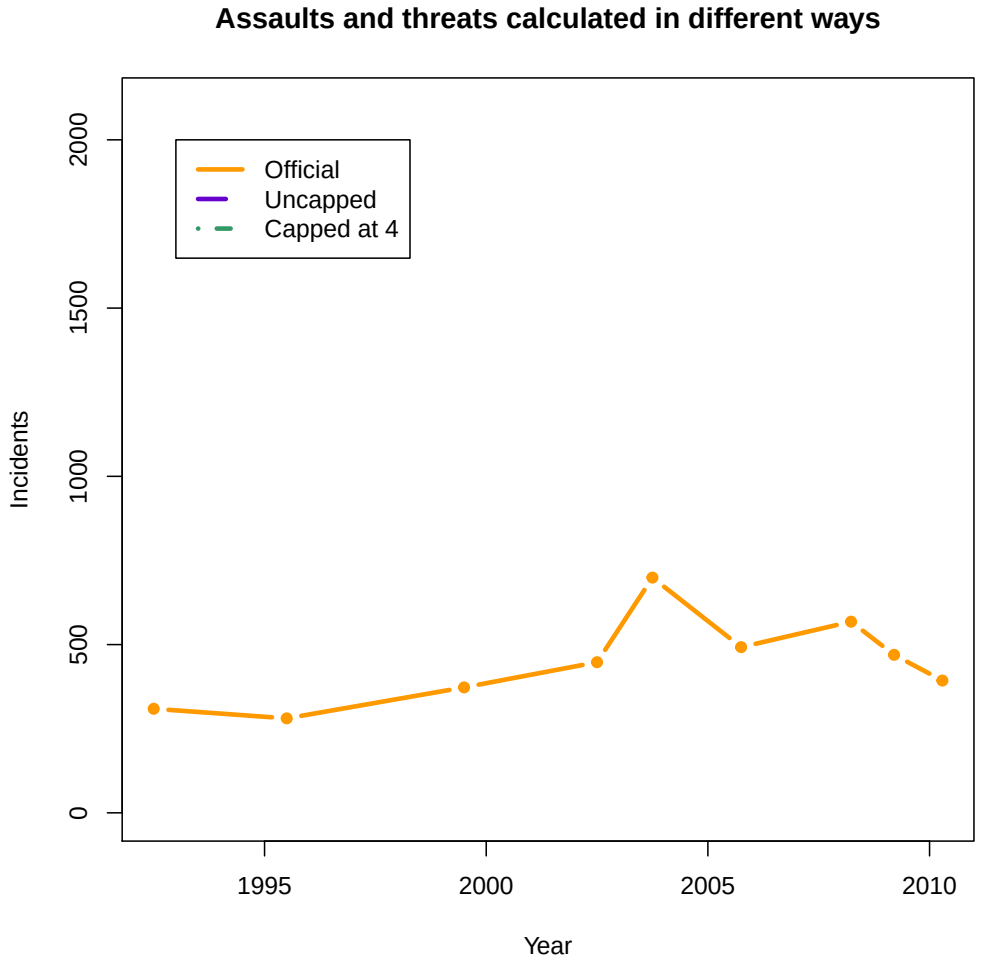

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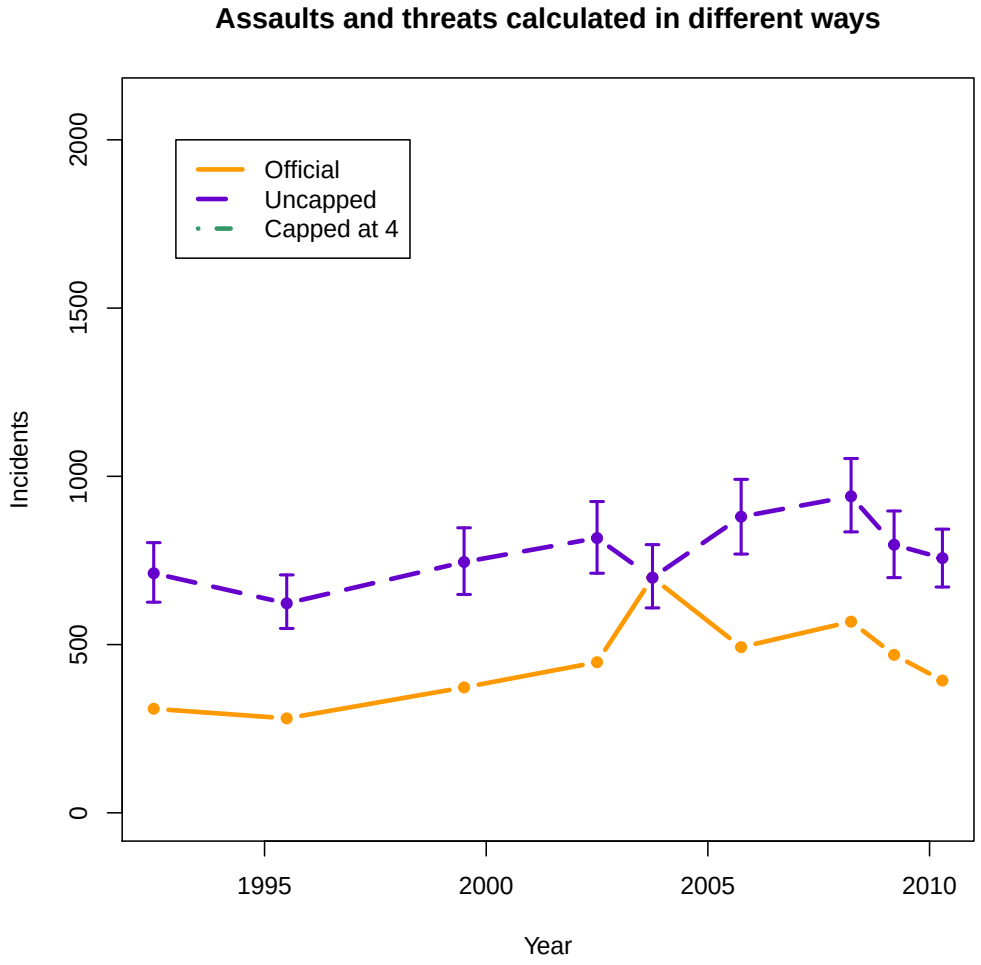

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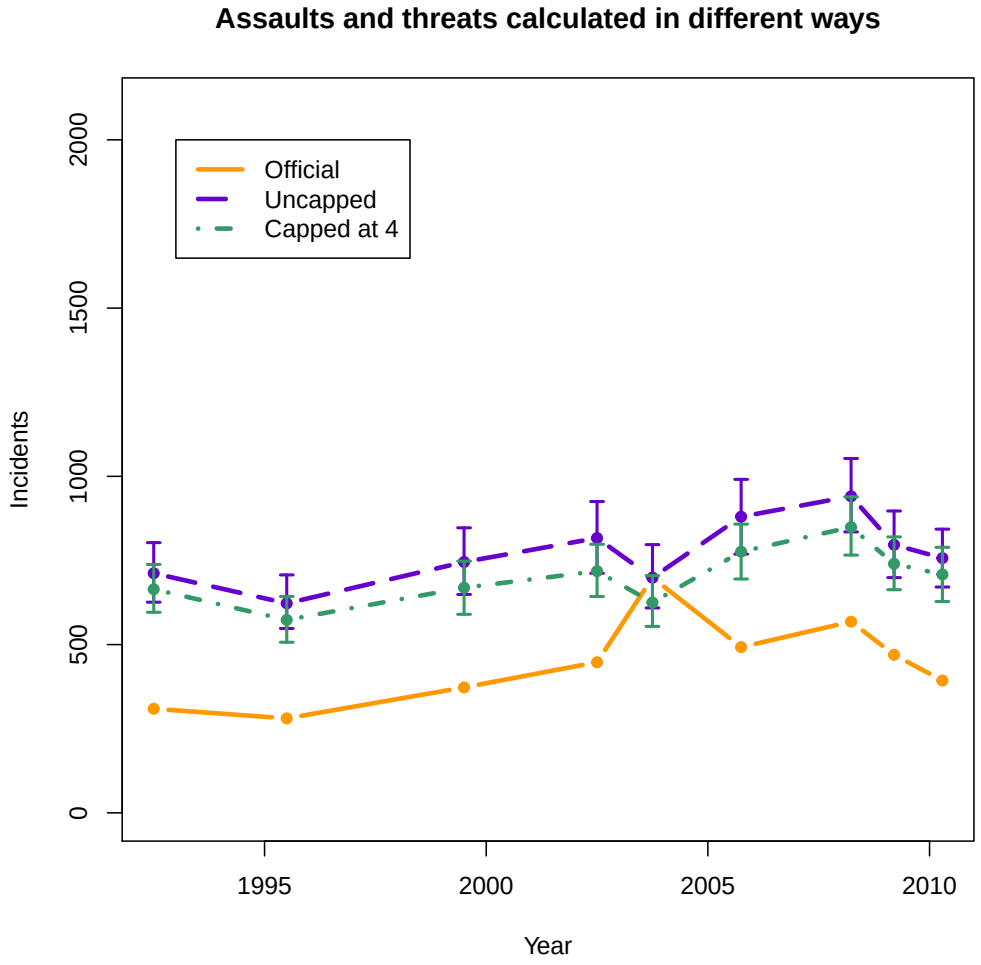

