Patterns and Predictors of Crime and Fear of Crime during the Crime Drop: A Multilevel Analysis of Repeated Cross-Sectional Data in Japan, 2007-2018

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Declaration of Authorship

I, Ai Suzuki, confirm that the work presented in this thesis is my own. Where information has been derived from other sources, I confirm that this has been indicated in the thesis.

Signed:

Date:

Abstract

Many attempts have been made to examine the determinants of victimisation and the fear of crime, often guided by social disorganisation theory and environmental criminology. However, there have been only a handful of studies that have been carried out in East Asia so far. Consequently, it is unclear whether those factors which are reliably associated with higher or lower levels of crime and fear of crime in Western societies are generalisable to the dissimilar context of Japan. Against this backdrop, this thesis is concerned with the patterns and predictors of victimisation, repeat victimisation, fear of crime and perceived risk of victimisation in Japan, drawing on repeated cross-sectional data collected as part of a nationally representative household survey "the Japanese Public Safety Survey" (JPSS) and the census.

Study 1 is concerned with the patterns and predictors of household property crime. Exploratory factor analysis was first performed to reveal the factor structure of eleven perceived neighbourhood disorder variables used in the JPSS. A series of multilevel logistic regression models demonstrated that the year variables were found to be negatively associated with household property crime risk. Detached house, homeownership, social support, and the presence of community policing were found to be associated with household property crime risk.

Study 2 examined the patterns and predictors of repeat victimisation of residential burglary and vandalism. In contrast with what was found in Study 1, the survey year variables were not correlated with the risk of repeat residential burglary and vandalism victimisation. Social support and university degree were found to be the factors which distinguish repeat residential burglary victims from other groups. Social support and social disorder were found to be the factors that distinguish repeat vandalism victims from other groups. Social support and high ratio of

manufacturing industry were found to be the factors that distinguish repeat residential burglary victims from single victims. Social disorder was found to be the factor that distinguishes repeat vandalism victims from single victims.

Study 3 examined the patterns and predictors of fear and perceived risk of household property crime. The results of multilevel regression models revealed that, at the individual/household-level, experiencing previous victimisation, being older, living in a detached house and having higher annual household income were associated with increased fear of household property crime. At the neighbourhood-level, the presence of social disorder and community policing were statistically related to the levels of fear of household property crime. There was a statistical association between prior victimisation and perceived risk of victimisation, and different predictors were found to be associated with fear of crime and perceived risk of victimisation. The survey year variables were not found to be associated with fear of and the perceived risk of household property victimisation. The findings from the analysis furthered support the three models of fear of crime.

In summary, the findings of three empirical studies yielded both consistencies and inconsistencies with the relevant literature derived mainly from studies conducted in Western industrialised countries, showing some applicability of the criminological theories to Japan. The thesis demonstrated the usefulness of multilevel modelling and multiple secondary data sources, and the importance of introducing measures dealing with neighbourhood social disorder, and crime prevention measures which reflect the crime trends or related problems of each municipality.

Impact Statement

Little is known about how crime is patterned in Japan. The studies that comprise this thesis seek to better understand the pattern and predictors of criminal victimisation, repeat victimisation, fear of crime and perceived risk of victimisation during the crime drop in Japan. This is achieved through secondary data analysis of two independent repeat cross-sectional datasets: the nationwide social survey and the census. The findings reported in this thesis offer several potential benefits both inside and outside academia. These different forms of impact are described below.

Academic Impact

The thesis gives new insight and knowledge to the field of criminology. First, addressing a notable gap in the research literature, the thesis takes social disorganisation theory and environmental criminology as a framework for analysing the patterns and predictors of (repeat) victimisation in Japan, a country which is widely regarded as one of the safest advanced countries. Second, the thesis seeks to establish the patterns and predictors of fear of crime and the perceived risk of victimisation in Japan. Drawing on prevailing fear of crime theories, the thesis investigates whether the common patterns and correlates of fear of crime in Western studies are also observed in Japan. Third, the thesis is original in providing a longer-term analysis of the patterns and predictors of crime and fear of crime in Japan, using data which was collected across several sweeps of the nationwide household survey running from 2007 to 2018. This is important because Japan, like many countries, experienced large reductions in crime over this period – the so-called international crime drop. It is therefore interesting to consider whether any changes in fear of crime and perceived risk of victimisation correspond with changes in crime in Japan.

Economic and Social Impacts

The findings reported in this thesis also have important implications for society and the economy. First, high levels of fear of crime and perceived risk of victimisation can negatively affect the quality of life and routine activities. In this sense, a better understanding of how people perceive fear of crime and public safety in their local neighbourhoods is important to inform efforts to improve and enhance social cohesion, public safety and quality of life. Second, the thesis benefits evidence-based policing and policymaking by analysing the factors which elevate the risk of crime and informing crime prevention policymaking. Japan is widely regarded as one of the safest advanced countries in the world, with distinct cultural, environmental and societal features. However, it is necessary that criminologists are involved in policing strategies in collaboration with all other stakeholders with responsibilities for crime reduction, including the police, social service and citizens due to the complexity of crime and high concentration of crime on few specific targets in recent years. One of the focuses of the thesis is to examine how policing affects people's victimisation, repeat victimisation, fear of crime and perceived risk of victimisation. It is believed that the findings from the thesis can influence public policies, showing how policing is associated with victimisation and fear of crime.

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Acknowledgements

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Dissemination of Research Findings

The following presentations are based on research contained in this thesis:

1) Suzuki, A. and Shimada, T. (2021). *Perceived disorder and fear of crime in Japan: A multilevel analysis of repeated cross-sectional data from 2007-2018*. Presented at the 14th Japanese Society of Environmental Psychology Conference, online, March 13th 2021.
2) Suzuki, A. and Shimada, T. (2021). *Patterns and Predictors of Crime and Fear of Crime: A Multilevel Analysis of Repeated Cross-Sectional Data in Japan, 2007-2018*. Presented at the 12th Asian Criminological Society Annual Conference, online, June 19th 2021.
3) Suzuki, A. and Shimada, T. (2021). *Patterns and Predictors of Crime and Fear of Crime: A Multilevel Analysis of Repeated Cross-Sectional Data in Japan, 2007-2018*. Presented at the 49th Annual Meeting of the Behaviormetric Society, online, August 31st 2021.

Chapter 1 Introduction

This thesis is concerned with the patterns and predictors of crime and fear of crime in Japan. There is a large literature on what sociodemographic and environmental characteristics make people more likely to be the victims of crime or exhibit higher levels of fear of crime, and how this typically differs across crime types. This literature has, in turn, helped develop and refine relevant criminological theories and inform practical efforts to reduce crime, fear of crime and associated harms. To date, however, bar some notable exceptions (see for e.g., Kuo et al., 2009; Roh et al., 2010; Zhang et al., 2009), there has been little empirical research on the risks and patterns of crime and fear of crime in Asia. This shortage of research is likely owing to a lack of suitable (and accessible) data in the region and, perhaps, the much lower crime rates experienced in these nations compared with other industrial countries (discussed in further detail in **Chapter 2**).

It is widely accepted that crime is context-dependent. It cannot, therefore, be assumed that what goes for Western industrialised settings, in terms of the correlates and patterns of crime, also goes for the research settings of east Asia, not least because the crime rates in countries such as Japan are consistently lower than that of Western countries such as the United Kingdom and the United States. Moreover, whilst many Western countries have experienced dramatic and sustained reductions in crime since around the 1990s (Farrell, 2013; Farrell et al., 2010; Farrell, Tseloni, & Tilley, 2011; Farrell & Tilley, 2020; Tseloni et al., 2010), the crime trends in Japan, whilst also falling significantly, appear to have begun their decline much later, beginning around the early 2000s (discussed in more detail on **Chapter 3**) (Sidebottom et al., 2018). To the best of the author's knowledge, no research has examined the correlates of victimisation and fear of crime against this backdrop of falling crime rates in Japan. Using repeated cross-sectional survey data in combination with census data, the main aim of this thesis is to address this research gap. This

is important from a theoretical perspective: to explore whether the theories that explain crime and fear of crime in Western settings have any generalisability to Japan. It is also important from a practical perspective to inform crime prevention policy and practice through the identification of at-risk people and places.

The thesis reports a secondary analysis of two independent datasets. The first dataset contains repeated cross-sectional data collected as part of a nationwide nationally representative household survey on public safety in Japan, administered in 2007, 2010, 2014 and 2018. This survey is called the "Japanese Public Safety Survey" (JPSS). The sample of each of the four sweeps of the JPSS is around 2,000 households. The second source of data used in this thesis is the Japanese census. The Japanese government conducts a census every five years and has done so since 1920. This thesis uses three waves of census data (2005, 2010 and 2015). Like most censuses, the Japanese census asks a wide range of questions relating to, for example, family structure, employment, housing type, mode of commute, and so on, many of which, as will be set out in later chapters, speak to the prevailing theories of crime and fear of crime.

It is important to note from the outset that the JPSS datasets used here have hitherto not been extensively used in criminological research, and any analyses which have been performed are mostly limited to single-year descriptive statistics. To the author's knowledge, no research has used these datasets and drawn on existing criminological theories to analyse, say, the patterns and predictors of crime and fear of crime against the significant and prolonged Japanese crime drop. This thesis will, therefore, address this research gap, reporting analyses at both the local and the national level, as described in more detail below.

While Japan has a historically low crime rate compared to other first-world countries, it is an interesting setting to study for criminological research. Over several decades, research shows that Japan has a low crime rate compared to most other advanced nations, like the United Kingdom and the United States. According to the World Bank in 2017, the homicide rate per 100,000 people was 0.2 in Japan compared to 1.2 in the United Kingdom and 5.3 in the United States. Taking car theft as an example of property crime, the International Crime Victims Survey (ICVS) similarly showed that the prevalence rate was 0.1 in Japan compared to 2.2 in the United Kingdom and 1.2 in the United States. Various explanations have been put forward to explain the consistently low crime rate of Japan, ranging from a thriving economy (Komiya, 1999) to high levels of informal social control (Ames, 1981; Bayley, 1978). Another popular explanation is that the low crime rates in Japan are due to the use of koban, a type of community police station found throughout Japan (Aldous & Leishman, 1997; Ames, 1981; Bayley, 1978). In this thesis, therefore, beyond investigating the patterns and predictors of crime and fear of crime, attention is also paid to examining empirically the relationship between community policing, as measured in JPSS data, and self-reported victimisation and fear of crime, as well as the other demographic and environmental variables commonly used in previous empirical studies and pertaining to the dominant theories of crime and fear of crime.

1.1 Structure of the Thesis

The thesis is structured as follows. **Chapter 2** presents an overview of Japan in order to provide the reader with a better idea of the context in which this research is carried out. Coverage includes a short description of the criminal justice system in Japan, crime trends, geography, economy and demographics.

Chapters 3 and 4 outline the theoretical framework adopted in this thesis. They review the relevant literature on the predictors of victimisation and fear of crime and discuss the crime drop experienced in Japan (and elsewhere). The theoretical basis for the thesis is social disorganisation theory and environmental criminology. These approaches provide complementary explanations for the risk of criminal victimisation. Social disorganisation theory is concerned with the structural, social and cultural characteristics that affect levels of crime. It is a macro-level theory. Environmental criminology, on the other hand, suggests that criminal activities are influenced by opportunities in the immediate environment and the movement and distribution of offenders, victims and guardians. The theoretical perspectives associated with environmental criminology are best thought of as meso- to micro-level approaches. These two different theoretical perspectives are increasingly used in conjunction with one another in an effort to better explain patterns of criminal victimisation and why certain people are more likely to be the victims of crime than others (see for e.g., Hewitt et al., 2018; Jones & Pridemore, 2019; Maimon & Browning, 2010; Miethe & McDowall, 1993; Piscitelli & Doherty, 2018; Piza & Carter, 2018; Rice & Smith, 2002; Roh et al., 2010; Rountree et al., 1994; Shimada & Ohyama, 2018; Takagi & Shimada, 2019; Thompson & Fisher, 1996; Velez, 2001; Zhang et al., 2007). In addition to theoretical frameworks of victimisation, these chapters also discuss the so-called "international crime drop", what it is, the studies that have examined it and its relevance to this thesis.

The analyses reported in this thesis look at both experience of crime and the fear of crime. Subsequently, **Chapters 3 and 4** also contain a description of the prevailing fear of crime theories which inform the analyses conducted here. According to the research literature, the theoretical framework for the fear of crime is broadly categorised into three models: the indirect victimisation model, the disorder model and the community concern model (McGarrell et al., 1997; Roh &

Oliver, 2005; Taylor & Hale, 1986). The indirect victimisation model highlights an individual's vulnerability to crime as the main explanation for their perceived fear of crime. By contrast, both the disorder and community concern models focus mainly on the social and physical environment as determinants of fear of crime.

Chapter 5 describes the methods and data used in the thesis. As indicated above, the thesis consists of a repeated cross-sectional secondary data analysis of the JPSS and the census. The chapter starts by describing the advantages and disadvantages of secondary research. The sampling procedure, data collection methods and survey contents are then explained. Limitations in the data and methods used in this thesis are also highlighted.

Chapters 6 to 8 present the three empirical case studies of this thesis. These case studies seek to answer the following research questions that guide this thesis:

1. What are the patterns and the predictors of criminal victimisation in Japan?
2. What are the patterns and the predictors of repeat victimisation in Japan?
3. What are the patterns and the predictors of fear of crime in Japan?
4. What are the patterns and the predictors of perceived risk of victimisation in Japan?
5. Is the crime drop observed in the nationally representative household survey?

The first two empirical case studies, reported in **Chapters 6 and 7** are concerned with the factors related to criminal victimisation. The third study reported in **Chapter 8** focuses on the factors related to fear of crime and the perceived risk of victimisation. The following sections describe these empirical chapters in more detail.

The first study is described in **Chapter 6**. This study is concerned with the patterns and predictors of household property crime victimisation in Japan. Drawing on the theoretical frameworks discussed in **Chapter 3** and using a multilevel logistic regression model, the study aims to reveal how individual/household- and neighbourhood-level variables are associated with household property crime, and the stability of the observed relationships over time. Before performing multilevel analysis, exploratory factor analysis is carried out to determine the underlying constructs of neighbourhood disorder variables.

Chapter 7 presents the second empirical study, focussing on the patterns and predictors of repeat victimisation of residential burglary and vandalism. The chapter opens by reviewing the two dominant theories of repeat victimisation ("boost" and "flag") and the related literature. It then examines the distribution of (repeat) residential burglary and vandalism found in the 2007-2018 sweeps of the JPSS, before analysing what factors are associated with an increased risk of repeat victimisation. Specifically, this chapter is concerned with determining whether factors exist which distinguish repeat victims of residential burglary and vandalism from single victims and non-victims.

The final empirical contribution of this thesis presented in **Chapter 8** is concerned with the patterns and predictors of fear of crime and perceived risk of crime. As discussed in **Chapter 4**, fear of crime and perceived risk of victimisation are similar but different concepts. Although fear of crime has been a popular topic in the field of criminology for the last 50 years, limited literature is available in the Japanese context. In fact, previous fear-of-crime research in East Asia has provided inconsistent findings compared to those in the Western context. Against this background,

this chapter explores the individual/household- and neighbourhood-level variables that affect the levels of fear of crime and perceived risk of victimisation in Japan nationwide. Finally, this chapter examines the extent to which perceived risk of victimisation predicts levels of fear of crime.

Chapter 9 synthesises the findings from the three empirical chapters and provides answers to the research questions outlined above. The chapter starts by reviewing the three empirical studies. The findings of these studies are then situated and interpreted in the context of relevant criminology theories discussed in **Chapters 3 and 4**. This chapter considers the applicability of criminology theories born and mainly tested in Western countries to the Japanese context, based on the findings presented here. This chapter closes by presenting the implications of the findings for policymaking and future criminological research in Japan and elsewhere.

1.2 Summary

To the author's knowledge, this thesis is the first attempt to examine victimisation, repeat victimisation, fear of crime and perceived risk of victimisation during the crime drop in Japan. The following list outlines the main contributions of this thesis to criminological literature. First, the thesis applies social disorganisation theory and environmental criminology to analyse the patterns and predictors of victimisation during a time of significant and prolonged crime reductions in Japan. From these theoretical perspectives, the thesis provides new insights into the applicability of criminological theories born, tested and refined mainly in Western advanced countries. Second, although Japanese society is considered homogeneous compared with other advanced nations in terms of ethnicity and culture, it is important to investigate the impact of socio-demographic and environmental factors on crime and fear of crime. Using the JPSS and the

census, the thesis, therefore, emphasises the usefulness of multilevel modelling, analysing the contextual effects of neighbourhood variables on victimisation, repeat victimisation, fear of crime and perceived risk of victimisation. Third, the survey data used here cover the period when crime has fallen considerably in Japan as elsewhere – the so-called "international crime drop" since around the 1990s. Presently, there has been little research on the crime fall in Japan. That which is available reports only analyses of police recorded crime data (Sidebottom et al., 2018). To the author's knowledge, no research has examined if the crime drop is observed in other forms of (non-police) data, including the social survey data used here. Therefore, the thesis explores if the suggested crime drop found in police recorded statistics is confirmed in an alternative data source, and whether the levels of fear of crime and perceived risk of victimisation are affected by the declining trend in crime in Japan.

