

Understanding re-victimisation through an intersectional lens

Dr Lisa Tompson, Dr Apriel Jolliffe Simpson,

Professor Richard Wortley, Bridgdiverseet O'Keeffe & Professor Devon Polaschek

Te Puna Haumarū New Zealand Institute for Security and Crime Science

Te Whare Wānanga o Waikato The University of Waikato



Executive Summary

Overview

Policy efforts based on evidence about risk for re-victimisation both protect some of the most vulnerable people in society and have a good chance of reducing crime levels overall (Farrell and Pease, 1993; Grove et al., 2012; Pease et al., 2018). While research has established that the phenomenon of re-victimisation is ubiquitous, less is known about what makes some people more vulnerable to re-victimisation than others (Hamilton and Browne, 1998; Nazaretian and Fitch, 2021). Enhanced understanding of who these people are is thus crucial for developing contemporary victim-centred crime prevention policy.

Victimology theories suggest that people at high risk of victimisation are typified by multiple overlapping and intersecting personal characteristics (e.g., gender, age, race/ethnicity, class, disability status, sexual identity), rather than forming homogeneous higher-order groups (e.g., delineated by a single personal characteristic; Shoham et al, 2010; Walklate, 2012). Accordingly, in this study we examined socio-demographic characteristics (e.g., gender, age, ethnicity, disability status, sexual identity) of people who were re-victimised, with an emphasis on intersectionality¹. That is, we focused on identifying where the co-occurrence of socio-demographic characteristics intensified risk of re-victimisation.

We use re-victimisation as an umbrella term to cover:

- Poly-victimisation (i.e., >1 victimisation for different types of crime), and
- Repeat-victimisation (i.e., >1 victimisation for different types of crime) for 11 different crime types.

We therefore analysed 12 different types of re-victimisation over five waves of the New Zealand Crime and Victims Survey (NZCVS) in the privacy- and security-protected environment of Statistics New Zealand's Integrated Data Infrastructure (IDI) with Conjunctive Analysis of Case Configurations. This method enabled us to position groups (i.e., combinations of characteristics) as the unit of analysis and identify where intersecting characteristics were associated with high rates of re-victimisation and isolate when particular individual characteristics were especially noteworthy.

This research makes four important contributions to the evidence base on victimisation. First, while re-victimisation experiences have been studied for a range of crime types internationally (see Farrell et al., 2005), this is the first research to do so for Aotearoa New Zealand. Second, it adds to the scant evidence base on poly-victimisation. Third, it corroborates the empirical findings from other countries that risk of re-victimisation increases cumulatively (Johnson et al., 1997), hence the need for policies and practices that get upstream of the problem and prevent re-victimisation at the earliest opportunity. Fourth, this research advances knowledge on how socio-demographic characteristics intersect to elevate risk of re-victimisation. The findings are relevant for policymakers developing victimisation prevention programmes across various organisations in Aotearoa New Zealand.

¹ We understand intersectionality to mean the membership of more than one social group (e.g., young and woman).

Victimisation and re-victimisation rates

- Just under a fifth of people surveyed (n ≈ 6,126, 18.7%) had experienced one type of victimisation (see Table 1), but the chance of being re-victimised varied widely across the 11 types of repeat victimisation and poly-victimisation. Poly-victimisation (experienced by 15.4% of respondents) was far more common than repeat victimisation of individual crime types (0.2%-5.5% of respondents).
- For most crime types, each victimisation experienced intensified the risk of being a victim again (see Table 2). Hence, risk of re-victimisation was cumulative and exponential. Whilst this has been long known for burglary (Johnson et al., 1997) and intimate partner violence (Lloyd et al., 1994), this is the first study in Aotearoa New Zealand to reveal that it applies to other types of re-victimisation. This finding underscores the importance of reducing risk after the first victimisation experience, so that further victimisation experiences are prevented. Whilst not easy to achieve in practice, if re-victimisation could be reduced it would substantially reduce crime and associated harms.
- Interpersonal crimes were more likely to result in re-victimisation than property crimes. This finding may be partly explained by property needing to be replaced once stolen (e.g., a vehicle), which may not always happen. On the other hand, it might also be explained by opportunities for interpersonal crime persisting after an initial crime has occurred due to continued association (e.g., between intimate partners, family members, colleagues, or friends).

Table 1

Victimisation rates for NZCVS respondents (n ≈ 32,682) for the 11 types of repeat victimisation and poly-victimisation (denoted by 'any crime'). Comparing non-victims, people who experienced one victimisation, and people who experienced two or more victimisations.

Crime type	Not victimised n (%)	One victimisation n (%)	Two or more victimisations n (%)
Assault	≈ 31,200 (95.5)	≈ 723 (2.2)	≈ 759 (2.3)
Burglary	≈ 30,936 (94.7)	≈ 1,245 (3.8)	≈ 501 (1.5)
Cybercrime	≈ 31,668 (96.9)	≈ 807 (2.5)	≈ 207 (0.6)
Fraud	≈ 29,689 (90.8)	≈ 2,265 (6.9)	≈ 728 (2.2)
Harassment	≈ 29,283 (89.6)	≈ 1,596 (4.9)	≈ 1,803 (5.5)
Property damage	≈ 31,563 (96.6)	≈ 786 (2.4)	≈ 333 (1.0)
Robbery	≈ 32,001 (97.9)	≈ 507 (1.6)	≈ 174 (0.2)
Sexual assault	≈ 31,686 (96.9)	≈ 465 (1.4)	≈ 531 (1.6)
Theft	≈ 30,507 (93.3)	≈ 1,638 (5.0)	≈ 537 (1.7)
Trespass	≈ 30,207 (92.4)	≈ 1,734 (5.3)	≈ 741 (2.3)
Vehicle & bike theft	≈ 28,956 (88.6)	≈ 2,913 (8.9)	≈ 813 (2.5)
Any crime [#]	≈ 21,519 (65.8)	≈ 6,126 (18.7)	≈ 5,037 (15.4)

Note. Due to Statistics New Zealand confidentiality procedures, all numbers were randomly rounded to base 3 and therefore all frequencies and rates are approximate.

[#] Two or more victimisations had to be for multiple crime types to be classified poly-victimisation. Hence, repeat-victims of specific crime types could feature in both one and two or more victimisations under the category of 'Any crime'.

Table 2

Chance of being a victim again, based on prior number of victimisation experiences, for the 11 types of repeat victimisation and poly-victimisation (denoted by 'Any crime').

	Once	Twice	Three times	Four times	Five or more times
Assault	2.2	31.1	22.7	49.2	72.3
Burglary	3.8	18.2	24.9	32.4	66.7
Cybercrime	2.5	13.5	19.2	33.3	70.6
Fraud	6.9	14.5	22.9	34.5	73.7
Harassment	4.9	27.3	36.8	34.8	78.4
Property damage	2.4	17.0	27.0	35.5	70.3
Robbery	1.6	15.8	23.8	37.5	60.0
Sexual assault	1.4	29.5	35.6	35.7	73.7
Theft	5.0	15.0	29.4	27.3	65.9
Trespass	5.3	15.5	32.9	33.3	70.5
Vehicle & bike theft	8.9	15.5	20.5	35.2	46.8
Any crime	34.2	20.0	37.9	37.1	78.5

Conjunctive analysis of case configurations

The method is described in detail on pages 11-13. In brief, this involved:

- 1) Generating descriptive statistics for each of the 12 types of re-victimisation, with chi-square tests of independence highlighting associations between socio-demographic characteristics and re-victimisation.
- 2) Creating a table with rows representing groups of NZCVS respondents with a unique combination of characteristics who had experienced at least one victimisation of the crime type in question.
- 3) Identifying the total number of people in each group and the proportion of people in each group who had experienced re-victimisation of the crime type in question. We retained groups with 10 or more people for subsequent analyses.
- 4) Assessing the contribution of each characteristic on risk of re-victimisation while holding all other characteristics constant. This analysis revealed when an individual characteristic was mostly associated with increases or decreases in risk for each re-victimisation type.

Findings

- Risk for poly-victimisation is not easily reducible to single characteristics but is instead more likely to be associated with interactions between characteristics, hence intersectionality is important for understanding risk.
- Many re-victimisation experiences happened to people who were experiencing financial stress and moderate to high psychological distress. This finding suggests people who are at increased risk of re-victimisation have **complex needs** and require a **multi-agency policy response to reduce their vulnerability to re-victimisation**.

- Women were overrepresented in the configurations of characteristics experiencing the highest rate of re-victimisation for specific crime types (e.g., fraud, harassment, property damage, sexual assault, theft, trespass, vehicle and bike theft).
- Māori were overrepresented in the configurations of characteristics experiencing the highest rate of re-victimisation for specific crime types (e.g., among poly-victims and repeat victims for assault, burglary, fraud, harassment, property damage, sexual assault, theft, trespass, vehicle and bike theft). People who identified as Pacific featured disproportionately in the configurations experiencing a high rate of repeat trespass victimisation.
- Women with a disability were overrepresented in configurations of characteristics for poly-victimisation.
- Bisexual women were overrepresented in configurations of characteristics for repeat sexual assault.
- The configurations of characteristics at increased risk for repeat cybercrime were notably different from other types of repeat victimisation. Here, men with low levels of psychological distress, who identified as European, and were not experiencing financial stress were overrepresented as repeat victims.

When we examined whether each characteristic was mostly associated with increases or decreases in risk for each of the 12 types of re-victimisation (see Table 3), we found:

- **Ethnicity:**
 - People who identified as Asian were associated with a **decreased** risk of repeat fraud, harassment, trespass, and vehicle and bike theft victimisation.
 - People who identified as European were associated with an **increased** risk of repeat property damage victimisation and a **decreased** risk of repeat burglary, harassment, sexual assault, and trespass victimisation.
 - People who identified as Māori were associated with an **increased** risk of repeat assault, property damage, and theft victimisation.
 - People who identified as Pacific were associated with an **increased** risk of repeat fraud victimisation, and a **decreased** risk of repeat trespass and vehicle and bike theft victimisation.
- **Age:**
 - Young people (under 25 years) were associated with an **increased** risk of repeat assault victimisation, and a **decreased** risk of repeat burglary, fraud, robbery, and trespass victimisation.
 - Mid-aged people (25-64 years) were associated with an **increased** risk of repeat burglary and trespass victimisation and a **decreased** risk in repeat sexual assault victimisation.
 - Older people (65 years and above) were associated with a **decreased** risk of repeat assault, harassment, and trespass victimisation, and poly-victimisation.

- **Gender:**
 - Women had an **increased** risk of repeat harassment and sexual assault victimisation and a **decreased** risk of repeat fraud victimisation. Men had **decreased** risk for repeat harassment and sexual assault.
- **Sexual identity**
 - People identifying as bisexual were associated with an **increased** risk of poly-victimisation.
 - People identifying as heterosexual were associated with an **increased** risk of repeat fraud and vehicle and bike theft victimisation, and a **decreased** risk of repeat sexual assault victimisation and poly-victimisation.
 - People identifying as same sex attracted were associated with an **increased** risk of poly-victimisation.
- **Partnership status**
 - People who reported being single were associated with an **increased** risk of repeat cybercrime victimisation.
- **Psychological distress**
 - People who reported experiencing moderate to high levels of psychological distress were associated with an **increased** risk of repeat burglary, cybercrime, harassment, theft, and vehicle and bike theft victimisation, as well as poly-victimisation.
- **Financial stress**
 - People who reported experiencing financial stress were associated with an **increased** risk of repeat fraud, trespass, and vehicle and bike theft victimisation, and a **decreased** risk of repeat cybercrime victimisation.
- **Disability**
 - People who identified as having a disability were associated with an **increased** risk of experiencing repeat harassment and theft victimisation.

Table 3

Summary of whether each characteristic was mostly associated with increases or decreases in risk for each of the 12 types of re-victimisation, compared with single victims of those crime types

	Poly-victims	Assault	Burglary	Cyber crime	Fraud	Harassment & threats	Property damage	Robbery	Sexual assault	Theft	Trespass	Vehicle & bike theft
Asian					▼	▼					▼	▼
European			▼			▼	▲		▼		▼	
Māori		▲					▲			▲		
Pacific					▲						▼	▼
< 25 years		▲	▼		▼			▲			▲	
25 – 64 years			▲						▼		▲	
65+ years	▼	▼				▼					▼	
Woman					▼	▲			▲			
Man					▲	▼			▼			
Bisexual	▲											
Heterosexual	▼				▲				▼			▲
Same sex	▲											
Not partnered				▲								
Moderate or high psychological distress	▲		▲	▲		▲				▲		▲
Financial stress				▼	▲						▲	▲
Disability						▲				▲		

▲ associated with an increased risk of victimisation*

▼ associated with a decreased risk of victimisation*

* >75% of values in the distribution lie above/below the mean re-victimisation rate, indicating that most of the time this characteristic was associated with an increased/decreased risk of re-victimisation

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Background

It is well established that a relatively small number of crime victims accounts for a disproportionately large number of criminal victimisations (e.g., Farrell and Pease, 1993, 2017; Pease and Farrell, 2016). Re-victimisation has been found for many types of victimisation, including intimate partner violence, sexual assault, child abuse, burglary, car theft, fraud, and crimes involving the internet, accounting on average for around 40% of cases (Pease and Farrell, 2016). Victimisation on more than one occasion takes two main forms. Repeat victimisation (RV) refers to cases that involve the same crime type; for example, a person who is sexually assaulted on multiple occasions. Poly-victimisation (PV) (also called multiple victimisation) refers to cases where the crime type varies; for example, a person who is sexually assaulted on one occasion and the victim of theft on another. From policy and prevention perspectives, identifying RV and PV targets provides guidance on where resources can be concentrated for maximum impact. In this study we examine the socio-demographic correlates of RV and PV (e.g., gender, age, ethnicity, disability status, sexual identity, etc.) in Aotearoa New Zealand, with an emphasis on intersectionality among risk factors, that is, where the co-occurrence of socio-demographic characteristics intensifies victimisation risk.

Explaining RV and PV

Explanations of RV and PV derive from environmental criminology theories of how offenders select targets. These theories shift the traditional criminological focus on the acquisition of an offender's criminal propensity, to the situational factors at the time of the crime that precipitate or enable their offending behaviour. A core assumption of environmental criminology is that for a crime to occur, a likely offender and a suitable target need to interact in space and time in conditions favourable for that crime to occur. The intersection of these three elements typical occurs through the daily rhythm of everyday life. Target is used to refer to both non-human targets (e.g., vehicles, buildings, products) and human targets, which are normally thought of as 'victims'. In brief, these theories examine the decision-making processes by which offenders use situational information to select targets that will maximise the benefits they seek (e.g., money, sexual gratification, revenge) and minimise the potential costs (e.g., risk of getting caught).

Theorising about how offenders decide to select their targets has given rise to two proposed mechanisms for RV and PV – boost and flag. The boost mechanism suggests that once a target has been victimised, the risk to that target in the future is increased. Boost applies to targets being repeatedly victimised by the same offender (Johnson, 2008). The initial successful victimisation exposes the vulnerability of the target to exploitation and encourages the offender to exploit it again; success breeds success. For property crime, the offender may return because stolen items have been replaced via insurance, or some high-value items were observed but not stolen on the first victimisation occurrence. For interpersonal crime, some settings provide an offender with ongoing opportunities to access the same victim. Intimate partner violence and workplace bullying are examples of the boost principle, where the victim and offender are co-located, and victimisation may become more frequent and serious over time.

In contrast, the flag mechanism assumes that there are some time-stable characteristics of the target/victim that signal their vulnerability to victimisation (Pease & Farrell, 2016). Flag primarily relates to victimisation of the same target by multiple offenders. Using residential property as an example again, some buildings have characteristics that are more conducive

to burglary (e.g., insecure doors/windows, poor sightlines from the street). Similarly, some people may be more vulnerable to re-victimisations because of their physical characteristics (e.g., people with disabilities, ethnic minorities), the places they frequent (e.g., people sleeping rough, illicit drug users), or the role they play (e.g., taxi drivers, sex workers).

While boost and flag mechanisms were originally proposed as explanations of RV, and this has been the focus of most research, they can potentially be applied also to PV. For example, a house that is a target for burglary may also become a target for vandalism. Likewise, a victim of assault may also experience fraud and car theft. One of the aims of the current research is to expand our understanding of re-victimisation to take to take greater account of PV.

Risk factors

Research on the factors associated with re-victimisation typically utilise police data (calls for service and arrest figures) and victimisation surveys. To date, research has been largely confined to European countries, Australia and the United States. We are aware of only two investigations into RV patterns in New Zealand – a study of burglary (Chainey et al., 2018) and some top-level analyses of the New Zealand Crime and Victims Survey (NZCVS) (Ministry of Justice, 2023a).

For RV, the main research findings include the following trends.

- RV tends to happen quickly, following a decay curve over time. In the case of burglary, RV is most likely to occur within seven days of the initial burglary, thereafter steadily declining (Bowers and Johnson, 2005; Johnson et al, 1997; Polvi et al., 1991; Grove and Farrell, 2012). For intimate partner violence, Lloyd et al (1994) found that 35% of repeats occur within five weeks of the initial incident, with the single highest number of repeats occurring the next day.
- RV risk is cumulative, that is, each victimisation increases the risk of further victimisation. In one study on burglary (Johnson et al., 1997), 22% of houses recorded one or more burglaries. Of those, 40% recorded two or more cases; of those, nearly half recorded three or more cases; of those, 57% recorded four or more cases; and of those, nearly two-thirds recorded five or more cases. Similarly, in a study on intimate partner violence (Lloyd et al., 1994), police were called to 6% of households for one or more incidents. Of those, more than a quarter recorded two more incidents; of those, over half recorded three or more incidents; and of those, more than three-quarters reported four or more incidents.
- Accordingly, the chronically victimised (those with numerous RVs) account for a particularly large share of victimisations. For example, Pease (1988) found that while 16% of the population experienced property crime, 44% of property crime was experienced by 2% of the population; and while 8% of the population experienced personal crime, 59% of personal crime was experienced by 1% of the population.
- RV varies by victimisation type. In general, RV is greater for personal victimisation than property victimisation. Pease and Farrell, (2016) attribute this discrepancy to the fact that most personal victimisation, such as intimate partner violence and sexual victimisation, occurs in private spaces where there is ongoing contact between victims and perpetrators. In cycle 5 of the NZCVS, the highest rates of RV were for crimes by family members (60% of all victims for this crime), followed by

interpersonal violence (39%), burglary (23%), theft and damage (12%), vehicle crimes (11%), and fraud and cybercrime (11%) (Ministry of Justice, 2023a).

- RV varies according to the characteristics of the victim, depending on the type of the victimisation. A report from the Australian Institute of Criminology (Mukherjee and Carcach, 1998) found that for burglary, increased risk of RV was associated with: households comprising a sole parent with children; rented properties; and short-term residency. For personal crimes, increased RV was associated with: being male; youth; being single; being unemployed; using public transport; and going out for entertainment.

Research on PV is less common, and much of what exists focuses on health outcomes for poly-victims for children and adolescents (e.g., Le et al, 2018). A recent systematic review of risk factors for poly-victimisation (Pires and Almeida, 2023a) identified just two relevant studies. The risk factors identified were living in an unsafe neighbourhood and living in a rundown building. Analysis of the fifth cycle of NZCVS data (Ministry of Justice, 2023a), not included in Pires and Almeida's review, provides an initial picture of poly-victimisation in the Aotearoa New Zealand context. It was found that 31% of adults experienced one or more cases of victimisation. Of those, 61% had experienced just one incident, 27% had experienced two or three incidents, and 13% had experienced four or more. The most victimised group (four or more victimisations) accounted for 56% of all crimes. Some of the socio-demographic factors associated with chronic poly-victimisation were experiencing high levels of psychological stress, being LGBT+, living in rented housing, being Māori, being disabled, and being unemployed.

Why is research on RV and PV important?

Understanding how crime concentrates around certain targets has significant implications for policy and practice. RV and PV research identifies people who require additional resources and support. From the perspective of prevention, focusing on chronic victims promises a high return on effort (Pease and Farrell, 2016; Farrell and Pease 2017). RV and PV research is relevant for government, police, and non-government organisations (NGOs). Ministries can benefit from access to improved insight about people at increased risk of experiencing repeat victimisation when envisioning partnerships and advancing all-of-government strategies related to victimisation. Such insight can orient them to the characteristics and needs of people most requiring an improved response. For police, knowledge of high-risk potential victims can help shape priorities at a strategic level, including aspirations for safer communities, focused prevention through partnerships, and delivering services. Finally, many NGOs exist to support people who have experienced specific forms of crime victimisation or who possess certain personal characteristics. Such organisations can benefit from further insight into the characteristics that may be present among the people that they support, resulting in improved strategies for how organisations provide access to services and successfully engage with victims.

Knowledge gaps

The foregoing discussion highlights three main gaps in the research literature that we address in the current study.

First and foremost is the lack of research on RV and PV in New Zealand. We found just two studies using New Zealand data. The study by Chainey et al. (2018) on repeat victimisation patterns of burglary reported markedly different patterns to those found in other countries, suggesting there are distinctive socio-demographic and cultural features in Aotearoa New Zealand – notably the ethnic mix of Māori and European – that require further research. NZCVS analysis to date by the Ministry of Justice (2023a) provides a starting point for understanding RV and PV in New Zealand, but there is a great deal more to be done with those data to gain a more detailed and deeper picture.

Second is the relative paucity of research on poly victimisation. We simply do not know if the drivers of PV are the same as those for RV. We do know, however, from the Ministry of Justice (2023a) report, that chronic poly-victimisation is a significant problem and is associated with a range of sociodemographic characteristics and economic disadvantages that have clear policy implications.

Finally, most previous research reports risk factors as independent predictors; there is lack of research on how risk factors might combine. Victimology theories suggest that high risk groups will be typified by multiple overlapping and intersecting personal characteristics (e.g., gender, age, race/ethnicity, disability status, sexual identity), rather than being homogeneous higher-order groups (e.g., delineated along single personal characteristics; Shoham et al, 2010; Walklate, 2012). The Ministry of Justice (2023a) report showed several groups of people were at elevated risk of experiencing victimisation; including 15–29-year-olds, and people who were bisexual, separated, or who identified as Māori. It is instructive for victim-centred crime prevention efforts if we could understand how those characteristics interact.

Research questions

Our research questions are:

- 1) What specific groups, defined by a unique combination of characteristics, are at increased risk of **poly-victimisation**? That is, who repeatedly experiences more than one *different types of crime* over a 12-month period?
- 2) What specific groups, defined by a unique combination of characteristics, are at increased risk of **repeat victimisation** (for different crime types)? That is, who repeatedly experiences more than one of the same type of crime over a 12-month period?

Method

In accordance with Open Research principles², we submitted a peer-reviewed pre-registration document to AsPredicted prior to analysis commencing (see Appendix A). The pre-registration outlined the data source, the research questions, the variable selection and the analytic strategy. In this section we elaborate on the steps taken to prepare the data for analysis and the analytic strategy.

Data preparation

This study employed New Zealand Crime and Victims Survey (NZCVS) data housed in the privacy- and security-protected environment of the Statistics New Zealand's Integrated Data Infrastructure (IDI³). As well as collecting demographic information, the NZCVS asks participants about a variety of victimisation experiences and life circumstances at the point of being surveyed. All data manipulation was completed in the SQL environment of the Integrated Data Infrastructure. All analyses were completed using R Statistical Software (v4.4.0; R Core Team 2024)⁴.

We extracted the data from the IDI using SQL. We created a table with each record representing a survey respondent, identified by a unique identifier, and columns containing the number of times they had experienced victimisation of each crime covered in the NZCVS⁵. Then we combined the counts for those crime variables into broad crime types in line with the crime types in Ministry of Justice reports (Ministry of Justice, 2023c, see Appendix C for table of victimisation variables). We categorised people as non-victims, single victims, and repeat victims (i.e., two or more victimisations) for each crime type. We also extracted the demographic characteristics of each respondent (see Appendix D for table of demographic variables).

Participants

The sample for this study included all participants of the NZCVS in Cycles 1-5 that consented to have their information transferred to the IDI (93.2% of all participants) and were able to be linked in the IDI (96.3% of all participants who consented) (Ministry of Justice, 2023b). Table 4 describes the sample's characteristics (See Appendix C for a definition of demographic characteristic variables). The table shows most participants were aged between 25-64, with

² See <https://openresearchcentral.org/principles>

³ Disclaimer: the results in this report are not official statistics. They have been created for research purposes from the Integrated Data Infrastructure (IDI) and which is carefully managed by Stats NZ. For more information about the IDI please visit <https://www.stats.govt.nz/integrated-data/>. Access to the data used in this study was provided by Stats NZ under conditions designed to give effect to the security and confidentiality provisions of the Data and Statistics Act 2022. The results presented in this study are the work of the author, not Stats NZ or individual data suppliers.

⁴ Specific packages used for the analysis were 'CACC' (Esteve et al., 2019) and 'Psych' (Revelle, 2024).

⁵ For this, we used the 'screener' questions that ask behaviourally based questions of respondents. The victim forms that subsequently follow require respondents to supply details of the offence, in variable amounts of detail (especially if respondents are allowed to fill in the forms privately with no prompts from the research, as is the case for sensitive types of victimisation experiences). See Ministry of Justice (2023c) for more details. We undertook sensitivity analysis using the offence codes that were derived by MoJ researchers after consulting the victim forms for the poly-victimisation outcome to test the influence of this analytical decision. The findings are included in Appendix E.

approximately one-tenth aged under 25 (with the lowest age being 15) and a quarter aged over 65. Just over half of participants were women, and just under half were men; fewer than 1% were gender diverse. Most participants were heterosexual, with approximately 1.3% being attracted to the same sex and 1.6% being bisexual. Participants could select multiple ethnicities they identified with. Around two-thirds of participants identified as European, just under a third identified as Māori, around a tenth identified as Asian, and approximately 6.5% identified as Pacific. Just under a third of participants reported having a disability⁶.

Most participants indicated they experience low levels of psychological distress, with about a tenth experiencing moderate or high psychological distress. Just under a fifth of participants were experiencing financial stress (i.e., they could not meet an unexpected expense). Two-thirds of participants had a partner at the time of the survey. More than half of participants were employed, around a third were economically inactive (e.g., students, retired or homemakers), and 4.4% were unemployed. Finally, most participants lived in urban areas; 16.4% lived rurally. For more information about the characteristics of NZCVS cycle 1-5 participants, see the cycle 1 – 5 reports (Ministry of Justice, 2023b).

⁶ Consistent with Ministry of Justice publications we defined this as including participants who reported they had a lot of difficulty with at least one domain of tasks or were unable to do that domain of tasks. The domains were hearing, vision, mobility, memory, self-care, or communication.

Table 4

Demographic Characteristics of New Zealand Crime and Victims Survey Participants in Cycles 1-5 (N ≈ 32,682)

Characteristic	n (%)
Age	
Under 25	3,174 (9.7%)
25-64	21,690 (66.4%)
65 plus	7,818 (23.9%)
Gender	
Man	14,136 (43.3%)
Woman	18,477 (56.5)
Gender diverse	60 (0.2%)
Sexual identity	
Heterosexual	31,170 (95.4%)
Same sex	429 (1.3%)
Bisexual	537 (1.6%)
Ethnicities	
Māori	9,219 (28.2%)
Pacific	2,133 (6.5%)
European	22,929 (70.2%)
Asian	3,210 (9.8%)
Psychological distress	
Low	28,998 (88.7%)
Moderate or high	3,570 (10.9%)
Financial stress	
No	26,496 (81.1%)
Yes	5,700 (17.4%)
In a partnership	
Yes	20,817 (63.7%)
No	11,871 (36.3%)
Employment status	
Employed	20,241 (61.9%)
Unemployed	1,452 (4.4%)
Economically inactive	10,398 (31.8%)
Disability	
Yes	1,806 (5.5%)
No	30,885 (94.5%)
Area	
Rural	5,355 (16.4%)
Urban	27,273 (83.4%)

Note. Due to confidentialising processes, methods totals may not add to 100%. Ethnicities were multiply coded. See Appendix D for a definition of demographic characteristic variables.

Re-victimisation variable definitions

Below we define the outcome variables included in this report. See Appendix D for a more detailed definition of these outcome variables.

Repeat assault victimisation was defined as a participant having more than one experience of a person attempting or using deliberate force or violence on the participant or causing physical harm to the participant in any way.

Repeat burglary victimisation was defined as a participant having more than one experience of a person attempting or succeeding in getting into the participant's home without permission.

Repeat cybercrime victimisation was defined as a participant having more than one experience of a computer or internet-enabled device belonging to them or another person living in their household being infected or interfered with.

Repeat fraud victimisation was defined as a participant having more than one experience of a person tricking and deceiving the participant, or using or attempting to use a bank card, credit card, cheque or other document belonging to the participant without the participant's permission, to obtain money, goods or a service.

Repeat harassment/threats victimisation was defined as a participant having more than one experience of a person threatening to use force or violence on the participant, to injure any member of the participant's family or whānau, or to physically harm the participant, or to destroy or damage something belonging to the participant or the participant's household, in a way that actually frightened the participant. The definition also includes people acting in a way that caused the participant fear, alarm or distress.