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Fuller details of Hope and Norris (2012)

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Hope and Norris' different kinds of victim

Property crime

- English and Welsh data:
  - non-victims
  - 4 intermediate classes with varying mixes
  - chronic victims
- Scottish data:
  - non-victims
  - 3 intermediate classes with varying mixes (including a class with high risk of vandalism but little risk of any other crime)
  - chronic victims

Personal crime

- English and Welsh data:
  - non-victims
  - victims with a slightly higher risk of all crimes
  - victims with a much higher risk of threats
  - victims with a much higher risk of violence and threats
  - chronic victims, with a much higher risk of all crimes
- Scottish data: same except no victims with a much higher risk of threats only

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Contributions of incidence and prevalence to change

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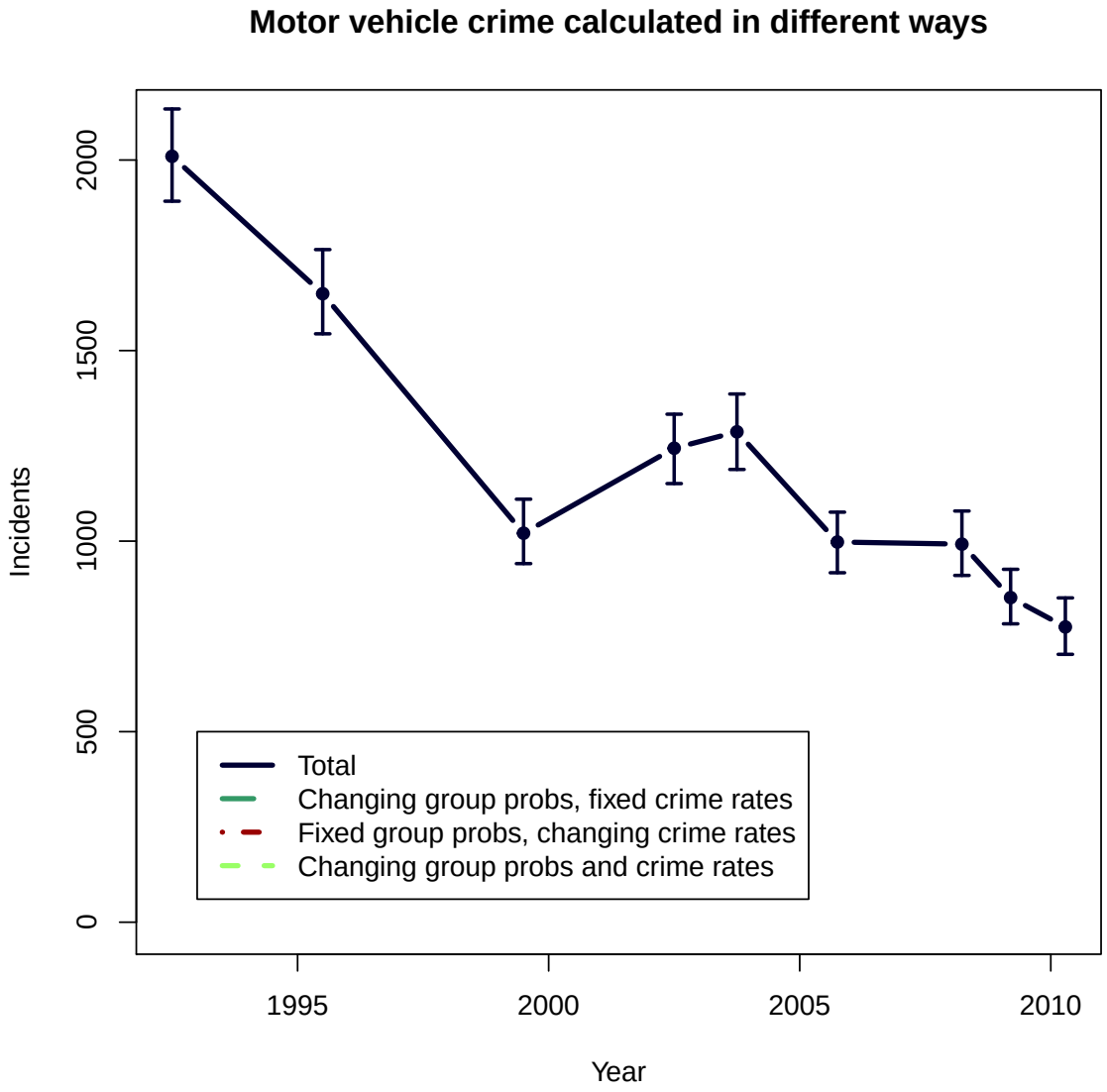
Victim classes and change in mvcri



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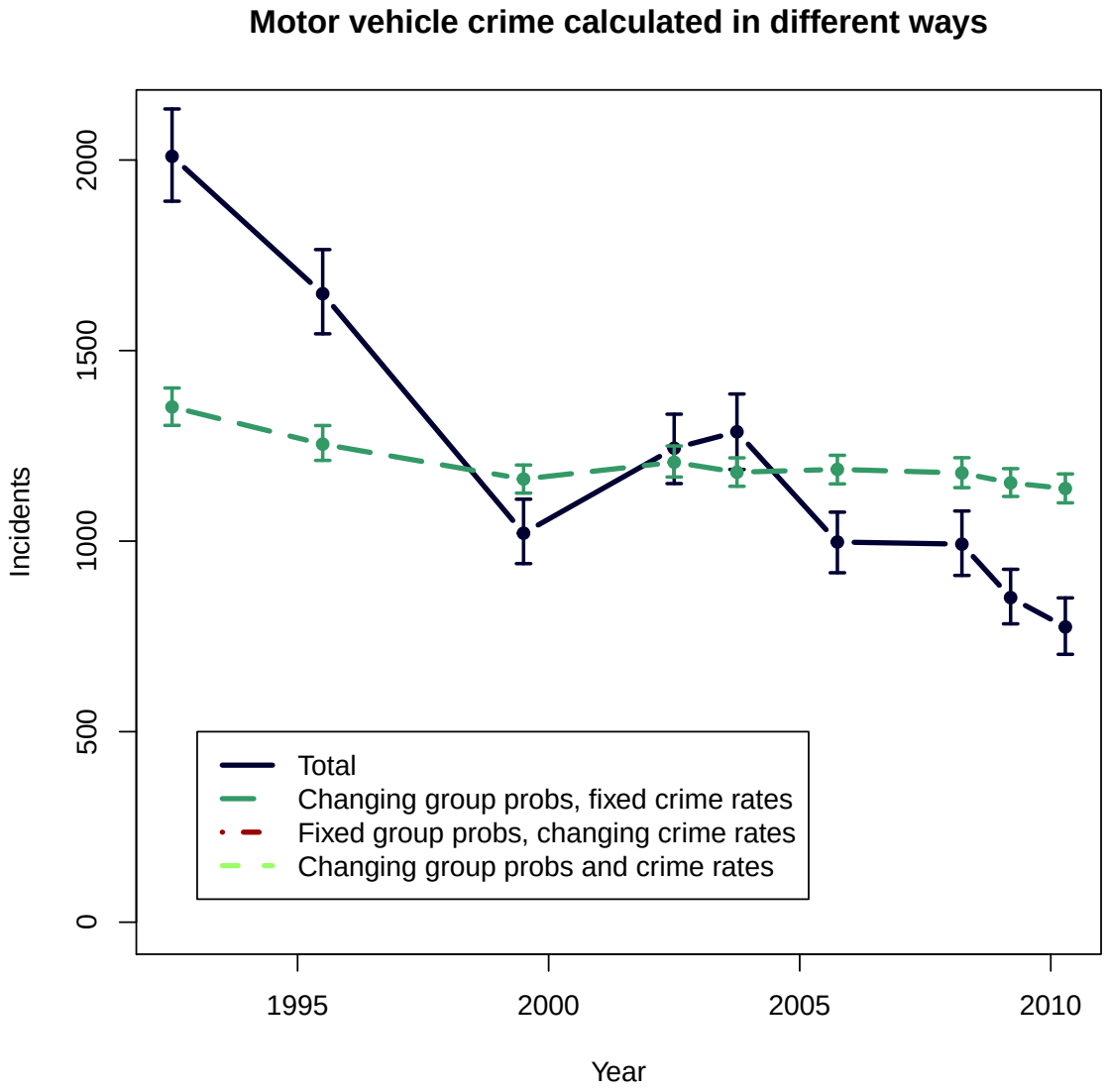
Victim classes and change in mvcri