Chapter 2 Japan as the Setting for this Research

Chapter summary

Japan is widely regarded as one of the safest advanced countries in the world, with distinct cultural, environmental and societal features. In order to provide a context for the analyses that follow, this chapter provides a brief overview of Japan as a setting for my thesis. The chapter begins with presenting the geography and administrative divisions in Japan, followed by an explanation of the economy and demographics of Japan. A description of Japan's criminal justice system, crime trends and related statistical data from the government are then described.

2.1 Geography and Administrative Division of Japan

Figure 2-1 is a map of Japan. Japan is the world's fourth-largest island country located in the western Pacific Ocean. The total land area of its territory covers around 378,000 square kilometres. The four main islands of Japan are Hokkaido, Honshu, Shikoku and Kyusyu. Japan consists of 47 prefectures, the top-tier administrative entities, are larger than municipal divisions (cities, towns and villages).

Source: Statistics Bureau of Japan <https://www.stat.go.jp/english/data/handbook/pdf/shjmap_a.pdf>

Figure 2-1 Map of Japan

2.2 Economy of Japan

Japan has played an important role in the international community as a member of the G7 and the G20. Although being devastated at the end of World War II, Japan subsequently became one of the most thriving economies according to GNP per person by the late 1970s (Komiya, 1999). Japan now has the 3rd-largest economy in the world in terms of nominal GDP, after the United States and China. As of 2018, Japan's GNI per capita was US$41,340 (US$62,850 in the United States and US$41,330 in the United Kingdom)[1].

[1] https://www.macrotrends.net/countries/JPN/japan/gni-per-capita

2.3 Demographics of Japan

Japan is the eleventh most populated country in the world. The population of Japan is 127.44 million as of January 2019, with a decline of 0.21% from the previous year. However, the population of Japan has been shrinking since 2010 due to a low birth rate. At the same time, Japan has an ageing population; in 2018, Japan had the highest proportion of aged citizens in the world, with 27.7% of the population aged 65 or above compared to 18.0% in the United Kingdom. As well as ageing, Japan has experienced considerable population concentration in metropolitan areas and depopulation in rural areas. Highly urbanised areas of populations are concentrated in coastal cities, such as Tokyo and Osaka (Shimada & Suzuki, 2021).

Japan is a homogeneous society in terms of ethnicity; foreign residents of Japan make up just 2.1% (2.66 million) of the population as of January 2019, while those in the United Kingdom consist of 12.7% (7.99 million) of the population. Many foreign-born residents in Japan hail from either Brazil or other Asian countries, such as China, South Korea, Vietnam and the Philippines.

2.4 The Criminal Justice System in Japan

In the Meiji Restoration in 1868, it was considered urgent to import the Western legal system to Japan (Aldous & Leishman, 2000, 2001; Komiya, 1999). At that time, many Western countries were more powerful than Japan because of the unequal treaties they had imposed on Japan; one of these was that foreign people were sanctioned according to the laws of their own consular courts (extra-territoriality) (Aldous & Leishman, 2000). Following the police systems in France and Germany, the police in Japan were established as a centralised organisation (Ames, 1981; Manalo, 2003) under the control of the Police Bureau, a part of the Home Ministry established in 1873 (Manalo, 2003). In addition to the three core police duties

(deterring crime and arresting criminals, protecting life and property and keeping public order), the police were responsible for regulating public health and businesses (Ames, 1981).

During World Wars I and II, the police played an important role as propaganda campaigners since Japan aimed to establish a new empire in Asia (Kushner, 2006). Suspicious dissidents were tortured if they were arrested by the Special Higher Police, which was established to investigate political groups. Although communists, anarchists and socialists were targets of the Special Higher Police at first, Marxist student activists, religious groups, teachers involved in the new education movement and foreign people gradually fell under the scope of the suppression (Yokoyama, 2018).

Japanese police were deployed mainly for internal security during World War II; however, they gradually began to function as the judicial police who were in charge of criminal investigations in the post-World War II period (Tsuchimoto, 2000). During the United States occupation of Japan (1945-1952), the Supreme Commander of the Allied Powers tried to break the tight connection between the Japanese police and government (Aldous & Leishman, 1997). In addition, the Allied Powers would transform the Japanese police system. This transformation resulted in Anglo-American forms and patterns of policing. Hence, a decentralised police structure, consisting of local police forces, was created (Aldous & Leishman, 1997). This was to be "impervious to central political interference [and] the introduced process safeguards, were seen as fundamental to the democratic credentials of any police force" (Aldous & Leishman, 1997, p. 137). The new police law was enacted in 1947. The autonomous local police agencies that were introduced modelled those in the United States, which meant that the police were no longer dependent on the public prosecutor (Yokoyama, 2018).

However, the 1947 Police law had some problems in terms of its structure. Due to a lack of facilities, there was a serious financial burden for smaller communities that had to support municipal police (Aldous & Leishman, 1997), and the regional subdivision of police units hindered the efficient processing of crimes across a municipality (National Police Agency, 2008). In a 1951 amendment to the police law, the then municipal police forces were merged into the national rural police (Ames, 1981; Manalo, 2003).

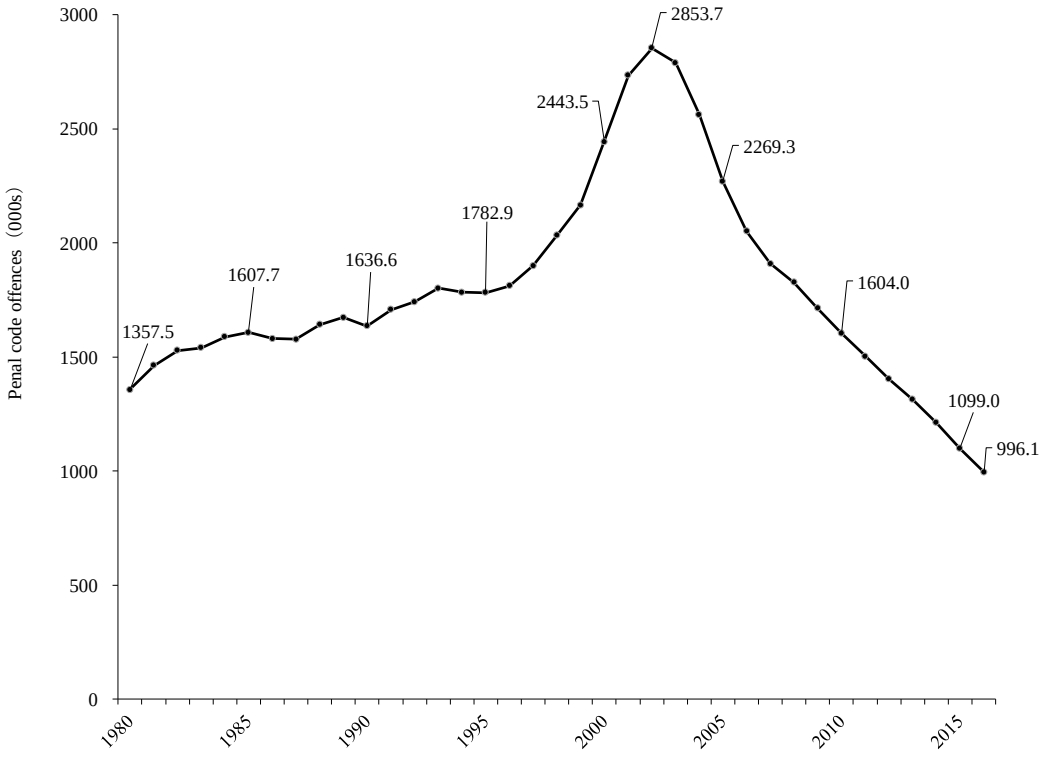
The new police law was enacted in 1954 that repealed the dual system of the national rural police and the municipal police (Manalo, 2003; National Police Agency, 2008). The National Police Agency was established under the National Public Safety Commission, and a prefectural police department was organised in each prefecture under the Prefectural Public Safety Commission (National Police Agency, 2008). Although the 1954 police law accelerated the centralisation of the police organisation, the introduction of the National Public Safety Commission and the Prefectural Public Safety Commissions was one of the main remainders of the decentralisation of the police in the immediate post-war period (Aldous & Leishman, 1997; Ames, 1981; Manalo, 2003). This change aimed to assure democratic control of the police (Ames, 1981). The 1954 police law is still in use today as the basis of the criminal justice system in Japan. Each prefecture has its own prefectural police that is responsible for addressing crimes. The current police law aims to respond to police affairs at both the national- and prefectural-levels, ensure the efficiency and effectiveness of the police organisation, prevent the overconcentration of power and maintain political neutrality.

2.5 Crime in Japan

As mentioned previously, Japan is known for its low crime rates compared with other advanced nations. For example, in 2017, international homicide victims per 100,000 people in Japan was 0.2, compared with 5.3 in the United States, 1.2 in the United Kingdom and 0.6 in China (World Bank, 2019). This section provides an overview of crime trends and patterns in Japan.

2.5.1 Official Statistics on Penal Code Offences from the National Police Agency

Crimes in Japan are categorised into Penal Code Offences and Special Law Offences. According to official figures from the Ministry of Justice (2017), the number of reported crimes in Japan has dropped year-on-year for 14 successive years since 2003. In total, there were 996,120 reported crimes in 2017, a decrease of 102,849 (9.4%) from the previous year, and the first time since the end of World War II that the number of recorded crimes in Japan was below a million (Ministry of Justice, 2017). As shown in **Figure 2-2**, Japan reduced the number of reported Penal Code Offences to nearly one-third in the 15 years between 2000 and 2015 – the Japanese crime drop which is discussed in more detail in **Chapter 3**.



Source: National Police Agency (2021)

Figure 2-2 Penal Code Offences in Japan, 1980-2016

2.5.2 Victimisation Surveys in Japan

Japan has so far participated in the ICVS twice (2000 and 2004/5). The Ministry of Justice started to conduct their own victimisation survey "the National Crime Victimization Survey in Japan" (NCVSJ) every four years from 2000 and thereafter to contribute to the ICVS. In each survey, men and women aged 16 and over are selected from throughout the country using two-stage stratified random sampling, with the number of participants varying from sweep to sweep (3,000 to 6,000) (Ministry of Justice, 2019). A brief summary of the results of the latest sweep of the NCVSJ in 2019 is provided as follows: The survey covered three types of victimisation: household crime (car theft, theft from vehicle, breaking into car, motorbike theft, bicycle theft,

(attempted) criminal trespass), personal crime (personal theft, violence and intimidation, stalking, domestic violence, child abuse, sexual offence) and fraud (Ministry of Justice, 2019). It was found that 23.8% of respondents reported that they experienced at least one of these crimes in the last five years. Bicycle theft showed the highest prevalence rate (11.4%) among surveyed crime types (Ministry of Justice, 2019). While over half of victims of "car theft", "theft from vehicle", "motorbike theft" and "bicycle theft", and about 40% of those of "personal theft" and "violence and intimidation" reported to the police, about 10% of those of domestic violence and about 15% of those of sexual offences also said they reported to police (Ministry of Justice, 2019).

The NCVSJ also includes questions related to fear of crime. With regard to the question *How safe do you feel after dark when you are alone in your neighbourhood?*, the proportion of participants who answered "very safe" shows a downward trend from the 1st sweep (2000) to the fourth sweep (2016) (12.4% to 6.3%). However, in the latest sweep (2019), its proportion drastically increased to 19.4% (Ministry of Justice, 2019). With regard to public safety in Japan overall, the proportion of respondents who selected either "very safe" or "somewhat safe" has increased over time (13.2% in 2004 to 42.7% in 2019) (Ministry of Justice, 2019).

2.5.3 Public Perception of Crime in Japan

The Cabinet Office of the Government of Japan has conducted "the Public Opinion Poll on Public Safety" (POPPS) four times so far (2004, 2006, 2012 and 2017). The POPPS data cover the period of the "crime drop" in Japan (to be described in **Chapter 3**). The POPPS contains a variety of questions about public security, fear of crime and police roles. The achieved sample of each of the four sweeps is around 2,000 individuals. The POPPS includes the question: *Do you think Japan today is a safe and secure country to live in?* It revealed that the percentage of those who

think Japan is a safe and secure country has increased from 2004 to 2017 (*agree*: 11.6% to 28.9%, *somewhat agree*: 30.9% to 51.3%). In addition, the POPPS taps into perceived changes in public security in Japan by using the question "*Do you think Japan's public security became better or worse in the last ten years?*". The proportion of respondents who feel Japan is safe and secure has increased from 2007 to 2017 as stated above; however, over half of the respondents in the last sweep (2017) feel public security in Japan deteriorated in the last ten years (*became worse*: 12.2%, *became somewhat worse*: 48.6%). It can be said, therefore, that although a majority of respondents think Japan is safe and secure, perceptions about the levels of public security did not improve in the last ten years.

Chapter 3 Literature Review: Theoretical Framework of Victimisation

Chapter Summary

This chapter outlines a theoretical framework for the study of criminal victimisation in Japan. It reviews the relevant literature on predictors of victimisation, and discusses the recent crime drop experienced in Japan (and elsewhere). Specifically, this chapter is formed of three main parts. The first two parts provide the theoretical bases for victimisation research by reviewing social disorganisation theory and environmental criminology. These two parts close by looking at some important studies in the East Asian context. The final part of this chapter is concerned with the literature on the so-called "international crime drop" since, as indicated previously, the analysis reported in this thesis considers the patterns and predictors of crime against a backdrop of falling crime rates in Japan.

3.1 Introduction

Extensive research has shown that crime is disproportionally distributed across individuals, time and space. Numerous studies have analysed the determinants of crime, guided by social disorganisation theory and environmental criminology. These approaches provide complementary explanations to account for the factors related to the risks of criminal victimisation. Social disorganisation theory is concerned with the macro-level structural, social and cultural characteristics that affect crime (Shaw & McKay, 1942). Environmental criminology, on the other hand, suggests that criminal activities are influenced by factors in the immediate environment in which behaviour takes place (at both meso- and micro-levels). These two different theoretical perspectives are commonly used in conjunction with one another to explain trends in

and patterns of criminal victimisation and why certain people and places are more likely to be the victims of certain types of crime than others. Indeed, much research has already offered compelling evidence that demographic, household, social and environmental factors can positively or negatively affect the risk of criminal victimisation (Jones & Pridemore, 2019; Miethe & McDowall, 1993; Rountree et al., 1994; Rountree & Land, 2000; Velez, 2001).

The harms associated with crime extend beyond direct experience. As indicated previously, fear of crime has been discussed as an important social problem in the field of criminology since at least the 1970s (Ferraro & LaGrange, 1987; Liska et al., 1988; Perkins & Taylor, 1996; Scheider et al., 2003; Taylor & Hale, 1986). Previous literature has helped develop and refine criminological theories on the causes of crime and associated harms. However, these theories have overwhelmingly been born and almost exclusively focused on Western settings, and there has been relatively little discussion in the East Asian context. Addressing this imbalance forms part of the motivation for this thesis.

The next two sections give an overview of social disorganisation theory and environmental criminology. As discussed in detail later, one of the thesis aims is to explore the patterns and predictors of repeat victimisation in Japan. The theory of and research on repeat victimisation will be discussed in more detail in **Chapter 7**.

3.2 Social Disorganisation Theory

Social disorganisation refers to the inability of community members to realise shared values and solve shared problems (Kornhauser, 1984). The birth of social disorganisation theory goes back to the work of Shaw and McKay (1942), from the Chicago School, which involved a 20-year-

ecological research programme on the relationship between crime distribution and community social organisation in Chicago neighbourhoods. Based on their research, three main determinants of social disorganisation which can be associated with delinquency and crime were suggested: low economic status (poverty), ethnic heterogeneity and residential mobility (population turnover) (Hewitt et al., 2018; Kubrin, 2009, 2010; Kubrin & Weitzer, 2003; Sampson & Groves, 1989). These variables, it is argued, can all negatively influence informal social control and social ties in a community. For example, the presence of different languages and cultures in a neighbourhood can make communication among neighbours more difficult, which in turn acts as a barrier to building strong social ties within neighbourhoods (Hewitt et al., 2018).