Repeat motor vehicle/bicycle theft victimisation was defined as a participant having more than one experience of anyone living in their household having a vehicle or bicycle stolen or taken without permission, having anything stolen from inside or off a vehicle (e.g., vehicle parts or personal possessions), having a vehicle tampered with, or having a vehicle or bicycle deliberately damaged or vandalised.

Repeat property damage victimisation was defined as a participant having more than one experience of a person deliberately damaging the person's home, or anything inside or outside the person's home, belonging to the person's household or to the person personally.

Repeat robbery victimisation was defined as a participant having more than one experience of a person attempting to, or actually stealing anything the person were carrying (e.g., in their hands, pocket, or from a bag), or attempting to, or actually stealing anything the person were carrying (e.g. in their hands, pocket, or from a bag), or attempting to, or actually stealing anything that belongs to the person personally (e.g., from an office or anywhere).

Repeat sexual assault victimisation was defined as a participant having more than one experience of a person attempting to, or forcing the participant to perform any sexual act, or attempting to, or touching the person sexually, when the person did not want them to. The definition also included a person threatening the participant face-to-face, to do something to the person of a sexual nature and frightening the participant.

Repeat theft victimisation was defined as a participant having more than one experience of a person stealing anything from the outside of the participant's home (e.g., front gate or garden) or from inside the person's home or garage by someone who was allowed to be there.

Repeat trespass victimisation was defined as a participant having more than one experience of a person coming into the participant's house or onto the surrounding grounds, without permission or a fair reason to be there.

Poly-victimisation was defined as experiencing at least one victimisation of two or more of the different crime types listed above (e.g., one experience of assault and one experience of robbery). Repeat victimisation (i.e., two or more experiences of a single crime type) was not required for the definition of poly-victimisation, but some participants classified as poly-victims may have also experienced repeat victimisation (e.g., two experiences of assault and one experience of robbery).

Analytic technique

To answer our research questions, we used Conjunctive Analysis of Case Configurations (CACC), which analyses various combinations of conditions that lead to a particular outcome, in our case, re-victimisation. CACC is a criminological method that takes a case- rather than a variable-oriented approach, the latter being the norm in social science research. Variable-oriented methods pit explanatory variables against each other in trying to determine which ones best explain variations in the outcome being measured (Hart et al., 2023). Hence, discerning the explanatory power of individual (or sometimes pairs of) explanatory variables is the goal. The assumption here is that causality between the explanatory and outcome variables is additive-linear (e.g., in regression models and their variants).

Case-oriented approaches, in contrast, view causality as conjunctural and plural (Hart et al., 2023). That is, they assume that causal conditions may combine in myriad ways to produce the outcome being measured, and that these configurations of conditions may vary across different contexts or populations. Hence, case-oriented approaches examine the interactions between explanatory variables. Put differently, CACC contends that it is the combination of causal factors that captures the complexity of the causes of crime and victimisation, rather than attempting to isolate individual variables that have the greatest predictive power for an outcome variable. It could be considered a way of scaling up individual case studies by collectively analysing a series of uniquely occurring scenarios (e.g., configurations of conditions) to determine similarities and differences between the scenarios. CACC therefore offers advantages over traditional—variable-oriented—quantitative approaches for identifying non-linear relationships between variables that expose the complex interplay of causality in crime occurrence.

Introduced by Miethé et al. (2008) as an exploratory data analysis technique, CACC is rooted in Qualitative Comparative Analysis (QCA, see Ragin, 1987). The development of CACC was motivated by the desire to effectively account for the complex, multivariate, nature of crime data. The CACC method has since been applied to advance understanding of the situational characteristics of the places where crime happens (Caplan et al., 2017; Hart and Miethé, 2015; Moneva et al., 2020; Summers and Caballero, 2017).

Some studies have taken this further; examining situational (or environmental) variables in conjunction with person-based variables. For example, Gruenewald et al. (2019) applied CACC to situational and ideological factors associated with terrorist events in the United States. Rennison et al. (2013) examined whether reporting to police by women who had experienced violence varied across geographical and situational contexts (the latter involving victim, offender and relationship variables). Paez and Briones Robinson (2023) tested whether

'risk factors' for bullying perpetration varied across different situational contexts using CACC. And Paez (2023) used CACC to study the interplay between depression and other predictors of adolescent suicidality, using large scale survey data from US high school students.

To date, we are only aware of one study that has applied CACC with the outcome of victimisation⁷. Marteache and Trinidad (2023) compared police-recorded thefts against tourists to Barcelona, Spain with resident victims, to better understand the ecological contexts in which tourists were victimised. Their analysis of victim characteristics and ecological variables (e.g., type of location, season, time of day) helped to reveal the unique contexts in which tourists were targeted by thieves, thus providing local police with insights that would help to make their efforts to prevent crime against tourists more targeted.

Data and analytical considerations

CACC exclusively uses categorical variables for both the explanatory and outcome variables. The outcome variables are, intuitively, the outcome of interest that relates to crime. The explanatory variables can be generated from survey answers, features of a crime event as recorded by various organisations (e.g., police, governments), demographic details or any other data which enables the transformation of data into nominal or ordinal variables.

There are several analytical considerations to make when undertaking CACC. Since all combinations of explanatory variables can be compared in CACC, the number of explanatory variables—and their number of categorical attributes—should be chosen with care. For instance, if seven binary explanatory variables are considered for the analysis, this would result in 2^7 or 49 theoretical case configurations. However, if (say) four variables had three possible categorical attributes and the other three variables were binary, then the number of possible case configurations would quickly increase (e.g., $3^4 \times 2^3 = 648$). It is not desirable to have the number of case configurations exceeding the number of observations in the data.

A further analytical consideration is how to define the 'dominant' case configurations. That is, which case configurations should be given primacy in the results? It is prudent not to let atypical patterns from low-frequency cases unduly influence the interpretation of the case configurations. Miethé et al. (2008) originally suggested that dominant case configurations should have a minimum-frequency threshold of five cases when there were fewer than 1,000 observations in the data and a threshold of ten cases when there were more than 1,000 observations.

When faced with a sample exceeding 300,000 crime observations, Marteache and Trinidad (2023) set out to test what the most appropriate threshold might be for samples much larger than previous studies had encountered. They computed the Situational Clustering Index (SCI, see below), developed by Hart (2020) to measure the magnitude of clustering exhibited by dominant case configurations, along with the mean and standard deviation of the outcome variable for minimum-frequency thresholds from 1 to 1,000. The plotted SCI values fell along a curve and the mean +1 SD ($n=148$) was chosen as the most suitable cutoff as this maximised the SCI value (the clustering among the case configurations) and minimised the number of case configurations ($n=673$). This approach seemed prudent for samples that depart from the size posited in the original presentation of decision rules for CACC.

⁷ One study on victimisation is currently in production by Tim Hart and colleagues (personal communication).

Analytic strategy

Descriptive statistics

We started by generating descriptive statistics for the participants' personal characteristics. Then, we used cross-tabulations to display the characteristics of non-victims, people who had experienced one crime, and repeat- or poly-victims for each crime type. Next, we used chi-square tests of independence and visually inspected the standardised residuals to identify associations between each characteristic and re-victimisation.

CACC

To perform CACC we used a subset of respondents who had reported at least one victimisation of the given crime type to create a truth table of 'dominant' case configurations (i.e., combinations of personal characteristics, hereafter 'combinations') containing 10 or more participants. Personal characteristics comprised categorical variables including age, disability, ethnicity, financial stress, gender, partnership status, psychological distress, and sexual identity⁸. These were our explanatory variables in the following analyses, with the outcome variable being the proportion who experienced re-victimisation of the crime type in question in a 12-month period. The resulting truth table contained one row for each combination of the above personal characteristics and included two additional columns showing how many NZVCS participants reporting at least one victimisation fell into each combination, and the proportion of re-victimised people in each combination.

A common metric reported in CACC is the extent to which the data cluster in particular combinations of characteristics. In recent years, a cumulative distribution function has been proposed as the optimal way of estimating this clustering metric, that for CACC Hart (2020) calls the situational clustering index (SCI). Cumulative distribution functions generate both a value indicating the magnitude of clustering and a visual depiction of that clustering, typically in the form of a Lorenz curve (Lorenz, 1905). The SCI is largest when observations are more unevenly distributed across case configurations—i.e., there is strong clustering into a few case configurations. In CACC, the SCI is evaluated using a chi-square goodness of fit test.

However, most research applies the SCI to quantify how research subjects—be they crime events, people, or other units of analysis—cluster by frequency in the different case configurations (combinations of personal characteristics). To answer our research questions, we were more interested in how the *proportion* of research subjects experiencing re-victimisation clustered within the case configurations. We hence apply this metric in a slightly different way than in other studies. Following Marteache and Trinidad (2023), we used sensitivity analysis to estimate the optimal cutoff value for specifying 'dominant' case configurations. For this analysis, we first calculated the number of participants in each case configuration. We then generated the SCI for samples of case configurations (excluding outliers) that were a) aligned with the cutoff value suggested by Miethé et al. (2008) for samples over 1,000, b) above the median participants per case configuration, c) above the mean participants per case configuration, and d) above the mean multiplied by two standard deviations for participants per case configuration.

⁸ In the original analysis, area and employment status were also included, but were later removed (see page 13) to mitigate high suppression rates.

Table 5

Sensitivity analysis examining the influence of the ‘cutoff value’ for determining dominant case configurations. Using data for poly-victimisation: N & % represent combinations of characteristics, not participants.

	Sample	N groups	%	SCI	Re-victimisation rate	
					Mean	Range
All	> 0 participants	1,452	100.0	0.89	0.24	0-1
a)	> 10 participants	272	18.7	0.75	0.24	0-0.67
b)	> 21 participants (median)	158	10.9	0.68	0.24	0.05-0.44
c)	> 52.87 participants (mean)	83	5.7	0.61	0.23	0.05-0.38
d)	> 150 participants (mean + 2* s.d.)	33	2.3	0.51	0.24	0.16-0.3

Visual inspection of Table 5 shows that the clustering value—the SCI—falls quickly when fewer case configurations are in each sample. Because of our focus on identifying combinations of personal characteristics associated with the highest rates of re-victimisation, we sought to retain combinations with high re-victimisation rates rather than reducing the number of combinations. And, as can be seen in Table 5, applying a high cutoff for dominant case configurations would result in the analysis excluding combinations of characteristics with high re-victimisation rates. With that said, a scatterplot of re-victimisation rates and frequency of participants in each case configuration revealed that the highest re-victimisation rates were not *always* observed in the lowest frequency case configurations. Taken together, following this sensitivity analysis, we decided to proceed with Miethe et al’s. (2008) default value of over 10 participants in each combination.

Main effects

Finally, we assessed the relative influence of the personal characteristics present within dominant case configurations by conducting ‘main effects’ analysis (Hart et al., 2017; Hart & Moneva, 2018). If re-victimisation experiences are contextually invariant, we would expect the proportion of victims in each combination to be similar to the sample mean. However, main effects analysis helps to expose this is rarely the case. In brief, main effects analysis examines the effect of individual personal characteristics on the outcome variable of re-victimisation while controlling for all other combinations of personal characteristics.

To elaborate, when comparing matched pairs of combinations of personal characteristics, we can identify the context-specific effects of each of the characteristics. For example, consider the combinations displayed in Table 6. These show two almost identical combinations, bar ethnicity. We can see from this that the top-most combination includes Māori, has 75% of people in that combination experiencing poly-victimisation, whereas the second combination, including Europeans, has a poly-victimisation rate of 40%. In this example, the outcome variable (poly-victimisation rate) varies from 40-75% across this one difference in personal characteristics. This is referred to as ‘contextual variation’ in CACC analysis and demonstrates that the outcome variable can vary—sometimes widely—across different combinations when all but one variable is held constant.

Table 6

Two combinations of identical characteristics for poly-victimisation bar ethnicity, with accompanying poly-victimisation rate (right-hand column)

Gender	Age	Sexual identity	Partnership status	Psychological distress	Financial stress	Disability	Ethnicity	% re-victims
Woman	<25	Heterosexual	Single	Moderate to high	Yes	No	Māori	75
Woman	<25	Heterosexual	Single	Moderate to high	Yes	No	European	40

Hence, the ‘main effect’ of a particular personal characteristic on the outcome variable—in our case re-victimisation rates—is represented by the range of outcome values. In CACC main effects analysis this is calculated for all matched pairs of case configurations for a particular personal characteristic and the difference between each outcome variable value and the sample mean is calculated. The distribution of values that is produced by this analysis can be visualised in boxplots, which show the contextual variability of each personal characteristic.

Adjustments for suppression rates

After generating CACC truth tables for all personal characteristics we next inspected suppression rates for the combinations of personal characteristics. To elaborate, due to the confidentiality rules we are obliged to apply to all analytic outputs that are approved to be released from the Statistics New Zealand Data Laboratory any combinations that had fewer than six participants were suppressed. Suppression rates were persistently high across all repeat victimisation types, meaning that we needed to adjust the analysis to reduce the number of combinations that needed to be suppressed. To achieve this, we opted to remove personal characteristics.

We inspected the correlation matrices and main effects for each personal characteristic across all twelve re-victimisation types. This revealed that the economically inactive category, which largely relates to retired people, was always associated with reductions in re-victimisation risk and was captured by the 65 plus years age characteristic. And urban areas were associated with increases in victimisation risk in many of the repeat victimisation categories (these included: assault, burglary, cybercrime, property damage, robbery, sexual assault, and vehicle theft). We conjectured that these two variables—employment status and area—were proxies for participant’s routine activities, particularly those that were associated with time spent away from the home or in urban areas, and they were less important to account for than participant’s personal characteristics and circumstances. We subsequently removed these two personal characteristics from the analysis and re-ran the steps outlined in the analytic strategy documented in this section. The subsequent suppression rates can be viewed in Appendix B.

Section 1: Poly-victimisation

We see from Table 7 that once someone has been victimised once, there is a reasonable chance that they will be victimised again (26.9% risk of re-victimisation). This risk increases with each additional victimisation experience, with there being a 45.6% risk of re-victimisation if someone has already been a victim four times. This high risk of re-victimisation suggests that intervening early, so that the second victimisation experience is thwarted, could substantially reduce crime and the harm associated with victimisation. In the case of poly-victimisation, such a prevention focus could reduce up to 86.7% of crime.

Table 7

Poly-victimisation: Cumulative percentages for both victims and incidents, with risk of re-victimisation, per number of victimisation experiences

	Victims	Incidents	% of victims	% of incidents	Risk of re-victimisation
Once	7,749	7,749	60.6%	19.4%	26.9%
Twice	2,850	5,700	82.9%	33.7%	29.7%
Three times	1,203	3,609	92.3%	42.8%	30.9%
Four times	537	2,148	96.5%	48.2%	45.6%
Five or more times	450	20,655	100.0%	100.0%	
Total	12,789	39,861			

Characteristics of poly-victims

The demographic characteristics of poly-victims are shown in Table 8. The standardised residuals⁹ indicate that, compared with single victims, a greater proportion of poly-victims were under 65 years, women, gender diverse, same sex attracted, bisexual, Māori, had no current partner, and/or had a disability. Poly-victims were also more likely than single victims to report experiencing moderate or high psychological distress and financial stress.

Combinations of characteristics with the greatest proportion of poly-victims

Table 9 shows the configurations (i.e., combinations of characteristics) with the largest proportion of poly-victims. The proportion of poly-victims was greatest in the configuration containing mid-aged single European women, who were bisexual, with a moderate-high level of psychological distress, had financial stress and did not have a disability. The configuration with the next highest poly-victimisation rate was mid-aged single European women, who were heterosexual, with a moderate-high level of psychological distress, had financial stress and had a disability.

Overall, in Table 9 we see that of the 10 configurations of characteristics that experienced the highest rates of poly-victimisation:

- Many (n=7) configurations include people in the 25 – 64 years group.

⁹ Generated alongside the chi-square results.

- Many (n=6) configurations involve people who were Māori, which is disproportionately high as Māori comprise 28.2% of survey participants – see Table 4).
- Most (n=9) configurations were for people who do not report having a disability, however people with a disability appear to be overrepresented (as they comprise 5.5% of survey participants, see Table 4).
- Most configurations (n=8) include people who report their circumstances involve financial stress.
- Most (n=8) configurations were for women.
- Many (n=7) configurations include people who do not have a current partner.
- All 10 configurations include people who reported their psychological distress was moderate or high.
- Women who identify as bisexual appear to be overrepresented (as they comprise 1.6% of survey participants – see Table 4).

Characteristics with the strongest relationship with poly-victimisation

See Figure 1a and 1b for the boxplots displaying the contextual variability associated with each personal characteristic and the 'main effect' they have on the outcome variable. That is, the boxplots illustrate the distribution of differences from the mean re-victimisation rate for individual personal characteristics. For example, in Figure 1a we see that most characteristics were associated with a wide range of values, indicating that the re-victimisation rate is contextually variable. Otherwise put, many of the characteristics were associated with both more and less victimisation than the mean re-victimisation rate for the sample that just includes that characteristic. Hence oftentimes, poly-victimisation risk is not reducible to a single characteristic but is instead more likely to be associated with interactions between characteristics.

Imposing an artificial cutoff point of the boxes in the boxplots not crossing the zero line (denoting the sample mean victimisation rate) means that more than 75% of values fall one side of the zero line or the other. In doing this we can say that an increased risk of poly-victimisation was seen for people who bisexual, or same sex attracted, and those who reported having moderate to high levels of psychological distress. Conversely, a decreased risk of poly-victimisation was seen for people who were 65 years and older, and/or heterosexual.

We also conducted this analysis using offence codes instead of screener questions (see footnote 5, page 5) and present the results in Appendix E. This analysis showed that when forms of victimisation were classified in line with legislated offences, the groups most at risk of poly-victimisation were more often: under 25 years, Māori, and in a partnership, and less often experienced financial stress and/or moderate-high psychological distress. Key differences from the main effects analysis were that Asian and same-sex attracted people were usually at lower risk of poly-victimisation, whereas Māori were usually at higher risk.

Coders were unable to verify that about one-third of positive responses to the screener questions represented offenses due to vague incident descriptions. It is possible that Māori respondents reported incidents that were more identifiable as offences (e.g., due to higher severity), causing the patterns for Māori to emerge with this outcome measure.

Table 8

Demographic characteristics of sample (n ≈ 32,691), comparing non-victims (n ≈ 19,902), single victims (n ≈ 7,749), and poly-victims (n ≈ 5,040)

Characteristic	Total	Non-victims n (%)	Single victims n (%)	Poly-victims n (%)	χ^2	p
Age					884.6	< .001
Under 25	3,174	1,647 (8.3)	807 (10.4)	720 (14.3)		
25-64	21,687	12,489 (62.8)	5,445 (70.3)	3,753 (74.5)		
65 plus	7,818	5,757 (28.9)	1,497 (19.3)	564 (11.2)		
Gender					33.0	< .001
Man	14,136	8,829 (44.4)	3,303 (42.6)	2,004 (39.8)		
Woman	18,477	11,043 (55.5)	4,431 (57.2)	3,003 (59.7)		
Gender diverse ^a	60	24 (0.1)	15 (0.2)	24 (0.5)		
Sexual identity					251.7	< .001
Heterosexual	31,167	19,149 (97.8)	7,386 (96.9)	4,632 (91.9)		
Same sex	432	222 (1.1)	114 (1.5)	96 (1.9)		
Bisexual	537	207 (1.1)	126 (1.7)	204 (4.0)		
Ethnicities						
Māori	9,219	5,124 (25.8)	2,217 (28.6)	1,878 (37.3)	264.0	< .001
Pacific	2,112	1,299 (6.5)	477 (6.2)	354 (6.7)	3.85	.146
European	22,929	13,953 (70.1)	5,544 (71.5)	3,432 (68.1)	17.43	< .001
Asian	3,213	2,061 (10.4)	747 (9.6)	402 (8.0)	25.31	< .001
Psychological distress					1294.7	< .001
Low	28,998	18,435 (93.0)	6,792 (87.9)	3,774 (74.9)		
Moderate or high	3,573	1,398 (7.0)	933 (12.1)	1,239 (24.6)		
Financial stress					417.2	< .001
No	26,499	16,614 (84.8)	6,297 (82.4)	3,588 (71.2)		
Yes	5,700	2,988 (15.2)	1,344 (17.6)	1,368 (27.1)		
In a partnership					81.7	< .001
Yes	21,144	13,014 (65.4)	5,148 (66.4)	2,982 (59.2)		
No	11,541	6,885 (34.6)	2,601 (33.6)	2,055 (40.8)		
Disability					15.4	< .001
Yes	1,803	1,068 (5.4)	399 (5.2)	336 (6.7)		
No	30,870	18,825 (94.6)	7,347 (94.8)	4,698 (93.2)		

Note. S = suppressed. Due to Statistics New Zealand confidentiality procedures, all numbers were randomly rounded to base 3, therefore totals may not add to 100%. All percentages were calculated with the denominator being the total number of poly-victims of non-poly-victims. Ethnicities were multiply coded. χ^2 statistics were calculated for individual ethnicities (e.g., Māori versus non-Māori).

^a Gender diverse people were excluded from the χ^2 analysis due to the small sample size.

Table 9

The 10 combinations of characteristics with the highest proportion of poly-victims.

Age	Ethnicities	Disability	Financial stress	Gender	Has a partner	Psychological distress	Sexual identity	n	% poly-victims
25-64	European	No	Yes	Woman	No	Moderate-high	Bisexual	9	100.0
25-64	European	Yes	Yes	Woman	No	Moderate-high	Heterosexual	18	83.3
25-64	European	No	Yes	Man	Yes	Moderate-high	Heterosexual	27	77.8
Under 25	Māori	No	Yes	Woman	No	Moderate-high	Heterosexual	12	75.0
25-64	European & Māori	No	Yes	Woman	No	Moderate-high	Heterosexual	36	75.0
25-64	Māori	No	Yes	Man	No	Moderate-high	Heterosexual	12	75.0
Under 25	Māori	No	No	Woman	Yes	Moderate-high	Heterosexual	12	75.0
Under 25	European	No	Yes	Woman	Yes	Moderate-high	Heterosexual	12	75.0
25-64	Māori	No	Yes	Woman	No	Moderate-high	Heterosexual	54	72.2
25-64	Māori	No	No	Woman	No	Moderate-high	Heterosexual	42	71.4

Note. Ethnicities were multiply coded in the NZCVS and have been combined in alphabetical order in this table.

The number of participants with each combination of characteristics (the *n*) and the number of poly-victims with each combination of characteristics has been randomly rounded to base three to comply with StatsNZ confidentiality rules.

Figure 1a

Distribution of 'main effects' for poly-victims for ethnicity, gender, financial stress and psychological distress characteristics

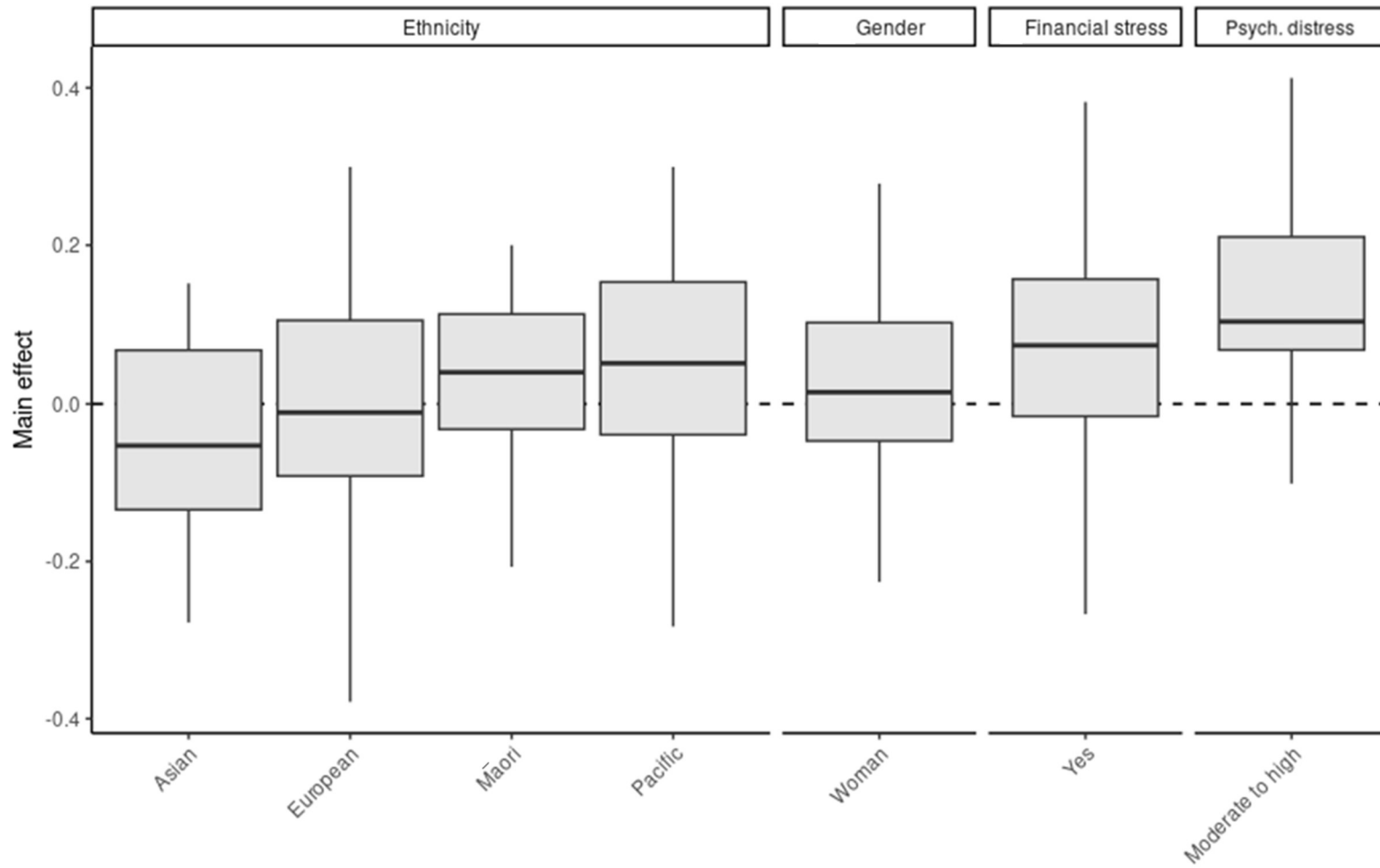
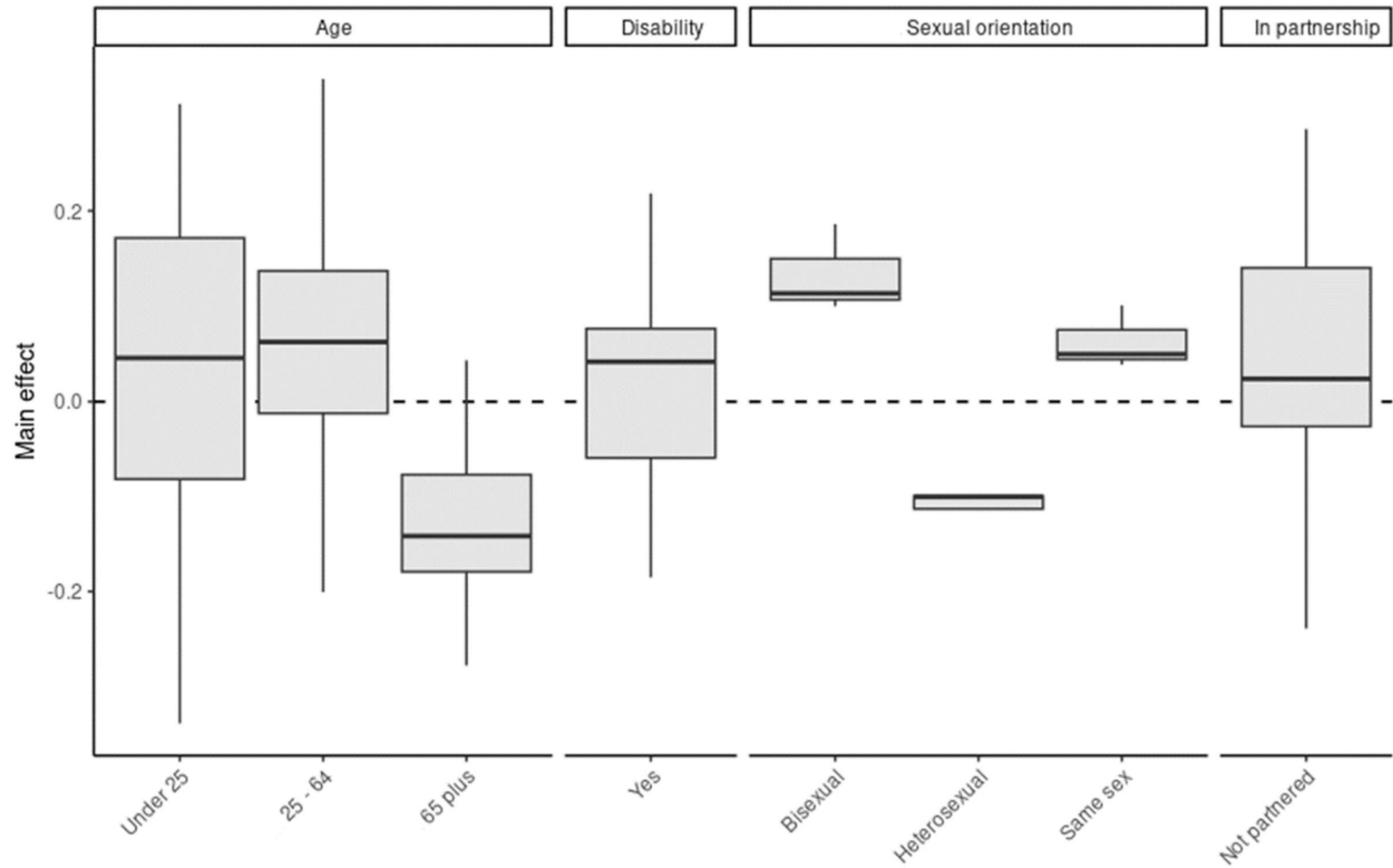


Figure 1b

Distribution of 'main effects' for poly-victims for age, disability, sexual identity and partnership status characteristics



Section 2: Repeat Assault Victimization

Table 10 shows that once someone has been a victim of assault once, there is a reasonable chance that they will be victimised again (31.1% risk of re-victimisation). This risk drops for a third victimisation experience (22.7%) but increases for a fourth victimisation experience (49.2%) and is most acute for five or more victimisation experiences (72.3%). That is, once someone has experienced four assaults in one year, they are highly likely to experience further assaults. Reducing repeat assaults could reduce incidents of assaults up to 85.6%.