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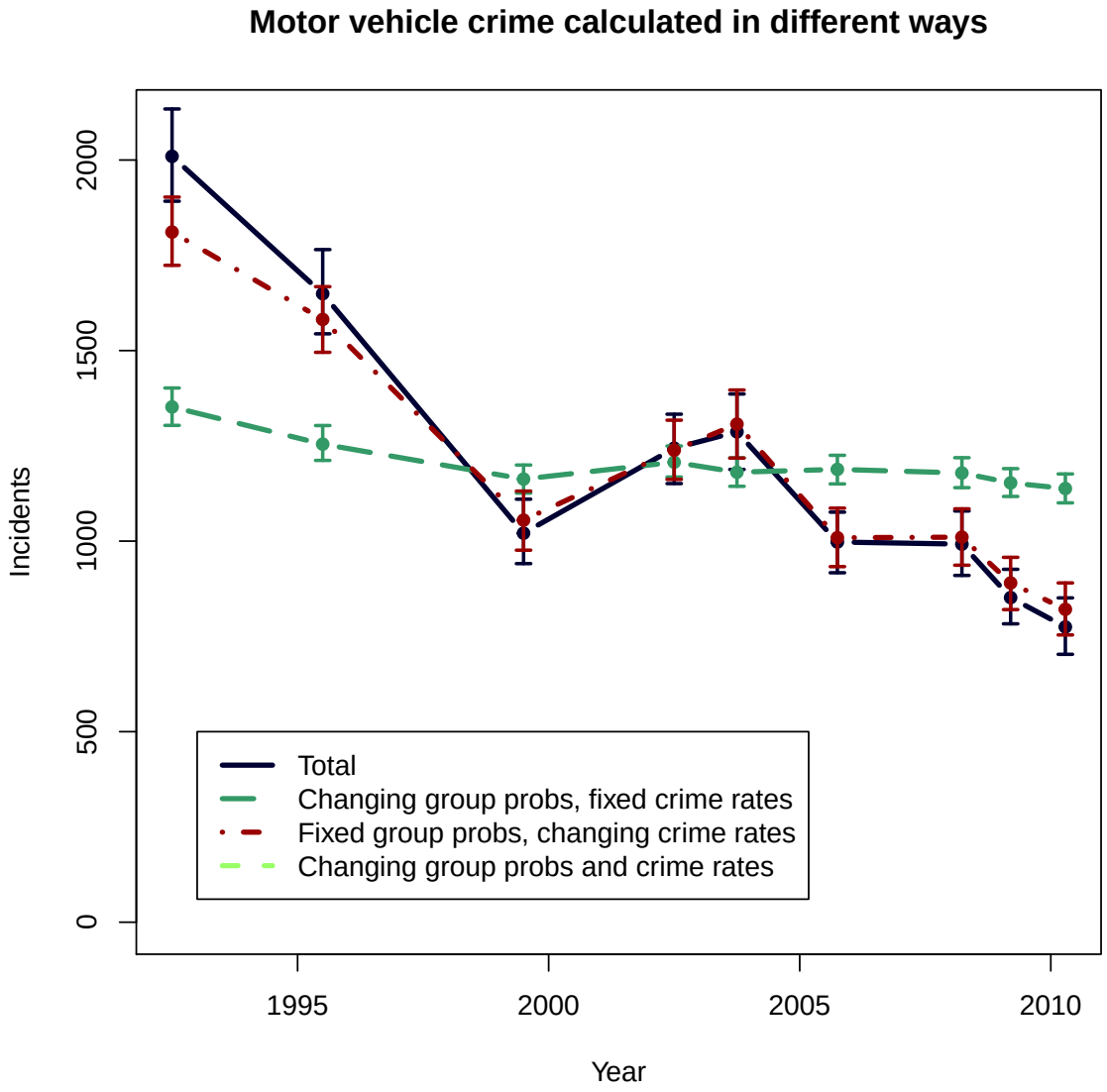
Victim classes and change in mvcri



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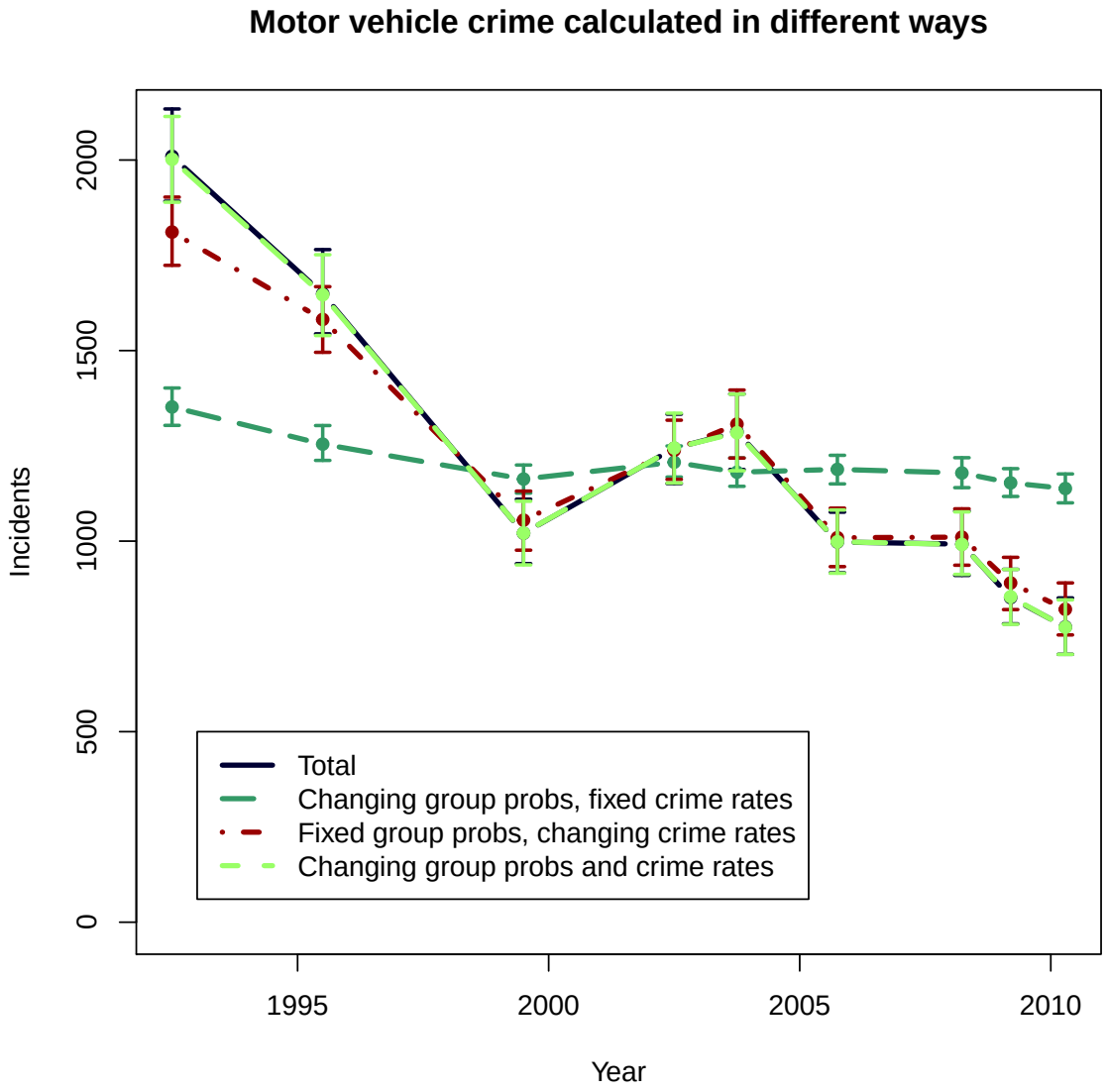

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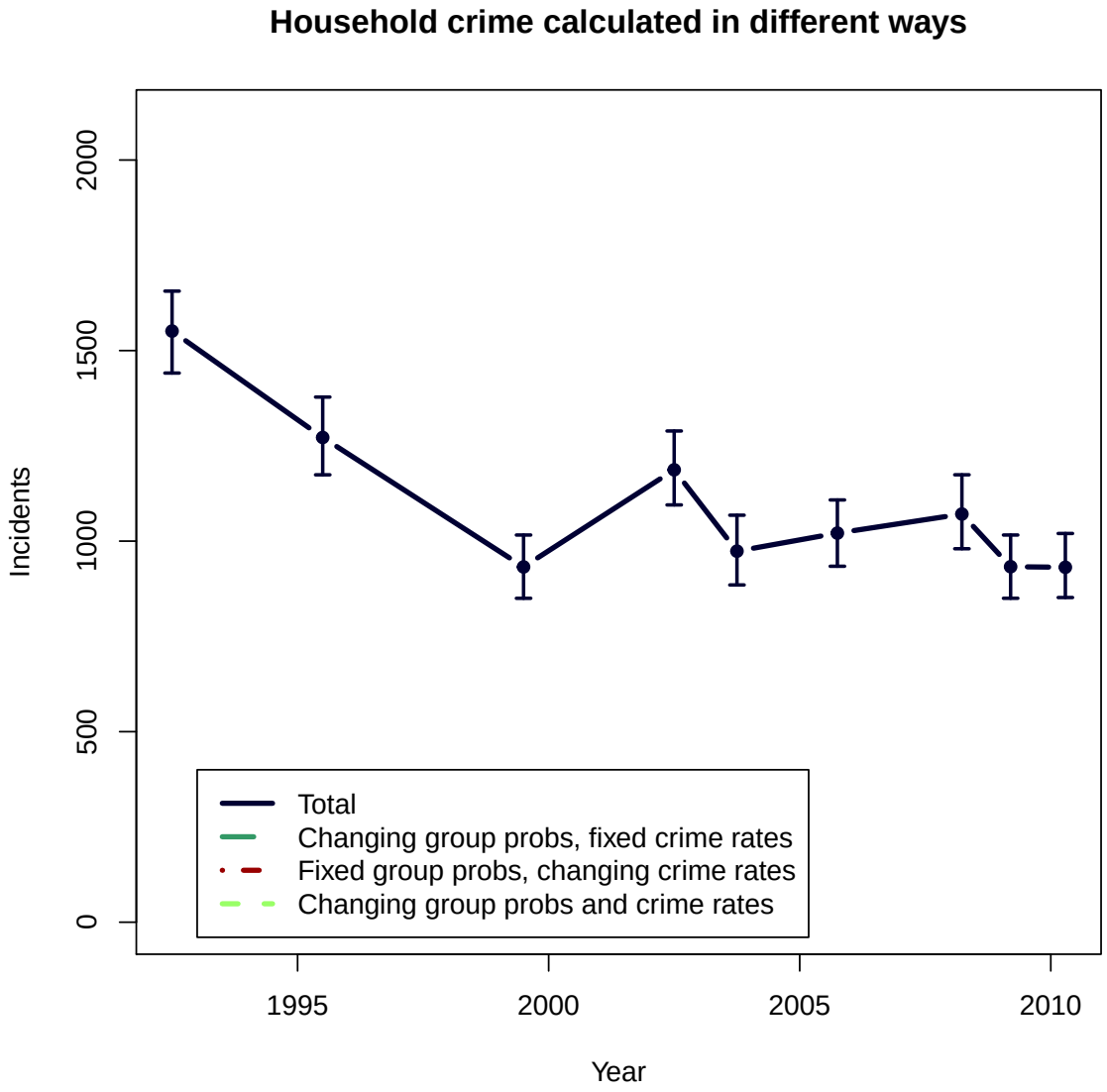
Victim classes and change in house