Why does this matter? It matters because, according to social disorganisation theory, the formation of social ties is an important mediator of crime (Sampson, 1988; Sampson & Raudenbush, 1999), and high residential mobility (low residential stability) and population turnover can hinder the development of social links in a community (Sampson, 1991). Communities with high levels of formal and informal social controls, on the other hand, are more likely to meditate the levels of crime via collective efficacy (Barnett & Mencken, 2002; Kubrin, 2009; Sampson & Raudenbush, 1999), defined as "social cohesion among neighbors combined with their willingness to intervene on behalf of the common good" (Sampson et al., 1997, p. 918). Collective efficacy includes "informal control, social tie, social capital" (Kubrin & Weitzer, 2003, p. 375) and "mutual trust and solidarity among neighbors" (Sampson et al., 1997, p. 919).

Decades of studies analysing the influence of macro-level structural and social conditions of neighbourhoods on crimes have been performed since social disorganisation theory was born, and many of these previous studies focus on residential burglary and vandalism (Bernasco & Block,

2011; Cancino, 2005; Hipp & Steenbeek, 2015; Markowitz et al., 2001; Martin, 2002; Miethe et al., 1991; Nobles et al., 2016; Rhineberger-Dunn & Carlson, 2011; Rountree & Land, 2000; Sampson & Groves, 1989; Van Wilsem et al., 2006; Velez, 2001; Wo et al., 2016; Xie & McDowall, 2008). Drawing on data from the British Crime Survey (BCS, currently known as the Crime Survey for England and Wales or CSEW), Sampson and Groves (1989) reported that communities with low levels of local networks – measured as how many respondent's friends (on a five-point scale ranging from none to all) living in the area within a 15-minute walking distance from the respondent's home - and formal organisation – measured as respondent's social and leisure activities for each night of the week categorised by activity types - and uncontrolled youth groups, showed higher levels of burglary, vehicle theft and vandalism. In addition, the communities with higher levels of ethnic heterogeneity were found to have higher violent crime rates. Using the police-reported residential burglary data and the census in Detroit, Martin (2002) empirically demonstrated that census-tract level concentrated poverty (composed of percentage population in poverty, household with public assistance, unemployed, single-parent families, single-parent families with children in poverty, and vacant or abandoned houses), age composition (percentage of population younger than 18 and older than 65) were found to increase residential burglary rates.

As discussed, social disorganisation theory is concerned with societal and ecological explanations for variation in crime. Kubrin (2009) argues that two points need to be taken into account when considering social disorganisation theory: 1) its focus is on the disorganisation of communities, not individuals living within communities, and 2) the key factors of disorganisation are not *immediate* causes of crime but are indirectly related to crime. Specifically, social disorganisation

theory focuses on neighbourhoods (macro-level) and uses them as units of analysis to examine crime trends.

Several criticisms have been levelled at social disorganisation theory. First, it does not satisfactorily account for the effects of culture, formal social control, and urban political-economic forces on crime in neighbourhoods (Kubrin & Weitzer, 2003). Second, it does not satisfactorily account for the spatial distribution of crime within neighbourhoods (Andresen & Malleson, 2011; Kubrin, 2010). Third, it does not pay attention to individual-level characteristics when analysing contextual effects on crime and delinquency (Kubrin & Weitzer, 2003). Fourth, Shaw and Mckay fail to differentiate the expected consequences of social disorganisation, such as high levels of crime and delinquency, from disorganisation in neighbourhoods itself (Kubrin, 2010). Fifth, it may be difficult to identify delinquent behaviours in communities with weak social ties and low levels of racial diversity (Taylor, 2015). Sixth, different researchers may have different opinions about what particular indicators capture particular cultural concepts (Taylor, 2015). Issues regarding prior research using social disorganisation have been raised as well; much of the literature that tests social disorganisation theory does not examine how social disorganisation, land use or structural conditions in neighbourhoods differ (Taylor, 2015).

Research that has applied social disorganisation theory to the East Asian context is limited but exists, and will be reviewed later in this chapter.

3.3 Environmental Criminology

Environmental criminology offers another theoretical approach to explain patterns of victimisation, putting an emphasis on analysing opportunities for crime to occur. Environmental

criminology puts its focus on immediate environmental characteristics thought to influence crime causation, thereby, differentiating it from most other criminological perspectives (which focus on distal causes) (Kim et al., 2013; Piroozfar et al., 2019). With advances in mapping technology, it has been increasingly revealed how crime is highly concentrated in particular geographic places, rather than being randomly distributed across large geographical units, such as cities. Brantingham and Brantingham (1993) introduced the term "environmental backcloth" to describe the variety of environmental elements that can affect criminal behaviours. This concept refers to "the wider social, cultural, legal, spatial and temporal dimensions to locations, which also includes the physical dimensions (buildings, roads, transit systems, land uses, design and architecture), as well as citizens located within that space" (Cozens & Christensen, 2011, p. 123), such as "bars, schools or public transportation stops that generate and attract crime" (Barnum et al., 2017, p. 203). From this perspective, environmental criminology holds that environmental or contextual factors are powerful predictors of the distribution of crime.

Environmental criminology has been rapidly growing in popularity and influence in the last few decades (Wartell & Gallagher, 2012). It comprises three key explanatory approaches: the routine activity approach (Cohen & Felson, 1979), crime pattern theory (Brantingham & Brantingham, 1981), and the rational choice perspective (Clarke & Cornish, 1985). These approaches, in turn, underpin the practical application of environmental criminology in the form of situational crime prevention (Clarke, 1980). This section will outline these approaches within environmental criminology and review the related research. As will be shown, most of the previous research in environmental criminology has been conducted in the Western context. Studies using environmental criminology in Asian contexts will be therefore described in a separate section.

3.3.1 Routine Activity Approach

The routine activity approach forms the main theoretical basis of the thesis. The routine activity approach was first presented by Cohen and Felson (1979) and was "a major theoretical development in victimology" (Messner et al., 2007, p. 498). Recognising the influence of daily life activities on crime opportunities, Cohen and Felson (1979) concluded that the convergence of 1) motivated offenders, 2) suitable targets, and 3) the absence of capable guardians are all required for a crime to take place. Specifically, the routine activity approach stipulates that the routine activities which draw together both likely offenders and suitable targets in the absence of capable guardianship can increase the likelihood of crime.

The routine activity approach focuses on crime itself rather than the criminality of offenders (Felson, 2016). Criminology has traditionally depended on economic and social factors to explain crime trends; in contrast, the routine activity approach is used to examine the offender and victim mobility patterns that converge to create crime opportunities. The initial research by Cohen and Felson examined the various changes in routine activities in American society after World War II and accompanying changes in crime patterns, which they argued traditional criminology could not adequately explain. Specifically, they argued that the increasing number of women participating in the labour force from the 1960s resulted in less guardianship at home and more suitable targets for street crimes, hence the observed increases in (daytime) residential burglary and street robbery (Rountree, 2018). More broadly, the routine activity approach argues that the rates and patterns of crime can be attributed to the everyday activities of individuals (working, shopping, eating out etc), which brings together in space and time motivated offenders and suitable targets.

The routine activity approach is well-established and has been used widely in Western advanced countries to explain various types of criminal victimisation, such as residential burglary (Coupe & Blake, 2006; Gamo et al., 2017; Rountree & Land, 1996a; Sampson & Wooldredge, 1987; Thompson & Fisher, 1996; Townsley & Sidebottom, 2010; Tseloni et al., 2004; Wuschke et al., 2013), motor vehicle theft (Copes, 1999; Rice & Smith, 2002), street robbery (Groff, 2008), violent crime (Kurland, 2019; Kurland et al., 2018; Schnell et al., 2019), drug crime (Osgood et al., 1996), online fraud (Pratt et al., 2010) and youth delinquency (Jong et al., 2019; Miller, 2013). For example, Thompson and Fisher (1996) analysed data from a nationwide American survey and found that measures of micro-level guardianship (household composition and individuals' activities performed in and around the households) were powerful predictors of residential burglary. They suggested that "prevention measures that make it appear that someone is at home during the day" (Thompson & Fisher, 1996, p. 62) can reduce burglary victimisation risk. Copes (1999) similarly employed the routine activity approach to investigate patterns of motor vehicle theft between 1994–1996 in the United States. Multiple regression analysis indicated consistency with the routine activity approach; the variables used to define motivated offenders (percentage of young male and the poor), suitable targets (road and car density), and the lack of capable guardians (population density and percentage of houses and flats that multiple dwellings occupy) were all found to be related to the likelihood of motor vehicle theft.

Although the routine activity approach was originally designed to explain how daily life activities can influence the risk of criminal victimisation, this approach has also been adopted in the fear-of-crime research as well (Lai et al., 2017; Rengifo & Bolton, 2012; Rountree & Land, 1996b). These studies are reviewed later in **Chapter 4**.

3.3.2 Crime Pattern Theory

Crime pattern theory was originally presented by Brantingham and Brantingham (1981). Whereas the routine activity approach was originally concerned with the effect of broad social factors on crime, crime pattern theory looks at the movement patterns of individuals in the urban environment, thereby contributing to the meso-level analysis of crimes in time and space (Wortley & Sidebottom, 2015).

Environmental characteristics are decisive factors in determining people's routine activities and how these activities are associated with the distribution of crime in space. Crime pattern theory combines the ideas of the rational choice perspective (discussed below) and the routine activity theory to explain the relationship between built urban environmental features and criminal activities, based on the idea that the city landscape can work as guardianship against crime, or conversely, a generator and an attractor of criminal activities. Through the framework of the crime pattern theory, crime generators are defined as places to which many people gather for non-crime-related reasons, and crime attractors refer to places which can produce criminal opportunities for motivated or potential offenders (Brantingham & Brantingham, 1995).

There are four key concepts of the crime pattern theory: activity nodes, paths, edges and awareness spaces. Activity nodes refer to places of activity where people regularly use, and paths refer to the routes which people take from one specific node to another node in their daily lives (Brantingham & Brantingham, 1981, 1993). Specifically, the nodes include residences, workplaces, schools, shops or places where people enjoy their leisure time (Brantingham & Brantingham, 1993; Kelsay & Haberman, 2020; Wang & Zhang, 2020). These nodes are connected by paths that create perimeters called "awareness spaces" (Kelsay & Haberman, 2020;

Usha & Rameshkumar, 2014). Since individuals perform a majority of their routine activities in their activity nodes, offenders, too, collect information to find a criminal opportunity in their nodes by engaging in their noncriminal routine activities. People's activities are carried out in their activity space that consists of nodes and paths; motivated offenders are more likely to commit a crime in their awareness spaces, where they are more familiar with both available crime opportunities and potential risks. Edges are the boundaries that specify each area where people perform their activities, such as work, leisure or shopping (Hiropoulos & Porter, 2014). Awareness spaces are created through individuals' daily lives, and these perimeters can affect the levels of crimes since awareness space determines offenders' location choices (Kuralarasan & Bernasco, 2021; Wuschke et al., 2013). Potential offenders try to find a place where a capable guardian is absent through their routine activities, and the crime pattern theory investigates how physical and social environments affect offenders' choice of targets (Eck & Weisburd, 2015). Barnum et al. (2017, p. 204) argue "crime is the product of decisions about offending and the distribution of offenders, targets, and guardians, each of which are shaped by the physical environmental landscape".

The development of crime pattern theory is significant in environmental criminology because it explains how the offender, target and guardian are linked in time and space (Jones & Pridemore, 2019). Supportive evidence for crime pattern theory can be found in abundant studies (Barnum et al., 2017; Bernasco, 2010; Bernasco & Block, 2011; Bernasco & Kooistra, 2010; Groff et al., 2014; Hiropoulos & Porter, 2014; Kuralarasan & Bernasco, 2021; Kurland, 2019; Menting et al., 2020; Mogavero & Hsu, 2018; Montolio & Planells-Struse, 2016; Summers & Johnson, 2017). According to crime pattern theory, offenders tend not to travel far from their nodes. Using police data from Hague, Bernasco (2010) concluded that offenders are likely to commit residential

burglary and theft from vehicle in the areas where they currently live or previously lived. His subsequent article confirmed that commercial burglars who have longer histories of residence at current locations are more likely to commit offences locally (Bernasco & Kooistra, 2010). These studies suggest that offenders tend to stick to their awareness space for their (re)offending.

According to crime pattern theory, crime occurs where people congregate. A study on the street-level spatial distribution of crime using the 1996 – 1998 crime data from Chicago showed a positive relationship between crime generators, attractors and crime; as expected, the risk of street robbery is increased by not only social and demographic characteristics (e.g., resident population or ethnicity) but also the environment characteristics (crime generators and attractors), such as the presence of off-licences, grocery stores and train stations where a ratio cash transactions can be high with few members of staff (Bernasco & Block, 2011). A more recent study in three American cities (Barnum et al., 2017) also showed that, in agreement with crime pattern theory, the risk of burglary is significantly affected by factors in the immediate environment: petrol stations, grocery stores, bus stops, drug markets and off-licences were found to increase rates of burglary. It has also been revealed by a study in Perth, Australia, that from a macro-level perspective, physical barriers (e.g., rivers, roads and train rails) significantly affected offenders' decision making; if the physical barriers separate offenders' residential areas from their potential targets' suburbs, the offenders are less likely to select there for burglary (Clare et al., 2009). In agreement with this, a study in a metropolitan area of Philadelphia proved that the internal accessibility of municipalities, such as bus stops or railway stations, increased the number of property crimes (Groff et al., 2014).

The patterns of spatial and temporal crime concentration have been investigated outside Western countries as well. For example, a study in the South African city of Gauteng demonstrated that the crime pattern theory is applicable to the African context; theft from vehicle was highly concentrated in specific areas, suggesting that central business districts were potential crime generators and attractors (Hiropoulos & Porter, 2014). In the East Asian context, too, there is a small but growing body of empirical studies on crime concentration. These are discussed in a later section of this chapter.

In summary, the crime pattern theory is concerned with the role of the built and social environment in the distribution of criminal activities, which consists of four components: nodes, paths, edges and awareness spaces. This theory suggests that individuals carry out their routine activities in their activity space that consists of nodes and paths, and motivated offenders are likely to commit a crime in their awareness spaces where they are familiar, understanding both crime opportunities and potential risks.

3.3.3 Rational Choice Perspective

The rational choice perspective was developed by Clarke and Cornish (1985) to provide a theoretical underpinning for situational crime prevention (discussed later). The important insight of them was to apply rational choice to situational costs and benefits to commit a crime. The term "rationality" is originally from economics (Akers, 1990; Van Gelder, 2013). The rational choice perspective is derived from rational choice theory, which has become an important framework in the field of sociology, psychology and political science (Loughran et al., 2016). Becker (1968) argued that this framework is useful to explain illegal behaviours; some people become criminals

because they think the benefits of doing so are greater than those that can be obtained by spending time and resources on alternative courses of (legitimate) action.

Since most criminological theories in the 1960s proposed that long-standing criminal predispositions and psychopathologies were the main causes of criminal behaviours, criminological research mainly focused on what programmes are effective to understand and prevent the development of criminality, or what can be after-the-event to modify someone's criminal tendencies. However, as the effectiveness of these kinds of programmes was called into question (Martinson, 1974), some criminologists shifted their focus to understanding how criminal behaviours develop as the outcome of rational choices (Cornish & Clarke, 2016). While the positivist criminology approaches focus on biological or psychological characteristics to explain criminal behaviour, the rational choice perspective takes a new look at criminal decision-making (Rountree, 2018). Specifically, it represents a shift from trying to understand why people developed criminal dispositions to why they performed criminal behaviours at a given time and place (Wortley & Tilley, 2014).

According to the rational choice perspective, an offender's decision to commit a crime is based on the perceived opportunities, costs and benefits offered at the potential crime scene (Cornish & Clarke, 1987; Gilmour, 2015). The rational choice perspective argues that offenders do not randomly commit a crime; rather crime occurs when potential offenders find some merits to do so (Brantingham et al., 2016; Gilmour, 2015). Merits for offending can be psychological as well as financial, such as emotional thrills (Paternoster & Pogarsky, 2009). This perspective has influenced empirical research on crime events and criminal justice policy, emphasising the importance of the quantitative approach (Akers, 1990). It is important to note that since the

amount of information that offenders can obtain is limited, the routine activity approach "does not assume that offenders plan their crimes carefully; it assumes only that they are seeking to benefit themselves by their crimes, which is rational enough" (Clarke & Eck, 2003, p. 30). This is called limited or bounded rationality; heuristics are used for the offender's decision-making to assume pros and cons (Gul, 2009; Nee et al., 2019).