Table 10

Assault: Cumulative percentages for both victims and incidents, with risk of re-victimisation, per number of victimisation experiences

	Victims	Incidents	% of victims	% of incidents	Risk of re-victimisation
Once	723	723	48.8%	14.4%	31.1%
Twice	327	656	70.9%	27.4%	22.7%
Three times	96	288	77.3%	33.2%	49.2%
Four times	93	376	83.6%	40.7%	72.3%
Five or more times	243	2,982	100.0%	100.0%	
Total	1,482	5,025			

Characteristics of repeat assault victims

Table 11 shows the demographic characteristics of single and repeat assault victims. Compared with single assault victims, the standardised residuals indicate that a greater proportion of repeat assault victims were 25-64 years, women, same sex attracted, bisexual, Māori, did not have a current partner, and/or had a disability. People who experienced repeat assault victimisation were much more likely to report experiencing moderate or high psychological distress and financial stress than single victims.

Combinations of characteristics with the greatest proportion of repeat assault victims

Table 12 shows the configurations (i.e., combinations of characteristics) with the largest proportion of repeat assault victims. The proportion of repeat assault victims was greatest in the configuration containing mid-aged, Māori women, who were in a heterosexual partnership, with a moderate-high level of psychological distress, had financial stress and did not have a disability. The configuration with the next highest repeat assault victimisation rate was mid-aged single women, who identified as European and Māori, were heterosexual, with a low level of psychological distress, had financial stress and did not have a disability.

Overall, in Table 12 we see that of the 10 configurations of characteristics that experienced the highest rates of repeat assault victimisation all were heterosexual people, aged 25-64 years, without a disability. In addition:

- Most (n=8) configurations involve people who identify as Māori, with three of these involving people who also identified as European. The presence of Māori is disproportionately high as Māori comprise 28.2% of survey participants – see Table 4).

- More than half of configurations (n=6) include people who report their circumstances involve financial stress.
- Most (n=9) configurations were for women.
- Many (n=7) configurations include people who do not have a current partner.
- There was an even split between configurations that included people who reported their psychological was low and moderate to high.

Characteristics with the strongest relationship with repeat assault victimisation

See Figure 2 for the boxplots displaying the distribution of differences from the mean repeat assault victimisation rate for individual characteristics. From this we see the contextual variability of each personal characteristic. Characteristics with ranges of values indicated by the boxplots that fall above and below the zero line (representing the sample mean repeat victimisation rate) were not clearly associated with an increased or decreased risk of repeat victimisation. In contrast, characteristics that have most values above or below the zero line—here defined as those boxes that do not cross the zero line, which represent 75% of values—are usually associated with a ‘main effect’. Applying this threshold, we can say that an increased risk of repeat assault victimisation was seen for Māori and people under 25 years. People over 65 years were associated with a decreased risk of repeat assault victimisation.

Table 11

Demographic characteristics of sample (n ≈ 32,682), comparing non-victims (n ≈ 31,200), single assault victims (n ≈ 723), and repeat assault victims (n ≈ 759)

Characteristic	Total	Non-victims n (%)	Single victims n (%)	Repeat victims n (%)	χ^2	p
Age					450.2	< .001
Under 25	3,177	2,856 (9.2)	159 (22.0)	162 (21.3)		
25-64	21,690	20,616 (66.1)	510 (70.5)	564 (74.3)		
65 plus	7,818	7,731 (24.8)	54 (7.5)	33 (4.3)		
Gender					21.8	.720
Man	14,136	13,443 (43.1)	372 (51.9)	321 (42.6)		
Woman	18,477	17,700 (56.7)	345 (48.1)	432 (57.4)		
Gender diverse ^a	51	S	S	S		
Sexual identity					187.8	< .001
Heterosexual	31,170	29,844 (97.2)	651 (92.3)	675 (91.1)		
Same sex	432	399 (1.3)	15 (2.1)	18 (2.4)		
Bisexual	537	450 (1.5)	39 (5.5)	48 (6.5)		
Ethnicities						
Māori	9,219	8,538 (24.0)	285 (32.0)	396 (40.6)	271.6	< .001
Pacific	2,133	2,028 (5.7)	39 (4.4)	66 (6.8)	7.0	.015
European	22,929	21,945 (61.6)	510 (57.2)	474 (48.6)	22.2	< .001
Asian	3,210	3,114 (8.7)	57 (1.8)	39 (4.0)	22.9	< .001
Psychological distress					847.9	< .001
Low	29,001	28,014 (90.1)	531 (73.4)	456 (60.6)		
Moderate or high	3,570	3,081 (9.9)	192 (26.6)	297 (39.4)		
Financial stress					296.0	< .001
No	26,493	25,533 (71.3)	507 (71.3)	453 (61.1)		
Yes	5,700	5,208 (28.7)	204 (28.7)	288 (38.9)		
In a partnership					145.4	< .001
Yes	21,147	20,397 (65.4)	390 (53.9)	360 (47.4)		
No	11,547	10,809 (34.6)	336 (46.5)	402 (53.0)		
Disability					21.1	< .001
Yes	1,806	1,692 (5.4)	45 (6.2)	69 (9.1)		
No	30,873	29,505 (94.6)	678 (93.8)	690 (90.9)		

Note. S = suppressed. Due to Statistics New Zealand confidentiality procedures, all numbers were randomly rounded to base 3, therefore totals may not add to 100%. All percentages were calculated with the denominator being the total number of poly-victims of non-poly-victims. Ethnicities were multiply coded. χ^2 statistics were calculated for individual ethnicities (e.g., Māori versus non-Māori).

^a Gender diverse people were excluded from the χ^2 analysis due to the small sample size.

Table 12

The 10 combinations of characteristics with the highest proportion of repeat assault victims.

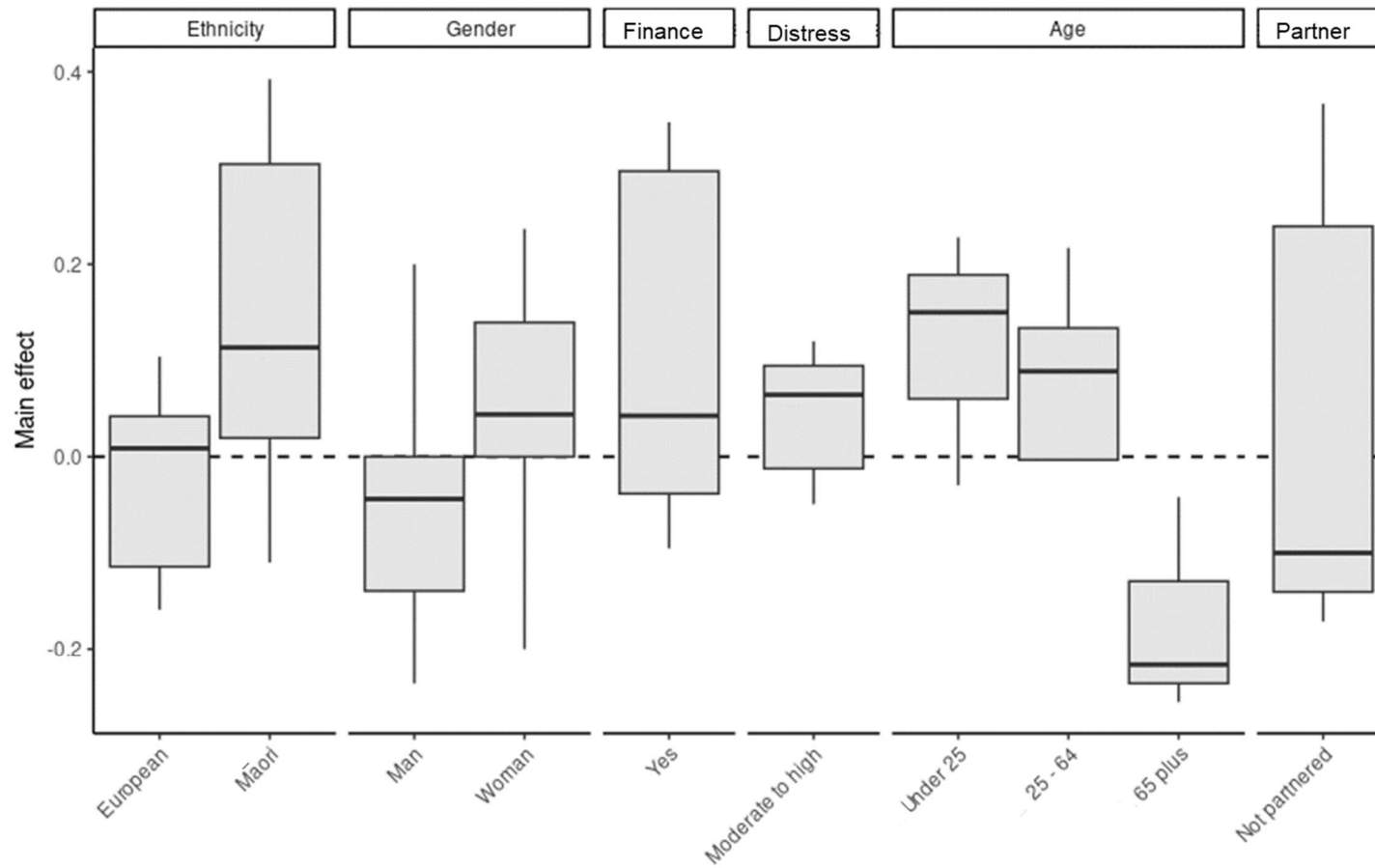
Age	Ethnicities	Disability	Financial stress	Gender	Has a partner	Psychological distress	Sexual identity	n	% repeat victims
25-64	Māori	No	Yes	Woman	Yes	Moderate-high	Heterosexual	14	85.7
25-64	European & Māori	No	Yes	Woman	No	Low	Heterosexual	12	81.8
25-64	Māori	No	No	Woman	No	Moderate-high	Heterosexual	19	73.7
25-64	Māori	No	Yes	Woman	No	Low	Heterosexual	28	71.4
25-64	Māori	No	Yes	Man	No	Low	Heterosexual	14	71.4
25-64	Māori	No	Yes	Woman	No	Moderate-high	Heterosexual	14	71.4
25-64	European & Māori	No	No	Woman	Yes	Moderate-high	Heterosexual	13	69.2
25-64	European	No	No	Woman	No	Moderate-high	Heterosexual	18	66.7
25-64	European	No	Yes	Woman	No	Low	Heterosexual	29	62.1
25-64	European & Māori	No	No	Woman	Yes	Low	Heterosexual	23	60.9

Note. Ethnicities were multiply coded in the NZCVS and have been combined in alphabetical order in this table.

The number of participants with each combination of characteristics (the *n*) and the number of poly-victims with each combination of characteristics has been randomly rounded to base three to comply with StatsNZ confidentiality rules.

Figure 2

Distribution of 'main effects' for repeat assault victims for ethnicity, gender, financial stress, psychological distress, age and partnership status characteristics (a main effect could not be computed for other characteristics due to these producing extreme outliers).



Section 3: Repeat Burglary Victimization

Table 13 shows that once a household has been a victim of burglary once, there is a reasonable chance that it will be victimised again (18.2% risk of re-victimisation). The risk of re-victimisation increases each time a household is victimised, with two-thirds of households that experience four burglaries in a year experiencing further burglaries. Reducing repeat burglaries could reduce incidents of burglaries up to 60.3%.

Table 13

Burglary: Cumulative percentages for both victims and incidents, with risk of re-victimisation, per number of victimisation experiences

	Victims	Incidents	% of victims	% of incidents	Risk of re-victimisation
Once	1,247	1,247	71.3%	39.7%	18.2%
Twice	277	554	87.2%	57.3%	24.9%
Three times	92	276	92.4%	66.1%	32.4%
Four times	44	176	95.0%	71.7%	66.7%
Five or more times	88	890	100.0%	100.0%	
Total	1,748	3,143			

Characteristics of repeat burglary victims

Table 14 shows the demographic characteristics of repeat burglary victims. Compared with single burglary victims, the standardised residuals indicate that a greater proportion of repeat burglary victims were aged between 25-64 years, women, bisexual, Māori, did not have a current partner, and/or had a disability. People who experienced repeat burglary victimisation were more likely to report experiencing moderate or high psychological distress and financial stress than single burglary victims.

Combinations of characteristics with the greatest proportion of repeat burglary victims

Table 15 shows the configurations (i.e., combinations of characteristics) with the largest proportion of repeat burglary victims. Although it should be borne in mind that burglary occurs to the household, rather than to a person, here we report the characteristics of the participants reporting repeat burglary. The proportion of repeat burglary victims was greatest in the configuration containing mid-aged, Māori women, who were heterosexual but not in a current partnership, with a moderate-high level of psychological distress, no financial stress and did not have a disability. The configuration with the next highest repeat burglary victimisation rate was mid-aged single European women, who were heterosexual, with a moderate-high level of psychological distress, with financial stress and did not have a disability.

Overall, in Table 15 we see that of the nine configurations of characteristics that experienced the highest rates of repeat burglary victimisation all were heterosexual people, aged 25-64 years, without a disability. In addition:

- Many (n=7) configurations involve people who identify as Māori. The presence of Māori is disproportionately high as Māori comprise 28.2% of survey participants – see Table 4).
- More than half of configurations (n=6) include people who report their circumstances involve financial stress.
- Most (n=9) configurations were for women.
- Many (n=7) configurations include people who do not have a current partner.
- More than half of configurations (n=6) included people who reported moderate to high psychological distress.

Characteristics with the strongest relationship with repeat burglary victimisation

See Figure 3 for the boxplots displaying the distribution of differences from the mean repeat burglary victimisation rate for individual characteristics. From this we see the contextual variability of each personal characteristic. Characteristics with ranges of values indicated by the boxplots that fall above and below the zero line (representing the sample mean repeat victimisation rate) were not clearly associated with an increased or decreased risk of repeat victimisation. In contrast, characteristics that have most values above or below the zero line—here defined as those boxes that do not cross the zero line, which represent 75% of values—are usually associated with a ‘main effect’. Applying this threshold, we can say that an increased risk of repeat burglary victimisation was seen for people aged 25-64 years, and people experiencing moderate-high levels of psychological distress. Young people (under 25 years) and people who identified as European were associated with a decreased risk of repeat burglary victimisation.

Table 14

Demographic characteristics of sample (n ≈ 32,682), comparing non-victims (n ≈ 30,936), single burglary victims (n ≈ 1,251), and repeat burglary victims (n ≈ 501)

Characteristic	Total	Non-victims n (%)	Single victims n (%)	Repeat victims n (%)	χ^2	p
Age					139.0	< .001
Under 25	3,177	2,964 (9.6)	159 (12.7)	54 (10.8)		
25-64	21,693	20,376 (65.9)	915 (73.1)	402 (80.2)		
65 plus	7,818	7,596 (24.6)	177 (14.1)	45 (9.0)		
Gender					20.8	< .001
Man	14,136	13,458 (43.5)	507 (40.5)	171 (34.1)		
Woman	18,474	17,409 (56.3)	738 (59.0)	327 (65.3)		
Gender diverse ^a	S	57 (0.2)	S	S		
Sexual identity					63.2	< .001
Heterosexual	31,167	29,553 (95.5)	1,164 (93.0)	450 (89.8)		
Same sex	432	402 (1.3)	21 (1.7)	9 (1.8)		
Bisexual	540	480 (1.6)	30 (2.4)	30 (6.0)		
Ethnicities						
Māori	9,222	8,547 (27.6)	438 (35.0)	237 (47.3)	124.2	< .001
Pacific	2,133	1,989 (6.4)	102 (8.2)	42 (8.4)	8.4	.015
European	22,929	21,855 (70.6)	795 (63.5)	279 (55.7)	77.1	< .001
Asian	3,207	3045 (9.8)	123 (9.8)	39 (7.8)	1.6	.46
Psychological distress					430.6	< .001
Low	29,004	27,684 (89.5)	996 (79.6)	324 (64.7)		
Moderate or high	3,573	3,144 (10.2)	252 (20.1)	177 (35.3)		
Financial stress					313.0	< .001
No	26,499	25,332 (81.9)	888 (71.0)	279 (55.7)		
Yes	5,700	5,148 (16.6)	342 (27.3)	210 (41.9)		
In a partnership					118.1	< .001
Yes	21,144	20,202 (65.3)	717 (57.3)	225 (44.9)		
No	11,541	10,737 (34.7)	531 (42.4)	273 (54.5)		
Disability					31.3	< .001
Yes	1,809	1,662 (5.4)	99 (7.9)	48 (9.6)		
No	30,873	29,271 (94.6)	1,149 (91.8)	453 (90.4)		

Note. S = suppressed. Due to Statistics New Zealand confidentiality procedures, all numbers were randomly rounded to base 3, therefore totals may not add to 100%. All percentages were calculated with the denominator being the total number of poly-victims of non-poly-victims. Ethnicities were multiply coded. χ^2 statistics were calculated for individual ethnicities (e.g., Māori versus non-Māori).

^a Gender diverse people were excluded from the χ^2 analysis due to the small sample size.

Table 15

The nine combinations of characteristics with the highest proportion of repeat burglary victims (the tenth profile was suppressed due to confidentialising processes required by StatsNZ).

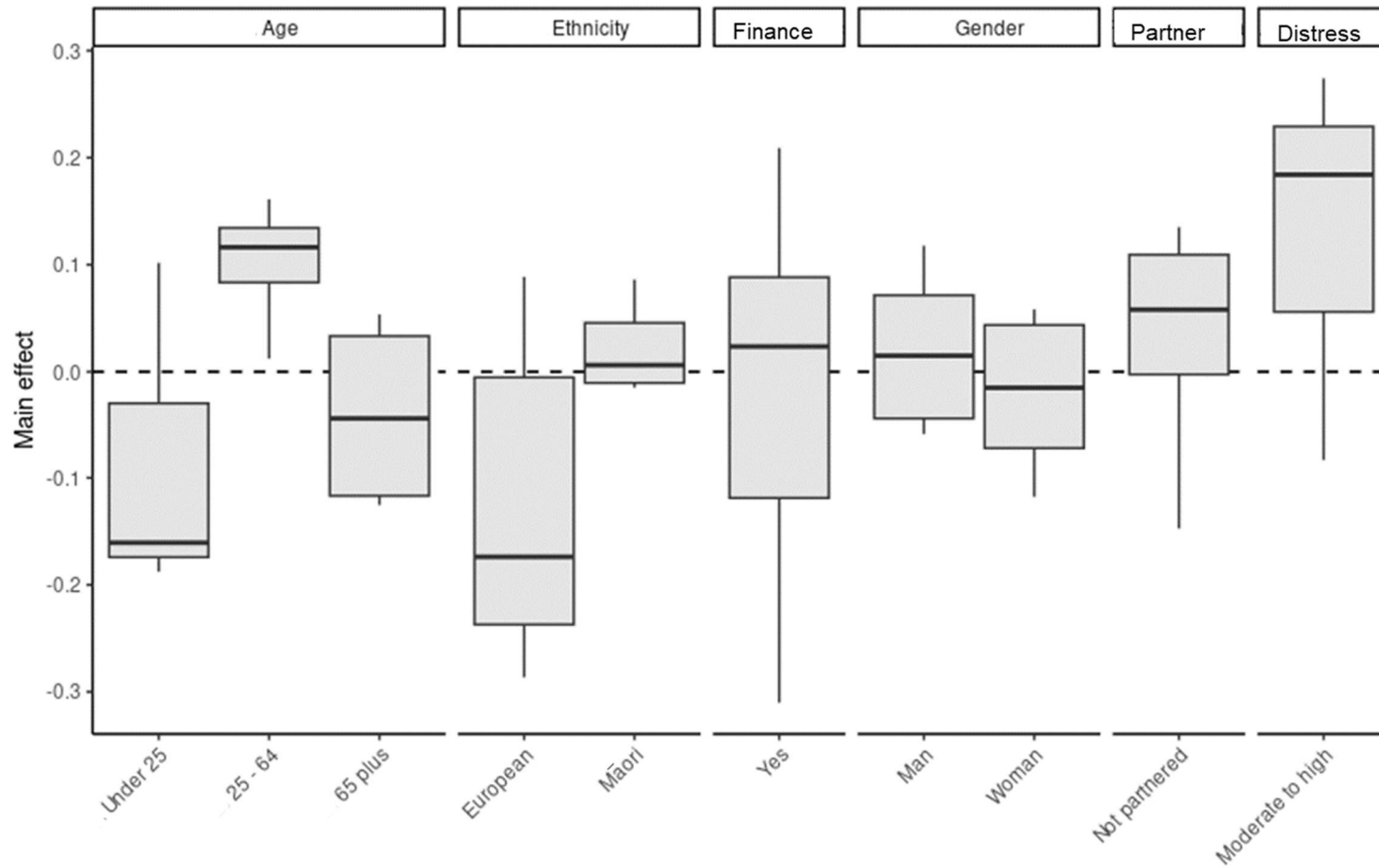
Age	Ethnicities	Disability	Financial stress	Gender	Has a partner	Psychological distress	Sexual identity	n	% repeat victims
25-64	Māori	No	No	Woman	No	Moderate-high	Heterosexual	13	76.9
25-64	European	No	Yes	Woman	No	Moderate-high	Heterosexual	29	55.2
25-64	Māori	No	No	Man	No	Low	Heterosexual	11	54.5
25-64	Māori	No	Yes	Woman	No	Low	Heterosexual	35	54.3
25-64	Māori	No	Yes	Woman	Yes	Moderate-high	Heterosexual	13	53.8
25-64	Māori	No	No	Woman	No	Low	Heterosexual	23	52.2
25-64	Māori	No	Yes	Woman	No	Moderate-high	Heterosexual	21	47.6
25-64	European	No	Yes	Woman	Yes	Moderate-high	Heterosexual	13	46.1
25-64	Māori	No	Yes	Woman	Yes	Low	Heterosexual	14	42.9

Note. Ethnicities were multiply coded in the NZCVS and have been combined in alphabetical order in this table.

The number of participants with each combination of characteristics (the *n*) and the number of poly-victims with each combination of characteristics has been randomly rounded to base three to comply with StatsNZ confidentiality rules.

Figure 3

Distribution of 'main effects' for repeat burglary victims for age, ethnicity, financial stress, gender, partnership status, and psychological distress characteristics (a main effect could not be computed for other characteristics due to these producing extreme outliers).



Section 4: Repeat Cybercrime Victimization

Table 16 shows that once a person has been a victim of cybercrime once, there is a reasonable chance that they will be victimised again (13.5% risk of re-victimisation). The risk of re-victimisation increases each time a person is victimised, with 70% of people who experience four cybercrime incidents in a year experiencing further cybercrime. Reducing repeat cybercrime could reduce incidents of cybercrime up to 63.4%.

Table 16

Cybercrime: Cumulative percentages for both victims and incidents, with risk of re-victimisation, per number of victimisation experiences

	Victims	Incidents	% of victims	% of incidents	Risk of re-victimisation
Once	807	807	79.5%	36.6%	13.5%
Twice	126	254	91.9%	48.2%	19.2%
Three times	30	90	94.9%	52.2%	33.3%
Four times	15	56	96.4%	54.8%	70.6%
Five or more times	36	996	99.9%	100.0%	
Total	1,015	2,203			

Characteristics of repeat cybercrime victims

Table 17 shows the demographic characteristics of repeat cybercrime victims. Compared with single cybercrime victims, the standardised residuals indicate that a greater proportion of repeat cybercrime victims were aged between 25-64 years, bisexual, Māori, Asian, and/or had a disability. Repeat cybercrime victims were more likely than single cybercrime victims to report experiencing moderate or high psychological distress and financial stress.

Combinations of characteristics with the greatest proportion of repeat cybercrime victims

Table 18 shows the configurations (i.e., combinations of characteristics) with the largest proportion of repeat cybercrime victims. The proportion of repeat cybercrime victims was greatest in the configuration containing mid-aged, European men, who were heterosexual, but not in a current partnership, with a low level of psychological distress, no financial stress and did not have a disability. The configuration with the next highest repeat cybercrime victimisation rate was mid-aged men who identified as European and Māori, who were heterosexual, with a low level of psychological distress, no financial stress and did not have a disability.

Overall, in Table 18 we see that of the five configurations of characteristics that experienced the highest rates of repeat cybercrime victimisation all were heterosexual people, without a disability, with low levels of psychological distress and with no financial stress in their lives. In addition:

- Most configurations (n=4) include people who were 25-64 years.

- All configurations (n=5) involve people who identify as European. This seems disproportionately high as Europeans comprise 70.2% of survey participants – see Table 4.
- Configurations with men in them (n=3) were slightly more common than those with women.
- It was more common for configurations to include people in a partnership (n=3)

Characteristics with the strongest relationship with repeat cybercrime victimisation

See Figure 4 for the boxplots displaying the distribution of differences from the mean repeat cybercrime victimisation rate for individual personal characteristics. From this we see the contextual variability of each personal characteristic. Characteristics with ranges of values indicated by the boxplots that fall above and below the zero line (representing the sample mean repeat victimisation rate) were not clearly associated with an increased or decreased risk of repeat victimisation. In contrast, characteristics that have most values above or below the zero line—here defined as those boxes that do not cross the zero line, which represent 75% of values—are usually associated with a ‘main effect’. Applying this threshold, we can say that people who were single (i.e., not currently partnered), and those with moderate to high psychological distress were associated with an increased risk of repeat cybercrime victimisation, and people who were experiencing financial stress were associated with a reduced risk of repeat cybercrime victimisation.

Table 16

Demographic characteristics of sample (N ≈ 32,682), comparing non-victims (n ≈ 31,668), single cybercrime victims (n ≈ 807) and repeat cybercrime victims (n ≈ 210)

Characteristic	Total	Non-victims n (%)	Single victims n (%)	Repeat victims n (%)	χ^2	<i>p</i>
Age					23.8	< .001
Under 25	3,177	3,093 (9.8)	69 (8.6)	15 (7.1)		
25-64	21,693	20,949 (66.2)	582 (72.1)	162 (77.1)		
65 plus	7,815	7,626 (24.1)	156 (19.3)	33 (15.7)		
Gender					0.2	.903
Man	14,133	13,701 (43.3)	345 (42.8)	87 (41.4)		
Woman	18,477	17,901 (56.5)	456 (56.5)	120 (57.1)		
Gender diverse ^a	57	57 (0.2)	S	S		
Sexual identity					17.5	< .001
Heterosexual	31,167	30,225 (95.4)	753 (93.3)	189 (90.0)		
Same sex	429	414 (1.3)	15 (1.9)	0 (0.0)		
Bisexual	537	504 (1.6)	24 (3.0)	9 (4.3)		
Ethnicities						
Māori	9,222	8,853 (28.0)	285 (35.3)	84 (40.0)	36.4	< .001
Pacific	2,133	2,073 (6.5)	51 (6.3)	9 (4.3)	1.7	.422
European	22,926	22,206 (70.1)	585 (72.5)	135 (64.3)	5.1	.078
Asian	3,210	3,159 (10.0)	33 (4.1)	18 (8.6)	29.5	< .001
Psychological distress					81.7	< .001
Low	29,001	28,185 (89.0)	660 (81.8)	156 (74.3)		
Moderate or high	3,570	3,378 (10.7)	141 (17.5)	51 (24.3)		
Financial stress					26.3	< .001
No	26,493	25,698 (81.1)	657 (81.4)	138 (65.7)		
Yes	5,700	5,496 (17.4)	138 (17.1)	66 (31.4)		
In a partnership					4.2	.122
Yes	21,144	20,493 (64.7)	531 (65.8)	120 (57.1)	4.2	.122
No	11,541	11,178 (35.3)	276 (34.2)	87 (41.4)		
Disability					12.4	.002
Yes	1,809	1728 (5.5)	66 (8.2)	15 (7.1)		
No	23,870	22,940 (72.4)	738 (91.4)	192 (91.4)		

Note. S = suppressed. Due to Statistics New Zealand confidentiality procedures, all numbers were randomly rounded to base 3, therefore totals may not add to 100%. All percentages were calculated with the denominator being the total number of poly-victims of non-poly-victims. Ethnicities were multiply coded. χ^2 statistics were calculated for individual ethnicities (e.g., Māori versus non-Māori).