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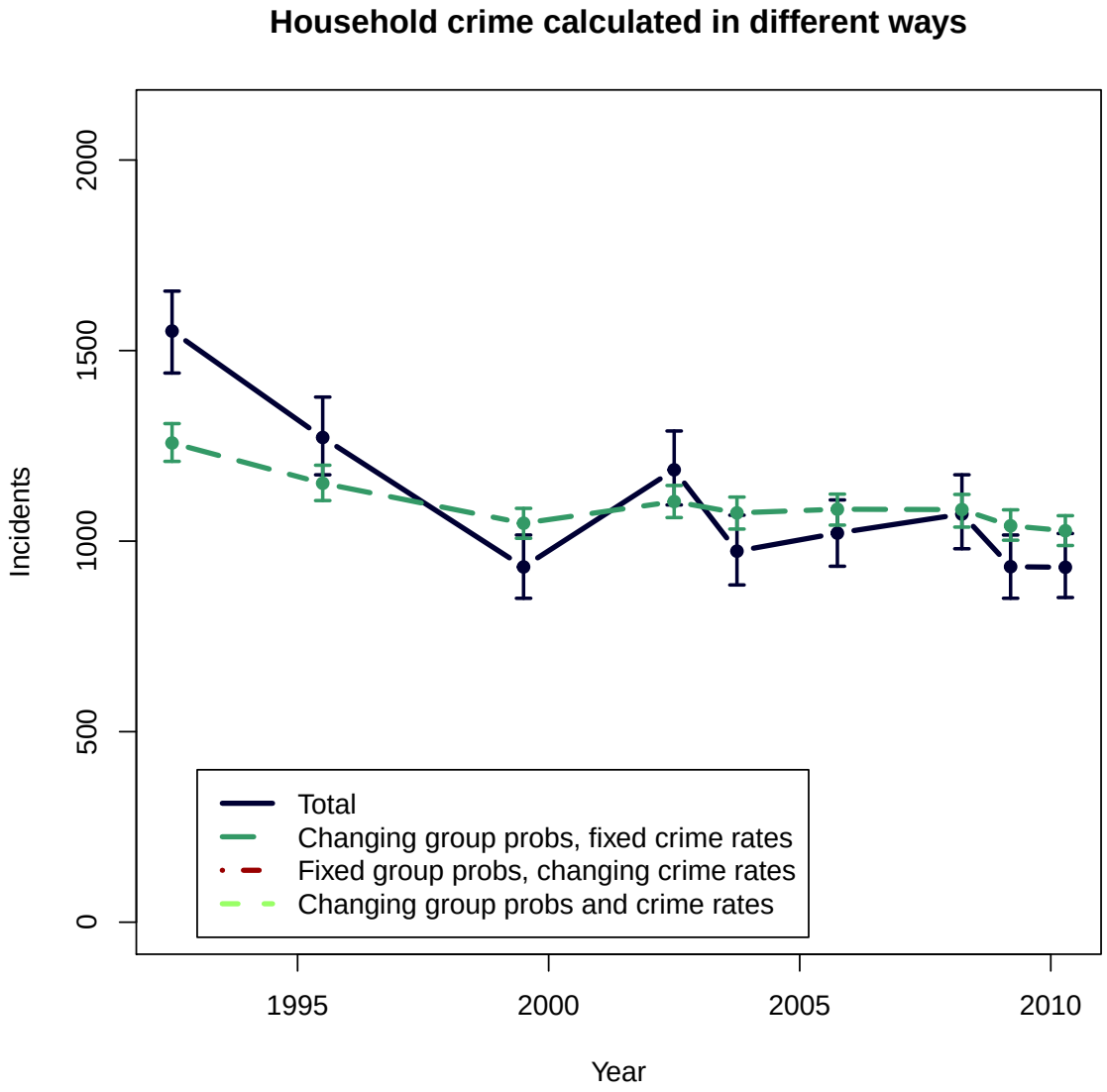
Victim classes and change in house



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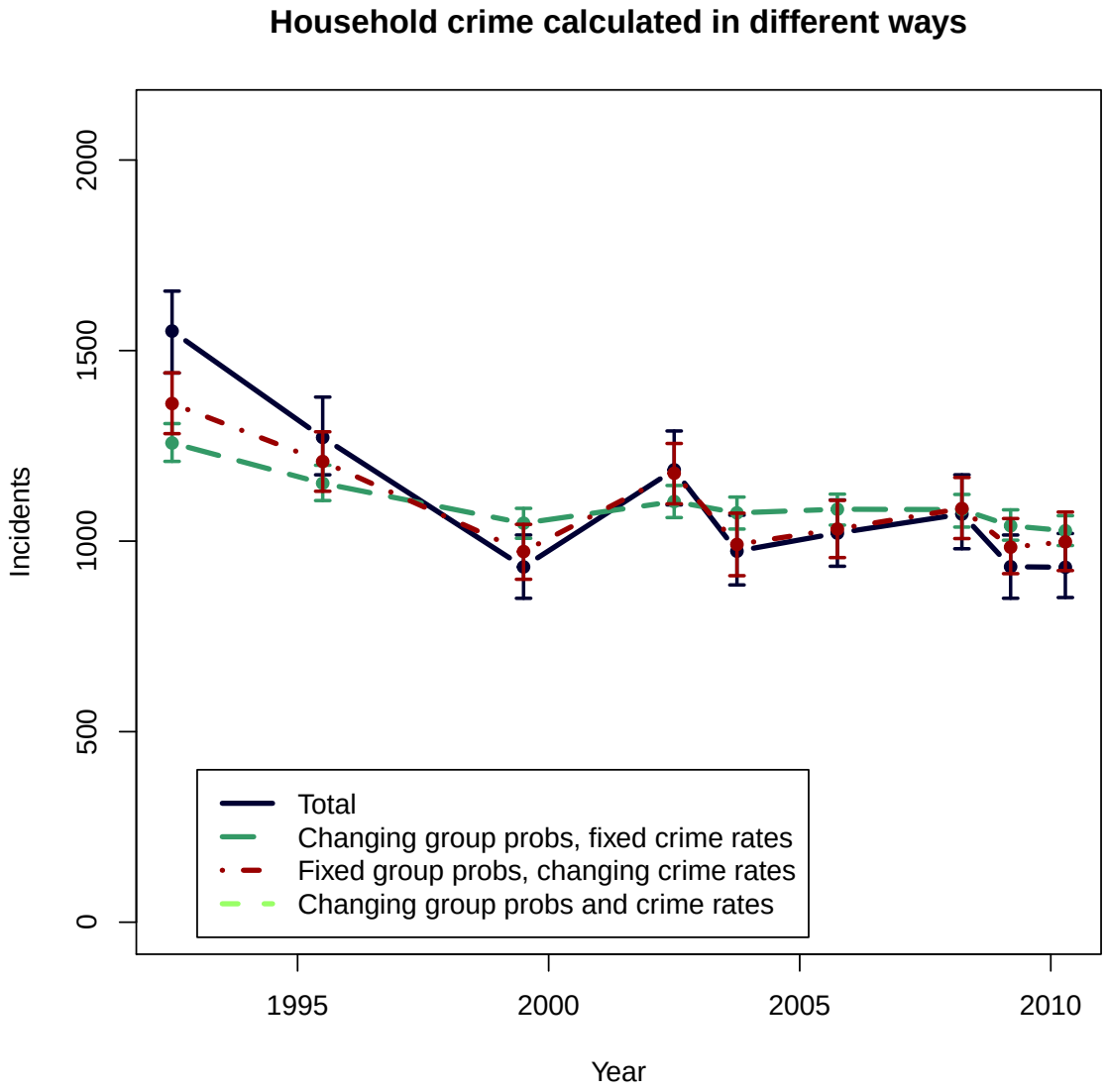
Victim classes and change in house