The patterns of different types of crime, such as residential burglary (Armstrong & Boutwell, 2012; Hwang et al., 2017; Langton & Steenbeek, 2017; Nee et al., 2019; Vandeviver & Bernasco, 2020), fraud (van Gelder & de Vries, 2014), assault (Armstrong & Boutwell, 2012), drunk driving (Armstrong & Boutwell, 2012; Bouffard & Exum, 2013), illegal downloading (van Gelder & de Vries, 2014), juvenile delinquency (Zhao et al., 2020), money laundering (Gilmour, 2015), sexual offences (Beauregard et al., 2007), shoplifting (Bouffard et al., 2010) and terrorism (Fussey, 2011; Perry & Hasisi, 2015), have been analysed from the perspective of the rational choice perspective. For instance, Langton and Steenbeek (2017) focused on the household-level attributes to explain the patterns of residential burglary by using the data of 150 previously burglarised households in Hague. The results of the conditional logistic regression demonstrated that the households that are under more surveillance (e.g., the visibility from outside) are less likely to be victimised. The findings led to the conclusion that offenders try to avoid the risk of apprehension as much as possible. Vandeviver and Bernasco (2020) also applied the rational choice perspective to residential burglary. Using the data of 679 burglaries that occurred between 2005 and 2014 in one north-western city of Belgium, they examined how household- and neighbourhood-level variables affect offenders' target choice. The results of their study revealed that burglars were likely to select the areas where they live or previously lived, or they had targeted for burglary previously. With regard to household characteristics, burglars tended to select the residences which are

detached, single-unit or rented.

Some criticisms have been made on the usefulness of the rational choice perspective. These criticisms have been put forward from different disciplines, such as behavioural psychology, political science and sociology (Hayward, 2007). First, as stated above, an offender's decision-making is not perfect because it relies on his or her heuristics. Therefore, the rational choice perspective cannot be used as an organising approach properly to account for social-level phenomena (Jones, 2001). Indeed, the rational choice perspective could be criticised because people often behave impulsively or emotionally (Hechter & Kanazawa, 1997), or how people make a decision is affected by institutions, cultural influences or psychological limitations (Quackenbush, 2004). Second, the rational choice perspective heavily focuses on individuals, and does not consider how socioeconomic and environmental conditions affect opportunities (Blau, 1997). Third, the impact of social disorganisation-related factors can be greater on minor crime or delinquency than that of rational choice-related factors (Tibbettsi & Myers, 1999).

3.3.4 Situational Crime Prevention

It has been argued that one of the strengths of environmental criminology is its "ability to inform primary prevention initiatives to target particular crime problems through situational crime prevention measures" (Leclerc et al., 2016, p. 745). Situational crime prevention which is an important catalyst to the development of the rational choice perspective was first introduced by Clarke (1980)[2]. According to Clarke (2016), situational crime prevention intends to make the

[2] Mayhew, Clarke, Sturman, & Hough (1976: 29) have already stated the importance of crime prevention measures "which seek to reduce crime through manipulation of the physical rather than social environment". However, Clarke (2016) himself says situational crime prevention was first presented in 1980.

situation less attractive to crime. Specifically, situational crime prevention aims to reduce crime opportunities by increasing the perceived risks and costs and decreasing the expected benefits of committing crimes, as viewed by the offender (Clarke, 1980, 2016). In his later writings (Clarke, 2008; Cornish & Clarke, 2003), 25 techniques and five mechanisms to reduce crime through situational means were presented (increasing the required effort to commit a crime, increasing the risks of being caught, reducing the rewards and provocations of crime, and removing excuses for crime) (**Table 3-1**).

Table 3-1 Twenty-five techniques of situational crime prevention

Increase the efforts	Increase the risk	Reduce the rewards	Reduce provocations	Remove excuses
· Harden targets · Control access to facilities · Screen exits · Deflect offenders · Control tools/weapons	· Extend guardianship · Assist natural surveillance · Reduce anonymity · Utilise place managers · Strengthen formal surveillance	· Conceal targets · Remove targets · Identify property · Disrupt markets · Deny benefits	· Reduce frustrations and stress · Avoid disputes · Reduce emotional arousal · Neutralise peer pressure · Discourage imitation	· Set rules · Post instruction · Alert conscience · Assist compliance · Control drugs and alcohols

***Source*:** Clarke & Eck (2003)

Situational crime prevention initiatives target very specific crime problems to understand its mechanism (Clarke, 1997; White & Sutton, 1995). Situational crime prevention interventions can be categorised into "hard" and "soft"; the hard interventions are aiming at "making it impossible or more difficult for the crime to be committed, or alerting potential perpetrators that they will be *immediately* apprehended if they transgress", and soft interventions "seek to remove the environmental prompts or cues that provoke offenders to commit the crime" (Freilich et al., 2019, p. 5). The former includes private security guards, and the increase of police patrol or neighbourhood watch (strengthening the surveillance), and the latter includes the removal of graffiti and the reduction of crowding (changing the physical environment) (Freilich et al., 2019; White & Sutton, 1995).

There is a large number of studies and reviews that have attested to the effectiveness of situational crime prevention for various types of crime, such as car crime (Lai et al., 2019; Piza, 2018; Ratcliffe et al., 2009; Tilley, 1993), residential burglary (Bowers et al., 2004; Groff & McCord, 2012; Lai et al., 2019), violent crime (Circo & McGarrell, 2020; Freilich et al., 2019; Groff & McCord, 2012; Piza, 2018), occupational crime (Tunley et al., 2018) and sexual offences (Cook et al., 2019; Krone et al., 2020). The introduction of alley-gates is an example of a particular situational crime prevention technique. A total of 3,178 alley-gates to alleyways were introduced along about 362 terraced houses in the City of Liverpool to restrict access to the alleyways and decrease the risk of residential burglary (Bowers et al., 2004). Statistically significant reductions in the number of burglary in the alley-gates installed areas were observed; compared to the comparison area, the levels of residential burglary dropped by up to 37%.

The rational choice perspective is helpful when considering crime prevention interventions for

potential victims and understanding crime displacement (Cornish & Clarke, 1987; Fattah, 1993). A consistent criticism of situational crime prevention is that crime is simply displaced. There are six types of crime displacement: "temporal (offenders change the time at which they commit a crime), spatial (offenders switch from targets in one location to targets in another location), target (offenders change from one type of target to another target type), tactical (offenders alter the methods used to carry out crime), offence (offenders switch from one form of crime to another), and offender (new offenders replace old offenders who have been removed or who have desisted from crime)" (Guerette & Bowers, 2009, p. 1333). Although the possibility of crime displacement has been claimed since Reppetto (1976), it has been argued that the displacement can be "benign"; serious crimes are replaced by the less serious ones (Barr & Pease, 1990). Moreover, according to the systematic review of 102 studies on situational crime prevention efforts, 27% of those showed the diffusion of benefits, while 26% showed the displacement of crime (Guerette & Bowers, 2009). It has been also argued that in areas with low crime rates, crime displacement is not likely to happen due to a small number of crime opportunities (Wang et al., 2014). Some recent studies, indeed, have demonstrated the phenomenon of "diffusion of benefits"; the areas that were not the targets of the intervention experience crime reduction (Bowers et al., 2004; Braga et al., 1999; Clarke & Weisburd, 1994; Sherman & Rogan, 1995; Weisburd & Green, 1995).

3.3.5 Integration of Theoretical Perspectives to Explain Victimisation: A Multilevel Analysis

In recent years there has been growing interest in the integration of social disorganisation theory and environmental criminology to analyse crime patterns. Most of this research has involved multi-level analysis, based on the assumption that individual/household- and neighbourhood-level characteristics are both of importance in explaining crime patterns since "crime opportunity is

structured at multiple, embedded units of analysis" (Rountree, 2018, p. 168). Indeed, the integration of macro- and micro-level theories is useful in order to examine how individual criminal risks are determined by both routine activities (micro-level) and the neighbourhood context (meso- and macro-level) (Miethe & McDowall, 1993). Specifically, the macro-level theories consider "the social structural conditions linked to criminal motivation (e.g., weak social bonds, cultural conflict, ends-means disjunction, poverty), but they do not consider how the actions of potential crime targets determine the physical opportunities for victimization", and conversely, micro-level theories play "the causal role of personal characteristics in enhancing their accessibility and attractiveness as crime victims, but these theories largely neglect the social forces that produce criminal motivation" (Miethe & McDowall, 1993, p. 755). Since the routine activity approach forms the main theoretical basis of the thesis, this section especially focuses on the literature that adopts the perspectives of social disorganisation theory and the routine activity approach.

A multilevel approach has been adopted since the mid-1990s. Miethe and McDowall (1993) were one of the first to do so, focussing on how the risk of victimisation is affected by routine activities, lifestyle and the neighbourhood context. Drawing on data from a three-decade project in Seattle, they found that guardianship and target attractiveness (e.g., family income, the possession of valuable items) are related to the risk of burglary; however, the degree of their impacts is lower in disadvantaged or socially-disorganised areas since the risk of crime in those locations appears to be less susceptible to differences in individuals' routine activities and lifestyles.

Rountree et al. (1994) applied hierarchical linear regression models for the same Seattle data used by Miethe and McDowall (1993) to examine how macro-micro factors influence violent crime

and burglary victimisation. The results revealed that neighbourhood social disorganisation-related factors (e.g., density of residents and strangers, disorder and ethnic heterogeneity) more powerfully increased the risks of victimisation than did micro-level factors. Their subsequent study tested the generalisability of a multi-level approach to burglary victimisation across three metropolitan cities (Rochester, St Louis and Tampa-St. Petersburg) in the United States using data from the 1977 Police Services Survey (Rountree & Land, 2000). They found that the risk of individual-level victimisation varied from neighbourhood to neighbourhood, and this can be mostly explained by neighbourhood-level predictors and the effect of both individual- and neighbourhood-level indicators can be generalised across different social settings.

Velez (2001) also used the 1977 Police Services Survey to examine how public social control (police-public and local government-public relations) affects the risk of residential burglary, assaults and muggings. Reviewing previous literature on community policing and residential mobility, she hypothesised that public social control is associated with low crime rates, and the results indeed support her hypothesis. Specifically, public social control lowered the risks of victimisation of these three types of crime, and this is particularly true of disadvantaged neighbourhoods. In more recent research, Jones and Pridemore (2019) integrated social disorganisation theory and the routine activity approach to examine how neighbourhood-level conditions influence the variation in violent crime and property crime in Lexington, Kentucky. By using multilevel negative binomial regression, they found that these two theories explain levels of crime at the street segment-level, and neighbourhood-level characteristics help to explain how routine activities affect crime at the micro-level.

3.4 Victimisation Theory Applied to Asia

Studies that have applied victimisation theories to the East Asian context are scarce. There are two possible reasons for this. First, the relatively low crime rates in Asia make researchers think it difficult to find academic significance or impact there (Chui et al., 2012). Second, access to crime data is limited in many East Asian countries. Indeed, it has been argued that the crime data available to the researchers is limited in Japan (Finch, 1999; Omata, 1999; Shimada, 2004). This section reviews some important studies on patterns and predictors of victimisation in East Asian societies.

Roh et al. (2010) analysed predictors of victimisation in Seoul, South Korea using 620 responses from face-to-face interviews across 25 districts. The results of their analysis showed that, contrary to their expectation based on the social disorganisation theory and environmental criminology: 1) community cohesion *increased* and poverty *decreased* street crime, residential burglary and robbery, 2) residential mobility did not statistically increase the risk of victimisation, 3) crime avoidance behaviours (e.g., using a taxi when return home late at night) and security measures (e.g., CCTV) were related to *higher* risks of victimisation. As can be seen, some of the findings from their study are inconsistent with those observed in Western countries.

Two important studies relevant to this thesis are the work conducted in the Chinese city of Tianjin, which addresses the applicability of the above-mentioned theories to an East Asian context (Messner et al., 2007; Zhang et al., 2007). In the first study, Messner et al. (2007) focused on how routine activities affect the risk of victimisation in the context of urban China using the victimisation survey of about 2,500 residents aged 18 or over. It was demonstrated that, as with many victimisation studies in the West, routine activities (e.g., the frequency of eating out, using

a bus and going outside of the city) play important roles in explaining the victimisation risk of personal theft. With regard to demographic characteristics, being female is found to be associated with higher risks of personal theft and lower risks of assault. They also found that age was a decisive factor in terms of risk of victimisation; the young are at a higher risk of personal theft and robbery, and the elderly are at the higher risk of fraud. Education was found to be related to the higher risk of victimisation of personal theft and robbery because the educated were more likely to be engaged in routine activities which can cause the risk of victimisation, such as the use of public transport or traveling to work. Contrary to the results from previous victimisation studies in Western nations, the findings showed that being single did not affect the risk of victimisation of all examined types of crime. They argued that this can be attributed to the uniqueness of the structure of the Chinese societies; living alone does not cause a reduction in guardianship as is often the case in many Western settings even if they live by themselves since single people still keep close relationships with their parents or extended families.

In a subsequent study using the same dataset from Tianjin, Zhang et al. (2007) applied multi-level analysis to explore the factors related to residential burglary victimisation. The results of hierarchical logistic regressions showed that many neighbourhood-level predictors of the risk of victimisation of residential burglary are consistent with those reported in studies in Western countries; household income was positively, and guardianship (length of residence and somebody home), collective efficacy and public control were negatively associated with the risk of residential burglary. Although the risk of residential burglary varied from neighbourhood to neighbourhood, the unique findings in their study were that, contrary to the social disorganisation theory, residential stability increased the risk of residential burglary, while the levels of poverty had no significant effect.

Determinants of robbery, assault and personal larceny have been examined in the Taiwanese context as well (Kuo et al., 2009). Drawing on data from the 2005 national victimisation survey of over 18,000 respondents, the study focused on demographic characteristics and routine activities to explain patterns of criminal victimisation. The results of the logistic regression analysis suggested that 1) being female and perceived neighbourhood disorder were positively associated with robbery victimisation, 2) age under 34 or 35-54, married, higher levels of frequency of working, leisure and going out at night were all found to be positively related to larceny, whereas being female was negatively related, and 3) night-time activity at home (those who did not report any outside night-time activities) and the frequency of going out at night increased the risk of assault, while marital status decreased it. In terms of higher risks of assault among the respondents who stay at home at night rather than going out, the authors speculated that this was due to the high incidence of domestic violence.

As reviewed above, the previous research on criminal victimisation in the East Asian context has provided both similarities and differences in the patterns of crime compared with those in the Western context. In Japan, although further efforts to investigate the applicability of Western criminological theories to the Japanese context are needed, the last two decades have seen a growing trend in the interests of researchers toward the relationship between community and crime. Crime data in Japan have been gradually open to the public; the municipal-level raw data of several types of thefts (snatch, theft from vehicle, vehicle parts theft, vending machine money theft, motor vehicle theft and bicycle theft) are now available on the prefectural police departments' websites since 2019. The data include the time and date of the crime occurred, the location where the crime occurred and its category (e.g., street), and the name of the police station

that has jurisdiction over the crime location. However, it is very recent that these data have become available to the public, and the data of other types of crime are still confidential. In addition, there have been still a lack of understanding of the contextual (neighbourhood) effects on individual/household-level variation in victimisation without few examples of the empirical studies which adopted multilevel modelling (Takagi et al., 2011; Tsushima & Hamai, 2015), as well as a rapid increase in crime until the early 2000s (Kobayashi & Suzuki, 2000).

Investigations into the patterns of crime have been carried out in densely populated areas in Japan. Using a sample of 132 middle-aged women who are mothers of the students at a university located in Nagoya city, which is the third most populous urban area in Japan except special wards of Tokyo, Omata (1999) examined the predictors of victimisation of crime with a special focus on neighbourhood environmental factors. Multiple regression analysis demonstrated that not being sensitive (based on the results of the Yatabe-Guilford personality test), having neighbourhood social ties, living in areas with well-maintained parks or roads, and perceived neighbourhood disorder were found to increase the likelihood of victimisation. The first three predictors of victimisation were significant in the unexpected direction. A possible explanation for this offered by the author is that those who are sociable are more likely to engage in outside activities which, as a result, may increase the risk of victimisation. Kobayashi and Suzuki's (2000) study using a survey of 780 adult residents in Tokyo also supported the effects of perceived disorder on the likelihood of residential burglary.

The measures of neighbourhood social capital have been explored in order to understand the spatial patterns in crime in Japan. Recent empirical research has generally provided mixed results for the effects of social capital on reducing the risk of crime (Matsukawa & Tatsuki, 2010, 2011;

Takagi et al., 2010, 2011). For example, using data from a survey of 514 women aged 20 – 79 conducted in Tokyo, Takagi et al's (2010) multilevel analysis demonstrated that residents' cooperative behaviours aggregated to the neighbourhood-level were found to be effective in preventing residential burglary and theft from vehicle. However, no relationship was found between cooperative behaviours and the number of street robbery and motor vehicle theft. This may be because street robbery and motor vehicle theft do not always occur in respondents' neighbourhoods, and those crimes that occur outside neighbourhoods cannot be prevented by neighbourhood cooperative behaviours. In addition, the study revealed that the number of neighbours to whom the respondents often talk increased the risk of residential burglary. A possible reason for this given by the authors is that the increase in the number of acquaintances whom the respondents know slightly but are not close in neighbourhoods may decrease mutual surveillance, which can lead to an increase in the risk of crime. In a similar vein, a subsequent study from a sample of adult residents in Tokyo (Takagi et al., 2011) reported that while living in detached house was only one predictor variable for victimisation (those who live in detached house are more likely to experience residential burglary) among demographic characteristics variables, several dimensions of neighbourhood social capital were found to reduce the risk of residential burglary. Specifically, trust in neighbours and norms of reciprocity were associated with a lower risk of residential burglary.