^a Gender diverse people were excluded from the χ^2 analysis due to the small sample size.

^b Sample sizes were too small for χ^2 analysis.

Table 17

The five combinations of characteristics with the highest proportion of repeat cybercrime victims (the other five configurations were suppressed due to confidentialising processes required by StatsNZ).

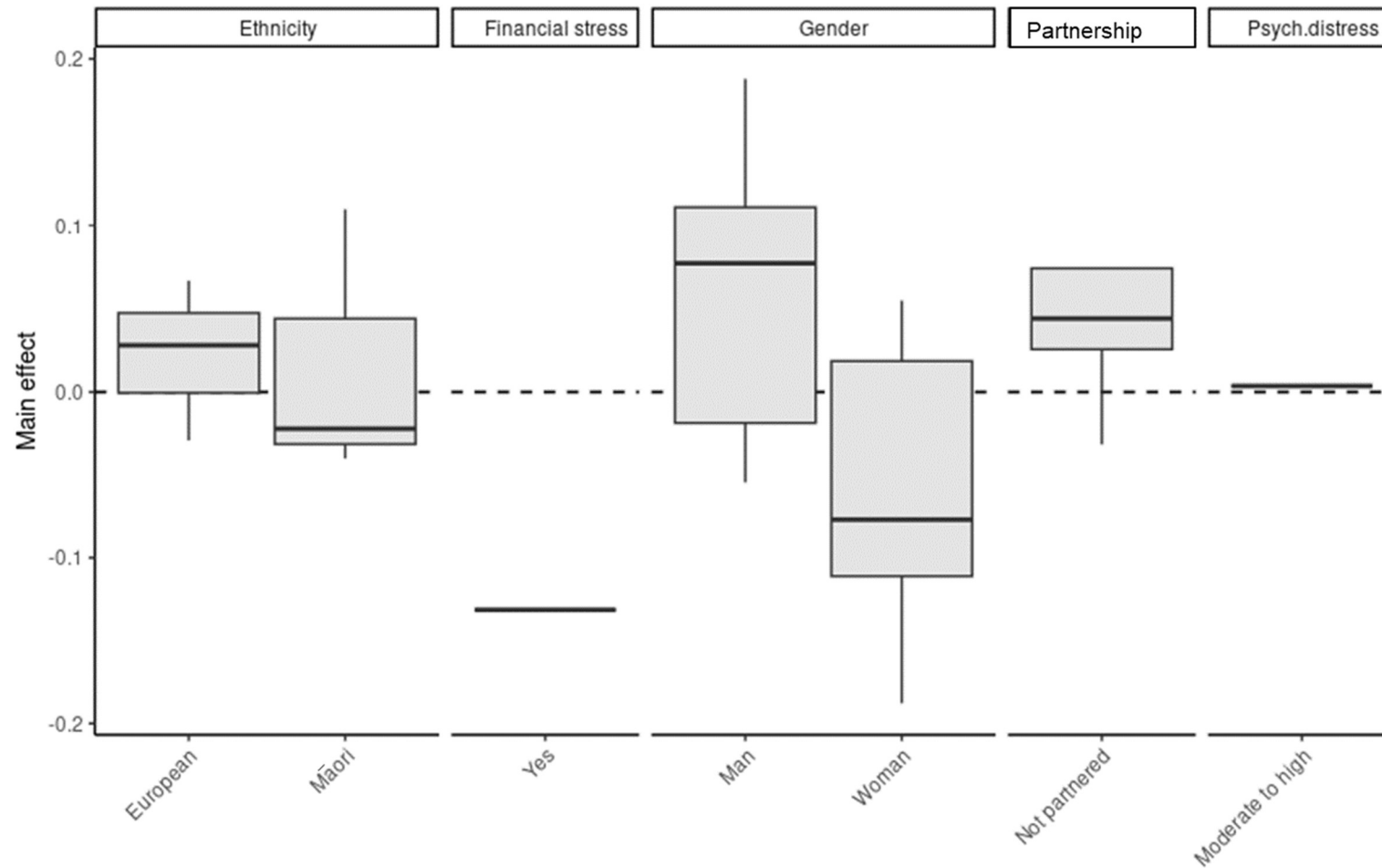
Age	Ethnicities	Disability	Financial stress	Gender	Has a partner	Psychological distress	Sexual identity	n	% repeat victims
25-64	European	No	No	Man	No	Low	Heterosexual	27	33.3
25-64	European & Māori	No	No	Man	Yes	Low	Heterosexual	30	23.3
65 plus	European	No	No	Man	Yes	Low	Heterosexual	40	22.5
25-64	European	No	No	Woman	No	Low	Heterosexual	36	22.2
25-64	European	No	No	Woman	Yes	Low	Heterosexual	101	17.8

Note. Ethnicities were multiply coded in the NZCVS and have been combined in alphabetical order in this table.

The number of participants with each combination of characteristics (the *n*) and the number of poly-victims with each combination of characteristics has been randomly rounded to base three to comply with StatsNZ confidentiality rules.

Figure 4

Distribution of 'main effects' for repeat cybercrime victims for ethnicity, financial stress, gender, partnership status, and psychological distress characteristics (a main effect could not be computed for other characteristics due to these producing extreme outliers).



Section 5: Repeat Fraud Victimization

Table 18 shows that once a person has been a victim of fraud once, there is a reasonable chance that they will be victimised again (14.5% risk of re-victimisation). The risk of re-victimisation increases each time a person is victimised, with around three-quarters of people who experience four fraud incidents in a year experiencing further fraud. Reducing repeat fraud could reduce incidents of fraud up to 64.8%.

Table 18

Fraud: Cumulative percentages for both victims and incidents, with risk of re-victimisation, per number of victimisation experiences

	Victims	Incidents	% of victims	% of incidents	Risk of re-victimisation
Once	2,268	2,268	75.8%	35.2%	14.5%
Twice	384	772	88.6%	47.2%	22.9%
Three times	114	348	92.4%	52.6%	34.5%
Four times	60	240	94.4%	56.3%	73.7%
Five or more times	168	2,818	100.0%	100.0%	
Total	2,994	6,444			

Characteristics of repeat fraud victims

Table 19 shows the demographic characteristics of repeat fraud victims. Compared with single fraud victims, the standardised residuals indicate that a greater proportion of repeat fraud victims were under 25 years, men, were same sex attracted or bisexual, Māori, with no current partner, and/or had a disability. People who experienced repeat fraud victimisation were more likely than single fraud victims to report experiencing moderate to high psychological distress and financial stress.

Combinations of characteristics with the greatest proportion of repeat fraud victims

Table 20 shows the configurations (i.e., combinations of characteristics) with the largest proportion of repeat fraud victims. The proportion of repeat fraud victims was greatest in the configuration containing mid-aged, Māori men, who were heterosexual, not in a current partnership, with a low level of psychological distress, with financial stress and did not have a disability. The configuration with the next highest repeat fraud victimisation rate was mid-aged Māori women, who were heterosexual, with a moderate to high level of psychological distress, no financial stress and did not have a disability.

Overall, in Table 20 we see that of the six configurations of characteristics that experienced the highest rates of repeat fraud victimisation all were heterosexual people, aged 25-64 years and without a disability. In addition:

- Many configurations (n=4) involve people who identify as Māori. This is disproportionately high as Māori comprise 28.2% of survey participants – see Table 4.
- Many configurations (n=4) include people who reported experiencing financial stress.

- Many configurations (n=4) include women, which is disproportionately high compared to their prevalence as survey participants (see Table 4).
- Many configurations (n=4) include people with a partner.
- Many configurations (n=4) include people who report having low psychological distress.

Characteristics with the strongest relationship with repeat fraud victimisation

See Figure 5a and 5b for the boxplots displaying the distribution of differences from the mean repeat fraud victimisation rate for individual characteristics. From this we see the contextual variability of each personal characteristic. Characteristics with ranges of values indicated by the boxplots that fall above and below the zero line (representing the sample mean repeat victimisation rate) were not clearly associated with an increased or decreased risk of repeat victimisation. In contrast, characteristics that have most values above or below the zero line—here defined as those boxes that do not cross the zero line, which represent 75% of values—are usually associated with a ‘main effect’. Applying this threshold, we can say people who were Pacific, men, heterosexual, and who experienced financial stress were associated with an increased risk of repeat fraud victimisation. People who were Asian, under 25 years, or women were associated with a decreased risk of repeat fraud victimisation.

Table 19

Demographic characteristics of sample (N ≈ 32,682), comparing non-victims (n ≈ 29,691), single fraud victims (n ≈ 2,265) and repeat fraud victims (n ≈ 729)

Characteristic	Total	Non-victims n (%)	Single victims n (%)	Repeat victims n (%)	χ^2	<i>p</i>
Age					54.8	< .001
Under 25	3,174	2,928 (9.9)	180 (7.9)	66 (9.1)		
25-64	21,693	19,524 (65.8)	1,641 (72.5)	528 (72.4)		
65 plus	7,818	7,239 (24.4)	444 (19.6)	135 (18.5)		
Gender					7.5	.024
Man	14,133	12,906 (43.5)	918 (40.5)	309 (42.4)		
Woman	18,474	16,719 (56.3)	1,341 (59.2)	414 (56.8)		
Gender diverse ^a	54	54 (0.2)	S	S		
Sexual identity					31.0	< .001
Heterosexual	31,170	28,350 (95.5)	2,139 (94.4)	681 (93.4)		
Same sex	429	384 (1.3)	33 (1.5)	12 (1.6)		
Bisexual	537	453 (1.5)	60 (2.6)	24 (3.3)		
Ethnicities						
Māori	9,222	8,307 (28.0)	648 (28.6)	267 (36.6)	24.6	< .001
Pacific	2,130	1,956 (6.6)	126 (5.6)	48 (6.6)	3.4	.184
European	22,929	20,769 (70.0)	1,647 (72.7)	513 (70.4)	8.1	.018
Asian	3,213	2,970 (10.0)	195 (8.6)	48 (6.6)	15.4	< .001
Psychological distress					152.6	< .001
Low	29,001	26,511 (89.3)	1,932 (85.3)	558 (76.5)		
Moderate or high	3,570	3,078 (10.4)	318 (14.0)	174 (23.9)		
Financial stress					58.3	< .001
No	26,496	24,141 (81.3)	1,842 (81.3)	513 (70.4)		
Yes	5,700	5,097 (17.2)	399 (17.6)	204 (28.0)		
In a partnership					10.9	.004
Yes	21,147	19,167 (64.6)	1,530 (67.5)	450 (61.7)		
No	11,547	10,530 (35.5)	738 (32.6)	279 (38.3)		
Disability					17.7	< .001
Yes	1,806	1,620 (5.5)	120 (5.3)	66 (9.1)		
No	30,873	28,068 (94.5)	2,139 (94.4)	666 (91.4)		

Note. S = suppressed. Due to Statistics New Zealand confidentiality procedures, all numbers were randomly rounded to base 3, therefore totals may not add to 100%. All percentages were calculated with the denominator being the total number of poly-victims of non-poly-victims. Ethnicities were multiply coded. χ^2 statistics were calculated for individual ethnicities (e.g., Māori versus non-Māori). ^a Gender diverse people were excluded from the χ^2 analysis due to the small sample size. ^b Sample sizes were too small for χ^2 analysis.

Table 20

The six combinations of characteristics with the highest proportion of repeat fraud victims. (The other four configurations were suppressed due to confidentialising processes required by StatsNZ).

Age	Ethnicities	Disability	Financial stress	Gender	Has a partner	Psychological distress	Sexual identity	n	% repeat victims
25-64	Māori	No	Yes	Man	No	Low	Heterosexual	11	54.5
25-64	Māori	No	No	Woman	Yes	Moderate-high	Heterosexual	11	54.5
25-64	Māori	No	Yes	Woman	No	Moderate-high	Heterosexual	17	52.9
25-64	Other [#]	No	No	Woman	Yes	Low	Heterosexual	15	46.7
25-64	European	No	Yes	Man	Yes	Low	Heterosexual	18	44.4
25-64	Māori	No	Yes	Woman	Yes	Low	Heterosexual	16	43.8

Note. Ethnicities were multiply coded in the NZCVS and have been combined in alphabetical order in this table. [#] denotes a respondent who did not identify as European, Māori, Pacific or Asian.

The number of participants with each combination of characteristics (the *n*) and the number of poly-victims with each combination of characteristics has been randomly rounded to base three to comply with StatsNZ confidentiality rules.

Figure 5a

Distribution of 'main effects' for repeat fraud victims for ethnicity, gender, and financial stress characteristics

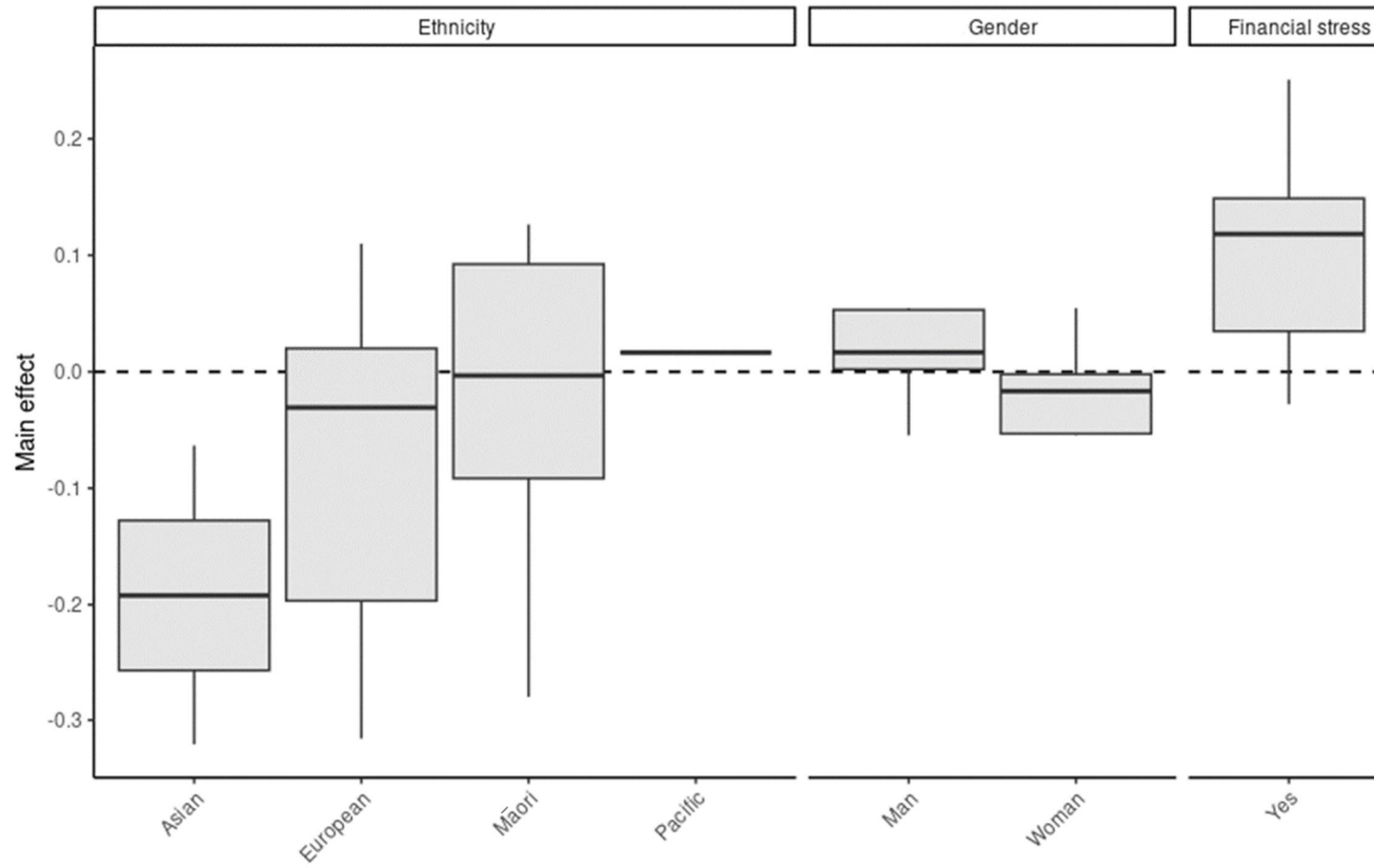
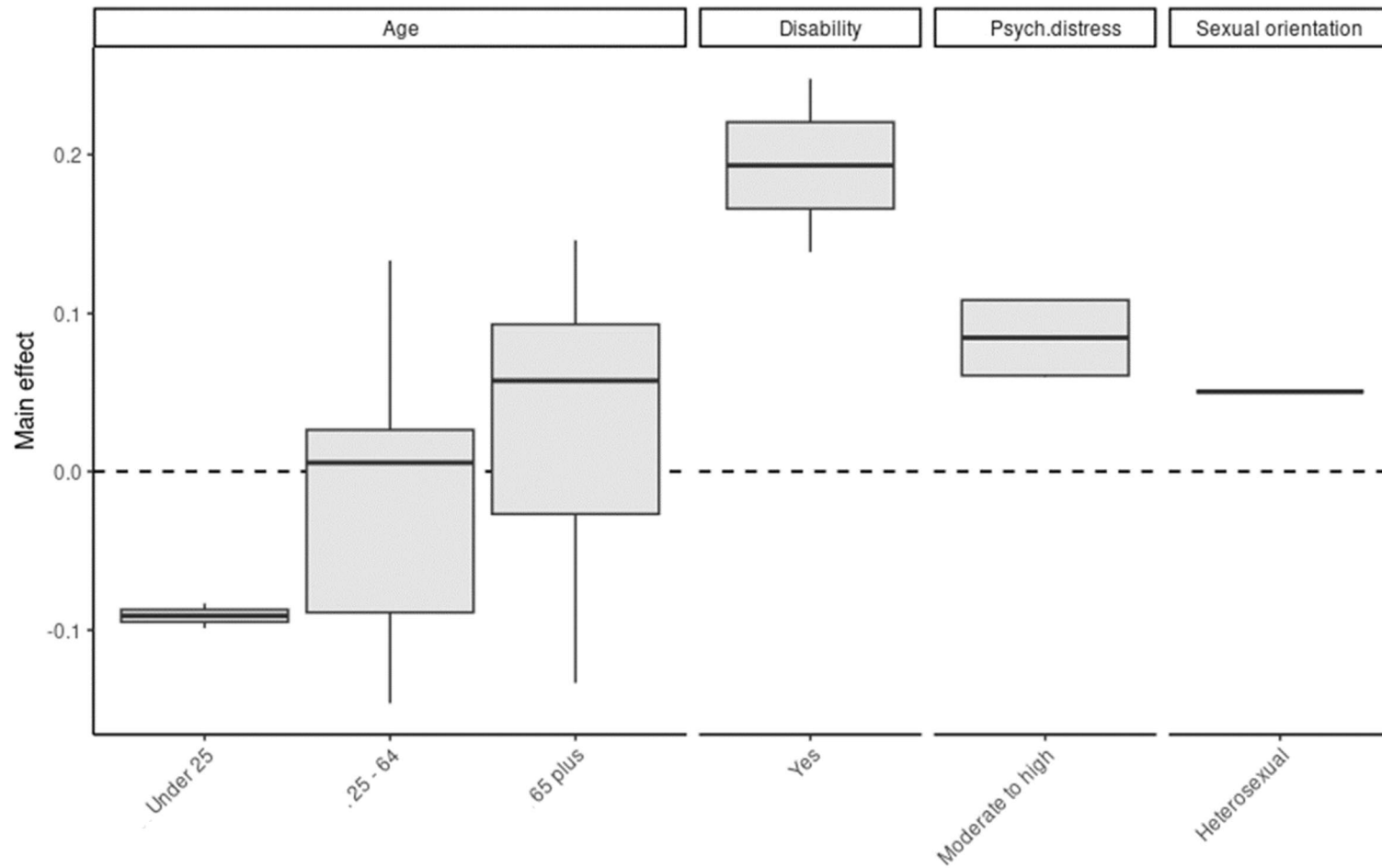


Figure 5b

Distribution of 'main effects' for repeat fraud victims for age, disability, psychological distress and sexual identity characteristics



Section 6: Repeat Harassment Victimization

Table 21 shows that once a person has been a victim of harassment and threats once, there is a reasonable chance that they will be victimised again (27.3% risk of re-victimisation). The risk of re-victimisation increases or stays roughly stable each time a person is victimised, with over three-quarters of people who experience four harassment incidents in a year experiencing further harassment. Reducing repeat harassment could reduce incidents of harassment up to 89.1%.

Table 21

Harassment: Cumulative percentages for both victims and incidents, with risk of re-victimisation, per number of victimisation experiences

	Victims	Incidents	% of victims	% of incidents	Risk of re-victimisation
Once	1,593	593	46.9%	10.9%	27.3%
Twice	597	196	64.4%	19.1%	36.8%
Three times	348	1,041	74.7%	26.2%	34.8%
Four times	186	748	80.1%	31.3%	78.4%
Five or more times	675	10,060	100.0%	100.0%	
Total	3,399	14,639			

Characteristics of repeat harassment victims

Table 22 shows the demographic characteristics of repeat harassment victims. Compared with single harassment victims, the standardised residuals indicate that a greater proportion of repeat harassment victims were aged under 64, women, bisexual, Māori or Pacific, did not have a current partner, and/or had a disability. People who experienced repeat harassment victimisation were also more likely than single harassment victims to report experiencing moderate or high psychological distress, or financial stress.

Combinations of characteristics with the greatest proportion of repeat harassment victims

Table 23 shows the configurations (i.e., combinations of characteristics) with the largest proportion of repeat harassment victims. The proportion of repeat harassment victims was greatest in the configuration containing mid-aged Māori women, who were heterosexual, but not in a current partnership, with a moderate to high level of psychological distress, no financial stress and did not have a disability. The configuration with the next highest repeat harassment victimisation rate was mid-aged women who identified as European and Māori, who were heterosexual, with a low level of psychological distress, with financial stress and did not have a disability.

Overall, in Table 23 we see that of the 10 configurations of characteristics that experienced the highest rates of repeat harassment victimisation all were heterosexual people, without a disability. In addition:

- A disproportionate number of configurations (n=5) involve people who identify as Māori (and also identified as European in two configurations) compared to their prevalence as survey participants – see Table 4.
- Many configurations (n=7) include people who reported experiencing financial stress.
- Most configurations (n=9) include women, which is disproportionately high compared to their prevalence as survey participants (see Table 4).
- Many configurations (n=7) include people with a current partner.
- Many configurations (n=7) include people who report having moderate to high psychological distress.

Characteristics with the strongest relationship with repeat harassment victimisation

See Figure 7a and 7b for the boxplots displaying the distribution of differences from the mean repeat harassment victimisation rate for individual characteristics. From this we see the contextual variability of each personal characteristic. Characteristics with ranges of values indicated by the boxplots that fall above and below the zero line (representing the sample mean repeat victimisation rate) were not clearly associated with an increased or decreased risk of repeat victimisation. In contrast, characteristics that have most values above or below the zero line—here defined as those boxes that do not cross the zero line, which represent 75% of values—are usually associated with a ‘main effect’. Applying this threshold, we can say that women, people who reported having a moderate to high level of psychological distress and people who had a disability were associated with an increased risk of repeat harassment victimisation. People who were Asian or European, 65 years and older, and/or men were associated with a decreased risk of repeat harassment victimisation.

Table 22

Demographic characteristics of sample (N ≈ 32,682), comparing non-victims (n ≈ 29,286), single harassment victims (n ≈ 1,590) and repeat harassment victims (n ≈ 1,806)

Characteristic	Total	Non-victims n (%)	Single victims n (%)	Repeat victims n (%)	χ^2	<i>p</i>
Age					463.3	< .001
Under 25	3,174	2,661 (9.1)	222 (14.0)	291 (16.1)		
25-64	21,693	19,155 (65.4)	1,170 (73.6)	1,368 (75.7)		
65 plus	7,815	7,470 (25.5)	198 (12.5)	147 (8.1)		
Gender					134.5	< .001
Man	14,136	12,945 (44.2)	645 (40.6)	546 (30.2)		
Woman	18,477	16,293 (55.6)	942 (59.2)	1,242 (68.8)		
Gender diverse ^a	60	42 (0.1)	S	S		
Sexual identity					215.4	< .001
Heterosexual	31,170	28,059 (95.8)	1,473 (92.6)	1,638 (90.7)		
Same sex	435	363 (1.2)	33 (2.1)	39 (2.2)		
Bisexual	537	387 (1.3)	57 (3.6)	93 (5.1)		
Ethnicities						
Māori	9,222	7,992 (27.3)	507 (31.9)	723 (40.0)	146.0	.000
Pacific	2,133	1,962 (6.7)	66 (4.2)	105 (5.8)	17.3	.000
European	22,929	20,433 (69.8)	1,212 (76.2)	1,284 (71.1)	28.7	.000
Asian	3,210	2,970 (10.1)	123 (7.7)	117 (6.5)	33.1	.000
Psychological distress					1249.7	< .001
Low	29,001	26,547 (90.6)	1,275 (80.2)	1,179 (65.3)		
Moderate or high	3,573	2,637 (9.0)	318 (20.0)	618 (34.2)		
Financial stress					284.0	< .001
No	26,499	24,045 (82.1)	1,248 (78.5)	1,206 (66.8)		
Yes	5,703	4,809 (16.4)	321 (20.2)	573 (31.7)		
In a partnership					89.6	< .001
Yes	21,144	19,155 (65.4)	1,005 (63.2)	984 (54.5)		
No	11,541	10,134 (34.6)	588 (37.0)	819 (45.3)		
Disability					13.4	.001
Yes	1,806	1,584 (5.4)	90 (5.7)	132 (7.3)		
No	30,870	27,699 (94.6)	1,503 (94.5)	1,668 (92.4)		

Note. S = suppressed. Due to Statistics New Zealand confidentiality procedures, all numbers were randomly rounded to base 3, therefore totals may not add to 100%. All percentages were calculated with the denominator being the total number of poly-victims of non-poly-victims. Ethnicities were multiply coded. χ^2 statistics were calculated for individual ethnicities (e.g., Māori versus non-Māori).

^a Gender diverse people were excluded from the χ^2 analysis due to the small sample size.

Table 23

The 10 combinations of characteristics with the highest proportion of repeat harassment victims

Age	Ethnicities	Disability	Financial stress	Gender	Has a partner	Psychological distress	Sexual identity	n	% repeat victims
25-64	Māori	No	No	Woman	No	Moderate-high	Heterosexual	20	90.0
25-64	European & Māori	No	Yes	Woman	No	Low	Heterosexual	22	81.2
25-64	Māori	No	Yes	Woman	No	Moderate-high	Heterosexual	22	81.2
25-64	European	No	Yes	Man	Yes	Moderate-high	Heterosexual	11	81.2
25-64	Māori	No	Yes	Woman	Yes	Moderate-high	Heterosexual	16	81.3
Under 25	European & Māori	No	No	Woman	No	Low	Heterosexual	10	80.0
25-64	European	No	Yes	Woman	No	Low	Heterosexual	55	78.2
Under 25	European	No	Yes	Woman	No	Moderate-high	Heterosexual	13	76.9
25-64	European	No	Yes	Woman	Yes	Moderate-high	Heterosexual	16	75.0
25-64	European	No	No	Woman	No	Moderate-high	Heterosexual	41	70.7

Note. Ethnicities were multiply coded in the NZCVS and have been combined in alphabetical order in this table.

The number of participants with each combination of characteristics (the *n*) and the number of poly-victims with each combination of characteristics has been randomly rounded to base three to comply with StatsNZ confidentiality rules.

Figure 6a

Distribution of 'main effects' for repeat harassment victims for ethnicity, gender, financial stress, and psychological distress characteristics. A main effect could not be computed for Pacific due to this category producing extreme outliers.