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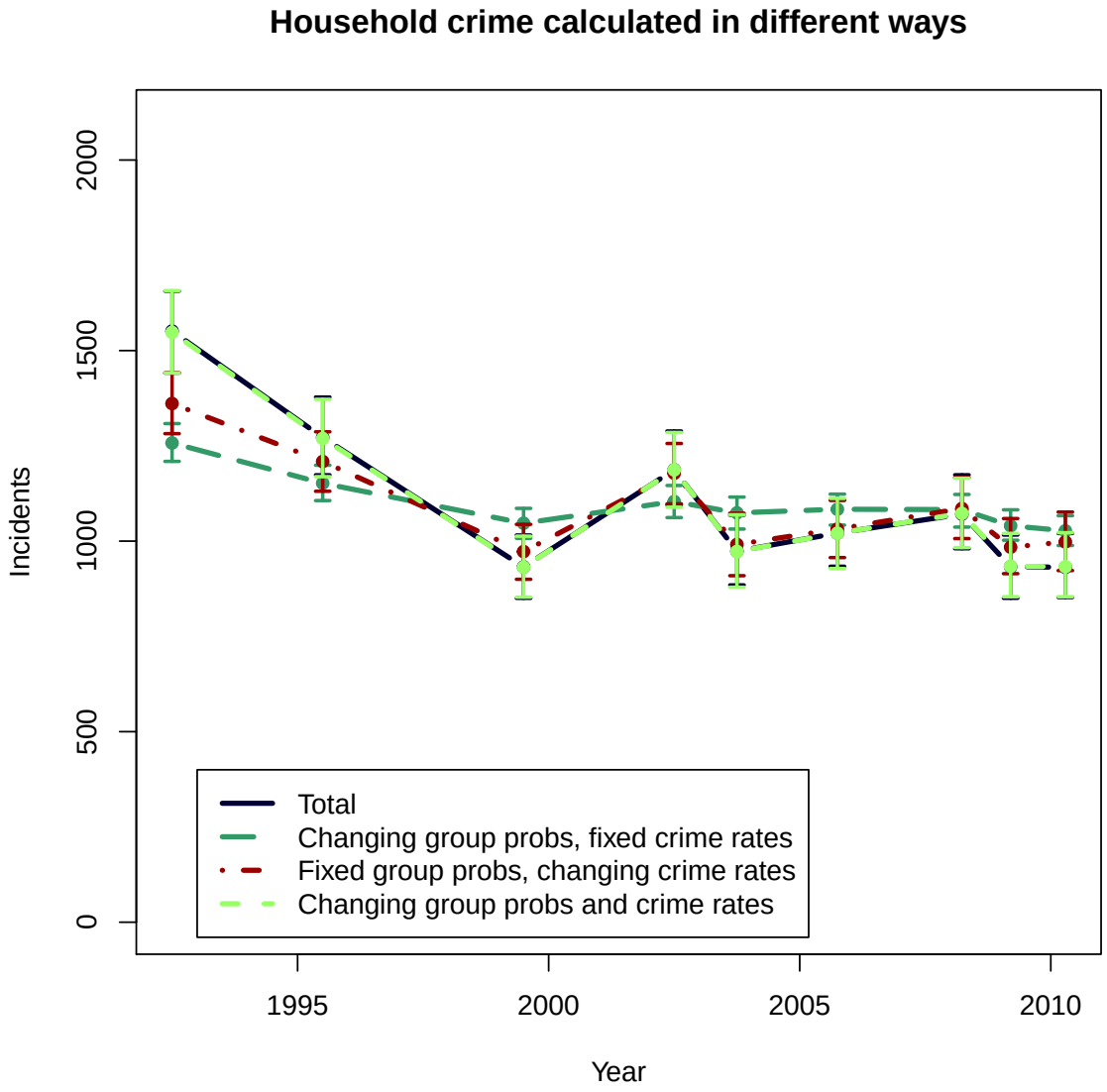
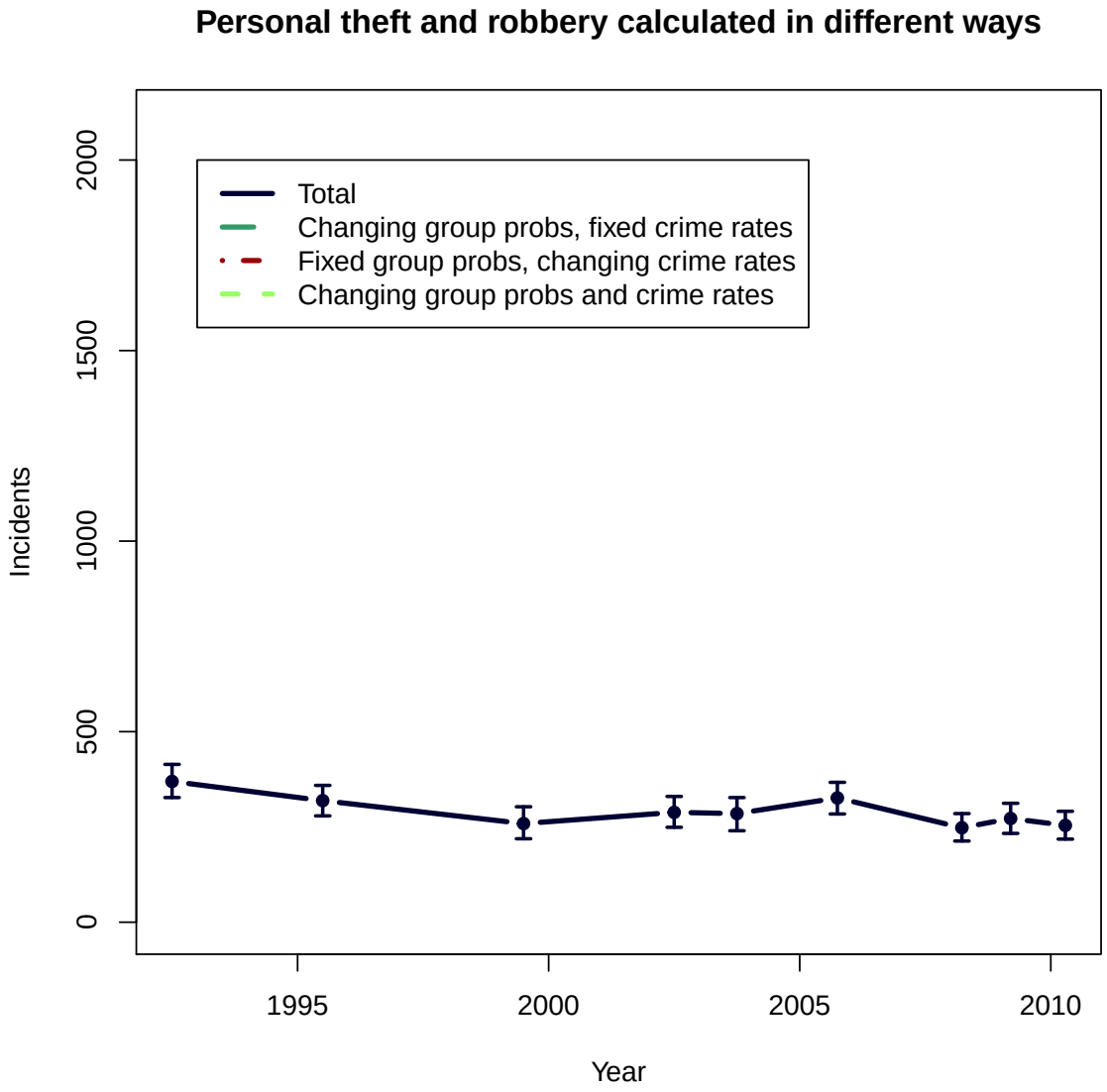
Victim classes and change in house