Although many of the previous studies in Japan rely heavily on social disorganisation and collective efficacy, Shimada and Ohyama (2019) adopted environmental criminology to examine the factors associated with property and personal crime victimisation in Japan nationwide. They provided support for the routine activity approach; the employment status of the respondents, used as a proxy of the routine activities and lifestyle, predicted the risk of bicycle theft.

As discussed, previous research has reported several factors which affect the likelihood of criminal victimisation in the Japanese context. However, some significant limitations are acknowledged. First, most of the previously published studies on patterns of crime in Japan have only focused on metropolitan or suburban areas (Kobayashi & Suzuki, 2000; Omata, 1999; Takagi et al., 2010, 2011), and it is still unclear if the same patterns can be observed in the different settings of Japan. Indeed, it has been revealed that the patterns of vehicle theft are affected by the rurality of the municipalities (Shimada & Suzuki, 2021). Secondly, to the author's knowledge, no victimisation research in Japan has tested social disorganisation theory and environmental criminology simultaneously. Third, all studies reviewed above employ cross-sectional data, and no studies have looked at the patterns and predictors of criminal victimisation longitudinally.

3.5 Summary of Theories of Criminal Victimisation and Its Applicability to Asia

The preceding sections reviewed the dominant theories of and research on criminal victimisation. These theories speak to the fact that different social and environmental contexts can make people or places more vulnerable to crime than others. Specifically, social disorganisation theory argues that there is a link between the neighbourhood's ecological status and patterns of crime. Environmental criminology, on the other hand, explains criminal events or patterns by their immediate environment. Considering the results of previous studies, it is evident that the risk of victimisation is determined by both individual/household and neighbourhood contexts. However, there is still considerable uncertainty about the applicability of the victimisation theories to Japan. Indeed, many of the studies summarised in the preceding sections were conducted in Western

industrialised countries, such as the United States (Barnum et al., 2017; Bernasco & Block, 2011; Copes, 1999; Groff et al., 2014; Lai et al., 2017; Miethe & McDowall, 1993; Piza, 2018; Rountree et al., 1994; Rountree & Land, 1996a, 2000; Thompson & Fisher, 1996; Velez, 2001), and very little has been done to examine the applicability of theories of criminal victimisation to the East Asian context (Kobayashi & Suzuki, 2000; Kuo et al., 2009; Messner et al., 2007; Omata, 1999; Roh et al., 2010; Takagi et al., 2010, 2011; Zhang et al., 2007). Besides, prior research in East Asia has shown some inconsistencies with the Western framework of victimisation and offered mixed supports for the theories. Some studies have concluded that such unexpected results in terms of the effects of neighbourhood ecological context may have been caused by the differing sociocultural characteristics compared to Western countries (Messner et al., 2007; Roh et al., 2010; Zhang et al., 2007). Therefore, it is probable that these made-in-the-West criminological theories do not fully explain the patterns of criminal victimisation in other parts of the world. The predominant focus of previous research has been on residential burglary (Martin, 2002; Miethe & McDowall, 1993; Roh et al., 2010; Rosser et al., 2017; Rountree et al., 1994; Rountree & Land, 1996a, 2000; Tseloni et al., 2004; Zhang et al., 2007), presumably because residential burglary is "common", and there is a high reporting rate to the police (for insurance purposes) and data is usually quite accurate in terms of location because the targets are fixed (rather than mobile as in robbery). It may also be that residential burglary can be reasonably explained by the perspectives of social disorganisation and environmental criminology (individual/household- and neighbourhood-level variables). However, empirical research on the variation in residential burglary in Japan is limited (Hino & Amemiya, 2019; Kobayashi & Suzuki, 2000; Takagi et al., 2010, 2011), and as far as the author is aware, no research has so far examined the patterns of residential burglary in Japan nationwide.

3.6 Crime Drop

The term “crime drop” refers to the significant crime decrease found in many Western nations from around the 1990s (Farrell, Tilley, & Tseloni, 2014; Sidebottom et al., 2018; Van Dijk, 2008b). One of the aims of this thesis is to determine if the crime drop is observed in Japan using the JPSS. The national-level victim surveys in England and Wales, France, the Netherlands and the United States all show that the numbers of many common types of crime (e.g., assault, residential burglary, car crime) have drastically fallen since the 1990s (Farrell et al., 2014). For example, in the United States according to the National Crime Victimization Survey (NCVS), residential burglary decreased by 43% between 1973 and 1995 (Rand et al., 1997) and by 56% between 1994 and 2011 (Walters et al., 2013). The Uniform Crime Reporting (UCR) also reported that the rates of homicide, robbery and motor vehicle theft in 76 large cities of the United States showed upward trends in the 1980s; however, they began to sharply decrease in the early 1990s and this trend continued to the early 2000s (Baumer & Wolff, 2014). Similar trends can be found in England and Wales. By 2012, household crime (vandalism, burglary, motor vehicle theft and bicycle theft) had dropped by 64% and violent crime had dropped by 56% from its peak in the early 1990s (Farrell et al., 2014). In the European context, the ICVS 5th sweep (2004/05) showed that the victimisation rates in nine European countries (Belgium, Estonia, Finland, France, Netherland, Poland, Sweden, Switzerland and the United Kingdom) were lower than those in the 3rd sweep (1996) (Van Dijk, 2008b). Rosenfeld and Messner (2009) also found that, from 1993 to 2006, a similar reduction in residential burglary was observed in the United States and nine European countries (Denmark, France, Germany, Greece, Hungary, Ireland, Italy, Netherlands and Portugal).

Several attempts have been made to explain why the number of crimes has been falling

internationally. Farrell (2013, p. 2) summarised 15 different proposed explanations based on prior research (Blumstein & Rosenfeld, 2008; Levitt, 2004): strong economy, concealed weapons law, capital punishment, gun control laws, rising prison population, policing strategies, more police, legalisation of abortion, immigration, consumer confidence, waning crack market, childhood lead, changing demographics, civilising process and improved security. Among these, two main explanations for the crime drop will be outlined in this section – the security hypothesis and the economic change hypothesis.

The security hypothesis argues that the increased introduction of security measures in recent decades has reduced crime opportunities (Bowers et al., 2004; Farrell et al., 2014; Tseloni et al., 2017; Van Dijk, 2008b; Zavoski et al., 1999). Seventeen possible explanations for the crime drop were tested (Farrell et al., 2014), and the results of the study revealed that the introduction of improved home security measures was the most powerful driver of the reduction of car crime and residential burglary. The security hypothesis is consistent with the crime opportunity, rational choice and routine activity perspectives (Farrell, 2013; Farrell et al., 2014; Farrell & Tilley, 2017). While some types of crime (e.g., residential burglary) have been experiencing a decrease as alluded above, cybercrimes have been on an upward trend because the Internet offers new crime opportunities with fewer security environments (Farrell, 2013; Farrell et al., 2014). However, the security hypothesis may not give a clear explanation for the drop in violent and sexual crime. Farrell et al. (2014, pp. 475–476) said "If property crime dominates the portfolio of most offenders, and it is property crime on which improved security has acted most dramatically, then disrupting this primary component of the offending portfolio may have disrupted the less frequently committed, and probably related, violent offences". This explanation could also apply to the decrease in sexual offence but still remains uncertain due to a paucity of evidence.

The economic change explanation for the crime drop argues that higher levels of consumer confidence in their economic conditions lead to reductions in crime. Using the 1993-2006 residential burglary rates in the United States and nine European countries (Denmark, France, Germany, Greece, Hungary, Ireland, Italy, Netherlands and Portugal), Rosenfeld and Messner (2009) examined if the decreases in residential burglary rates are associated with the economic conditions. The results of their cross-sectional time-series analysis revealed that there is a relationship between the rise in consumer confidence and the decline in residential burglary rates. The effects of economic conditions on the crime rates can be explained by the strain theory; the more affluent the society becomes, the fewer people are motivated to commit a crime (Van Dijk, 2008a). However, Farrell et al. (2014) disagree with the consumer confidence hypothesis, saying that this hypothesis does not account for the sharp crime increase in the post-World War II period when economies were strong.

Evidence suggests the extent of the crime drop has been unequally distributed. Using the 1992 and 2014-2015 Scottish victim surveys, it has been revealed that although a majority of the respondents showed almost zero probability of being victims of property crime, a small number of people showed high risks of experiencing different types of crime (McVie et al., 2020). In other words, the crime drop in Scotland has accelerated the unequal distribution of criminal victimisation. Pease et al. (2018, p. 264) argued that paying attention to repeat victims is important for crime prevention since “the prior victim provides the narrowest and most useful focus for optimising preventive help”.

There has been little discussion about the crime drop in East Asia. Using the police-recorded

crime data, Sidebottom et al. (2018) examined the trends in residential burglary and car crime in Hong Kong, Japan and Taiwan to test if the similar reduction patterns that have been observed in the West exist in the East Asian context. They concluded that 1) although Japan and Taiwan showed similar patterns of crime reduction to that in other industrialised countries, the reductions began much later (in the early 2000s), and, on the other hand, 2) the crime decrease in Hong Kong started in the early 1980s, which is much earlier than other tested countries.

Several attempts have been made to examine the changes in the crime trends in Japan. Although various factors have been examined that make Japan a safe country, overemphasising the cultural uniqueness of its society could "ignore the universality underlying crime patterns" (Fujimoto & Park, 1994, p. 121). Indeed, Japan has been experiencing a significant and prolonged crime drop since 2003, just after the number of police-recorded crimes reached its peak in 2002; the number of police-recorded crimes decreased by over 50% from 2002 to 2012 regardless of the peak level of crime in Japan was much lower than that in Western industrialised nations (Hino, 2018). Using the 1950-1988 Interpol crime data, Fujimoto and Park (1994) examined if Japan is "exceptional" in terms of crime rates compared with 15 Western advanced countries. They found that the trends in homicide, sexual offences and theft in Japan were not significantly different from those in other countries between 1950 and 1970, and the low crime rate phenomenon in Japan started in the late 1960s. Besides, they reported that the crime patterns in Japan and 15 Western countries had the same characteristics; property crime consists of 70 to 90% of total crimes and violent crime consists of less than 5%. Johnson (2008) sought to answer why the homicide rate in Japan reduced by 70% in the last 50 years. He concluded that although young males in Japan are much less likely to commit murders than those in other developed nations and their predecessors in the past decades, there is not still a clear explanation for what has brought about the significant and

prolonged drop in the number of homicides in Japan. Several possible answers could be presented, such as the intolerance for violence generated after World War II and high economic performance; however, these explanations remain purely speculative and much uncertainty still exists about this large reduction. In addition, as Fujimoto and Park (1994) and Sidebottom et al. (2018) revealed, although the crime reduction in some East Asian countries started later than those in Western countries, the crime trends showed similar types of reduction.

As discussed above, the crime drop has been occurring worldwide, despite the fact that the peak levels of crime in East Asian countries were much lower than those in Western industrialised nations. To the author's knowledge, no research has looked at the predictors of crime and fear of crime in Japan against falling crime rates which is true of Japan and internationally. This is one of the focuses of this research.

Chapter 4 Literature Review: Theoretical Framework of Fear of Crime

Chapter Summary

This chapter outlines a theoretical framework for the study of fear of crime in Japan. It reviews the relevant literature on predictors of fear of crime. Specifically, this chapter is formed of three main parts. The first part provides the theoretical bases for fear-of-crime research by reviewing its three theoretical models: indirection victimisation model, disorder model, and community concern model. The second part focuses on three models of fear of crime and reviews the related literature. These two parts close by looking at some important studies in the East Asian context. The chapter ends by summarising key gaps and controversies in the literature reviewed which this thesis seeks to address. It concludes by describing the research questions that the thesis aims to answer.

4.1 Introduction

The harms associated with crime extend beyond direct experience. Previous literature has helped develop and refine criminological theories on the causes of crime and associated harms. However, these theories have overwhelmingly been born and almost exclusively focused on Western settings, and there has been relatively little discussion in the East Asian context. Addressing this imbalance forms part of the motivation for this thesis.

Fear of crime has been discussed as an important social problem in the field of criminology since the 1970s (Ferguson & Mindel, 2007; Ferraro & LaGrange, 1987; Henson & Reyns, 2015; Liska et al., 1988; Luo et al., 2016; Perkins & Taylor, 1996; Scheider et al., 2003; Taylor & Hale, 1986;

Zhao et al., 2002). It refers to "an emotional reaction of dread or anxiety to crime or symbols that a person associates with crime" (Ferraro, 1995, p. xiii). Importantly, this is different (albeit related) to the perceived risk of victimisation, which refers to "people's assessment of crime rates and the probability of victimization" (Dubow et al., 1979, p. 3). Fear of crime and the perceived risk of victimisation may affect individuals' perceptions of crime (Ferraro & LaGrange, 1987; Rountree & Land, 1996b).

Moreover, the extent to which people are fearful of crime in their neighbourhood or country is of importance as well as the actual crime rate. High levels of fear of crime and the perceived risk of victimisation can alter how we behave in our daily life (Liska et al., 1982; Rader et al., 2007; Skogan, 1986; Skogan & Maxfield, 1981), deteriorate our health (Ferraro, 1996) and even result in neighbourhood decline. Specific effects include withdrawal from the community, the deterioration of informal social control and local business, the promotion of suspicion in the neighbourhood, the loss of the ability to maintain public order and the negative changes in the population composition (Skogan, 1986). Fear of crime and its relationship with the distribution of crime have been of interest to criminologists because the levels of crime and those of fear of crime do not always match up (Ferguson & Mindel, 2007; Hale, 1996; Rountree & Land, 1996b; Wyant, 2008). For instance, people with the highest risk of victimisation, such as young males, sometimes show the least levels of fear of crime (Farrall et al., 2007; Perkins & Taylor, 1996; Taylor & Hale, 1986).

As described in **Chapter 2**, Japan has enjoyed a relatively low crime rate compared with other developed countries. However, the levels of fear of crime among Japanese people have been high and appear to be growing over time, showing a negative view towards safety (Hamai & Ellis,

2006, 2008; Shibata et al., 2011). It has been argued that the media might heavily influence the levels of fear of crime in Japan, causing moral panic among the population (Hamai & Ellis, 2008). Indeed, the impact of media on the levels of fear of crime has been discussed in the Western context for several decades (Bolger & Bolger, 2019; Chiricos et al., 1997; Gerbner & Gross, 1976; Liska & Baccaglini, 1990; Warr & Stafford, 1983). Other possible interpretations for high levels of fear of crime among Japanese people include various social changes (e.g., population inflow into metropolitan regions and weakened family relationships) and particular incidents which shook the Japanese public. Such incidents include the 1995 Tokyo subway sarin attack by the cult movement which killed 12 people and injured more than 5,000 people, and the 2001 Osaka school massacre in which nearly 30 pupils and teachers were injured or killed at a primary school (Shibata et al., 2011). However, these claims are speculative. In terms of the relationship between social changes and fear of crime, one article on fear of crime in China argued that "Rapid social change can create a significant generational gap where members of the younger, more educated generation identify with newer lifestyles and expose themselves to modern aspects of social life, while the older, less educated generation may continue to identify with tradition" (Liu et al., 2009, p. 96). In other words, the degree to which social changes affect fear of crime may differ for different population groups. Considering the negative effects of fear of crime on community life, as alluded above, it is necessary to examine what kinds of factors affect people's fear of crime in the Japanese context.

4.2 Models of Fear of Crime

There are a variety of possible predictors of fear of crime. Theoretical frameworks for fear of crime are roughly categorised into three models: the indirect victimisation model, disorder model and community concern model (McGarrell et al., 1997; Roh & Oliver, 2005; Taylor & Hale,

1986). As Henson and Reyns (2015, p. 99) say, “fear of crime is a complex phenomenon that requires a nuanced approach in which fear must be viewed as not only context and crime specific but also specific to individuals’ personal characteristics and their social circumstances”. As with criminal victimisation, it has been revealed that both individual/household- and neighbourhood-level factors can be associated with the levels of fear of crime. Interestingly, previous research revealed that people show different levels of fear depending on the time of the day even in the same location (Solymosi et al., 2015; Taylor & Covington, 1993).

This section describes these three models of fear of crime and reviews the related literature. Since there are various kinds of predictors of fear of crime, the paragraphs below focus on those which have been the subjects of most research, including sex, age and race. As with the previous literature on criminal victimisation, most studies on fear of crime have been conducted in Western settings. Therefore, the literature concerning fear of crime in the context of Asia is discussed later in a separate section.