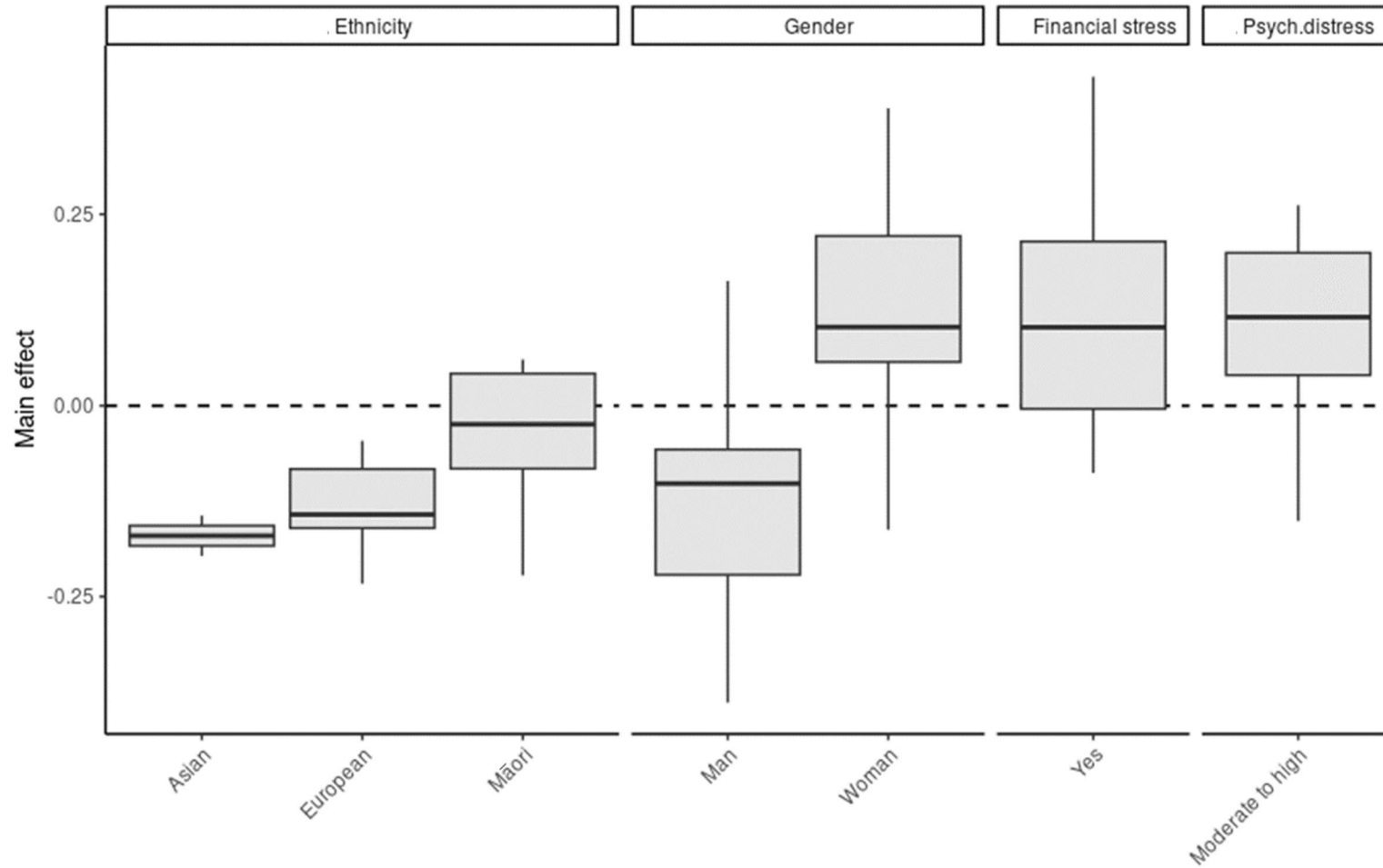
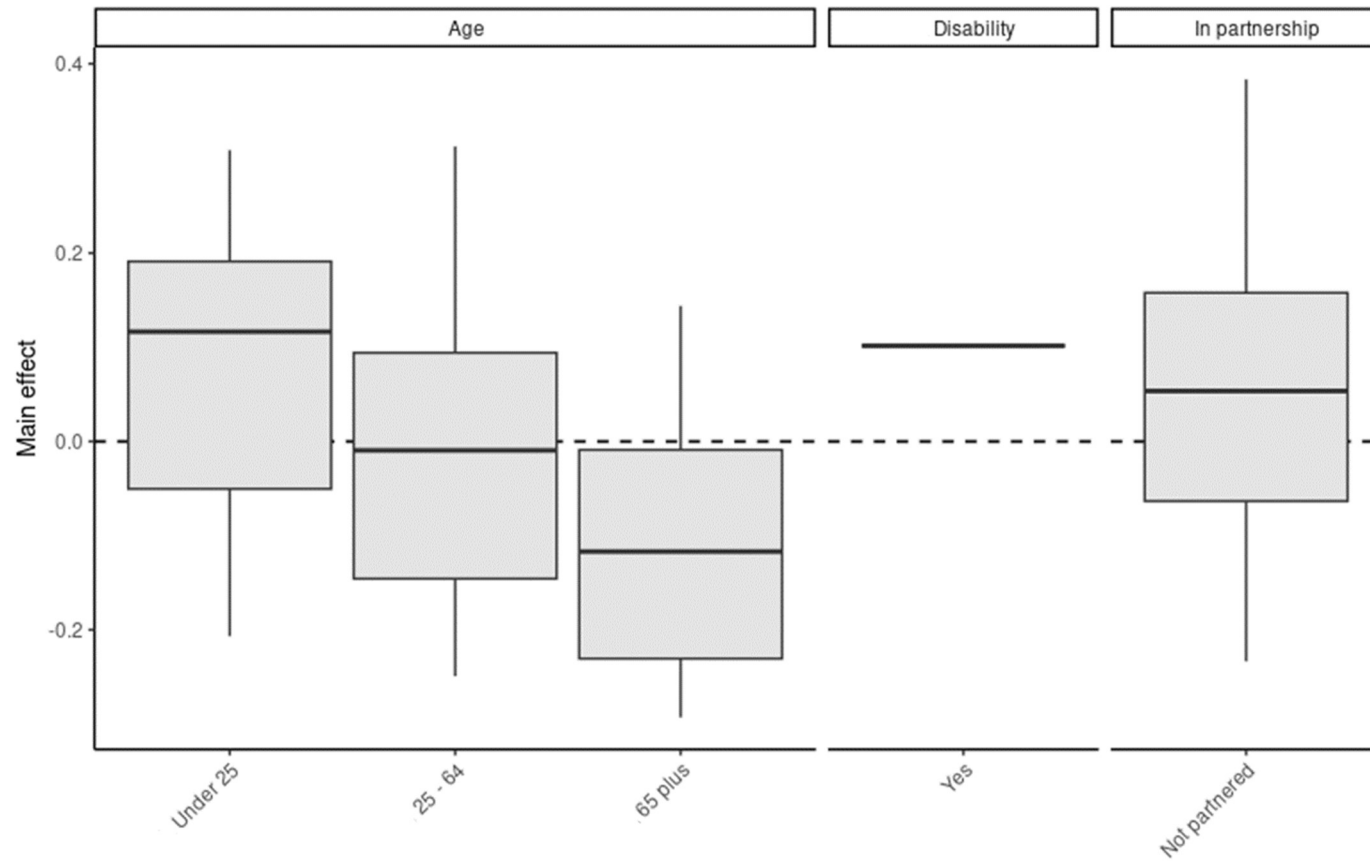


Figure 6b

Distribution of 'main effects' for repeat harassment victims for age, disability, and partnership status characteristics. A main effect could not be computed for sexual identity due to this category producing extreme outliers.



Section 7: Repeat Property Damage Victimization

Table 24 shows that once a person has been a victim of property damage once, there is a reasonable chance that they will be victimised again (17.0% risk of re-victimisation). The risk of re-victimisation increases each time a person is victimised, with over two-thirds of people who experience four property damage incidents in a year experiencing further property damage. Reducing repeat property damage could reduce incidents of property damage up to 65.8%.

Table 24

Property damage: Cumulative percentages for both victims and incidents, with risk of re-victimisation, per number of victimisation experiences

	Victims	Incidents	% of victims	% of incidents	Risk of re-victimisation
Once	789	789	70.3%	34.2%	17.0%
Twice	162	322	84.8%	48.1%	27.0%
Three times	60	180	90.1%	55.9%	35.5%
Four times	33	132	93.0%	61.7%	70.3%
Five or more times	78	888	100.0%	100.1%	
Total	1,122	2,308			

Characteristics of repeat property damage victims

Table 25 shows the demographic characteristics of repeat property damage victims. Compared with single property damage victims, the standardised residuals indicate that repeat property damage victims were more likely to be 25-64 years, women, same sex attracted, Māori, not in a current partnership, and/or who had a disability. People who experienced repeat property damage victimisation were also more likely than single property damage victims to report experiencing moderate or high psychological distress, or financial stress.

Combinations of characteristics with the greatest proportion of repeat property damage victims

Table 26 shows the configurations (i.e., combinations of characteristics) with the largest proportion of repeat property damage victims. The proportion of repeat property damage victims was greatest in the configuration containing mid-aged Māori men, who were heterosexual, but not in a current partnership, with a low level of psychological distress, no financial stress and did not have a disability. The configuration with the next highest repeat property damage victimisation rate was mid-aged Māori women, who were heterosexual, with a moderate to high level of psychological distress, with no financial stress and did not have a disability.

Overall, in Table 26 we see that of the nine configurations of characteristics that experienced the highest rates of repeat property damage victimisation all were heterosexual people, without a disability. In addition:

- A disproportionate number of configurations (n=5) involve people who identify as Māori (and identified as European in two configurations) compared to their prevalence as survey participants – see Table 4.

- Most configurations (n=8) include people who reported experiencing financial stress.
- Many configurations (n=6) include women, which is disproportionately high compared to their prevalence as survey participants (see Table 4).
- Many configurations (n=6) include people with no current partner.
- Many configurations (n=7) include people who report having low levels of psychological distress.

Characteristics with the strongest relationship with repeat property damage victimisation

See Figure 8a and 8b for the boxplots displaying the distribution of differences from the mean repeat property damage victimisation rate for individual characteristics. From this we see the contextual variability of each personal characteristic. Characteristics with ranges of values indicated by the boxplots that fall above and below the zero line (representing the sample mean repeat victimisation rate) were not clearly associated with an increased or decreased risk of repeat victimisation. In contrast, characteristics that have most values above or below the zero line—here defined as those boxes that do not cross the zero line, which represent 75% of values—are usually associated with a ‘main effect’. Applying this threshold, we can say that people who were European or Māori were associated with an increased risk of repeat property damage victimisation.

Table 25

Demographic characteristics of sample (N ≈ 32,682), comparing non-victims (n ≈ 21,564), single property damage victims (n ≈ 795) and repeat property damage victims (n ≈ 333)

Characteristic	Total	Non-victims n (%)	Single victims n (%)	Repeat victims n (%)	χ^2	<i>p</i>
Age					76.6	< .001
Under 25	3,174	3033 (9.6)	105 (0.3)	36 (10.8)		
25-64	21,702	20,868 (66.1)	567 (1.8)	267 (80.2)		
65 plus	7,815	7,662 (24.3)	123 (0.4)	30 (0.1)		
Gender					16.2	< .001
Man	14,139	13,710 (43.4)	315 (1.0)	114 (0.4)		
Woman	18,477	17,787 (56.4)	471 (1.5)	219 (0.7)		
Gender diverse ^a	60	60 (0.2)	S	S		
Sexual identity					43.4	< .001
Heterosexual	14,139	30,120 (95.4)	753 (94.7)	294 (88.3)		
Same sex	18,477	420 (1.3)	S	9 (2.7)		
Bisexual	60	501 (1.6)	18 (2.3)	18 (5.4)		
Ethnicities						
Māori	9,216	8,769 (27.8)	279 (35.1)	168 (50.5)	107.6	< .001
Pacific	2,133	2,043 (6.5)	63 (7.9)	27 (8.1)	3.9	.145
European	22,929	22,194 (70.3)	531 (66.8)	204 (61.3)	15.7	< .001
Asian	3,207	3,132 (9.9)	57 (7.2)	18 (5.4)	13.1	.001
Psychological distress					333.1	< .001
Low	28,998	28,173 (89.3)	621 (78.1)	204 (61.3)		
Moderate or high	3,570	3,285 (10.4)	159 (20.0)	126 (37.8)		
Financial stress					219.4	< .001
No	26,496	25,761 (81.6)	552 (69.4)	183 (55.0)		
Yes	5,703	5,340 (16.9)	222 (27.9)	141 (42.3)		
In a partnership					71.1	< .001
Yes	21,144	20,532 (65.1)	465 (58.5)	147 (44.1)		
No	11,544	11,037 (35.0)	321 (40.4)	186 (55.9)		
Disability					14.1	< .001
Yes	1,809	1,719 (5.4)	57 (7.2)	33 (9.9)		
No	30,873	29,841 (94.5)	729 (91.7)	303 (91.0)		

Note. S = suppressed. Due to Statistics New Zealand confidentiality procedures, all numbers were randomly rounded to base 3, therefore totals may not add to 100%. All percentages were calculated with the denominator being the total number of poly-victims of non-poly-victims. Ethnicities were multiply coded. χ^2 statistics were calculated for individual ethnicities (e.g., Māori versus non-Māori).

^a Gender diverse people were excluded from the χ^2 analysis due to the small sample size.

Table 26

The nine combinations of characteristics with the highest proportion of repeat property damage victims. (The other configuration was suppressed due to confidentialising processes required by StatsNZ).

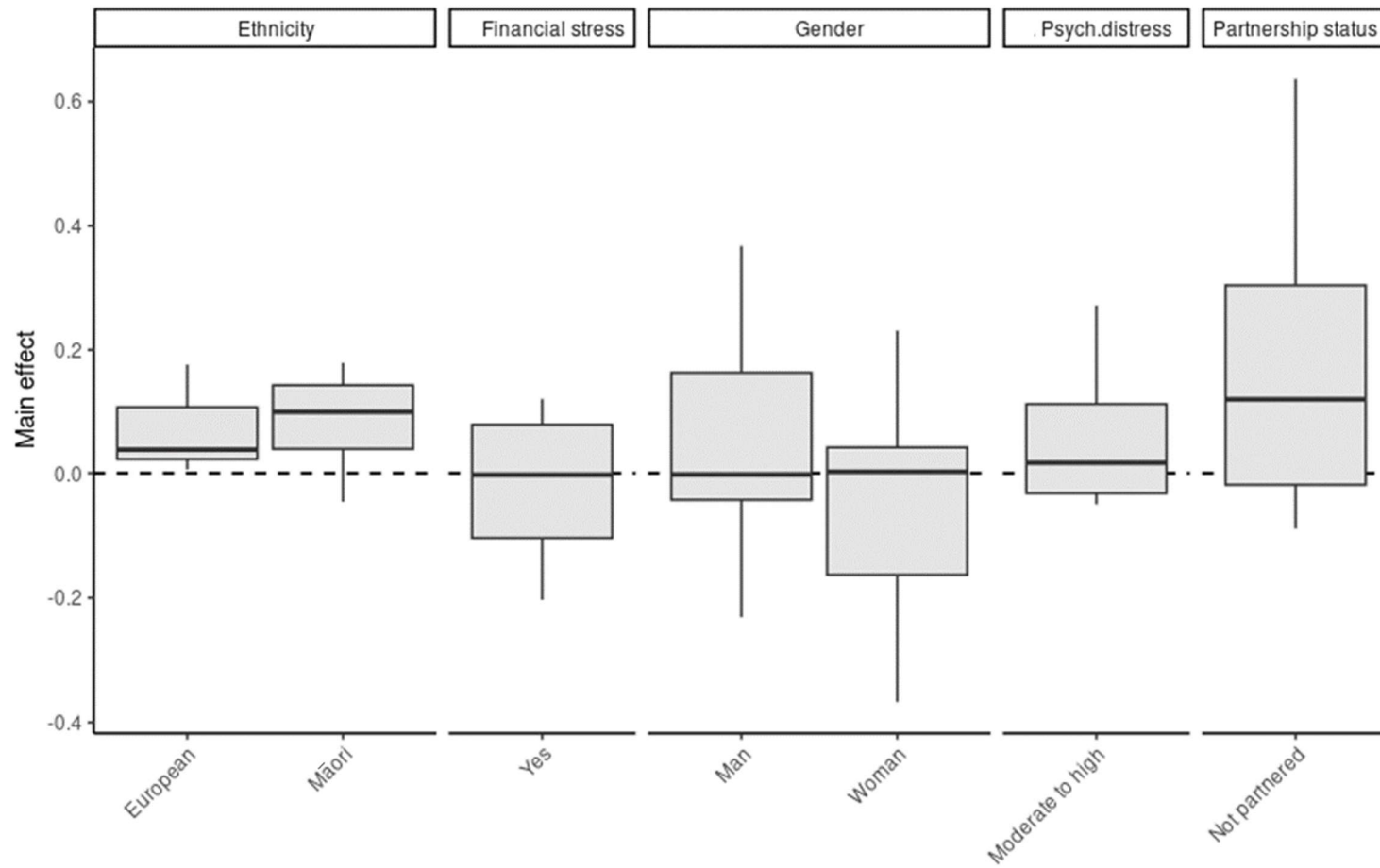
Age	Ethnicities	Disability	Financial stress	Gender	Has a partner	Psychological distress	Sexual identity	n	% repeat victims
25-64	Māori	No	No	Man	No	Low	Heterosexual	11	72.7
25-64	Māori	No	No	Woman	No	Moderate to high	Heterosexual	19	63.2
25-64	European	No	No	Woman	No	Low	Heterosexual	24	50.0
25-64	European	No	No	Woman	No	Moderate to high	Heterosexual	19	47.4
Under 25	European	No	No	Man	Yes	Low	Heterosexual	32	40.6
25-64	European	No	No	Woman	No	Low	Heterosexual	29	37.9
25-64	Māori	No	Yes	Woman	No	Low	Heterosexual	25	36.0
25-64	European & Māori	No	No	Woman	Yes	Low	Heterosexual	20	35.0
25-64	European & Māori	No	No	Man	Yes	Low	Heterosexual	30	30.0

Note. Ethnicities were multiply coded in the NZCVS and have been combined in alphabetical order in this table.

The number of participants with each combination of characteristics (the *n*) and the number of poly-victims with each combination of characteristics has been randomly rounded to base three to comply with StatsNZ confidentiality rules.

Figure 7

Distribution of 'main effects' for repeat property damage victims for ethnicity, financial stress, gender, psychological distress and partnership status characteristics. (A main effect could not be computed for other characteristics due to these producing extreme outliers.)



Section 8: Repeat Robbery Victimization

Table 17 shows that once a person has been a victim of robbery and personal theft once, there is a reasonable chance that they will be victimised again (15.8% risk of re-victimisation). The risk of re-victimisation increases each time a person is victimised, with over half of people who experience four robbery and personal theft incidents in a year experiencing further robbery and personal theft. Reducing repeat property damage could reduce incidents of property damage up to 56.2%.

Table 17

Robbery: Cumulative percentages for both victims and incidents, with risk of re-victimisation, per number of victimisation experiences

	Victims	Incidents	% of victims	% of incidents	Risk of re-victimisation
Once	510	510	74.9%	43.8%	15.8%
Twice	96	192	89.0%	60.3%	23.8%
Three times	30	90	93.4%	68.0%	37.5%
Four times	18	76	96.0%	74.6%	60.0%
Five or more times	27	300	100.0%	100.0%	
Total	681	1,164			

Characteristics of repeat robbery victims

Table 18 shows the demographic characteristics of repeat robbery victims. The standardised residuals indicate that compared with single robbery victims, repeat robbery victims were more likely to be under 65 years, men, bisexual, Māori, not have a current partner and/or with a disability. Repeat robbery victims were also more likely than single robbery victims to report experiencing moderate or high psychological distress and financial stress.

Combinations of characteristics with the greatest proportion of repeat robbery victims

Due to the CACC producing very small counts in each combination of characteristics for repeat robbery victims, we are unable to present the results for this analysis.

Characteristics with the strongest relationship with repeat robbery victimisation

See Figure 9a and 9b for the boxplots displaying the distribution of differences from the mean repeat robbery victimisation rate for individual characteristics. From this we see the contextual variability of each personal characteristic. Characteristics with ranges of values indicated by the boxplots that fall above and below the zero line (representing the sample mean repeat victimisation rate) were not clearly associated with an increased or decreased risk of repeat victimisation. In contrast, characteristics that have most values above or below the zero line—here defined as those boxes that do not cross the zero line, which represent 75% of values—are usually associated with a ‘main effect’. Applying this threshold, we can say that people who were under 25 years were associated with an increased risk of repeat robbery victimisation.

Table 28

Demographic characteristics of sample (N ≈ 32,682), comparing non-victims (n ≈ 32,004), single robbery and personal theft victims (n ≈ 504) and repeat robbery and personal theft victims (n ≈ 168)

Characteristic	Total	Non-victims n (%)	Single victims n (%)	Repeat victims n (%)	χ^2	<i>p</i>
Age					51.9	< .001
Under 25	3,177	3,042 (9.5)	93 (18.5)	42 (25.0)		
25-64	21,690	21,219 (66.3)	345 (68.5)	126 (75.0)		
65 plus	S	7,743 (24.2)	66 (13.1)	S		
Gender					7.6	.022
Man	14,136	13,812 (43.2)	237 (47.0)	87 (51.8)		
Woman	18,480	18,132 (56.7)	264 (52.4)	84 (50.0)		
Gender diverse ^a	57	57 (0.2)	S	S		
Sexual identity					56.9	< .001
Heterosexual	31,167	30,555 (95.5)	459 (91.1)	153 (89.5)		
Same sex	429	420 (1.3)	9 (1.8)	S		
Bisexual	537	501 (1.6)	24 (4.8)	12 (7.0)		
Ethnicities						
Māori	9,222	8,982 (28.1)	171 (33.9)	69 (40.4)	18.2	< .001
Pacific	2,133	2,094 (6.5)	24 (4.8)	15 (8.8)	5.4	.068
European	22,926	22,467 (70.2)	351 (69.6)	108 (63.2)	4.3	.115
Asian	3,213	3,144 (9.8)	51 (10.1)	18 (10.5)	0.1	.962
Psychological distress					166.8	< .001
Low	28,998	28,500 (89.1)	384 (76.2)	114 (66.7)		
Moderate or high	3,570	3,396 (10.6)	117 (23.2)	57 (33.3)		
Financial stress					34.3	< .001
No	26,496	25,995 (81.2)	387 (76.8)	114 (66.7)		
Yes	5,700	5,532 (17.3)	111 (22.0)	57 (33.3)		
In a partnership					14.8	< .001
Yes	21,144	20,754 (64.8)	294 (58.3)	96 (56.1)		
No	11,541	11,256 (35.2)	210 (41.7)	75 (43.9)		
Disability					6.2	.046
Yes	1,806	1,764 (5.5)	27 (5.4)	15 (8.8)		
No	30,876	30,240 (94.5)	480 (95.2)	156 (91.2)		

Note. S = suppressed. Due to Statistics New Zealand confidentiality procedures, all numbers were randomly rounded to base 3, therefore totals may not add to 100%. All percentages were calculated with the denominator being the total number of non-victims, single victims and repeat victims. Ethnicities were multiply coded. χ^2 statistics were calculated for individual ethnicities (e.g., Māori versus non-Māori).

^a Gender diverse people were excluded from the χ^2 analysis due to the small sample size.

Figure 8a

Distribution of 'main effects' for repeat robbery victims for ethnicity, financial stress, gender, and psychological distress characteristics. A main effect could not be computed for Asian and Pacific due to these categories producing extreme outliers.

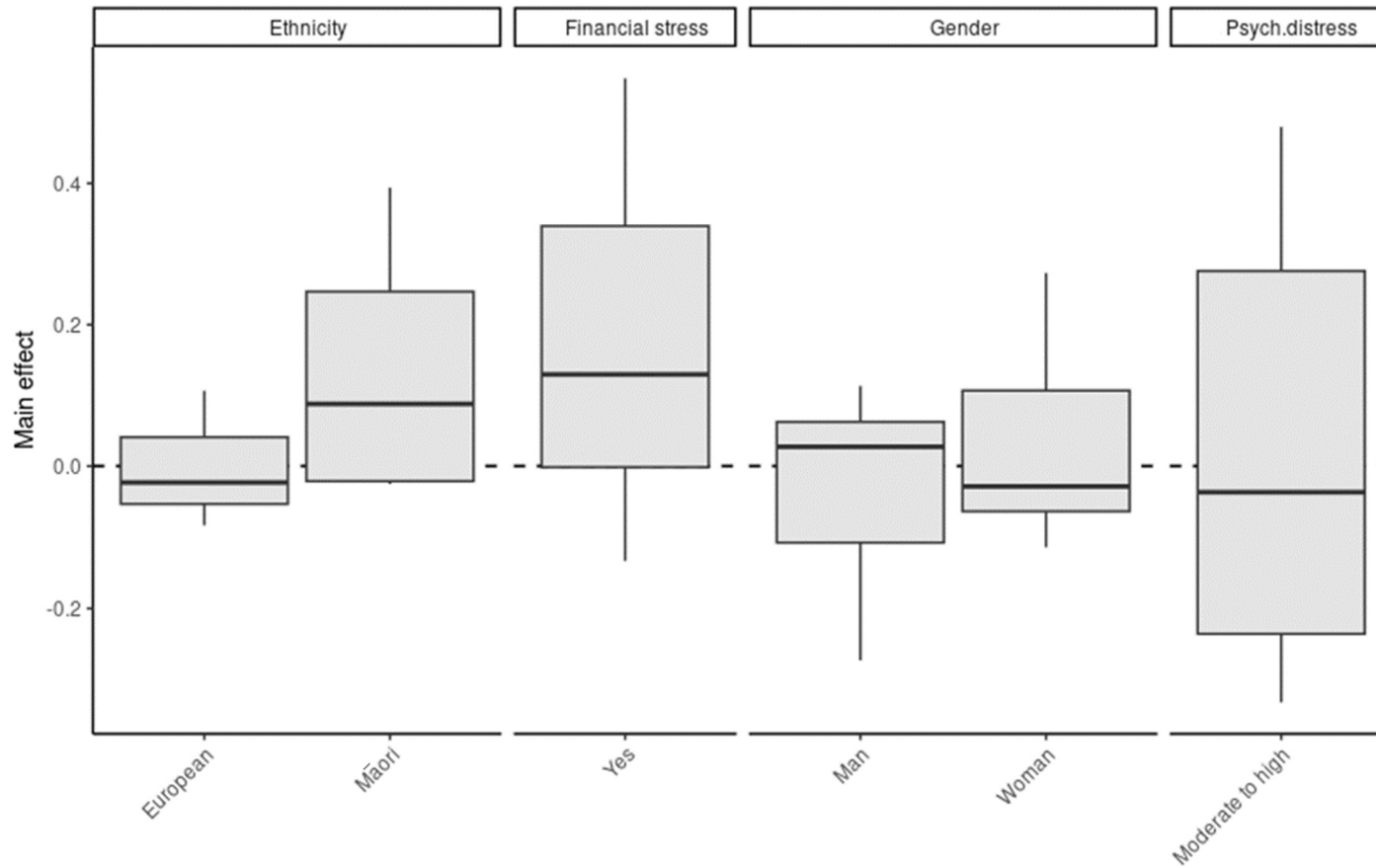
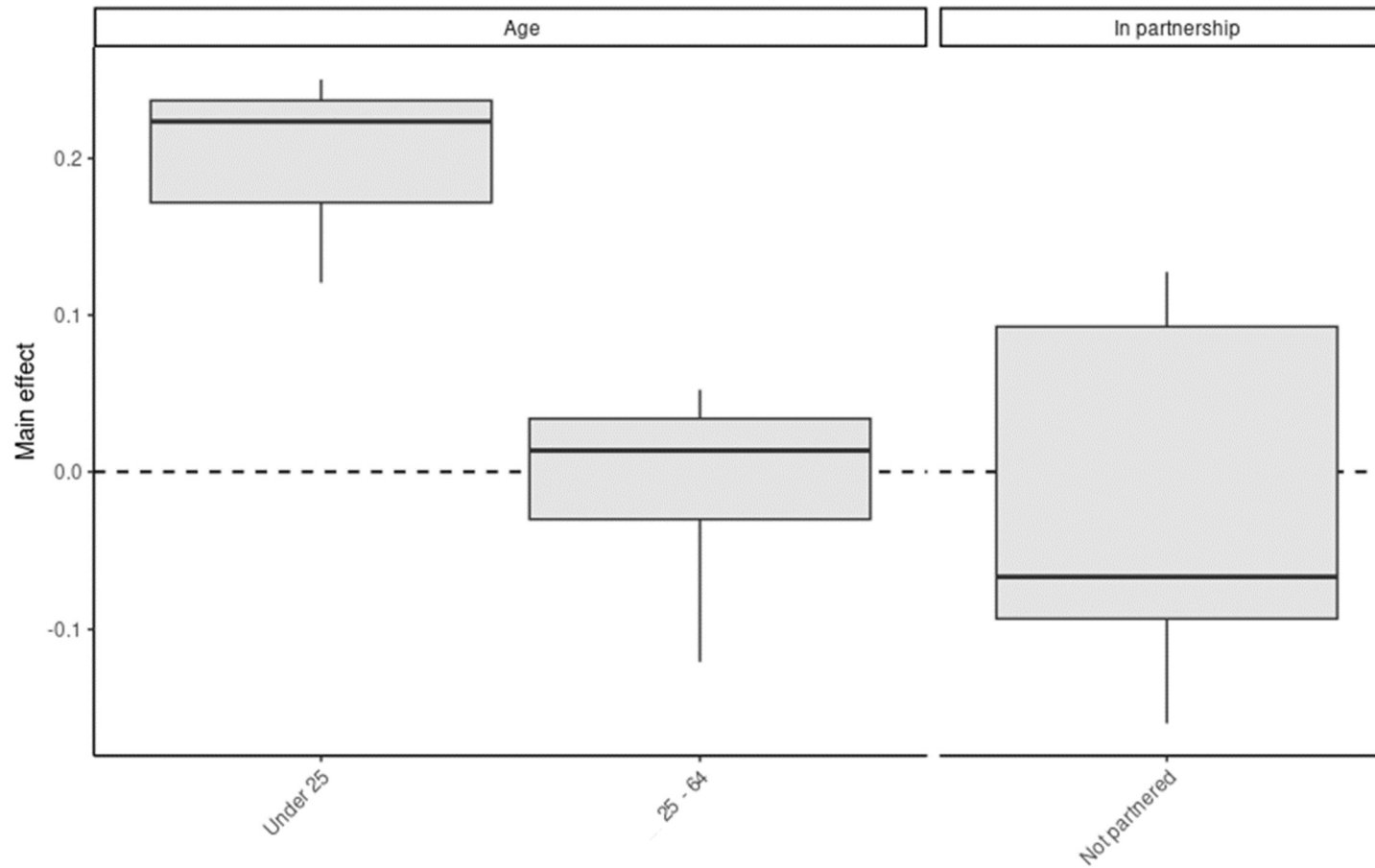


Figure 8b

Distribution of 'main effects' for repeat robbery victims for age, disability, sexual identity, and partnership status characteristics. A main effect could not be computed for other characteristics due to these producing extreme outliers.