Victim classes and change in persrob



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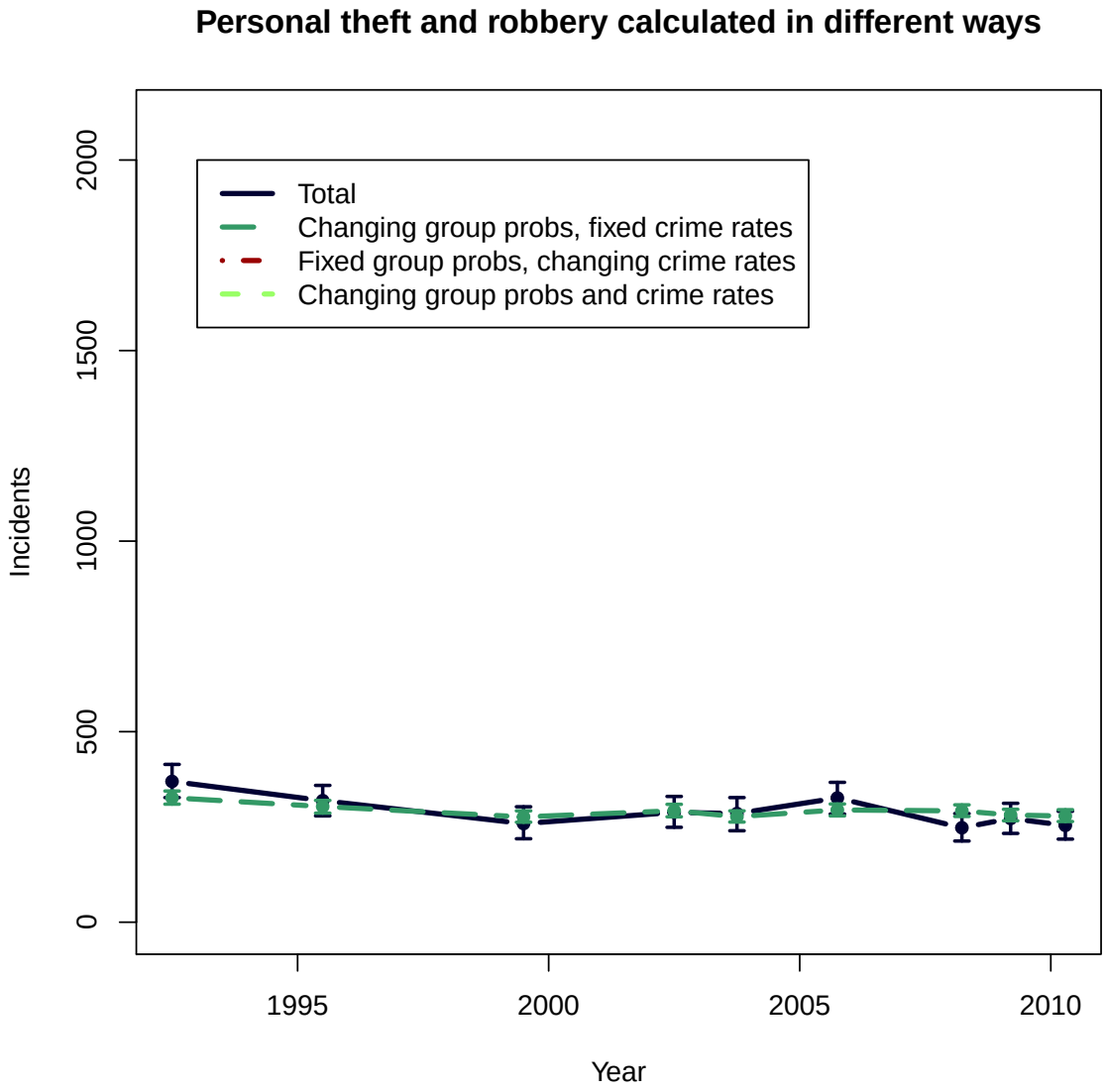
Victim classes and change in persrob



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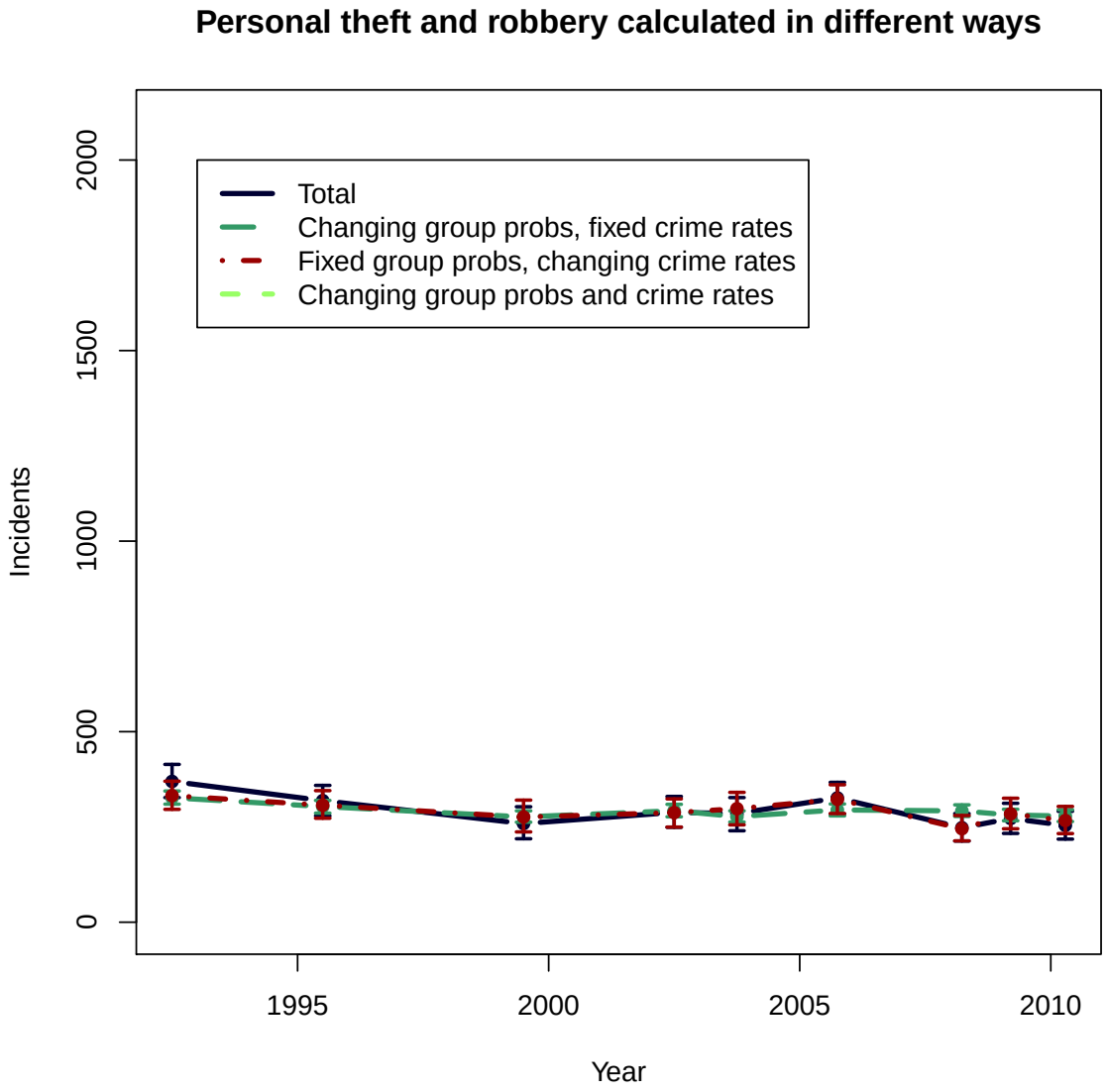
Victim classes and change in persrob



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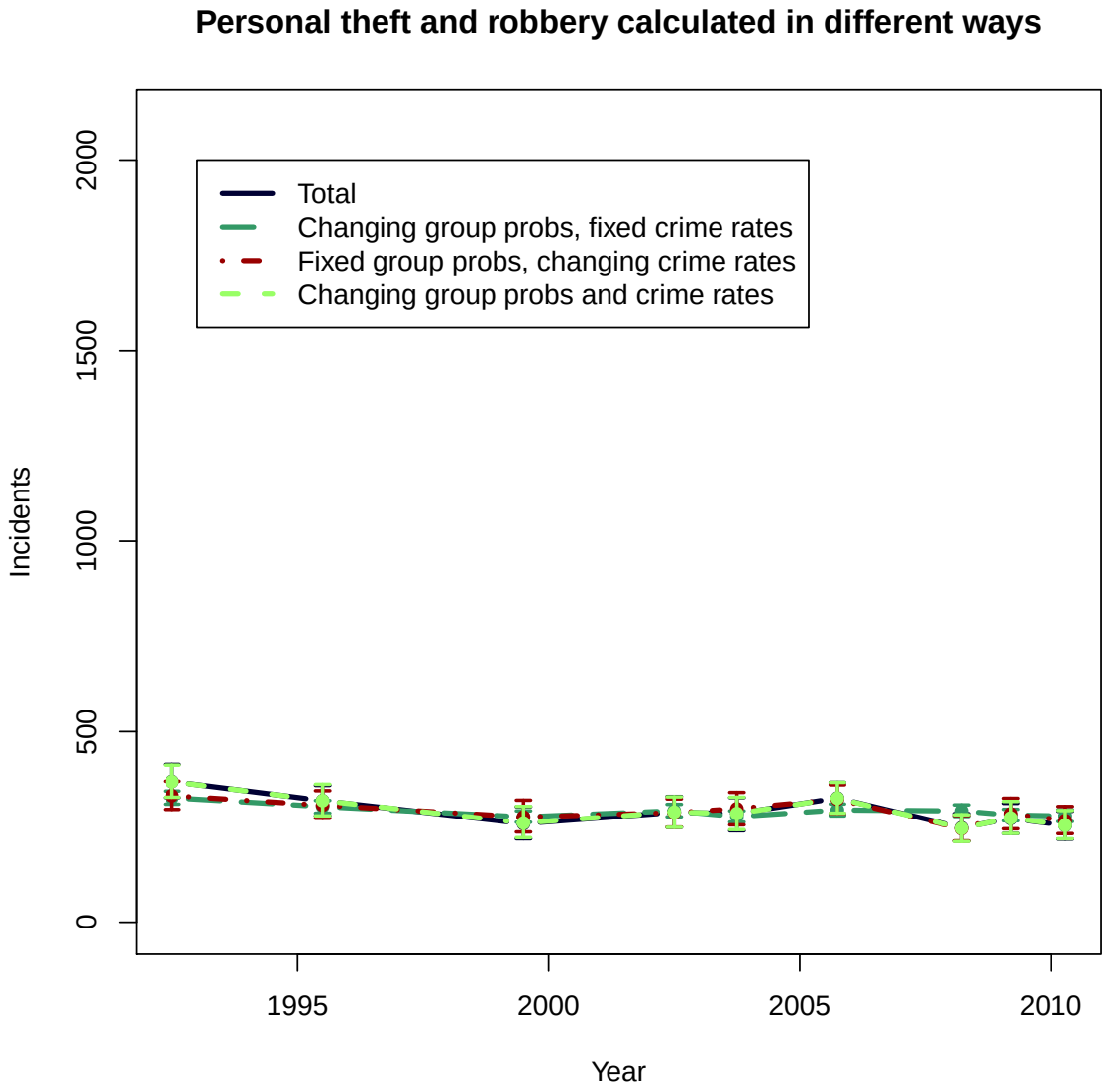