4.2.1 Indirect Victimisation Model

An early theory to explain fear of crime is the victimisation model. Simply put, this model argues that people who have been victimised, all things being equal, should show higher levels of fear of crime (Farrall et al., 2007; McGarrell et al., 1997). Although a relationship between victimisation and fear of crime had been confirmed (Covington & Taylor, 1991; Liska et al., 1988; Skogan & Maxfield, 1981; Stafford & Galle, 1984), this model was subsequently criticised because of its inability to account for levels of fear of crime among those who have not directly suffered from criminal victimisation (Farrall et al., 2007). Against this background, its revised

version, the indirect victimisation model, was born; people who have high levels of vulnerability to crime tend to exhibit higher levels of fear of crime (McGarrell et al., 1997).

Various demographic characteristics can help to explain patterns of fear of crime. In the past four decades, sex has been one of the most common characteristics to be examined, and an impressive body of research has revealed that females tend to report higher levels of fear of crime than do males (Ferraro, 1996; Kanan & Pruitt, 2002; McGarrell et al., 1997; McNeeley & Yuan, 2017; Meško et al., 2008; Parker & Ray, 1990; Roh & Oliver, 2005; Rountree & Land, 1996a; Skogan & Maxfield, 1981; Snedker, 2015; Taylor & Hale, 1986; Woolnough, 2009), even though their risk of victimisation (for many crime types) is lower than that of males (Hanson et al., 2000; Liska et al., 1988; McConnell, 1997). Why women show higher levels of fear of crime than men do has been explained by the "shadow of sexual assault hypothesis" (Ferraro, 1996). Specifically, women's fear of sexual offence might influence that of assessments of risk for other types of crimes, and many attempts have been made to test this hypothesis (Choi et al., 2019; Chui et al., 2012; Ferraro, 1996; Fisher & Sloan, 2003; Henson & Reyns, 2015; Rader et al., 2007; Wilcox et al., 2006). Additionally, it has been reported that men and women are fearful of different types of crime; men are generally more fearful of property crime, while women are generally more fearful of rape or sexual assault (Woolnough, 2009).

In terms of age, no consensus has been found so far. It has been demonstrated that elderly people show higher levels of fear than younger people (McGarrell et al., 1997; Meško et al., 2008; Onat et al., 2021; Parker & Ray, 1990; Tulloch, 2000). However, although the levels of fear among the elderly are high, this can be affected by other variables, such as lifestyle, perceived disorder and physical vulnerability (Henson & Reyns, 2015; Pogrebin & Pijoan, 1978; Tulloch, 2000). It has

been also reported that there is no significant impact of age on the levels of fear (Greve, 1998; Greve et al., 2018; Kappes et al., 2013), or age can even reduce the levels of fear (Kanan & Pruitt, 2002; Rountree & Land, 1996b).

Race is also considered an important variable in fear-of-crime research. In ethnically or racially diverse settings, people from ethnic minorities are likely to show higher levels of fear of crime than others (Covington & Taylor, 1991; Kanan & Pruitt, 2002; Lai et al., 2017; Onat et al., 2021; Parker & Ray, 1990; Roh & Oliver, 2005; Rountree & Land, 1996b; Skogan & Maxfield, 1981). However, it has been also reported that non-white respondents were less likely to be fearful of crime than white respondents (Rountree & Land, 1996b). A recent study using data from Houston suggested that the levels of fear of residential burglary and criminal trespass varied from ethnicity to ethnicity; non-white Hispanic people showed higher levels of fear of criminal victimisation than African Americans (Lai et al., 2017).

In addition to the demographic characteristics, socioeconomic status is found to be a decisive factor of fear of crime. The past literature has shown that those who are of a low socioeconomic status are more likely to exhibit fear of crime (McNeeley & Yuan, 2017; Meško et al., 2008; Pantazis, 2000; Rountree & Land, 1996a; Skogan & Maxfield, 1981). However, Ross and Jang (2000) disagree, suggesting that higher levels of fear of crime for people of low socioeconomic status can be caused by dangerous neighbourhood conditions. Indeed, using the BCS data, it has been argued that those who are poor and live in the most deprived neighbourhoods (ethnically mixed and low income) were likely to show higher levels of fear (Pantazis, 2000).

As well as actual criminal victimisation, information about someone's victimisation has been also taken into account as a predictor variable of fear of crime (Adu-Mireku, 2002; Covington & Taylor, 1991; Skogan & Maxfield, 1981; Stafford & Galle, 1984; Tseloni & Zarafonitou, 2008). Adu-Mireku (2002) reported that having heard about victimisation through community networks is a significant determinant of fear of crime, while direct victimisation was nothing to do with fear of crime. Tseloni and Zarafonitou's (2008) multilevel analysis of fear of crime in Athens, Greece, on the other hand, argued that the influence of indirect victimisation on fear is lower than that of direct victimisation.

As well as the variation in crime, the routine activity approach has been also tested to explain fear of crime (Kanan & Pruitt, 2002; Lai et al., 2017; Rengifo & Bolton, 2012; Rountree & Land, 1996b). Although this approach was originally formulated to predict the risk of victimisation, the same structural elements (potential offenders, capable guardianship and target attractiveness) can contribute to the levels of fear of crime; neighbourhood environment characteristics (e.g., neighbourhood disorder and social ties) affect individuals' perceptions of fear or safety in their neighbourhoods (Kanan & Pruitt, 2002). For example, using the telephone survey of 1,230 participants in Houston on fear of crime across different ethnic groups, it was revealed that the proximity of motivated offenders (reported number of burglary and violent crime, perception of crime) and target vulnerability (ethnicity, prior victimisation) increased fear of residential burglary and criminal trespass, while capable guardianship (social integration and satisfaction with the police) reduced the levels of fear of crime (Lai et al., 2017). Using data from the 2007-2008 BCS, Rengifo & Bolton (2012) revealed that the more people are exposed to the public through routine activities, the less they feel fearful of crime (being worried about criminal victimisation) because they can shape their activity space based on the calculations of perceived

disorder and risk of victimisation. It has also been demonstrated that the more frequently people walk after dark, the lower levels of fear of crime they had (Meško et al., 2008). Residential circumstances can affect the risk of residential burglary as well. Examining the 1990 victimisation survey of over 5,000 participants in Seattle, Rountree & Land (1996b) suggested that having expensive goods or introducing safety measures were found to be significantly related to the levels of the perceived risk of residential burglary victimisation.

4.2.2 Disorder Model

In addition to individual/household-level attributes, the social and physical environment has been shown to influence the levels of fear of crime. The disorder model speaks to the idea that perceived social and physical disorders can increase the levels of fear of crime. This model is based on some preliminary work that found that perceived neighbourhood disorder is associated with fear of crime (LaGrange et al., 1992; Skogan & Maxfield, 1981). Neighbourhood disorder demonstrates the breakdown of social control or tradition (McGarrell et al., 1997; Perkins & Taylor, 1996; Taylor & Hale, 1986), causes residents discomfort, and calls into question the public order (Skogan, 1986). Indeed, neighbourhood incivilities can be regarded as "signs of crime" (Kanan & Pruitt, 2002, p. 541). According to Perkins and Taylor (1996, p. 67), "Social incivilities include such problems as loitering youths or homeless people, rowdy behaviour, drug dealing, public drunkenness and prostitution. Physical incivilities include such environmental stimuli as litter, vandalism, vacant or dilapidated housing, abandoned cars, and unkempt lots". These social and physical disorders can all increase the levels of fear of crime because they imply an absence of neighbourhood concerns for public order and the ability to control these problems (Taylor & Hale, 1986).

In addition, the disorder may supply potential offenders with "important environmental cues" for future offences (Sampson & Raudenbush, 1999, p. 605). Indeed, as the broken windows theory (Wilson & Kelling, 1982) states, neighbourhood disorder can lead to subsequent serious crime. Perceived neighbourhood disorder may be a more powerful predictor variable for the levels of fear of crime than crime itself since they exist in more abundance in some neighbourhoods, and people think crime is a very serious issue there (Wyant, 2008). In fact, the perceived disorder can reduce voluntary (leisure) activities (Rengifo & Bolton, 2012) and interactions with neighbours (Markowitz et al., 2001; Robinson et al., 2003) which have preventive effects on crime.

A large and growing body of literature has examined how physical and social neighbourhood disorders affect the levels of fear of crime (Hanson et al., 2000; Liska et al., 1988; McGarrell et al., 1997; McNeeley & Yuan, 2017; Perkins & Taylor, 1996; Robinson et al., 2003; Roh & Oliver, 2005; Ross & Jang, 2000; Snedker, 2015; Taylor & Covington, 1993; Taylor & Hale, 1986; Wyant, 2008; Zhang et al., 2009). One preliminary research study into the relationship between perceived disorder and fear of crime was carried out by Taylor and Hale (1986). Conducting interviews with 523 respondents in six neighbourhoods in Atlanta, they maintained that those who were more concerned about the deterioration in the neighbourhood showed higher levels of fear of crime. Subsequent studies have provided further support for the disorder model (Liska et al., 1988; McGarrell et al., 1997; McNeeley & Yuan, 2017; Perkins & Taylor, 1996; Roh & Oliver, 2005; Ross & Jang, 2000; Snedker, 2015; Taylor & Covington, 1993). Some of them have adopted multilevel modelling to analyse nested data in which individuals are clustered within groups (e.g., neighbourhoods) (McNeeley & Yuan, 2017; Robinson et al., 2003; Rountree & Land, 1996b; Tseloni & Zarafonitou, 2008; Villarreal & Silva, 2006; Wyant, 2008). For instance, using the survey of 331 respondents from 45 neighbourhoods of the city of Philadelphia, Wyant (2008)

reported that those who perceived greater levels of neighbourhood incivilities and crime risks were more likely to show greater levels of fear of crime.

It is important to note that the effects of perceived neighbourhood disorder on fear of crime are in line with social disorganisation theory. Social disorganisation theory emphasises the relationship between neighbourhood disorder and crime (Shaw & McKay, 1942), and later research has expanded this theory by arguing that neighbourhood disorder affects people's perception of their neighbourhoods (Bursik, 1988). Indeed, the studies that adopt social disorganisation theory as their research framework have shown that perceived neighbourhood physical disorder can increase the levels of fear of crime (Markowitz et al., 2001; Sampson & Groves, 1989).

4.2.3 Community Concern Model

The community concern model is very closely linked to the disorder model. This model argues that community concern is related to the levels of fear of crime (McGarrell et al., 1997; Taylor & Hale, 1986). While the disorder model is concerned with neighbourhood disorder as facilitators of fear, the community concern model speaks to neighbourhood-level collective efficacy as an inhibitor of fear, thereby possessing close theoretical links to social disorganisation theory (Farrall et al., 2007). Several studies have consistently offered support for this model (Ferguson & Mindel, 2007; McNeeley & Yuan, 2017; Montolio & Planells-Struse, 2015; Renauer, 2007; Ross & Jang, 2000; Skogan & Maxfield, 1981). For instance, Ross and Jang (2000) examined neighbourhood-level determinants of fear of crime by using data from a telephone survey of 2,482 residents in Illinois. The results of their regression analysis showed that informal social ties with neighbours buffered the impact of the perceived disorder on fear. The authors reached the conclusion that

informal relationships in neighbourhoods can reduce the levels of fear and mistrust, subsequently leading to greater levels of neighbourhood cohesion and social control. McNeeley and Yuan (2017) analysed how cultural context is associated with fear of crime. The results of hierarchical logistic regression using the telephone survey data from Seattle demonstrated that the perceived risk of victimisation was statistically reduced by homeownership and local social ties. The effect of homeownership on reducing fear of crime was empirically supported by the cross-sectional study in Washington (McGarrell et al., 1997); multiple regression analysis showed that living in residential areas, homeownership, informal neighbourhood integration (high evaluation towards neighbourhoods where residents help each other), informal social control and responsiveness to neighbourhoods were all found to be associated with low levels of fear of crime.

Conversely, as several studies have suggested, those who have stronger social networks may exhibit higher levels of fear of crime because they are more likely to hear about crime in their neighbourhoods (Covington & Taylor, 1991; Kanan & Pruitt, 2002; Skogan & Maxfield, 1981). It can be said that there are overlaps between the indirect victimisation and community concern models. From the indirect victimisation model perspective, more specifically, Taylor and Hale (1986, p. 156) argued that "a criminal event sends out "shock waves" that spread throughout the community via local social networks". In fact, social cohesion (Villarreal & Silva, 2006) and talking about crime with neighbours (McNeeley & Yuan, 2017) have been found to increase the levels of fear. Some studies in the United States, on the other hand, have reported that social cohesion does not affect fear of crime (Covington & Taylor, 1991; Ferguson & Mindel, 2007; Kanan & Pruitt, 2002). Using a survey of 514 adult respondents in Nashville, Kanan and Pruitt (2002) examined the impact of sociodemographic characteristics, neighbourhood conditions and integrations on worrying about crime and perceived neighbourhood safety. The results of their

regression analysis showed that the neighbourhood integration variables (e.g., homeownership, length of residence, social ties) did not predict the levels of fear of crime. Wyant (2008) also revealed that homeownership was not related to the levels of perceived safety when going out alone.

A growing body of studies has examined whether community policing strategies affect residents' fear of crime (Bennett, 1991; Brown & Wycoff, 1987; Ferguson & Mindel, 2007; Kelling et al., 1974; Lavrakas & Herz, 1982; Maguire et al., 2019; Montolio & Planells-Struse, 2015; Reisig & Parks, 2004; Scheider et al., 2003; Torres & Vogel, 2001; Xu et al., 2005; Zhao et al., 2002). Community policing has been introduced in response to debates about the role and the operation of the police and doubts about conventional crime prevention strategies in developed nations (Bayley & Shearing, 1996). Against this backdrop, proactive or reactive policing strategies have been the focus of many police departments in the last four decades (Crowl, 2017; Wu & Lum, 2017). The police are expected to play an important role in organising community-based crime prevention activities since, unlike traditional reactive policing, community policing is proactive, seeking a solution to reduce fear of crime in the neighbourhood (Bayley & Shearing, 1996; Johnston, 2001; Pelfrey, 2004; Scheider et al., 2009; Silverman & Della-Giustina, 2001). Much of the prior literature on the relationship between community policing and fear of crime has focused on the effects of police officers' presence on reducing fear of crime (e.g., increased police deployment, patrol, door-to-door visits) (Bennett, 1991; Ferguson & Mindel, 2007; Kelling et al., 1974; Maguire et al., 2019; Montolio & Planells-Struse, 2015). For instance, Ferguson and Mindel (2007) used a telephone survey of 1,367 randomly selected respondents in Dallas to investigate the relationship between police presence and fear of crime. Their confirmatory factor analysis revealed that the frequency of seeing police officers in neighbourhoods was found to be indirectly

related to low levels of fear of crime and perceived risk of victimisation through having a positive impact on collective efficacy and satisfaction with neighbourhoods. However, Bennett (1991) came to a contrary conclusion. Specifically, he conducted a quasi-experimental study on the effects of police patrol programmes in two police force areas in England. He reported that the police patrol programmes improved participants' satisfaction with their local areas; however, they did not reduce the levels of fear of crime. Empirical evidence for the effects of police presence on fear of crime is mixed. In addition, it is possible that increased police patrol works in the opposite direction; those who see a patrol feel fear because they think there may be crimes happing in their neighbourhoods (Shimada et al., 2010).

It is important to consider what policing strategies are effective in reducing fear of crime. Previous research on the impact of police visibility offers interesting findings. For example, Salmi et al. (2000), using a survey of over 4,000 respondents in two Finnish cities, found that foot patrol promoted a positive, and car patrol promoted a negative image toward the police.

Some studies have focused on how the introduction of police community stations affects fear of crime (Brown & Wycoff, 1987; Torres & Vogel, 2001). Brown & Wycoff's (1987) research examined the effect of five community policing strategies (victim recontact, newsletters, citizen contact patrols, police community station, and community organising) on fear of victimisation in Houston. The findings from their regression analysis revealed that police community station and citizen contact patrols contributed to low levels of fear of personal crime and worry about property crime, while the newsletters about the neighbourhood and the police had no effect. Torres and Vogel (2001) tested the impact of the storefront police substation on the levels of fear of crime by ethnicity. They examined the impact of a community police station set up in high-crime-rate

Latino and Vietnamese neighbourhoods in California that were designed to reduce crime and improve police-public relations. A questionnaire was distributed to the residents before and after the introduction of the police substation in an apartment unit. The results of the resident survey showed that the storefront police substation was effective in reducing fear of crime regardless of residents' ethnicity.

In addition to community policing by police (officers) themselves, there has been interest in citizen involvement in community crime prevention. Using a questionnaire survey of 300 university students (including both members and non-members of community patrols) and the interviews with the leaders of the community patrols in Iowa, Troyer and Wright (1985) reported that participation in crime prevention activities was associated with low levels of fear of crime. A more recent study by Schafer et al., (2003) found that those who feel a responsibility towards their neighbourhoods are likely to exhibit low levels of fear of crime; the involvement in crime prevention activities can increase individuals' responsibility towards neighbourhoods and reduce their of fear of crime.