Section 9: Repeat Sexual Assault Victimization

Table 29 shows that once a person has been a victim of sexual assault once, there is a reasonable chance that they will be victimised again (29.5% risk of re-victimisation). The risk of re-victimisation increases each time a person is victimised, with nearly three-quarters of people who experience four sexual assault incidents in a year experiencing further sexual assault. Reducing repeat sexual assault could reduce incidents of sexual assault up to 87.7%.

Table 29

Sexual assault: Cumulative percentages for both victims and incidents, with risk of re-victimisation, per number of victimisation experiences

	Victims	Incidents	% of victims	% of incidents	Risk of re-victimisation
Once	465	465	46.7%	12.3%	29.5%
Twice	195	388	66.3%	22.5%	35.6%
Three times	108	324	77.1%	31.0%	35.7%
Four times	60	236	83.1%	37.3%	73.7%
Five or more times	168	2,377	100.0%	100.0%	
Total	996	3,791			

Characteristics of repeat sexual assault victims

Table 30 shows the demographic characteristics of repeat sexual assault victims. Compared with single sexual assault victims, the standardised residuals indicate that repeat sexual assault victims were more likely to be under 25 years, women, bisexual, Māori, Pacific, not with a current partner and/or with a disability. Repeat sexual assault victims were also more likely than single sexual assault victims to report experiencing moderate or high psychological distress and financial stress.

Combinations of characteristics with the greatest proportion of repeat sexual assault victims

Table 31 shows the configurations (i.e., combinations of characteristics) with the largest proportion of repeat sexual assault victims. The proportion of repeat sexual assault victims was greatest in the configuration containing young Māori women, who were heterosexual, but not in a current partnership, with a moderate to high level of psychological distress, with financial stress and with no disability. The configuration with the next highest repeat sexual assault victimisation rate was mid-aged women who identified as European and Māori, who were heterosexual, with a moderate to high level of psychological distress, with financial stress and with no disability.

Overall, in Table 31 we see that of the seven configurations of characteristics that experienced the highest rates of repeat sexual assault victimisation all were women without a disability. In addition:

- A disproportionate number of configurations (n=4) involve people who identify as Māori (and identified as European in two configurations) compared to their prevalence as survey participants – see Table 4.

- More than half of configurations (n=4) include women who reported experiencing financial stress.
- More than half of configurations (n=4) include women with a current partner.
- More than half of configurations (n=4) include women who report having moderate to high levels of psychological distress.
- Most configurations (n=6) involve heterosexual women, however bisexual people appear overrepresented compared to their prevalence as survey participants – see Table 4.

Characteristics with the strongest relationship with repeat sexual assault victimisation

See Figure 10a and 10b for the boxplots displaying the distribution of differences from the mean repeat sexual assault victimisation rate for individual characteristics. From this we see the contextual variability of each personal characteristic. Characteristics with ranges of values indicated by the boxplots that fall above and below the zero line (representing the sample mean repeat victimisation rate) were not clearly associated with an increased or decreased risk of repeat victimisation. In contrast, characteristics that have most values above or below the zero line—here defined as those boxes that do not cross the zero line, which represent 75% of values—are usually associated with a ‘main effect’. Applying this threshold, we can say that women were associated with an increased risk of repeat sexual assault victimisation. People who were European, 65 years or older, a man and/or heterosexual were associated with a decreased risk of repeat sexual assault victimisation.

Table 30

Demographic characteristics of sample (N ≈ 32,682), comparing non-victims (n ≈ 31,689), single sexual assault victims (n ≈ 465) and repeat sexual assault victims (n ≈ 528)

Characteristic	Total	Non-victims n (%)	Single victims n (%)	Repeat victims n (%)	χ^2	<i>p</i>
Age					655.7	< .001
Under 25	3,177	2,868 (9.1)	135 (29.0)	174 (33.0)		
25-64	21,690	21,039 (66.4)	309 (66.5)	342 (64.8)		
65 plus	7,815	7,782 (24.6)	21 (4.5)	12 (2.3)		
Gender					234.4	< .001
Man	14,139	13,941 (44.0)	114 (24.5)	84 (15.9)		
Woman	18,477	17,688 (55.8)	348 (74.8)	441 (83.5)		
Gender diverse ^a	S	51 (0.2)	S	S		
Sexual identity					643.5	< .001
Heterosexual	31,167	30,339 (95.7)	402 (86.5)	426 (80.7)		
Same sex	435	408 (1.3)	15 (3.2)	12 (2.3)		
Bisexual	540	429 (1.4)	36 (7.7)	75 (14.2)		
Ethnicities						
Māori	9,219	8,814 (27.8)	171 (36.8)	234 (44.3)	86.4	< .001
Pacific	2,133	2,052 (6.5)	30 (6.5)	51 (9.7)	8.5	.014
European	22,932	22,218 (70.1)	342 (73.5)	372 (70.5)	1.8	.403
Asian	3,207	3,138 (9.9)	39 (8.4)	30 (5.7)	10.5	.005
Psychological distress					878.2	< .001
Low	28,998	28,398 (89.6)	312 (67.1)	288 (54.5)		
Moderate or high	3,573	3,183 (10.0)	150 (32.3)	240 (45.5)		
Financial stress					170.0	< .001
No	26,496	25,836 (81.5)	327 (70.3)	333 (63.1)		
Yes	5,700	5,376 (17.0)	135 (29.0)	189 (35.8)		
In a partnership					210.2	< .001
Yes	21,147	20,718 (65.4)	198 (42.6)	231 (43.8)		
No	11,544	10,977 (34.6)	267 (57.4)	300 (56.8)		
Disability					10.7	.005
Yes	1,812	1,734 (5.5)	30 (6.5)	48 (9.1)		
No	30,873	29,952 (94.5)	438 (94.2)	483 (91.5)		

Note. S = suppressed. Due to Statistics New Zealand confidentiality procedures, all numbers were randomly rounded to base 3, therefore totals may not add to 100%. All percentages were calculated with the denominator being the total number of poly-victims of non-poly-victims. Ethnicities were multiply coded. χ^2 statistics were calculated for individual ethnicities (e.g., Māori versus non-Māori).

^a Gender diverse people were excluded from the χ^2 analysis due to the small sample size.

Table 31

The seven combinations of characteristics with the highest proportion of repeat sexual assault victims. (The other three configurations were suppressed due to confidentialising processes required by StatsNZ).

Age	Ethnicities	Disability	Financial stress	Gender	Has a partner	Psychological distress	Sexual identity	n	% repeat victims
Under 25	Māori	No	Yes	Woman	No	Moderate to high	Heterosexual	6	100
25-64	European & Māori	No	Yes	Woman	Yes	Moderate to high	Heterosexual	6	100
25-64	European	No	No	Woman	Yes	Low	Bisexual	7	85.7
25-64	European	No	Yes	Woman	No	Moderate to high	Heterosexual	14	78.6
25-64	Māori	No	No	Woman	No	Low	Heterosexual	12	75
25-64	European	No	Yes	Woman	Yes	Low	Heterosexual	25	68
25-64	European & Māori	No	No	Woman	Yes	Moderate to high	Heterosexual	15	66

Note. Ethnicities were multiply coded in the NZCVS and have been combined in alphabetical order in this table.

The number of participants with each combination of characteristics (the *n*) and the number of poly-victims with each combination of characteristics has been randomly rounded to base three to comply with StatsNZ confidentiality rules.

Figure 9a

Distribution of 'main effects' for repeat sexual assault victims for ethnicity, financial stress, gender, and psychological distress characteristics. A main effect could not be computed for Asian or Pacific due to these categories producing extreme outliers.

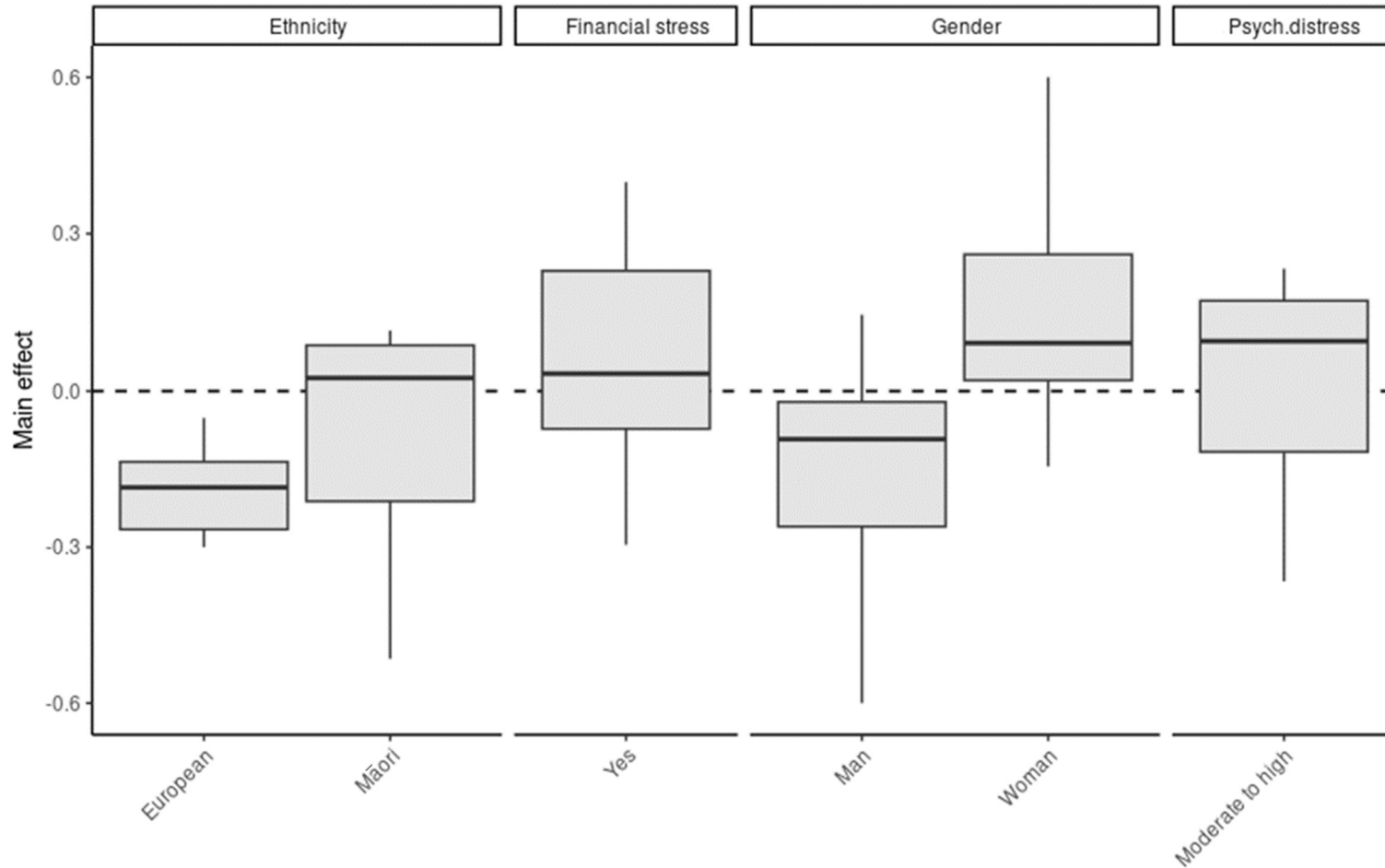
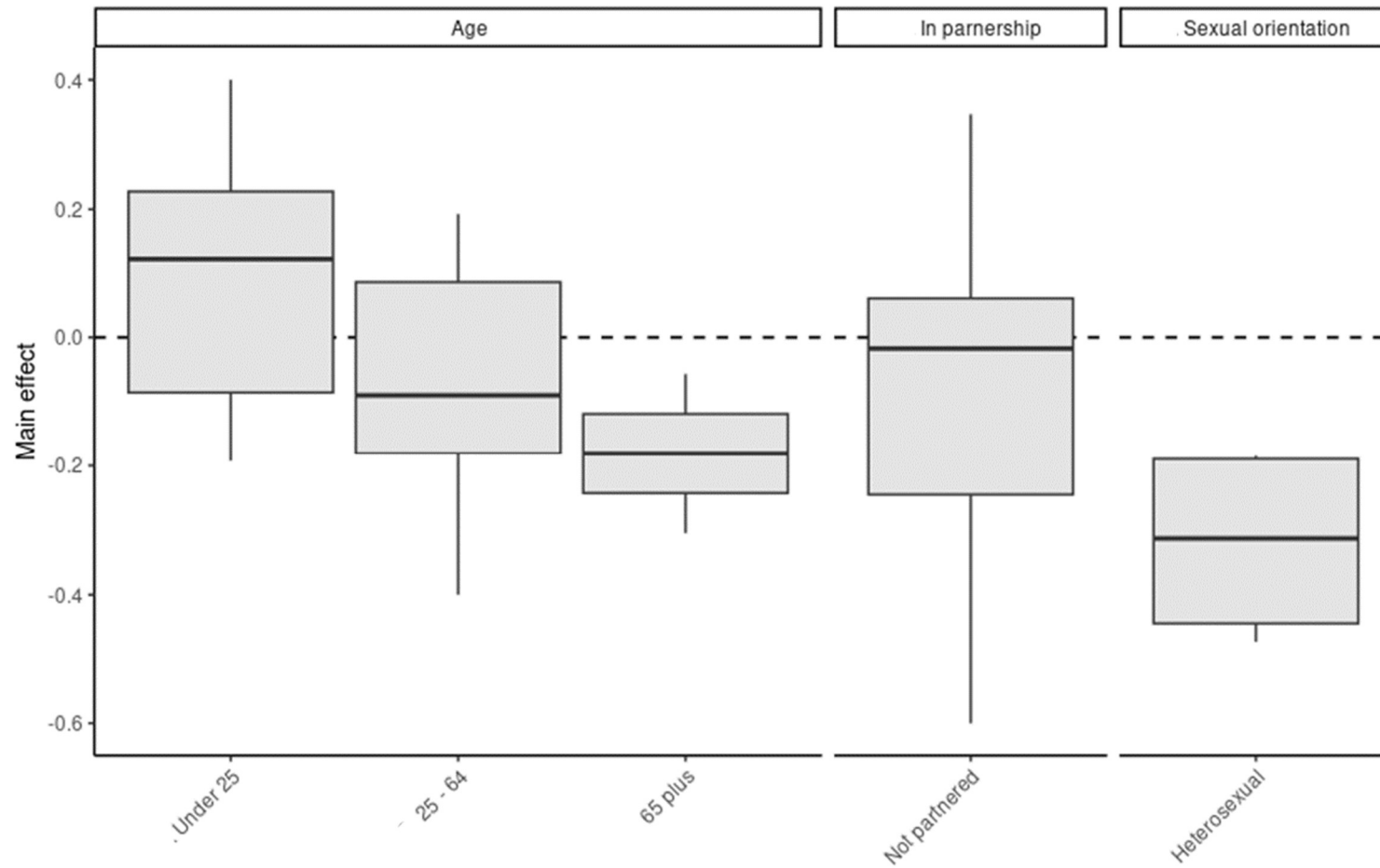


Figure 9b

Distribution of 'main effects' for repeat sexual assault victims for age, partnership status, and sexual identity characteristics. A main effect could not be computed for same sex attracted or bisexual due to these categories producing extreme outliers.



Section 10: Repeat Theft Victimization

Table 32 shows that once a person has been a victim of theft once, there is a reasonable chance that they will be victimised again (15.0% risk of re-victimisation). The risk of re-victimisation increases or stays stable each time a person is victimised, with around two-thirds of people who experience four theft incidents in a year experiencing further theft. Reducing repeat theft could reduce incidents of theft up to 53.4%.

Table 32

Theft: Cumulative percentages for both victims and incidents, with risk of re-victimisation, per number of victimisation experiences

	Victims	Incidents	% of victims	% of incidents	Risk of re-victimisation
Once	1,638	1,638	75.2%	46.6%	15.0%
Twice	288	574	88.4%	62.9%	29.4%
Three times	120	360	93.9%	73.2%	27.3%
Four times	45	180	96.0%	78.3%	65.9%
Five or more times	87	764	100.0%	100.0%	
Total	2,178	3,516			

Characteristics of repeat theft victims

Table 33 shows the demographic characteristics of repeat theft victims. The standardised residuals indicate that compared with single theft victims, repeat theft victims were more likely to be under 65 years, women, same sex attracted or bisexual, Māori, not with a current partner and/or with a disability. Repeat theft victims were also more likely than single theft victims to report experiencing moderate or high psychological distress and financial stress.

Combinations of characteristics with the greatest proportion of repeat theft victims

Table 34 shows the configurations (i.e., combinations of characteristics) with the largest proportion of repeat theft victims. The proportion of repeat theft victims was greatest in the configuration containing mid-aged European men, who were heterosexual, but not in a current partnership, with a low level of psychological distress, with financial stress and with no disability. The configuration with the next highest repeat theft victimisation rate was mid-aged European women, who were heterosexual, with a moderate to high level of psychological distress, with financial stress and with no disability.

Overall, in Table 34 we see that of the five configurations of characteristics that experienced the highest rates of repeat theft victimisation all were aged 25-64 years, were heterosexual and without a disability. In addition:

- A disproportionate number of configurations (n=3) involve people who identify as Māori (and identified as European in one configuration) compared to their prevalence as survey participants – see Table 4.

- Most configurations (n=4) include women, which is disproportionately high compared to their prevalence as survey participants – see Table 4.
- Most configurations (n=4) include women with no current partner.
- More than half of configurations (n=3) include people who report having low levels of psychological distress.

Characteristics with the strongest relationship with repeat theft victimisation

See Figure 11a and 11b for the boxplots displaying the distribution of differences from the mean repeat theft victimisation rate for individual characteristics. From this we see the contextual variability of each personal characteristic. Characteristics with ranges of values indicated by the boxplots that fall above and below the zero line (representing the sample mean repeat victimisation rate) were not clearly associated with an increased or decreased risk of repeat victimisation. In contrast, characteristics that have most values above or below the zero line—here defined as those boxes that do not cross the zero line, which represent 75% of values—are usually associated with a ‘main effect’. Applying this threshold, we can say that people who were Māori, who reported a moderate to high level of psychological distress and who had a disability were associated with an increased risk of repeat theft victimisation.

Table 33

Demographic characteristics of sample (N ≈ 32,682), comparing non-victims (n ≈ 30,510), single theft victims (n ≈ 1,641) and repeat theft victims (n ≈ 537)

Characteristic	Total	Non-victims n (%)	Single victims n (%)	Repeat victims n (%)	χ^2	<i>p</i>
Age					43.6	< .001
Under 25	3,180	2,949 (9.7)	168 (10.2)	63 (11.7)		
25-64	21,690	20,142 (66.0)	1,158 (70.6)	390 (72.6)		
65 plus	7,818	7,419 (24.3)	315 (19.2)	84 (15.6)		
Gender					21.4	< .001
Man	14,136	13,299 (43.6)	636 (38.8)	201 (37.4)		
Woman	18,474	17,145 (56.2)	993 (60.5)	336 (62.6)		
Gender diverse ^a	S	54 (0.2)	S	S		
Sexual identity					31.6	< .001
Heterosexual	31,272	29,139 (95.5)	1,533 (93.4)	498 (92.7)		
Same sex	432	393 (1.3)	27 (1.6)	12 (2.2)		
Bisexual	537	471 (1.5)	48 (2.9)	18 (3.4)		
Ethnicities						
Māori	9,219	8,436 (27.6)	558 (34.0)	225 (41.9)	81.8	< .001
Pacific	2,133	1,968 (6.5)	120 (7.3)	45 (8.4)	4.7	.098
European	22,932	21,483 (70.4)	1,119 (68.2)	330 (61.5)	25.1	< .001
Asian	3,210	3,015 (9.9)	150 (9.1)	45 (8.4)	1.9	.380
Psychological distress					258.9	< .001
Low	28,998	27,282 (89.4)	1,326 (80.8)	390 (72.6)		
Moderate or high	3,570	3,123 (10.2)	300 (18.3)	147 (27.4)		
Financial stress					165.8	< .001
No	26,496	24,948 (81.8)	1,197 (72.9)	351 (65.4)		
Yes	5,703	5,115 (16.8)	411 (25.0)	177 (33.0)		
In a partnership					38.5	< .001
Yes	21,147	19,866 (65.1)	981 (59.8)	300 (55.9)		
No	11,544	10,647 (34.9)	657 (40.0)	240 (44.7)		
Disability					25.0	< .001
Yes	1,806	1,638 (5.4)	117 (7.1)	51 (9.5)		
No	30,873	28,866 (94.6)	1,521 (92.7)	486 (90.5)		

Note. S = suppressed. Due to Statistics New Zealand confidentiality procedures, all numbers were randomly rounded to base 3, therefore totals may not add to 100%. All percentages were calculated with the denominator being the total number of poly-victims of non-poly-victims. Ethnicities were multiply coded. χ^2 statistics were calculated for individual ethnicities (e.g., Māori versus non-Māori).

^a Gender diverse people were excluded from the χ^2 analysis due to the small sample size.

Table 34

The five combinations of characteristics with the highest proportion of repeat theft victims. (The other five configurations were suppressed due to confidentialising processes required by StatsNZ).

Age	Ethnicities	Disability	Financial stress	Gender	Has a partner	Psychological distress	Sexual identity	n	% repeat victims
25-64	European	No	Yes	Man	No	Low	Heterosexual	14	27.1
25-64	European	No	Yes	Woman	No	Moderate to high	Heterosexual	23	52.2
25-64	Māori	No	Yes	Woman	No	Moderate to high	Heterosexual	20	45
25-64	European & Māori	No	Yes	Woman	No	Low	Heterosexual	15	40
25-64	Māori	No	Yes	Woman	Yes	Low	Heterosexual	21	38.1

Note. Ethnicities were multiply coded in the NZCVS and have been combined in alphabetical order in this table.

The number of participants with each combination of characteristics (the *n*) and the number of poly-victims with each combination of characteristics has been randomly rounded to base three to comply with StatsNZ confidentiality rules.

Figure 10a

Distribution of 'main effects' for repeat theft victims for ethnicity, financial stress, gender, and psychological distress characteristics. A main effect could not be computed for Asian and Pacific due to these categories producing extreme outliers.

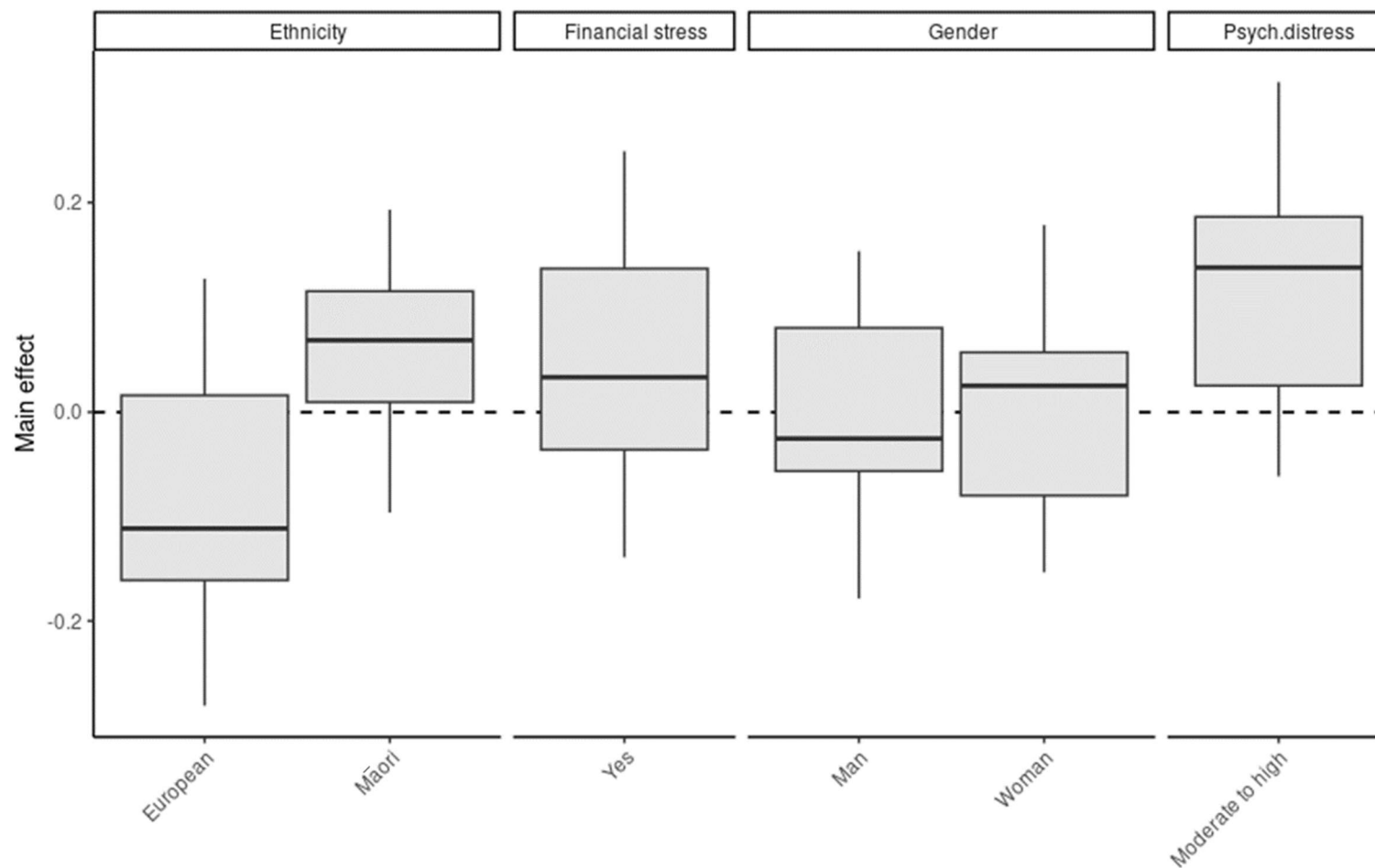
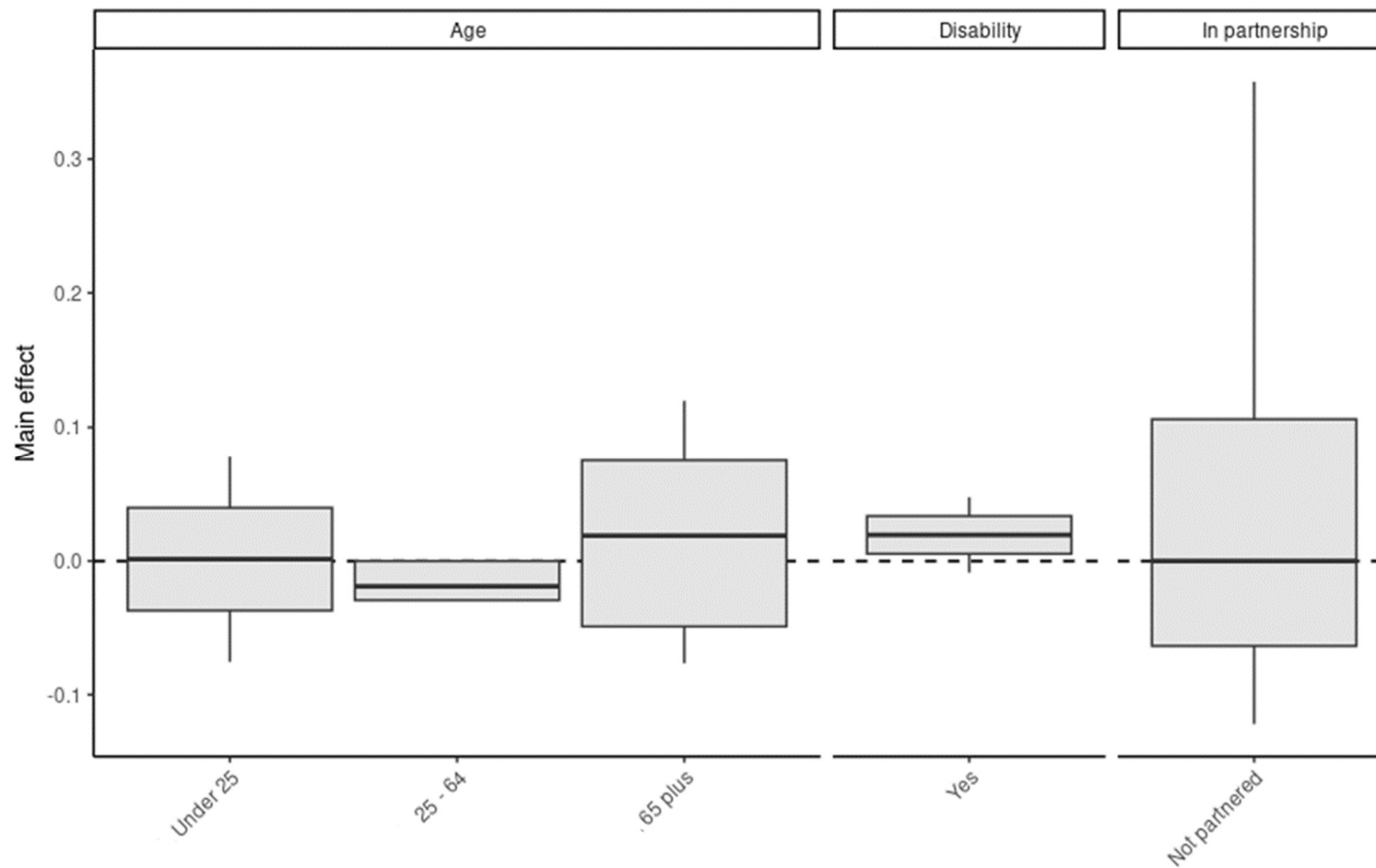


Figure 10b

Distribution of 'main effects' for repeat theft victims for age, disability, sexual identity, and partnership status characteristics.