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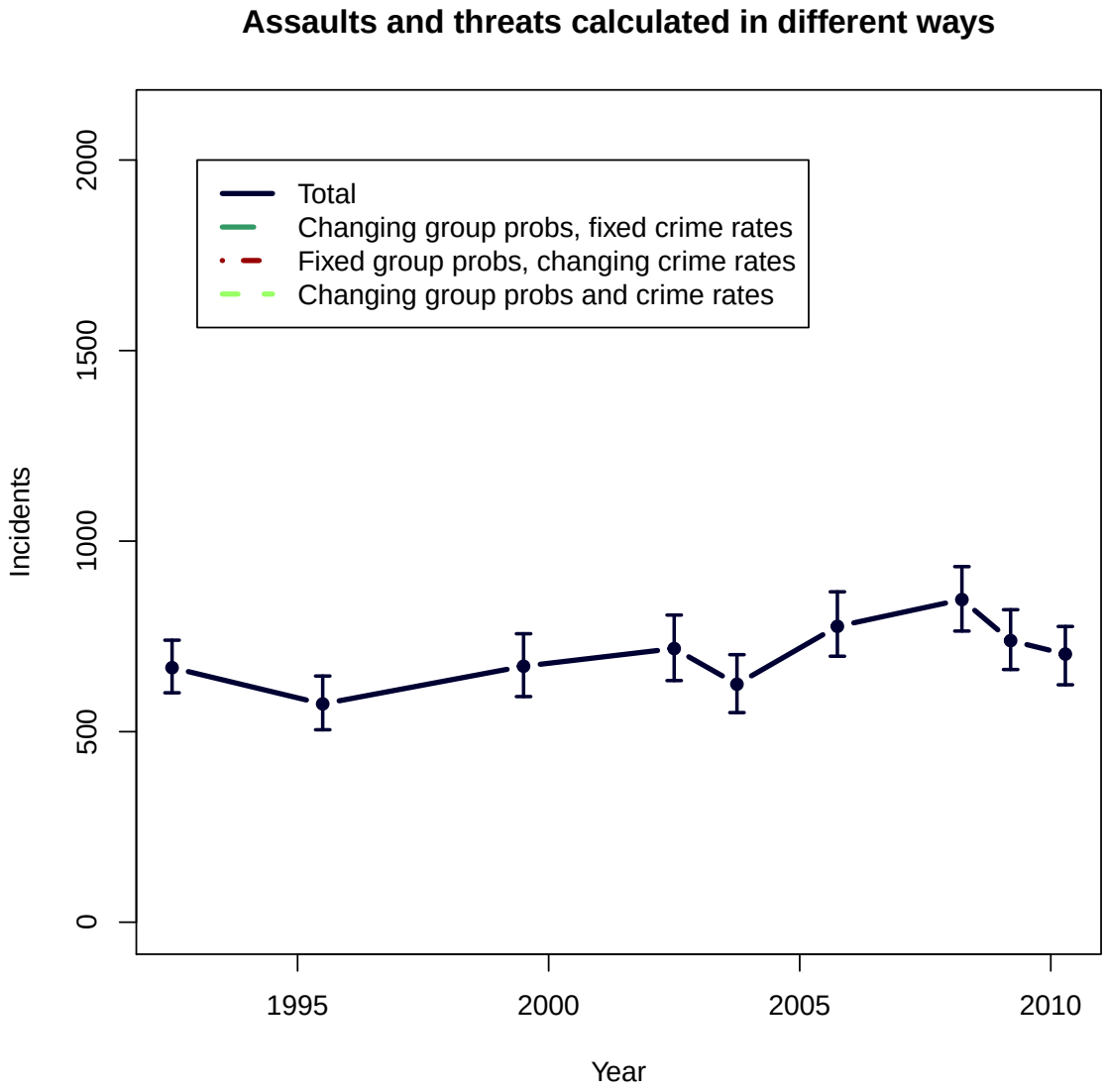
Victim classes and change in assthe



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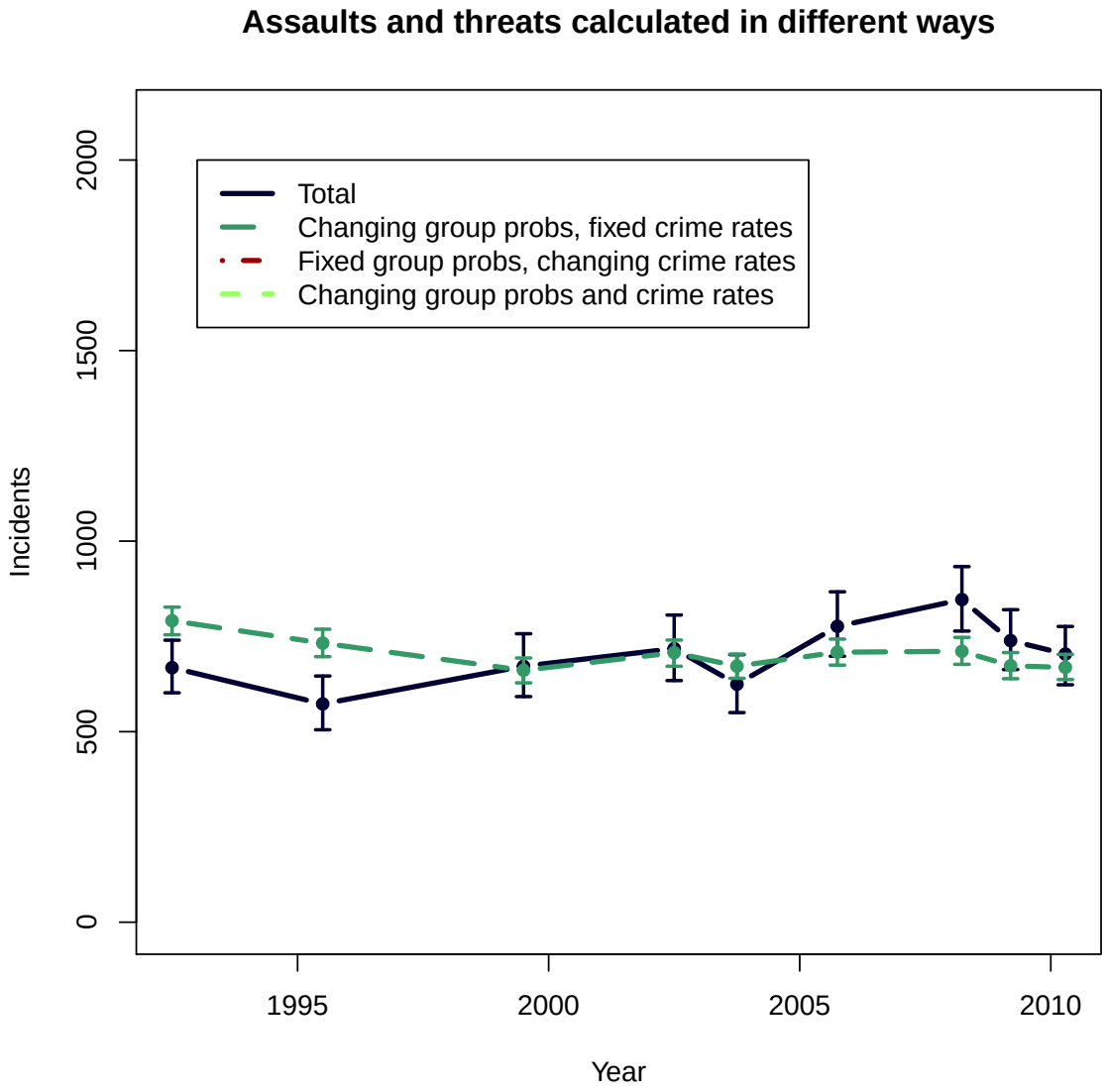