Several systematic reviews on the effects of community policing on decreasing fear of crime are available (Crowl, 2017; Gill et al., 2014; Zhao et al., 2002). Zhao et al. (2002) reviewed 26 studies that examined the effects of police presence (targeted patrol, proactive arrest or community policing strategies which aim to increase public-police interaction) on fear of crime and satisfaction with the police. Their review demonstrated that eight out of eleven studies which met their criteria showed the significant impact of police presence on reducing fear of crime. More recently, Gill et al., (2014) systematically reviewed 25 empirical studies comprising 65 independent treatment-control tests to examine the extent to which community-oriented policing

strategies are effective in reducing crime, disorder and fear of crime, and increasing satisfaction with police and police legitimacy. The studies were selected using the following criteria: the study 1) assessed a direct policing strategy which includes public-police collaboration by using pre-post quantitative outcome measures, 2) used police jurisdiction (for outcomes related to official crime) or people living in target and control areas (for outcomes related to citizen perception) as the unit of analysis, 3) examined at least one outcome associated with crime, perceived disorder, fear of crime, satisfaction with the police or police legitimacy, and 4) was published after 1970. Ten out of 65 tests examined by the review focused on fear of crime. Their review found no evidence to support the effects of community-oriented policing on reducing fear. Crowl's (2017) narrative review of 27 evaluation research on community policing also reported mixed results; nine out of 16 studies showed the effectiveness of community policing on reducing fear of crime, while the other seven did not. These reviews have provided mixed results where some studies advocated the use of community policing as it improves the levels of fear of crime, while other studies found there was no significant impact of community policing.

4.3 Relationship between Fear of Crime and Perceived Risk of Victimisation

Furstenberg (1971) stated that fear of crime is the perception of risk; people may be worried about crime if they estimate their risks of victimisation to be high. However, later literature has differentiated between two components of fear of crime; cognitive (perceived risk of victimisation) and emotional (worry of crime). Ferraro and LaGrange (1987) presented the risk interpretation model, which conceptually distinguishes perceived risk of crime and fear of crime. Fear of crime refers to "an emotional reaction of dread or anxiety to crime or symbols that a

person associates with crime" (Ferraro, 1995, p. xiii) and perceived risk refers to "people's assessment of crime rates and the probability of victimization" (Dubow et al., 1979, p. 3).

Extensive research has examined the relationship between fear of crime and the perceived risk of victimisation. Ferraro (1995) argued that the perceived risk of victimisation is a significant predictor variable affecting the levels of fear of crime. Based on the risk interpretation model, he suggested that both micro- and macro-level factors can increase the levels of fear of crime via the perceived risk of victimisation. More recent research has provided empirical support for the risk interpretation model (Ferguson & Mindel, 2007; Jackson, 2004; Krulichová, 2019; Mesch, 2000; Rengifo & Bolton, 2012; Wyant, 2008). For instance, Jackson (2004) analysed the data from a telephone survey of around 1,000 residents in the rural areas of the North-East of England. His structural equation model found that the levels of the perceived risk of criminal victimisation in public space statistically increased those of fear of personal crime in public space. Using the 2007-2008 BCS, Rengifo and Bolton (2012) generated path models to investigate the association between the perceived risk of victimisation and routine activities. They revealed that voluntary routine activities were particularly significant in determining the levels of the perceived risk of victimisation and disorder, and these behavioural adaptations differed depending on the levels of fear of crime.

4.4 Fear of Crime Theory Applied to Asia

As with criminal victimisation studies, little empirical literature discussing the determinants of fear of crime among Asian people is available. This section reviews the fear-of-crime literature from China, Hong Kong, South Korea and Japan.

In mainland China, there are two important studies which examined the determinants of fear of crime using the victimisation survey of around 2,500 residents in the city of Tianjin (Liu et al., 2009; Zhang et al., 2009). The first study determined if sociodemographic predictor variables of fear of crime tested in the West can be applied in China (Liu et al., 2009). The results of their hierarchical regression analysis demonstrated that being female, prior victimisation, and perceived neighbourhood disorder were found to be related to higher levels of fear. These findings are consistent with those obtained from previous studies in Western countries. However, it was also reported that the young and more educated expressed high levels of fear of crime, findings that contradict most Western studies. Their subsequent research added the measures of social capital into the analysis, based on the hypothesis that the participants who have strong personal networks or ties with relatives, neighbours or friends are more likely to show lower levels of fear of crime (Zhang et al., 2009). Hierarchical generalised linear model confirmed their hypothesis; the number of close relatives, friends and other people in the neighbourhoods reduced the levels of fear of crime.

Another study by Yun et al. (2010) examined if Chinese people living outside China (Houston) identified different predictors of fear of crime from those living in China. While this research lent support to the literature in Western countries, some inconsistencies were also observed. Specifically, prior victimisation of violent and property crime and perceived disorder increased the levels of fear of crime among Chinese people in Houston as expected. However, their study also showed that age was significantly negatively related to fear of crime; the elderly were less likely to show fear of crime.

The “shadow of sexual assault hypothesis” (Ferraro, 1996), mentioned earlier, has been tested in

Hong Kong (Chui et al., 2012) and South Korea (Choi et al., 2019). In Hong Kong, using a questionnaire completed by 170 university students, Chui et al., (2012) found sex differences in the levels of fear of crime. They reported that 1) female students showed greater levels of fear of street robbery, residential burglary, sexual offence, murder, attack by firearms and vandalism than male students, whereas there was no sex difference in the levels of fear of fraud, and 2) for female students, fear of sexual offence was significantly associated with that of other types of crimes, lending support for the shadow hypothesis. In South Korea, a recent approach explored sex differences in the levels of fear of theft, robbery, assault and harassment to determine if the shadow hypothesis is confirmed in the Asian context (Choi et al., 2019). Using data from the 2010 Korean National Crime Victim Survey (KNCVS), the results of their hierarchical multiple regression models revealed that, although women were more likely to be fearful of violent crime than men were, fear of sexual assault significantly increased the degree of the explanatory power of the models, suggesting that the shadow hypothesis was applicable to the East Asian context. However, fear of sexual assault was a more powerful predictor for men than women. The authors indicated that since the levels of fear of crime for men are generally low, fear of sexual assault may have a significant impact on the levels of fear of other types of crime.

There has been an increased interest in fear of crime and perceived risk of criminal victimisation in Japan, though the number of studies is still limited. Some preliminary work on fear of crime in Japan has been carried out by researchers at the National Research Institute of Police Science. For instance, a series of studies published in the mid-1970s analysed the predictors of fear of crime using a survey of a random sample of over 4,000 residents in Chiba and Saitama prefecture, both of which are bordered by Tokyo (Hoshino, 1975a, 1975b, 1975c). The findings indicated that those who lived in a city with a large population, a high crime rate and a large number of police

officers per capita were likely to show higher levels of fear of crime. The effects of the crime rate on the levels of fear were supported by more recent evidence from a sample of about 50,000 participants from all over Japan (Yamamoto, 2017). The multiple regression analysis revealed the statistical relationship between fear of crime and the number of reported penal code offence cases. These studies provide consistent results with early research in the United States (Liska & Warner, 1991).

Studies have supported the impact of several demographic characteristics on the levels of fear of crime, in line with those observed in Western industrialised countries. Sex and age were found to be significant predictors of fear of crime (Shimada et al., 2010; Shimada & Ohyama, 2018). Using data from a survey of 1,171 respondents aged 20-69 in Ichikawa City, Chiba Prefecture, Shimada et al. (2010) found that, in addition to women and the elderly, those who are the victims of crime and live alone were also likely to report higher levels of fear. It is reasonable to speculate that various household variables are correlates of fear of crime. A recent multilevel approach study (Shimada & Ohyama, 2018) reported that indirect victimisation was also found to increase the levels of fear of crime.

The literature regarding the relationship between perceived disorder and the levels of fear in Japan has provided general support for the disorder model (Hino & Koide, 2005; Kobayashi & Suzuki, 2000; Shimada et al., 2004; Suzuki & Shimada, 2006; Wakabayashi, 2017). For example, using panel data from random sample surveys of 2,550 residents in Tokyo, Suzuki and Shimada (2006) demonstrated that perceived neighbourhood social disorder (teens smoking, young people hanging around outside the stores at night, motorbike gangs) increased the levels of perceived risk of victimisation which led to higher levels of fear of crime. Wakabayashi's (2017) work

addressed the impact of the levels of perceived disorder on fear of crime using nationwide data of about 50,000 samples. She reported that the levels of fear of crime were found to be associated with perceived disorder. However, more recently, Shimada and Ohyama (2018) reported that the neighbourhood-level perceived disorder was not associated with fear of crime. They argued that the disorder model may not be compatible with the Japanese context since there are no large differences in the levels of disorder between municipalities.

The community concern model has also been tested in Japan using measures of neighbourhood collective efficacy. Drawing on data from a two-wave panel survey in Ichikawa city, Shimada and Ohyama (2018) investigated the effects of contextual effects on the levels of fear of crime, as well as those of demographic and household characteristics, and community policing. Their findings revealed that the neighbourhood-level collective efficacy reduced the levels of fear of crime and alleviated the degree of the contextual relationship between perceived disorder and perceived risk of victimisation. Their findings were consistent with those widely observed in Western studies. The effects of the neighbourhood-level collective efficacy were reported in Tokyo as well. Kobayashi and Suzuki (2000) focused on environmental factors to explain the variation in fear of crime, using a survey of 780 adults in Tokyo. The results of their logistic regression analysis demonstrated that those who live in the neighbourhoods with low levels of disorder and high levels of collective efficacy (mutual assistance and shared value in the neighbourhoods) were likely to show lower levels of fear of crime.

The effect of policing or neighbourhood crime prevention activities on the levels of fear of crime has been attracting a lot of interest from Japanese scholars and practitioners over the past five decades (Hoshino, 1975a, 1975b, 1975c; Kobayashi, 1996; Kobayashi & Suzuki, 1994; Shibata

et al., 2011; Shimada et al., 2010; Shimada & Ohyama, 2018; Wakabayashi, 2017; Yamamoto & Shimada, 2016). Preliminary work by Hoshino (1975c) revealed that the residents who know their nearest koban showed lower levels of fear of crime than those who do not. Using a nationwide survey of over 1,000 respondents, Kobayashi and Suzuki (1994) demonstrated that those who have a close relationship with their neighbours and have experienced positive interactions with police officers at a koban or when they make door-to-door visits were likely to exhibit low levels of fear of crime. In subsequent research (Kobayashi, 1996), it was reported that the impact of door-to-door visits on fear of crime varied depending on urbanity; door-to-door visits were more effective in reducing the levels of fear of crime in rural areas than in urban areas. Kobayashi and Suzuki's (1994) findings are in close agreement with more recent research by Shimada and Ohyama (2018); the frequency of seeing community policing activities (police stickers, police foot patrol, police car patrol, citizen patrol and neighbourhood watch) was a predictor variable for lower levels of fear of crime only among those who live in the areas with high levels of collective efficacy. In terms of the effects of neighbourhood crime prevention activities on the levels of fear of crime, mixed findings have been obtained in prior research. For example, Yamamoto and Shimada's (2016) study in two cities of Chiba Prefecture reported that the frequency of seeing citizen patrol and police officers at a security box reduced the levels of fear of crime only in one of two cities. They then suggested that future research should consider area-level demographic or socioeconomic characteristics to examine the effects of community policing measures in different areas. Another study in Chiba prefecture (Shimada et al., 2010) reported that neither seeing citizen patrol nor neighbourhood crime map was related to the levels of fear of crime. Using the data collected nationwide, Wakabayashi (2017) demonstrated that the frequency of seeing citizen patrol was found to increase the levels of fear of crime.

The extant literature has provided valuable insights into the effects of both sociodemographic characteristics and social contextual conditions on fear of crime in the setting of Japan. However, the research is not without limitations and drawbacks. First, there is limited literature that has analysed the patterns of fear of crime nationwide (Wakabayashi, 2017; Yamamoto, 2017). As has been reported, the levels of fear of crime or perceived safety can vary from area to area (urban to rural); nationwide studies by Hoshino (1975c) and Wakabayashi (2017) revealed that the levels of fear of crime were likely to be higher in metropolitan areas than rural areas. This raises the question of whether the findings from previous literature on fear of crime in specific areas can be generalised to other parts of Japan. Yamamoto and Shimada (2016) also argued that the impact of crime prevention measures on the levels of fear of crime varies depending on the area. Much of the prior literature on fear of crime in the Japanese context has focused on specific areas of Japan. However, in the interests of crime and fear prevention, it is important to examine if the predictors of fear of crime can be generalised to the Japanese population regardless of area. Second, the literature on the predictors of fear by crime types in Japan is limited (Shimada et al., 2004). As an impressive body of research outside Japan has shown, different variables are associated with the levels of fear of different types of crime. Therefore, it is important to investigate the patterns of fear of crime and perceived risk of victimisation by crime types.

4.5 Summary of Theories of Fear of Crime and Its Applicability to Asia

The preceding section described the dominant theories of and research on fear of crime. As with the predictors of criminal victimisation, various kinds of micro-, meso- and macro-level variables affect the levels of fear of crime. Previously published studies on these predictors of fear of crime have produced some inconsistencies, and few scholars have been able to draw on any empirical

approaches to the East Asian context. This part highlights the limitations of previous studies on fear of crime and describes the focus of this thesis.

In terms of demographic characteristics, sex and age have been the main focuses in East Asia. Existing research recognises the significant role played by sex to determine the levels of fear of crime, suggesting that women are likely to show higher levels of fear of crime than men (Choi et al., 2019; Chui et al., 2012; Liu et al., 2009; Shimada et al., 2010; Shimada & Ohyama, 2018). On the other hand, it is not yet determined whether there is a significant relationship between age and fear of crime. Although there is plenty of research in Western countries which found the elderly are likely to show higher levels of fear, it has been reported in the Chinese context that younger people tend to show higher levels of fear than older people (Liu et al., 2009; Yun et al., 2010; Zhang et al., 2009). These studies have suggested that elderly people still maintain a close relationship with their relatives, leading to relatively low levels of fear of crime compared with young people. One previous study in Japan reported that the elderly were more likely to show higher levels of fear of crime (Shimada et al., 2010); however, it remains unclear if age is related to the levels of fear of crime in the Japanese context since very little literature exists on the relationship between age and fear of crime. Although race is considered an important demographic factor of fear of crime in the Western literature, this thesis will not pay attention to this because Japan is still a racially homogenous society as described in **Chapter 2**.

There has been little discussion on how household-level variables affect the levels of fear of crime in East Asia. From the routine activity perspective, several variables measuring target vulnerability, target attractiveness and capable guardianship have been examined in prior literature. As the proxy measures for these factors, prior studies have examined how residential

and family conditions affect the levels of fear of crime. For example, Rountree and Land (1996) demonstrated that having expensive goods or introducing safety measures were found to be significantly associated with the perceived risk of residential burglary. Kanan and Pruitt (2002) included security measures, single-person household, homeownership and length of residence in their analysis as the measures of guardianship and social integration in the neighbourhood. In the Japanese context, Shimada et al. (2010) reported that single-person household was found to be associated with increased levels of fear of crime. Shimada and Ohyama (2018)'s multilevel analysis, on the other hand, demonstrated that household-level variables (homeownership, detached house, single-person household, length of residence) were not found to be related to the levels of fear of crime.

Regarding the neighbourhood-level variables, the existing body of research on the effects of perceived disorder and collective efficacy on the levels of fear of crime in East Asia has generally supported the disorder and community concern models (Hino & Koide, 2005; Kobayashi & Suzuki, 2000; Liu et al., 2009; Shimada et al., 2004; Shimada & Ohyama, 2018; Suzuki & Shimada, 2006; Wakabayashi, 2017; Yun et al., 2010; Zhang et al., 2009). Several types of community policing strategies have been tested to see if they are effective in reducing the levels of fear of crime, as well as the actual crime rates. As discussed above, past research in Western countries has provided mixed support for the effects of community policing activities. In terms of the Japanese context, too, some studies (Hoshino, 1975c; Kobayashi & Suzuki, 1994; Shimada & Ohyama, 2018) have reported that community policing was effective in reducing fear; however, others have demonstrated that the community policing strategies increased the levels of fear of crime (Wakabayashi, 2017) or they were not related to it (Shimada et al., 2010). As Kobayashi (1996) and Yamamoto and Shimada (2016) argued, the impact of community policing strategies

can vary depending on the area, and its effectiveness on fear of crime may not be generalised nationwide. In this regard, this thesis will empirically analyse how community policing influences the levels of fear of crime nationwide.