Section 11: Repeat Trespass Victimization

Table 35 shows that once a person has been a victim of trespass once, there is a reasonable chance that they will be victimised again (15.5% risk of re-victimisation). The risk of re-victimisation increases each time a person is victimised, with 70% of people who experience four trespass incidents in a year experiencing further trespass. Reducing repeat trespass could reduce incidents of trespass up to 70.6%.

Table 35

Theft: Cumulative percentages for both victims and incidents, with risk of re-victimisation, per number of victimisation experiences

	Victims	Incidents	% of victims	% of incidents	Risk of re-victimisation
Once	1,734	1,734	70.1%	29.4%	15.5%
Twice	318	636	83.0%	40.2%	32.9%
Three times	156	471	89.3%	48.1%	33.3%
Four times	78	304	92.5%	53.3%	70.5%
Five or more times	186	2,756	100.0%	100.0%	
Total	2,472	5,902			

Characteristics of repeat trespass victims

Table 36 shows the demographic characteristics of repeat trespass victims. Compared with single trespass victims, the standardised residuals indicate that repeat trespass victims were more likely to be under 65 years, women, bisexual, not with a current partner and/or with a disability. Repeat trespass victims were also more likely than single trespass victims to report experiencing moderate or high psychological distress and financial stress.

Characteristics with the strongest relationship with repeat trespass victimisation

See Figure 12a and 12b for the boxplots displaying the distribution of differences from the mean repeat trespass victimisation rate for individual characteristics. From this we see the contextual variability of each personal characteristic. Characteristics with ranges of values indicated by the boxplots that fall above and below the zero line (representing the sample mean repeat victimisation rate) were not clearly associated with an increased or decreased risk of repeat victimisation. In contrast, characteristics that have most values above or below the zero line—here defined as those boxes that do not cross the zero line, which represent 75% of values—are usually associated with a ‘main effect’. Applying this threshold, we can say that people under 65 years and those who were experiencing financial stress were associated with an increased risk of repeat trespass victimisation. People who were Asian, European, Pacific, or 65 years or older were associated with a decreased risk of repeat trespass victimisation.

Combinations of characteristics with the greatest proportion of repeat trespass victims

Table 37 shows the configurations (i.e., combinations of characteristics) with the largest proportion of repeat trespass victims. The proportion of repeat trespass victims was greatest

in the configuration containing mid-aged Māori women, who were heterosexual, with a partner, with a moderate to high level of psychological distress, with financial stress and with no disability. The configuration with the next highest repeat trespass victimisation rate was the exact same combination of characteristics, except this time the women did not have a current partner.

Overall, in Table 37 we see that of the seven configurations of characteristics that experienced the highest rates of repeat trespass victimisation all were aged 25-64 years, were heterosexual and did not have a disability. In addition:

- A disproportionate number of configurations (n=5) involve people who identify as Māori, and Pacific (n=1) compared to their prevalence as survey participants – see Table 4.
- Many configurations (n=5) included women who were experiencing financial stress.
- Most configurations (n=6) included women, which is disproportionately high compared to their prevalence as survey participants – see Table 4.
- Over half of configurations (n=4) included people with a current partner.
- More than half of configurations (n=4) include people who report having low levels of psychological distress.

Table 36

Demographic characteristics of sample (N ≈ 32,682), comparing non-victims (n ≈ 30,210), single trespass victims (n ≈ 1,734) and repeat trespass victims (n ≈ 738)

Characteristic	Total	Non-victims n (%)	Single victims n (%)	Repeat victims n (%)	χ^2	<i>p</i>
Age					124.4	< .001
Under 25	3,177	2,940 (9.7)	162 (9.3)	75 (10.2)		
25-64	21,690	19,824 (65.6)	1,305 (75.3)	561 (76.0)		
65 plus	7,815	7,446 (24.6)	267 (15.4)	102 (13.8)		
Gender					21.0	< .001
Man	14,136	13,164 (43.6)	702 (40.5)	270 (36.6)		
Woman	18,477	16,980 (56.2)	1,029 (59.3)	468 (63.4)		
Gender diverse ^a	S	57 (0.2)	S	S		
Sexual identity					19.7	< .001
Heterosexual	31,170	28,851 (95.5)	1,632 (94.1)	687 (93.1)		
Same sex	432	393 (1.3)	27 (1.6)	12 (1.6)		
Bisexual	537	471 (1.6)	42 (2.4)	24 (3.3)		
Ethnicities						
Māori	9,222	8,388 (27.8)	558 (32.2)	276 (37.4)	45.3	< .001
Pacific	2,130	1,956 (6.5)	114 (6.6)	60 (8.1)	3.8	.149
European	22,929	21,228 (70.3)	1,224 (70.6)	477 (64.6)	12.1	.002
Asian	3,210	3,003 (9.9)	153 (8.8)	54 (7.3)	7.7	.022
Psychological distress					245.5	< .001
Low	29,001	27,024 (89.5)	1,431 (82.5)	546 (74.0)		
Moderate or high	3,570	3,084 (10.2)	300 (17.3)	186 (25.2)		
Financial stress					165.6	< .001
No	26,493	24,672 (81.7)	1,350 (77.9)	471 (63.8)		
Yes	5,700	5,094 (16.9)	351 (20.2)	255 (34.6)		
In a partnership					12.3	.002
Yes	21,147	19,539 (64.7)	1,167 (67.3)	441 (59.8)		
No	11,547	10,680 (35.4)	570 (32.9)	297 (40.2)		
Disability					7.3	.027
Yes	1,806	1,641 (5.4)	111 (6.4)	54 (7.3)		
No	30,774	28,566 (94.6)	1,623 (93.6)	585 (79.3)		

Note. S = suppressed. Due to Statistics New Zealand confidentiality procedures, all numbers were randomly rounded to base 3, therefore totals may not add to 100%. All percentages were calculated with the denominator being the total number of poly-victims of non-poly-victims. Ethnicities were multiply coded. χ^2 statistics were calculated for individual ethnicities (e.g., Māori versus non-Māori).

^a Gender diverse people were excluded from the χ^2 analysis due to the small sample size.

Table 37

The seven combinations of characteristics with the highest proportion of repeat trespass victims. (The other three configurations were suppressed due to confidentialising processes required by StatsNZ).

Age	Ethnicities	Disability	Financial stress	Gender	Has a partner	Psychological distress	Sexual identity	n	% repeat victims
25-64	Māori	No	Yes	Woman	Yes	Moderate to high	Heterosexual	12	66.7
25-64	Māori	No	Yes	Woman	No	Moderate to high	Heterosexual	18	61.1
25-64	Māori	No	Yes	Woman	Yes	Low	Heterosexual	17	58.8
25-64	Pacific	No	Yes	Woman	Yes	Low	Heterosexual	21	52.3
25-64	Māori	No	Yes	Woman	No	Low	Heterosexual	31	51.6
25-64	European	No	No	Man	Yes	Moderate to high	Heterosexual	17	45.4
25-64	Māori	No	No	Woman	No	Low	Heterosexual	27	44.4

Note. Ethnicities were multiply coded in the NZCVS and have been combined in alphabetical order in this table.

The number of participants with each combination of characteristics (the *n*) and the number of poly-victims with each combination of characteristics has been randomly rounded to base three to comply with StatsNZ confidentiality rules.

Figure 11a

Distribution of 'main effects' for repeat trespass victims for ethnicity, financial stress, gender, and psychological distress characteristics.

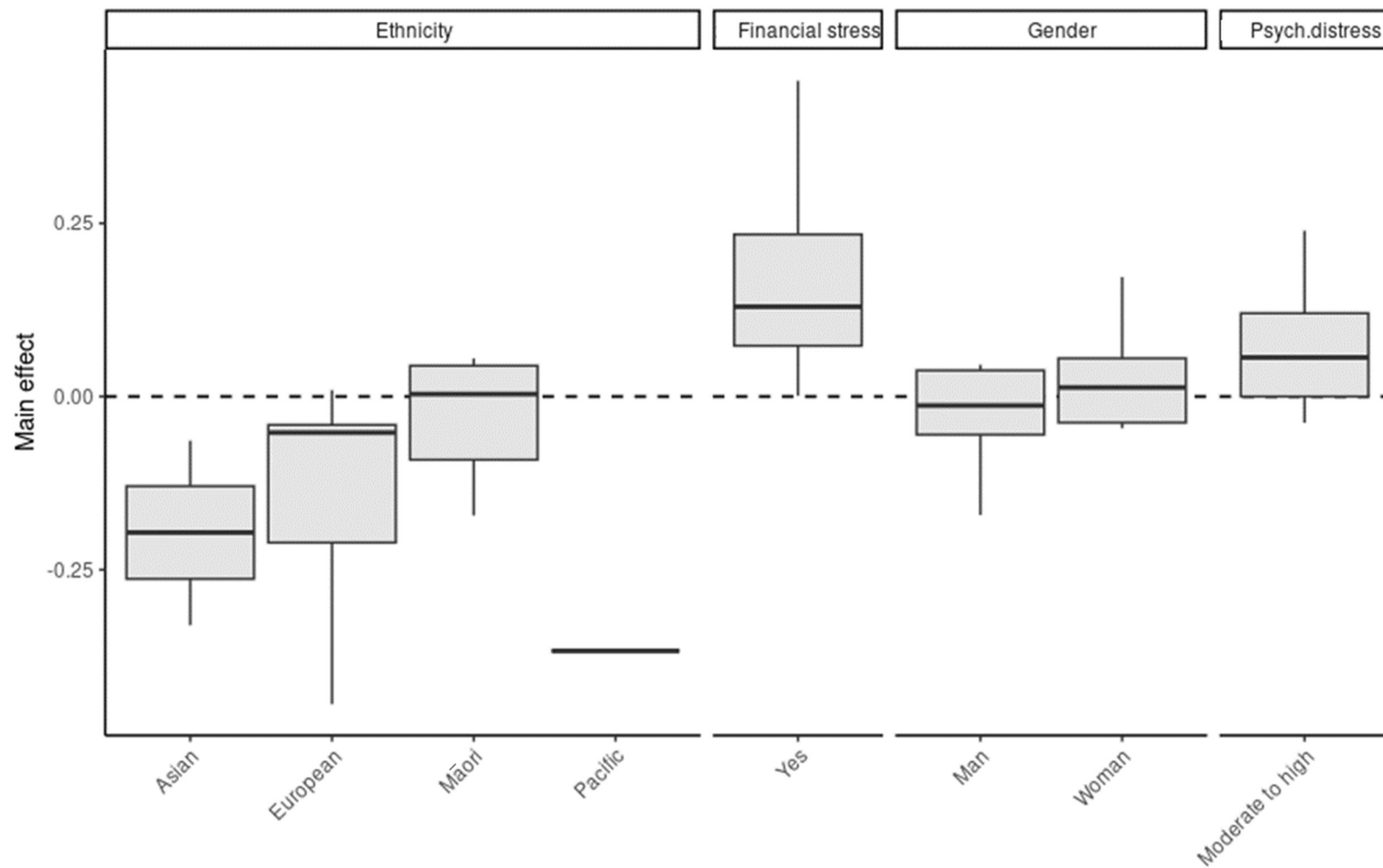
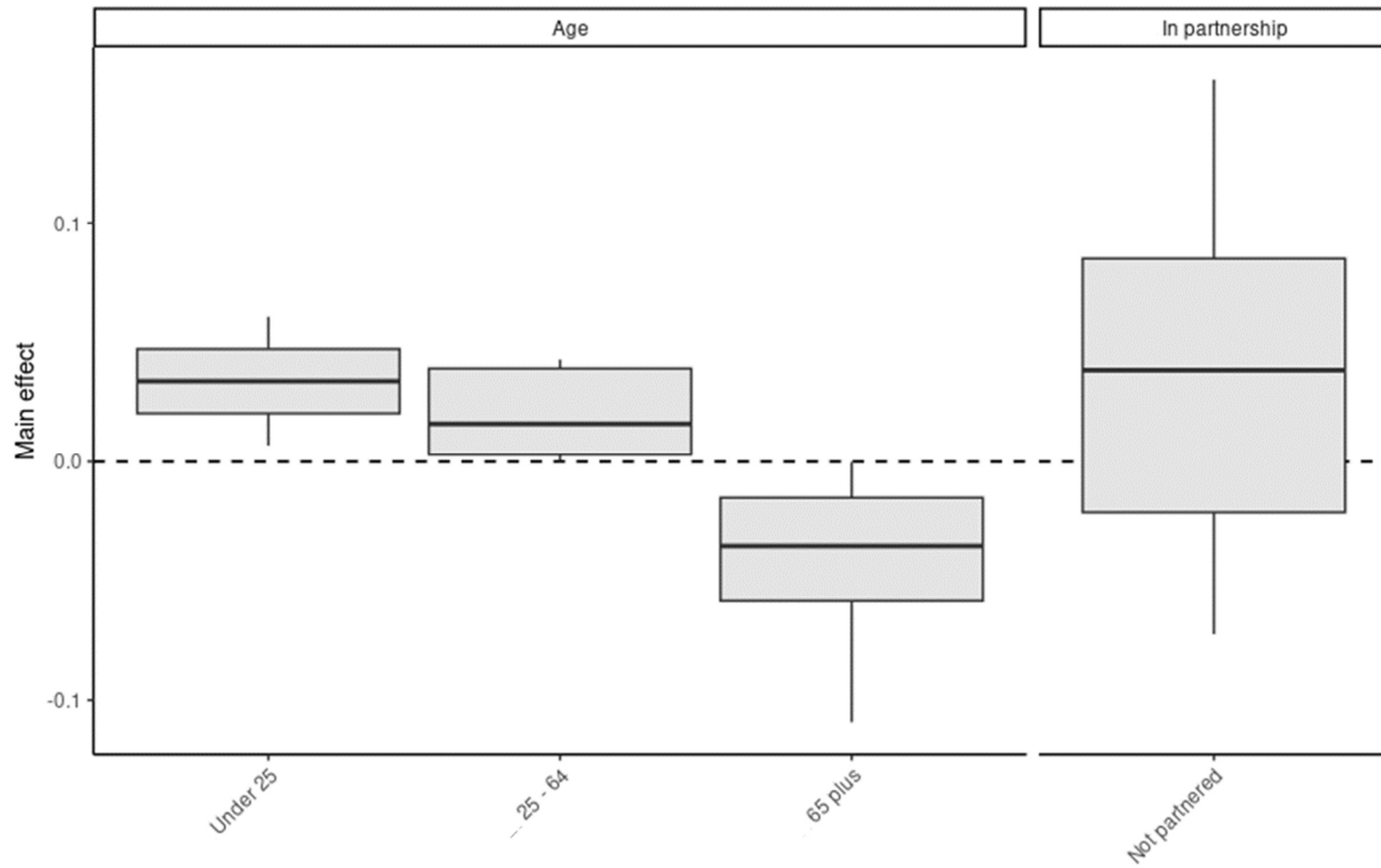


Figure 11b

Distribution of 'main effects' for repeat trespass victims for age, and partnership status characteristics. A main effect could not be computed for other characteristics due to these producing extreme outliers.



Section 12: Repeat Vehicle and Bike Theft Victimization

Table 28 shows that once a person has been a victim of vehicle or bike theft¹⁰ once, there is a reasonable chance that they will be victimised again (15.5% risk of re-victimisation). The risk of re-victimisation increases each time a person is victimised, with just under half of people who experience four vehicle or bike theft incidents in a year experiencing further vehicle or bike theft. Reducing repeat vehicle or bike theft could reduce incidents of vehicle or bike theft up to 43.9%.

Table 28

Theft: Cumulative percentages for both victims and incidents, with risk of re-victimisation, per number of victimisation experiences

	Victims	Incidents	% of victims	% of incidents	Risk of re-victimisation
Once	2,919	2,919	78.2%	56.1%	
Twice	534	1,068	92.5%	76.6%	15.5%
Three times	138	417	96.2%	84.7%	20.5%
Four times	75	308	98.2%	90.6%	35.2%
Five or more times	66	494	100.0%	100.1%	46.8%
Total	3,732	5,202			

Characteristics of repeat vehicle and bike theft victims

Table 29 shows the demographic characteristics of repeat vehicle and bike theft victims. The standardised residuals indicate that compared with single vehicle and bike theft victims, repeat vehicle and bike theft victims were more likely to be under 64 years, women, Māori, not in a current partnership, with a disability and/or to have reported that they experienced moderate to high levels of psychological distress and financial stress.

Combinations of characteristics with the greatest proportion of repeat vehicle and bike theft victims

Table 30 shows the configurations (i.e., combinations of characteristics) with the largest proportion of repeat vehicle and bike theft victims. The proportion of repeat vehicle and bike theft victims was greatest in the configuration containing mid-aged women, who identified as European and Māori, who were heterosexual but did not have a current partner, with a low level of psychological distress, with financial stress and with no disability. The next highest repeat vehicle and bike theft victimisation rate was shared by two configurations. The first was very similar to the highest rate configuration, except it was for women with a partner and from an ethnicity not classified in one of the main categories (Asian, European, Māori, or Pacific). The second configuration with the second highest repeat vehicle and bike theft victimisation rate was mid-aged Māori women, who were heterosexual and had a partner, with a moderate to high level of psychological distress, with financial stress and with no disability.

¹⁰ Or damage, see page 8 for the definitions of crime types.

Overall, in Table 30 we see that of the six configurations of characteristics that experienced the highest rates of repeat vehicle and bike theft victimisation all were 25-64 year old women, were heterosexual and did not have a disability. In addition:

- A disproportionate number of configurations (n=4) involve people who identify as Māori, and Other (n=1) compared to their prevalence as survey participants – see Table 4.
- Many configurations (n=4) included women who were experiencing financial stress.
- There was an even split of configurations with and without a current partner (n=3 apiece).
- Many configurations (n=4) include people who report having moderate to high levels of psychological distress.

Characteristics with the strongest relationship with repeat vehicle and bike theft victimisation

See Figure 13a and 13b for the boxplots displaying the distribution of differences from the mean repeat vehicle and bike theft victimisation rate for individual characteristics. From this we see the contextual variability of each personal characteristic. Characteristics with ranges of values indicated by the boxplots that fall above and below the zero line (representing the sample mean repeat victimisation rate) were not clearly associated with an increased or decreased risk of repeat victimisation. In contrast, characteristics that have most values above or below the zero line—here defined as those boxes that do not cross the zero line, which represent 75% of values—are usually associated with a ‘main effect’. Applying this threshold, we can say that people who were heterosexual, experiencing financial stress and/or moderate to high psychological distress were associated with an increased risk of repeat vehicle and bike theft. People who were Asian or Pacific were associated with a decreased risk of repeat vehicle and bike theft victimisation.

Table 29

Demographic characteristics of sample (N ≈ 32,682), comparing non-victims (n ≈ 28,950), single vehicle and bike theft victims (n ≈ 2,913) and repeat vehicle and bike theft victims (n ≈ 816)

Characteristic	Total	Non-victims n (%)	Single victims n (%)	Repeat victims n (%)	χ^2	<i>p</i>
Age					435.0	< .001
Under 25	3,177	2,661 (9.2)	381 (13.1)	135 (16.5)		
25-64	21,687	18,879 (65.2)	2,187 (75.1)	621 (76.1)		
65 plus	7,815	7,410 (25.6)	345 (11.8)	60 (7.4)		
Gender					5.1	< .001
Man	14,133	12,504 (43.2)	1,299 (44.6)	330 (40.4)		
Woman	18,474	16,383 (56.6)	1,605 (55.1)	486 (59.6)		
Gender diverse ^a	S	54 (0.2)	S	S		
Sexual identity					27.4	< .001
Heterosexual	31,197	27,687 (95.6)	2,745 (94.2)	765 (93.8)		
Same sex	432	375 (1.3)	45 (1.5)	12 (1.5)		
Bisexual	534	438 (1.5)	75 (2.6)	21 (2.6)		
Ethnicities						
Māori	9,219	7,956 (27.5)	921 (31.6)	342 (41.9)	101.0	< .001
Pacific	2,133	1,833 (6.3)	237 (8.1)	63 (7.7)	15.9	< .001
European	22,929	20,460 (70.7)	1,974 (67.8)	495 (60.7)	49.0	< .001
Asian	3,210	2,820 (9.7)	303 (10.4)	87 (10.7)	2.1	.335
Psychological distress					201.7	< .001
Low	28,998	25,896 (89.5)	2,493 (85.6)	609 (74.6)		
Moderate or high	3,570	2,961 (10.2)	408 (14.0)	201 (24.6)		
Financial stress					115.2	< .001
No	26,499	23,652 (81.7)	2,286 (78.5)	561 (68.8)		
Yes	5,697	4,860 (16.8)	594 (20.4)	243 (29.8)		
In a partnership					18.5	< .001
Yes	21,147	18,657 (64.4)	1,986 (68.2)	504 (61.8)		
No	11,541	10,299 (35.6)	930 (31.9)	312 (38.2)		
Disability					18.2	< .001
Yes	1,803	1,635 (5.6)	114 (3.9)	54 (6.6)		
No	30,873	27,312 (94.3)	2,799 (96.1)	762 (93.4)		

Note. S = suppressed. Due to Statistics New Zealand confidentiality procedures, all numbers were randomly rounded to base 3, therefore totals may not add to 100%. All percentages were calculated with the denominator being the total number of poly-victims of non-poly-victims. Ethnicities were multiply coded. χ^2 statistics were calculated for individual ethnicities (e.g., Māori versus non-Māori).

^a Gender diverse people were excluded from the χ^2 analysis due to the small sample size.

Table 30

The six combinations of characteristics with the highest proportion of repeat trespass victims. (The other four configurations were suppressed due to confidentialising processes required by StatsNZ).

Age	Ethnicities	Disability	Financial stress	Gender	Has a partner	Psychological distress	Sexual identity	n	% repeat victims
25-64	European & Māori	No	Yes	Woman	No	Low	Heterosexual	11	64.7
25-64	Other [#]	No	No	Woman	Yes	Low	Heterosexual	8	50.0
25-64	Māori	No	Yes	Woman	Yes	Moderate to high	Heterosexual	6	50.0
25-64	European	No	Yes	Woman	No	Moderate to high	Heterosexual	13	48.1
25-64	Māori	No	No	Woman	Yes	Moderate to high	Heterosexual	6	46.2
25-64	Māori	No	Yes	Woman	No	Moderate to high	Heterosexual	8	42.1

Note. Ethnicities were multiply coded in the NZCVS and have been combined in alphabetical order in this table. [#] denotes a respondent who did not identify as European, Māori, Pacific or Asian.

The number of participants with each combination of characteristics (the *n*) and the number of poly-victims with each combination of characteristics has been randomly rounded to base three to comply with StatsNZ confidentiality rules.

Figure 12a

Distribution of 'main effects' for repeat vehicle and bike theft victims for ethnicity, financial stress, gender, and psychological distress characteristics

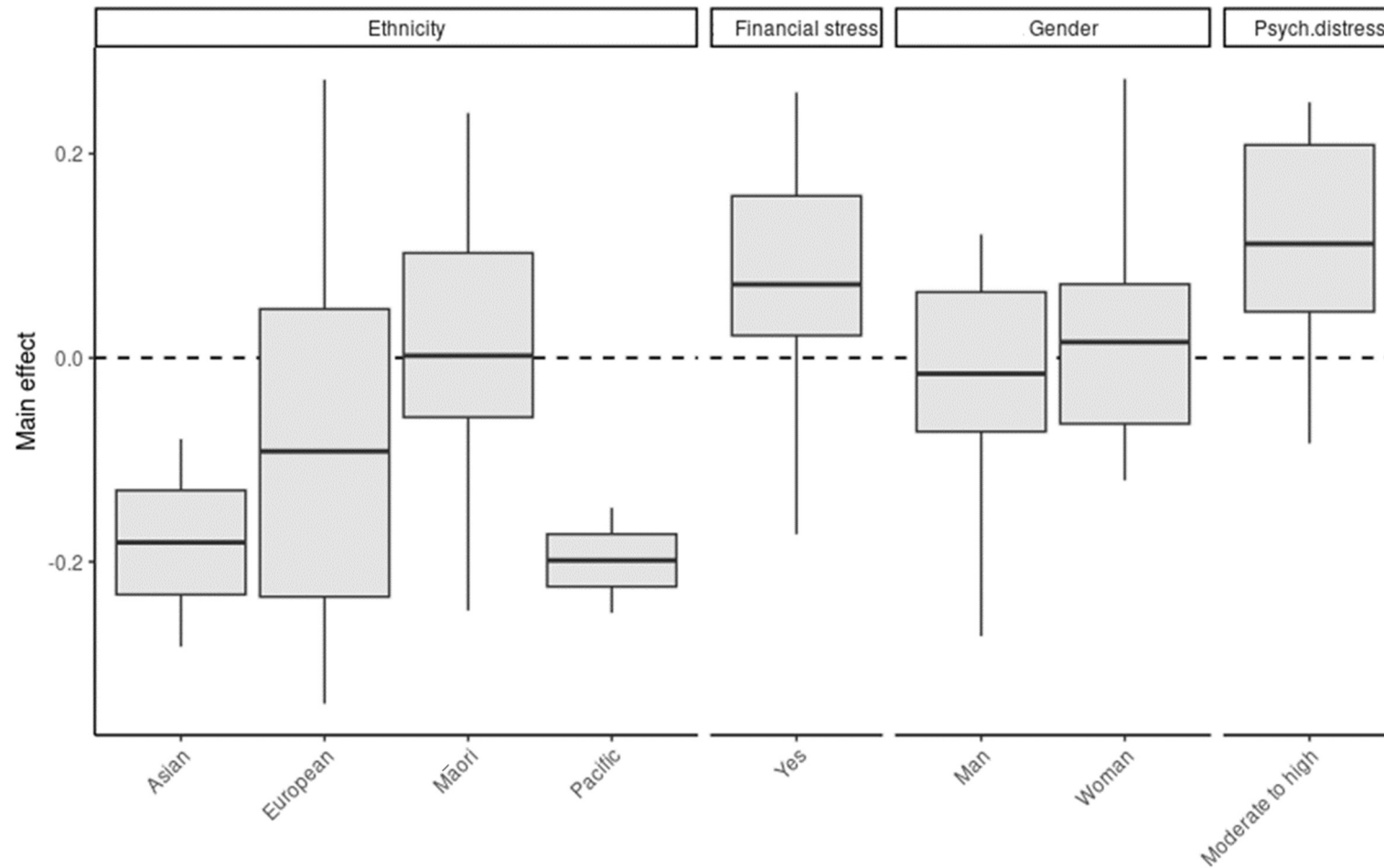
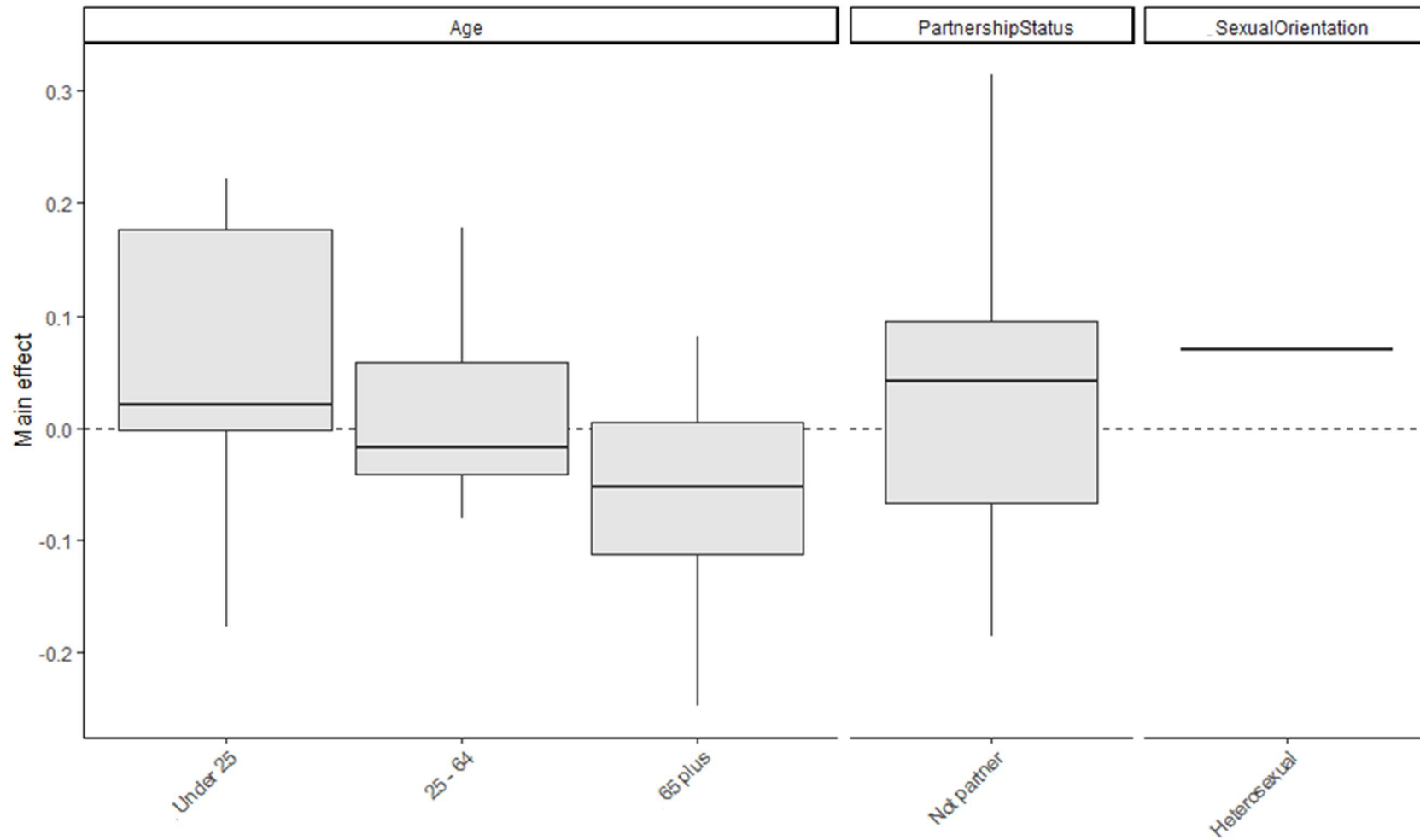


Figure 12b

Distribution of 'main effects' for repeat vehicle and bike theft victims for age and partnership status characteristics. A main effect could not be computed for other characteristics due to these producing extreme outliers.