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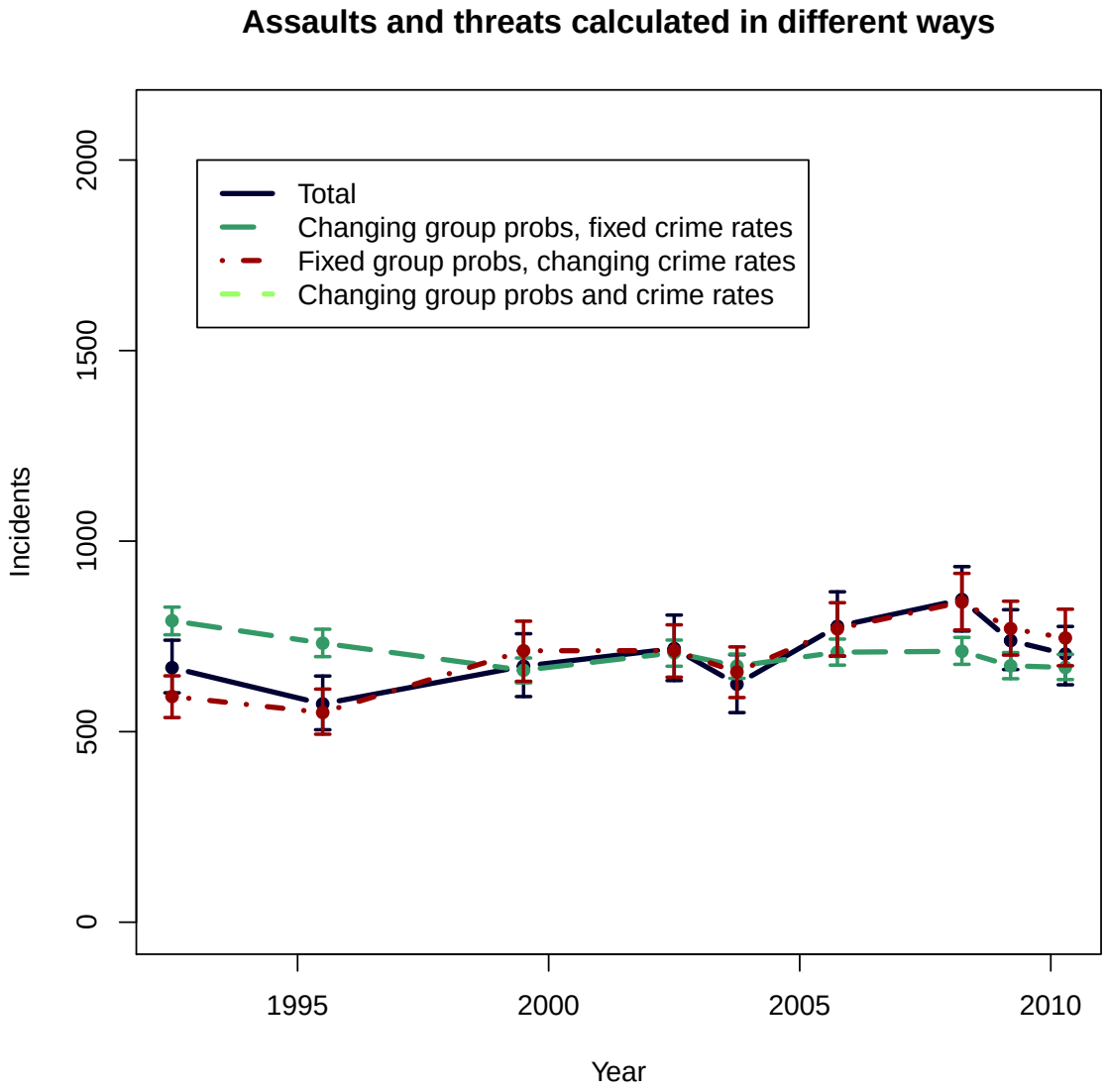

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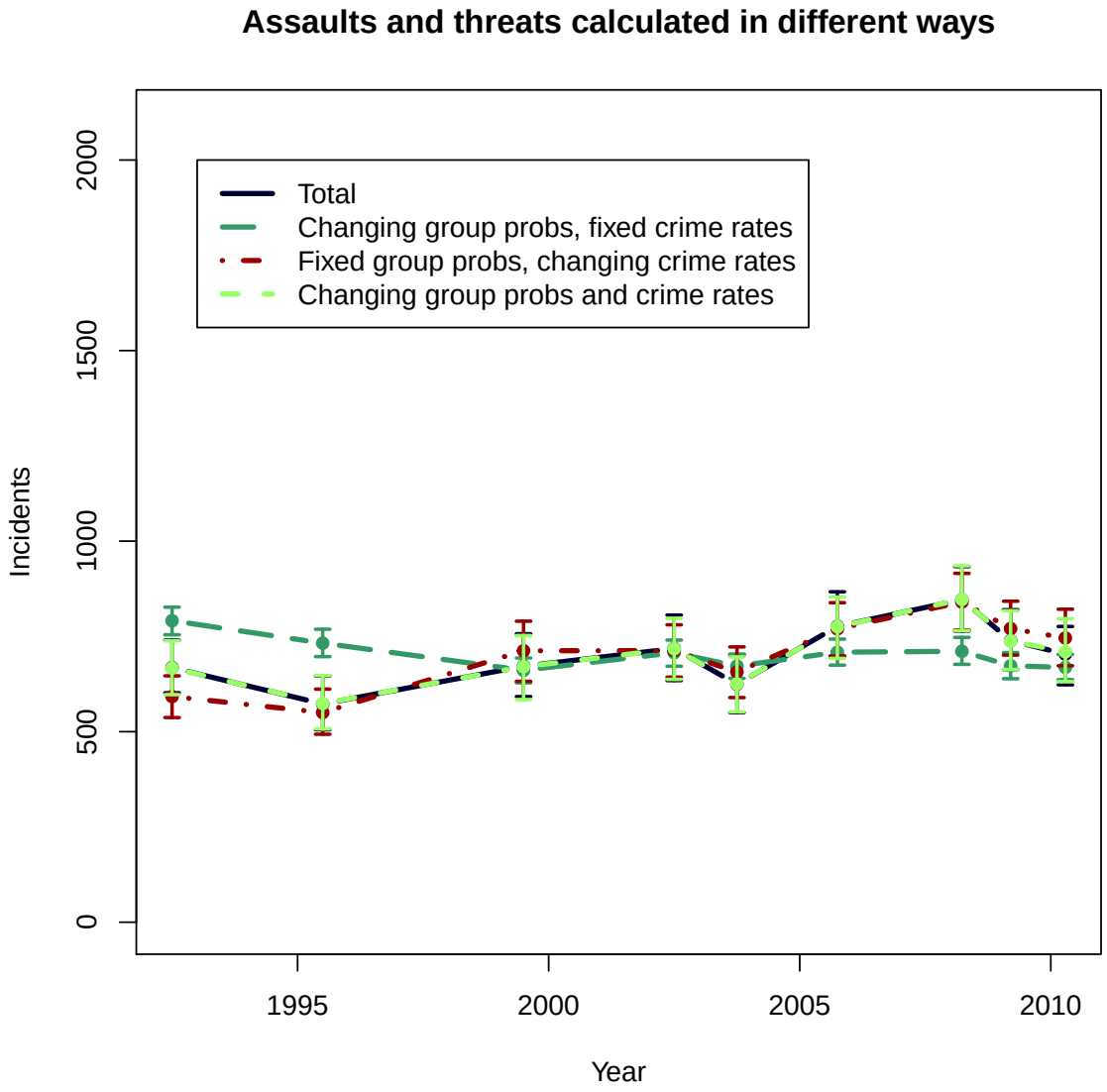

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LAs and victim groups

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Non-victims and One-off victims

- Non-victims are more likely to live in
  - Aberdeenshire or Perth and Kinross (compared to all other victim groups)
  - Angus, Orkney, Scottish Borders, or Stirling (compared to Personal victims)
  - South Ayrshire or South Lanarkshire (compared to One-off and Personal victims)
  - Argyll & Bute or Dumfries & Galloway (compared to One-off and Household victims)
  - Comhairle nan Eilean Siar (compared to One-off victims)
- One-off victims are more likely to live in
  - Aberdeen City or North Ayrshire (compared to Non-victims)
  - Angus, Orkney, Perth and Kinross, Scottish Borders, South Ayrshire, or Stirling (compared to Personal victims)
  - East Ayrshire (compared to Non-victims and Personal victims)
  - Aberdeenshire (compared to Household and Personal victims)

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Household and Personal victims

- Household victims are more likely to live in
  - Renfrewshire (vs. Non-victims)
  - Aberdeenshire, Angus, Orkney, Perth and Kinross, Scottish Borders, South Ayrshire, or Stirling (compared to Personal victims)
  - East Ayrshire (compared to Non-victims and Personal victims)
  - North Ayrshire (compared to Non-victims and One-off victims)
- Personal victims are more likely to live in
  - City of Edinburgh (compared to all other victim groups)
  - North Ayrshire or Renfrewshire (compared to Non-victims and One-off victims)

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More about our research

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