Discussion

Policy efforts based on evidence about risk for re-victimisation both protect some of the most vulnerable people in society and have a good chance of reducing crime levels overall (Farrell and Pease, 1993; Grove et al., 2012; Pease et al., 2018). While research has established that the phenomenon of re-victimisation is ubiquitous, less is known about what makes some people more vulnerable to re-victimisation than others (Hamilton and Browne, 1998; Nazaretian and Fitch, 2021). Enhancing understanding of who these people are is thus crucial for developing contemporary victim-centred crime prevention policy.

This research established, for the first time in Aotearoa New Zealand, that the risk of re-victimisation is cumulative across many different types of crime (see Table 2). Re-victimisation accounts for a large proportion of the harm caused by victimisation, and hence vulnerability to re-victimisation is important to address in policy and practice efforts. But to do so requires a nuanced understanding of who is most at risk of re-victimisation. Victimology theories suggest that such people are not able to be defined through coarse demographic characteristics, but that vulnerability is dynamic, and often relates to intersecting characteristics. For this reason, this research took an intersectional approach to looking at what made someone more likely to experience re-victimisation, after they had experienced a first victimisation.

As mentioned on page 9, traditional statistical models assume that explanatory variables are contextually invariant (Hart et al., 2013). That is, the value that is produced for an explanatory variable is the average effect across all contexts. The loss of contextually relevant detail in these models is often what is being sought; to pare the results back to a single effect size for each explanatory variable. But research that seeks to understand complex interdependencies among explanatory variables and within-group variability requires other methods.

We analysed different types of re-victimisation over five waves of the New Zealand Crime and Victims Survey (NZCVS) with Conjunctive Analysis of Case Configurations (CACC). This method enabled us to position groups (i.e., combinations of characteristics) as the unit of analysis and identify statistically noteworthy correlates of re-victimisation. We use re-victimisation as an umbrella term to cover:

- Poly-victimisation (i.e., >1 victimisation for different types of crime), and
- Repeat-victimisation (i.e., >1 victimisation for different types of crime), for 11 types of crime.

As might be expected, due to their diverse opportunity structures, we observed different rates of re-victimisation across specific types of repeat- and poly-victimisation (see Table 2). Taking the former, re-victimisation rates tended to be higher for interpersonal types of crime (e.g., assault, harassment and threats, sexual assault) and lower for property crime (e.g., burglary, fraud, property damage, robbery, theft, trespass and vehicle and bike theft). The rate of poly-victimisation—i.e., experiencing two or more different types of crime—was only slightly higher than the rate of single-victimisation. However, once someone had had four different victimisation experiences, the risk of experiencing a fifth victimisation was acute (78.5%), similar to many types of repeat-victimisation.

The CACC analysis, presented in sections 1-12 showed that oftentimes, risk of repeat- and poly-victimisation is not easily reducible to single characteristics, but instead is more likely to be associated with interactions between characteristics, hence intersectionality is important in understanding risk. For example, Māori were over-represented in configurations of

characteristics for specific types of re-victimisation (e.g., among poly-victims and repeat victims for assault, burglary, fraud, harassment, property damage, sexual assault, theft, trespass, vehicle and bike theft). However, the main effects analysis, which isolates the effect of individual characteristics on the outcome of re-victimisation, showed that being Māori was only associated *on its own* with risk of repeat assault, property damage and theft. This means that the re-victimisation rate, for repeat burglary, fraud, harassment, sexual assault, trespass and vehicle and bike theft, is contextually variable. That is, it is not just being Māori that influences risk, but intersectionality is associated with increased vulnerability to re-victimisation for many crime types.

Similarly, women were overrepresented in configurations of characteristics for specific types of re-victimisation (e.g., fraud, harassment, property damage, sexual assault, theft, trespass, vehicle and bike theft). However, as an individual characteristic on its own, being a woman was only associated with increased risk of repeat harassment and repeat sexual assault.

Many re-victimisation experiences happen to people—most often women—who were experiencing financial stress and moderate to high psychological distress. This suggests people at a high risk of re-victimisation have complex needs that require a multi-agency policy response to reduce their vulnerability to re-victimisation. Risk of repeat-cybercrime was the only exception to this general trend. Here, having no financial stress was associated with a greater risk of re-victimisation. Fraud also deviated from the general trend, with men being more at risk of re-victimisation. This serves to highlight that different crime types are associated with different victim profiles and opportunity structures, which is well supported in the literature (Felson and Clarke, 1998).

The example of young people (under 25 years) illustrates different opportunity structures. Young people were associated with a greater risk of repeat-assault, -robbery and -trespass. The first two are explainable by young people typically spending more time in public space with strangers than older people (Agustina and Felson, 2015). Young people were simultaneously associated with a reduced risk of repeat-burglary and -fraud, ostensibly because young people are less likely to have assets than older people (e.g., be less likely to be homeowners and have disposable income).

Implications

The fact that few characteristics were found to be consistently associated with increased risk of victimisation (except for moderate-high psychological distress) in this research indicates that intersectionality—the intersection of multiple personal characteristics—is crucial for understanding increased risk of re-victimisation. Furthermore, personal characteristics may be just one piece of the puzzle for understanding vulnerability to re-victimisation. An extensive body of evidence suggests that lifestyle factors are associated with risk of victimisation (e.g., see, among others, Tseloni et al., 2004) and, although it has yet to be studied, it is plausible that this may also be true for re-victimisation.

As introduced on pages 1-2, the prevailing explanations for repeat-victimisation come under the flag and boost mechanisms. To recap, the flag mechanism suggests multiple offenders have identified a target that is inherently vulnerable. The boost mechanism suggests that the original victimisation event *boosts* the chance of another happening (usually by the same offender). Although we were not able to test it in this research, logic suggests that repeat-victimisation is most likely driven by the boost mechanism and poly-victimisation by the flag

mechanism. Regarding the latter, specific combinations of characteristics might signal to multiple potential offenders that a particular person is vulnerable and therefore would make a good target for crime.

Limitations and future directions

This research has several limitations, relating to the data and method used. First, because the CACC method we used partitions the data into configurations (i.e., combinations of characteristics), the sample size of people in each configuration often became very small. For some types of infrequent repeat victimisation (e.g., robbery), and for demographic characteristics with low sample sizes (e.g., gender diverse, same sex attracted and bisexual) this means that suppression rates that are required by StatsNZ to protect against people being identified, were high. As this research was the first step in examining the relationship between intersectionality and risk of re-victimisation, we encourage future research to use fewer theoretically motivated characteristics to ensure that sample sizes remain sufficient for displaying analytic results. Future waves of NZCVS data will augment the overall sample size which will assist with overcoming small sample sizes in due course.

In addition, the CACC method did not allow for exploring subsets of pairs of characteristics (e.g., young and Māori). Future research using different methods might be able to further explain the interaction between specific characteristics.

Due to the way the survey questions were worded, it could not be discerned whether psychological distress preceded or followed victimisation experiences. Hence, there was temporal confounding in the data. Since this characteristic was the one most associated with risk of re-victimisation it would be instructive for future research to unpick the temporal ordering of psychological distress with re-victimisation, so that the causal direction could be better understood. Such information would be valuable to victim-support services.

Another feature of the NZCVS data that might be improved in future is the expansion of the category 'cybercrime' into subtypes. Cybercrime is generally understood to be an umbrella term, encompassing a wide range of cyber-enabled behaviours (e.g., cyber-fraud, hacking, various forms of cyber-abuse). A more nuanced approach to asking survey respondents about their experiences of cyber-crime would enable more precise and, policy-relevant, research to be undertaken.

The evidence base for poly-victimisation is underdeveloped. After the broad findings we present in this report, we believe it important to unpack and discern different types of co-occurring victimisation experiences to enable understanding of what types of crime are commonly experienced together or by similar groups of people.

Finally, opportunity structures for crime are usually thought about with reference to offender and target (victim) routines in space and time (Cohen and Felson, 1979). Here, the focus is not on what the characteristics of the offenders or victims are, but where they are in moments where conditions are favourable to crime happening. Future research might fruitfully focus on the routines of victims (or offenders) to discern if these offer a more potent explanation of increased risk of poly- and repeat-victimisation. One way this might be undertaken is for a subsample of NZCVS respondents to be re-interviewed, to understand the situational factors that were present at the time of victimisation, and what routine activities led the victim to be at the crime site at that specific time.

Conclusion

Taken together, this research makes four important contributions to the evidence base on victimisation. First, while re-victimisation experiences have been studied for a range of crime types internationally (see Farrell et al., 2005), this is the first research to do so for Aotearoa New Zealand. Second, it adds to the scant evidence base on poly-victimisation. Third, it corroborates the empirical findings from other countries that risk of re-victimisation increases cumulatively (Johnson et al., 1997), hence the need for policies and practices that get upstream of the problem and prevent re-victimisation at the earliest opportunity. Fourth, this research advances knowledge on how socio-demographic characteristics intersect to elevate risk of re-victimisation. The findings are relevant for policymakers developing victimisation prevention programmes across various organisations in Aotearoa New Zealand.

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Appendix A, preregistration document



CONFIDENTIAL - FOR PEER-REVIEW ONLY Understanding risk of repeat victimisation in Aotearoa New Zealand (#145205)

Created: 09/27/2023 08:14 PM (PT)

This is an anonymized copy (without author names) of the pre-registration. It was created by the author(s) to use during peer-review. A non-anonymized version (containing author names) should be made available by the authors when the work it supports is made public.

1) Have any data been collected for this study already?

It's complicated. We have already collected some data but explain in Question 8 why readers may consider this a valid pre-registration nevertheless.

2) What's the main question being asked or hypothesis being tested in this study?

We intend to examine patterns of repeat and polyvictimisation in New Zealand using data collected for the New Zealand Crime and Victims Survey. Our research questions are:

1. What are the dominant unique combinations of characteristics (case configurations) at increased risk of repeat victimisation? That is, who experiences more than one of the same type of crime over a 12-month period?
2. What are the dominant unique combinations of characteristics (case configurations) at increased risk of polyvictimisation? That is, who experiences more than one different type of crime over a 12-month period?
3. How do the groups identified in questions 1 and 2 vary by the type of crime experienced (e.g., interpersonal vs. property; offences by family members vs. non-family members)?

3) Describe the key dependent variable(s) specifying how they will be measured.

Dependent binary variables will be calculated for two types of victimisation:

1. Whether respondents report repeat victimisation (>1 of the same crime type experienced in the last 12 months)
2. Whether respondents report polyvictimisation (>1 different crime types experienced in the last 12 months)

4) How many and which conditions will participants be assigned to?

Analyses will initially be run for 'all offences' and coarsely aggregated crime types: 'personal offences' and 'household offences'.

Subsequently, we will disaggregate the analysis for the repeat victimisation outcome to 17 individual crime types. For personal offences these include: fraud and deception, cybercrime (i.e., a computer or internet-enabled device was infected or interfered with), sexual assault, harassment and threatening behaviour, property damage (personal), other assault, robbery, and theft (except motor vehicles - personal). For household offences these include: theft (except motor vehicles - household), property damage (household), unlawful takes/converts/interferes with bicycle, theft of/unlawful takes/converts motor vehicle, theft (from motor vehicle), unlawful interference/getting into motor vehicle, damage to motor vehicles, burglary and trespass. We will also compare offences committed by family members of the victim and by non-family members.

5) Specify exactly which analyses you will conduct to examine the main question/hypothesis.

We will use descriptive statistics to describe the sample and inform how we aggregate the categorical independent variables for Conjunctive Analysis of Case Configurations (CACC). Presently, the independent variables are expected to be age, gender, ethnicity, sexual orientation, disability status, partnership status, mental health status, employment status, financial stress, rural/urban.

We will identify 'dominant case configurations' containing 10 or more records per case configuration (Miethe et al., 2008). The final truth table will contain one row for each dominant case configuration that is empirically observed in the original data, the number of times it was observed, and the proportion of times it produced the victimisation outcomes.

Analysis of a CACC truth table begins with ascertaining whether clustering is present among dominant case configurations (Hart, 2019). This includes the calculation of a chi-square goodness-of-fit. Next, to determine the magnitude of clustering, a situational clustering index value (SCI; analogous to a Gini coefficient) is calculated, along with Lorenz curves to visualise the distribution of case configurations. The SCI ranges from 0-1, with 0 representing an exactly equal distribution of records across dominant case configurations and 1 representing absolute clustering of all records into one dominant case configuration.

Lastly, we will assess the relative influence of focal variables within dominant case configurations by conducting 'main effects' analysis (Hart et al., 2017; Hart & Moneva, 2018). This uses sets of profiles, matched on all but one variable, to isolate the effect of individual predictor variables while controlling for all other combinations of variables. The results will be presented in box plots (Drawve et al., 2017).

6) Describe exactly how outliers will be defined and handled, and your precise rule(s) for excluding observations.

We will discard cases with missing, refused, or 'other' responses (e.g., other sexual orientation) because these answers will not add any explanatory depth about the social groups who are more likely to be at risk of repeat or poly-victimisation.

7) How many observations will be collected or what will determine sample size? No need to justify decision, but be precise about exactly how the

number will be determined.

Cycles 1-4 of the survey have generated a sample of 27,693. If we obtain access to cycle 5 in November 2023, this sample size is expected to increase to ~35,000.

8) Anything else you would like to pre-register? (e.g., secondary analyses, variables collected for exploratory purposes, unusual analyses planned?)

We intend to conduct secondary analyses using variables that may increase explanatory depth (e.g., household composition, victims' perceptions that crimes were motivated by bias). We also plan to analyse clusters of crime types that contribute to polyvictimisation. In subsequent analyses we will also consider differing thresholds for repeat victimisation (e.g., examining the characteristics victims who experience 3 or more offences).

Appendix B, suppression rates of configurations for each type of re-victimisation

Outcome	n non-suppressed configurations	Suppression rate (%)
Poly-victimisation	130	18.8
Assault	25	26.5
Burglary	19	51.3
Cybercrime	6	62.5
Fraud	26	48.0
Harassment	52	13.3
Property damage	11	56.0
Robbery	2	92.9
Sexual assault	21	54.3
Theft	19	57.8
Trespass	26	36.6
Vehicle theft	29	56.7

Appendix C, notes on crime variables used from NZCVS

Variable	Derived from	Notes
Assault	TMSFORVIO, TMSTRDFORVIO	We added these variables to produce number of victimisations for assault.
Burglary	TMSGETINHOME, TMSMVTHEFT_GETINHM, TMSTRDGETINHM, TMSMVTHFT_TRDSGETINHM	We added these variables to produce number of victimisations for burglary.
Cybercrime	TMSCMPUTVRS	Number of victimisations for cybercrime.
Fraud	TMSTRCKMONEYGDS, TMSATMPCREDIT	We added these variables to produce number of victimisations for fraud.
Harassment	TMSTHRTFORVIO, TMSTHRTDAMA, TMSTHRTINJRFAM, TMSCAUSEDFEAR	We added these variables to produce number of victimisations for harassment.
Property damage	TMSDAMAGEHOME, TMSDAMAPRSNALY	We added these variables to produce number of victimisations for property damage.
Robbery	TMSSTOLCARYNG, TMSUSEFORTHRT_STOLC, TMSSTOLPRSNALY	We added these variables to produce number of victimisations for robbery and personal theft.
Sexual assault	TMSFORCESEX, TMSFORCESEXACT, TMSTOUSEX, TMSTHRTSEX	We added these variables to produce number of victimisations for sexual assault.
Theft	TMSSTOLOUTSDHM, TMSPROPSTOLINHM SMN	We added these variables to produce number of victimisations for theft.
Trespass	TMSHOUSEGRDS	Number of victimisations for trespass.
Vehicle and bike theft	TMSMVTHEFT, TMSSTOLENOFMV, TMSMVTAMP, TMSMVDAMAGE, TMSBICYCLETHEFT, TMSBICYCLEDAMAGE	We added these variables to produce number of victimisations for vehicle and bike theft.
Poly-victimisation	Crime types listed above	Whether or not participants experienced at least one victimisation of two or more crime types.

Note. If people said they had experienced a crime type but refused to answer number of times, then the number of times was treated as one. If a person experienced two or more victimisations of a crime type, they were considered a repeat victim of that crime type.

Appendix D, notes on demographic variables used from NZCVS

Variable	Derived from	Notes
Age	DVAGE	Under 25, 25-64, 65 Plus
Gender	DVGENDER	Women, men, gender diverse
Ethnicity	DVETHN_MAORI	Yes, no Includes: Māori (21)
	DVETHN_PACIFIC	Yes, no Includes: Pacific Peoples not further defined (30), Samoan (31), Cook Island Maori (32), Tongan (33), Niuean (34), Tokelauan (35), Fijian (36), and Other Pacific Peoples (37)
	DVETHN_EURO	Yes, no Includes: European not further defined (10), NZ European (11), Other European (12), etc.
	DVETHN_ASIAN	Yes, no Includes: Asian not further defined (40), Southeast Asian (41), Chinese (42), Indian (43) and Other Asian (44)
Sexual identity	DVSEXORIENT	Heterosexual, same sex, bisexual
Disability	DV_WGSS2	Yes, No Has at least 'a lot of difficulty' with at least one of: hearing, vision, mobility, memory, self-care, or communication.
Partnership	DVPARTNERC	Yes, No
Psychological distress	DVMENTALSCORELV	Low, moderate or high
Employment status	DVEMPSTATUS	Employed, unemployed, economically inactive
Financial stress	FINSTRMU	Yes, no Cannot meet an unexpected expense
Area	DVURBAN	Rural, urban

Note

For full list of ethnicity classifications, please refer to:

<http://archive.stats.govt.nz/methods/classifications-and-standards/classification-related-stats-standards/ethnicity.aspx>

Appendix E, notes on using offence codes to classify forms of victimisation

Variable	Derived from	Notes
Assault	FinalOffenceCode = 16, FinalOffenceCodeNum	We added the number of offences for each person where the offence code was 16 to produce number of victimisations for assault.
Burglary	FinalOffenceCode = 1, FinalOffenceCodeNum	We added the number of offences for each person where the offence code was 1 to produce number of victimisations for burglary.
Cybercrime	FinalOffenceCode = 14, FinalOffenceCodeNum	We added the number of offences for each person where the offence code was 14 to produce number of victimisations for cybercrime.
Fraud	FinalOffenceCode = 13, FinalOffenceCodeNum	We added the number of offences for each person where the offence code was 13 to produce number of victimisations for fraud.
Harassment	FinalOffenceCode = 17, FinalOffenceCodeNum	We added the number of offences for each person where the offence code was 17 to produce number of victimisations for harassment.
Property damage	FinalOffenceCode = 7 or 8, FinalOffenceCodeNum	We added the number of offences for each person where the offence code was 7 or 8 to produce number of victimisations for property damage.
Robbery	FinalOffenceCode = 12, FinalOffenceCodeNum	We added the number of offences for each person where the offence code was 12 to produce number of victimisations for robbery.
Sexual assault	FinalOffenceCode = 15, FinalOffenceCodeNum	We added the number of offences for each person where the offence code was 15 to produce number of victimisations for sexual assault.
Theft	FinalOffenceCode = 9 or 10, FinalOffenceCodeNum	We added the number of offences for each person where the offence code was 9 or 10 to produce number of victimisations for theft.
Trespass	FinalOffenceCode = 11, FinalOffenceCodeNum	We added the number of offences for each person where the offence code was 11 to produce number of victimisations for trespass.
Vehicle and bike theft	FinalOffenceCode = 2, 3, 4, 5, or 6, FinalOffenceCodeNum	We added the number of offences for each person where the offence code was 2, 3, 4, 5, or 6 to produce number of victimisations for vehicle and bike theft.
Poly-victimisation	Crime types listed above	Whether or not participants experienced at least one victimisation of two or more crime types.

Table 31

The 10 combinations of characteristics with the highest proportion of poly-victims, using offence code as victimisation variable (instead of screener questions as used in the main analysis).

Age	Ethnicities	Disability	Financial stress	Gender	Has a partner	Psychological distress	Sexual identity	n	% poly-victims
Under 25	Māori	No	No	Woman	Yes	Moderate to high	Heterosexual	9	100.0
Under 25	Māori	No	Yes	Woman	No	Moderate to high	Heterosexual	12	75.0
Under 25	Māori	No	No	Woman	Yes	Low	Heterosexual	12	75.0
25 - 64	European	No	No	Woman	No	Low	Bisexual	12	75.0
25 - 64	Māori	No	Yes	Woman	Yes	Moderate to high	Heterosexual	18	66.7
25 - 64	Māori	No	Yes	Woman	No	Moderate to high	Heterosexual	42	64.3
25 - 64	European & Māori	No	Yes	Woman	No	Moderate to high	Heterosexual	30	60.0
25 - 64	European	No	Yes	Man	Yes	Moderate to high	Heterosexual	21	57.1
25 - 64	Māori	No	Yes	Man	No	Moderate to high	Heterosexual	12	50.0
25 - 64	European	Yes	Yes	Woman	No	Moderate to high	Heterosexual	18	50.0

Note. Ethnicities were multiply coded in the NZCVS and have been combined in alphabetical order in this table.

The number of participants with each combination of characteristics (the *n*) and the number of poly-victims with each combination of characteristics has been randomly rounded to base three to comply with StatsNZ confidentiality rules.

Figure 13a

Distribution of 'main effects' for poly-victims for ethnicity, gender, financial stress and psychological distress characteristics using offence code as victimisation variable (instead of screener questions as used in the main analysis).

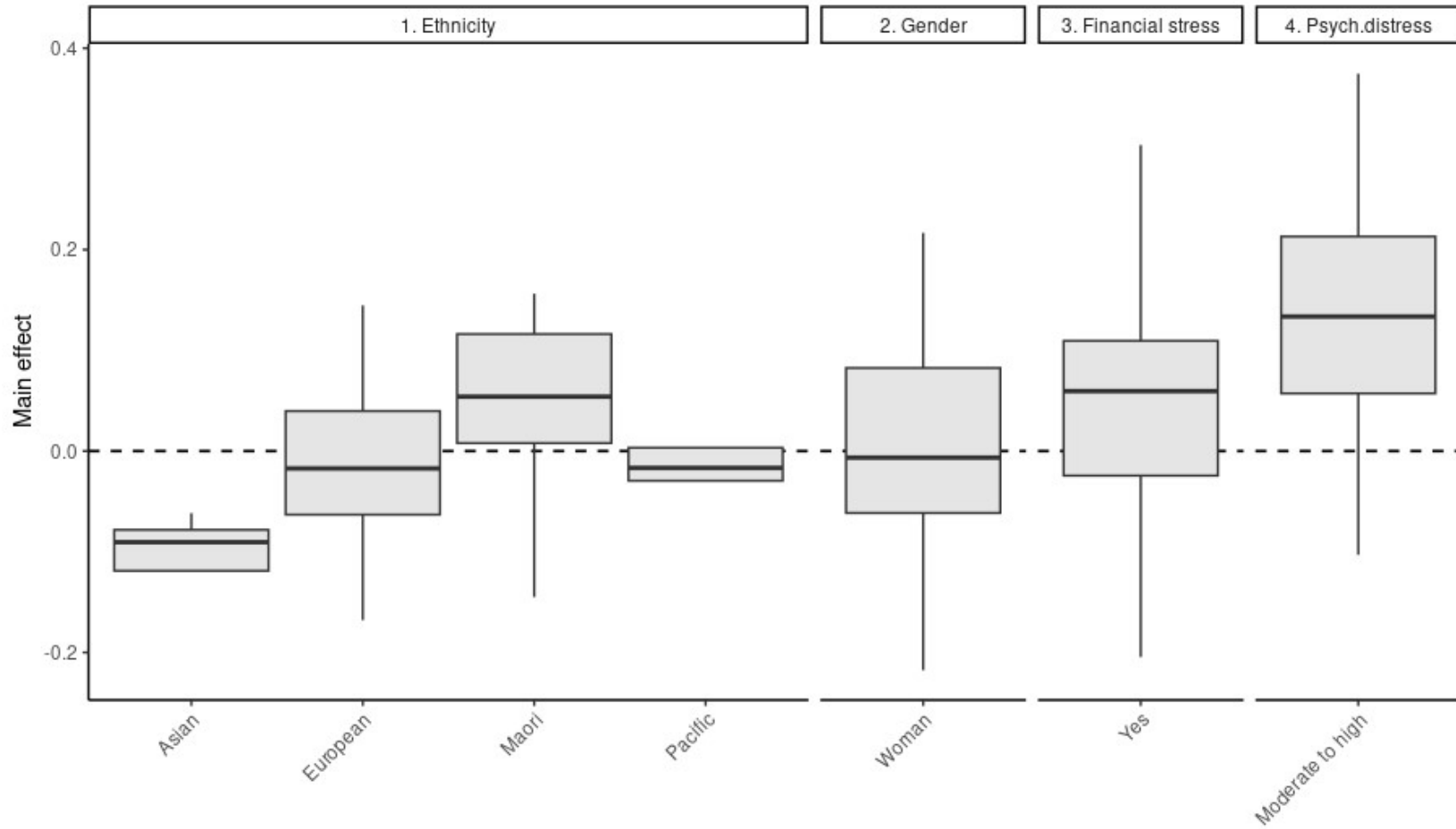


Figure 13b

Distribution of 'main effects' for poly-victims for age, disability, sexual identity and partnership status characteristics using offence code as victimisation variable (instead of screener questions as used in the main analysis).