4.6 Aims of the Thesis

Chapters 3 and 4 have reviewed the theories and literature of relevance to the research questions to be covered in this thesis. As outlined in **Chapter 1**, the research questions that are to be addressed in this thesis focus on the predictors and patterns of crime, fear of crime and perceived risk of victimisation in the Japanese context against a backdrop of sustained and significant reductions in crime, at least as measured using police recorded crime statistics. As the final section of this chapter, this section provides a bridge between my literature review and my research.

The first aim of the research is to examine if Western criminological theories can contribute to a greater understanding of the patterns and predictors of crime in Japan. The theories of criminal victimisation reviewed in **Chapters 3 and 4** include the approaches within the social disorganisation theory and environmental criminology. These theories examine the role of the demographic, household and immediate environmental factors in criminal victimisation. There is a vast amount of literature on predictors of the risk of criminal victimisation in Western industrialised countries as reviewed earlier. However, since few studies have investigated those predictors in the East Asian context, much uncertainty still exists if the main victimisation theories are applicable to Japan. Some of the victimisation literature in East Asia (Messner et al., 2007; Roh et al., 2010; Zhang et al., 2007) has produced unexpected findings which might be attributed to the unique socio-cultural characteristics different from Western countries. Thus, the thesis aims

to examine if Western criminological theories can contribute to a greater understanding of the patterns of crime in Japan.

The second aim of the research is to examine the patterns and the predictors of repeat victimisation in Japan. Repeat victimisation refers to the repeated victimisation of targets or places within a specific period of time. It has been demonstrated that during the crime drop, the risk of criminal victimisation has been disproportionately distributed to a few particular groups (McVie et al., 2020; Pease et al., 2018). Put differently, it may be possible that specific groups of people still show higher levels of risks of criminal victimisation during the crime drop in Japan. As far as the author is aware, no research has empirically addressed the patterns of repeat victimisation against the backdrop of the significant and prolonged crime declines in Japan. The thesis, therefore, aims to investigate the factors associated with the risk of repeat victimisation in Japan using the two independent repeated cross-sectional data (the theory of and research on repeat victimisation will be discussed in more detail in **Chapter 7**).

The third aim of the research is to examine the patterns and the predictors of fear of crime and the perceived risk of victimisation in Japan. A growing body of literature has examined patterns and predictors of fear of crime as well, guided by mainly the indirect victimisation, disorder and community concern models. However, the number of studies on fear of crime in East Asia is limited and these published studies have offered mixed results regarding correlates of fear. In terms of the literature in the Japanese context, little attention has been paid to how household-level characteristics and routine activities affect fear of crime. Besides, existing accounts fail to determine the predictors of fear by types of crime and if the patterns observed in sample areas can be generalised to other parts of Japan. Against this background, this thesis extends these lines of

inquiry by examining the individual/household- and neighbourhood levels predictor variables for fear of crime in Japan nationwide.

The fourth aim of the research is to examine if prolonged and significant reductions in crime are observed in the nationally representative household survey, as the crime statistics show. Specifically, using the two independent repeated cross-sectional data, the thesis will seek to address if the social survey demonstrates a similar crime drop to the official crime data.

Not much research attention has been paid in East Asian countries to crime patterns and this might be partially attributed to the image of these countries as the "Asian exception" (Van Dijk, 2008b, p. 136) because of their relatively low crime rates. However, the crime drop phenomenon is not unique to Western countries; it has been happening internationally since around the 1990s, though the peak crime rates in East Asian countries were much lower than that in Western industrialised nations. To test whether the approaches of the Western criminological theories are generalisable across different settings such as Japan, it is important "to conceptualize social factors that might be uniquely relevant to particular social-cultural contexts and to examine the impact of these factors across such contexts" (Zhang et al., 2009, p. 485). This thesis, therefore, aims to provide new insights into the generalisability of Western-born theories of criminal victimisation and fear of crime by applying them in Japan against a backdrop of prolonged and significant reductions in crime, especially focusing on both the micro and macro characteristics of Japanese society.

The following research questions will be addressed in the thesis.

1. What are the patterns and the predictors of criminal victimisation in Japan?

2. What are the patterns and the predictors of repeat victimisation in Japan?
3. What are the patterns and the predictors of fear of crime in Japan?
4. What are the patterns and the predictors of perceived risk of victimisation in Japan?
5. Is the crime drop observed in the nationally representative household survey?

It is contended that answers to these research questions will provide an insight into a hitherto under-researched area in Japan, and in turn, can inform policy and prevention efforts designed to reduce criminal victimisation, repeat victimisation, fear of crime and perceived risk of victimisation against prolonged and significant crime reductions.

Chapter 5 Data and Method

Chapter Summary

This thesis reports the results of secondary data analysis on the patterns and predictors of crime and fear of crime in Japan. This chapter is an overview of the data used in this thesis. Two datasets are described: (1) A nationwide repeated social survey on community safety which was undertaken from 2002 to 2018 (the Japanese Public Safety Survey, JPSS) and (2) the Japanese census which has been conducted every five years since 1920. The chapter starts by briefly describing the advantages and disadvantages of secondary data analysis. The details of the two datasets are then set out followed by an explanation of how they were integrated for analysis in this thesis.

5.1 Secondary Data Analysis in the Field of Criminology: Its Benefits and Limitations

Secondary data analysis refers to analysing data collected by others for other purposes. It is very common for criminological research to use secondary data. Riedel (1999) found that 56% of articles published in the journal "*Criminology*" between 1992 and 1996 used secondary data. Similarly, 58% of empirical studies published in seven leading criminology journals ("*Criminology*", "*Journal of Criminal Law and Criminology*", "*Justice Quarterly*", "*Journal of Research in Crime and Delinquency*", "*Crime and Delinquency*", "*Journal of Criminal Justice*" and "*Journal of Quantitative Criminology*") in 2000/01 reported secondary data analysis (Kleck et al., 2006).

There are several well-known issues with using secondary data for research purposes. One of the main concerns is that the data collection was carried out to answer the questions posed by the

original researchers and the data is therefore not necessarily tailored to the aims of later researchers (Britt & Weisburd, 2010; Heaton, 2008; Rew et al., 2000; Tripathy, 2013). Therefore, it is necessary for researchers to make sure if the questions posed by the original researchers accurately measure certain theoretical constructs which they aim to investigate. Moreover, the data collection methods may not be not sufficiently documented, making it difficult to interpret the data or establish their validity and reliability for use in other studies (Rew et al., 2000). From the viewpoint of ethics, it is important to follow the consent conditions specified when the data were originally collected because "consent is not a once-and-for-all event" (Tripathy, 2013, p. 1479). Therefore, researchers must make sure if further consent from the respondents is necessary when they perform secondary analysis of existing data.

Although secondary data analysis has some shortcomings, using this kind of dataset is considered appropriate to achieve the purposes of this thesis for the following reasons. First, it is difficult to conduct a large-scale survey on victimisation and fear of crime by myself because it requires a large representative sample and a well-designed survey structure. The data used in this thesis were collected using either a random sampling method, complete enumeration sampling or a two-stage stratified sampling method, depending on the survey sweep. This survey, therefore, offers large, high-quality data which can be used to examine the predictors of (repeat) victimisation, fear of crime and perceived risk of victimisation in the Japanese context. Second, as the raw data of the social survey used here is available for secondary analysis, there is no requirement to gain further consent from participants. It is mentioned in the survey that all information obtained will be anonymised, and might be used for additional or subsequent research, albeit presently there have been few examples of further research using these data. Third, since all victimisation surveys have the potential to impose negative psychological consequences on respondents, most obviously

through discussing the traumatic experience of being the victim of crime (Labott et al., 2013), it might be argued that it is better to do a secondary analysis of a large-scale and high-quality dataset rather than conducting another victimisation survey and subject victims of crime to further discussion of potentially traumatic events. Fourth, secondary data analysis does not require large costs (Johnston, 2014; Smith et al., 2011). Since the raw data of the survey used in this thesis are available from an online data archive (details described below), it is cost-effective and convenient for researchers to examine them from a new perspective.

As discussed above, there are both strengths and limitations of secondary data analysis. This is true of social science in general and criminology in particular. However, considering the goals of the current research, it is believed that the strengths of secondary data analysis overcome the limitations. The next section describes two different datasets used in this thesis.

5.2 Dataset 1: National-level Surveys on Community Safety: Japanese Public Safety Survey (JPSS)

The first dataset used in this thesis is the nationwide repeated community safety household survey: the Japanese Public Safety Survey (JPSS)**. Table 6-1** summarises the key attributes of the JPSS. So far, the JPSS has been conducted six times (2002, 2004, 2007, 2010, 2014 and 2018) by the Nikkoso Research Foundation for Safe Society, and its raw data are deposited in the Social Science Japan Data Archive, Center for Social Research and Data Archives, Institute of Social Science, The University of Tokyo. Only the last four sweeps of the JPSS are used in this thesis since these four sweeps contain a consistent set of items which relate to the theoretical constructs discussed in **Chapters 3 and 4**, and which can therefore serve as predictor variables for the analysis conducted herein. A wide range of questions is asked in the JPSS concerning both fear

and experience of a range of different types of crime[3], how often the respondents see disorder and police officers in their neighbourhood, and the extent to which they communicate with neighbours, as well as demographic information. Crime categories used in the JPSS (e.g., "hanging around, stalking and voyeurism") are different to those in other survey in other national-level crime victimisation survey, such as the CSEW in England and Wales (e.g., sexual assault) and the NCVS in the United States (e.g., incidents involving forced or unwanted sexual acts). However, it would not be a problem since the JPSS survey items made sense to the intended audience in the Japanese context and that there was consensus among respondents about what these categories mean. For instance, "murder, arson, theft and sexual offence" are categorised as one item in the JPSS because these crime types are categorised as so in the official crime statistics of Japan.

[3] Types of crimes used in the question about victimisation are the same except the first sweep. "Violent crime", "residential burglary", "snatch", "bicycle theft", "motor vehicle theft", "theft from vehicle", "molester" and "remittance fraud" were included in all five sweeps. "vandalism", "criminal trespass", "contact by suspicious persons to children", "hanging around, stalking and voyeurism", "cybercrime", "felonious offences (e.g., murder, arson, robbery and sexual offence)" are included from the 2nd to 6th sweep. "Gangster crime", "crime committed by foreigners", "firearm crime", "bullying and blackmail at school", "drug", "youth crime", "phantom killer", and "consumer fraud" were included only in the 1st sweep. "Terrorism" and "drunk-driving accident" were included only in the 6th sweep.

Table 5-1 Description of the "Japanese Public Safety Survey" (JPSS)

	2007	**2010**	**2014**	**2018**
Sampling Method	Area sampling and quota sampling	Area sampling and quota sampling	Area sampling and quota sampling	Two-stage stratified random sampling based on the Basic Resident Registration System
Data Collection	Drop-off/pick-up method, by post	Drop-off/pick-up method, by post	Drop-off/pick-up method, by post	Drop-off/pick-up method, by post, online
N of Surveys Distributed	6,000	[area sampling] 1,800	[area sampling] 4,500	3,300
N of Valid Responses	1,779 (29.7%)	[area sampling] 598 (33.2%) [quota sampling] 1,380	[area sampling] 1,023 (22.7%) [quota sampling] 855	1,718 (52.1%)

5.2.1 Sample Frame, Size and Selection

The JPSS employs a two-stage stratified sampling approach in all six sweeps. In the 1st stage, Japan is divided into five areas depending on population. Then, 150 municipalities are sampled, according to five strata: 23 special wards of Tokyo, ordinance-designated cities, cities with a population over 100,000, cities with a population less than 100,000, and towns and villages (3rd to 5th sweeps – 2007-2010), and 23 special wards of Tokyo, ordinance-designated cities, core cities, other cities, and towns and villages (6th sweep – 2018). The number of people in the population over the age of 20 for each layer was then calculated through the proportional distribution of the 150 municipalities. The sampling method in the 2nd stage and subsequent data collection methods varies depending on the sweep. Since the thesis employs the last four sweeps (2007- 2018), this section explains how the data in these four sweeps were collected.

From the 3rd and 5th sweep, a household representative person is chosen based on quota sampling. In the 3rd sweep (2007), quota sampling was introduced in the 2nd stage in which 40 households were sampled from each target area using a fixed sampling interval. An enumerator visited each household in each municipality to deliver the questionnaires so that all municipalities satisfied the quota conditions (sex and age). Quota conditions here refer to five quotas of age (20-29, 30-39, 40-49, 50-59, 60-69, 70 and over) and two quotas of sex (male and female). In the 4th sweep (2010), twelve households were randomly selected from 150 target areas using a systematic sampling so that 68.9% (1,240) of respondents are those living in semi-detached houses and 31.1% (560) are living in apartment houses in total (1,800 households). If the researchers were not able to collect the answers from twelve potential participants in their areas for some reason (e.g., the participant refused to cooperate with the surveyor or had moved), they approached others

who had the same characteristics (sex, age and types of residence) on site. Out of 1,800 households, 294 were not canvassed due to their absence from home during the survey period, and were thus revisited three weeks later and asked to respond and send back the survey. An additional participant, who was from a single-person household, was oversampled from each area because in the previous sweeps it was found difficult to collect the surveys from single-person households. In the 5th sweep (2004), 30 households were randomly selected from 150 target areas using systematic sampling, so that 68.9% (3,100) of respondents were those living in semi-detached houses and 31.1% (1,400) were living in apartment houses in total (4,500 households). If the researchers were not able to collect the answers from 30 potential participants in their areas for some reason, they then visited every fourth house in the study site to find other participants who have the same characteristics (sex, age and types of residence). Seven-hundred-and-twenty-three out of 1,800 households, which were never at home when the researchers visited more than three times, received the survey by post that asked them to complete and send it back to the survey organiser. Additionally, one participant who lived alone was selected from each area.

In the 6th sweep (2018), the Basic Resident Registration Network System[4] was used for sampling. First, Japan was divided into 55 strata (eleven regional areas and five city scales). Twenty-two households were then selected from each selected area using systematic sampling. The drop-off/pick-up method (Steele et al., 2001) was used as a main data collection method for the survey; the researchers visited the potential households to pass a self-administered questionnaire survey

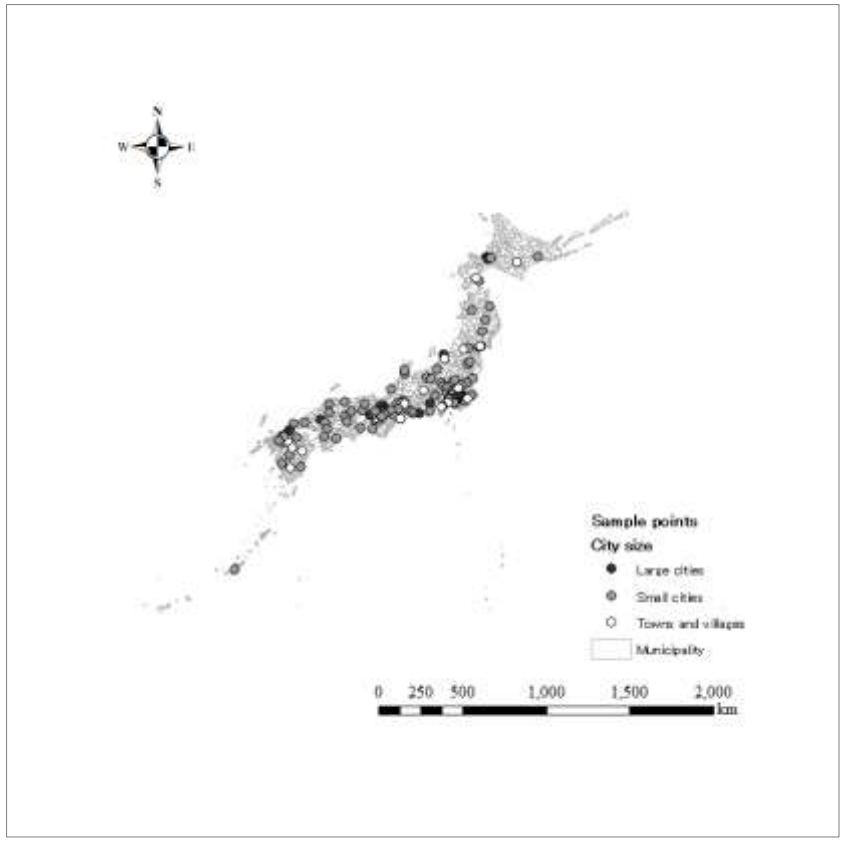
[4] The Basic Resident Registration Network System registers official proof of residence of all residents in Japan on a network for rationalised administration of the national and local governments (Ministry of Internal Affairs and Communications, 2009).

by hand and then revisited them to collect the completed questionnaires. From the 3rd sweep (2007), the respondents were allowed to submit the questionnaires by post, instead of handing them to the researcher. At the 6th sweep (2018), one more collecting method was added; the respondents were allowed to submit the questionnaires online. As shown in **Table 5-1**, there is a noticeable improvement in response rate over time. It can be then said that allowing online responses may have made it convenient for the respondents to answer.

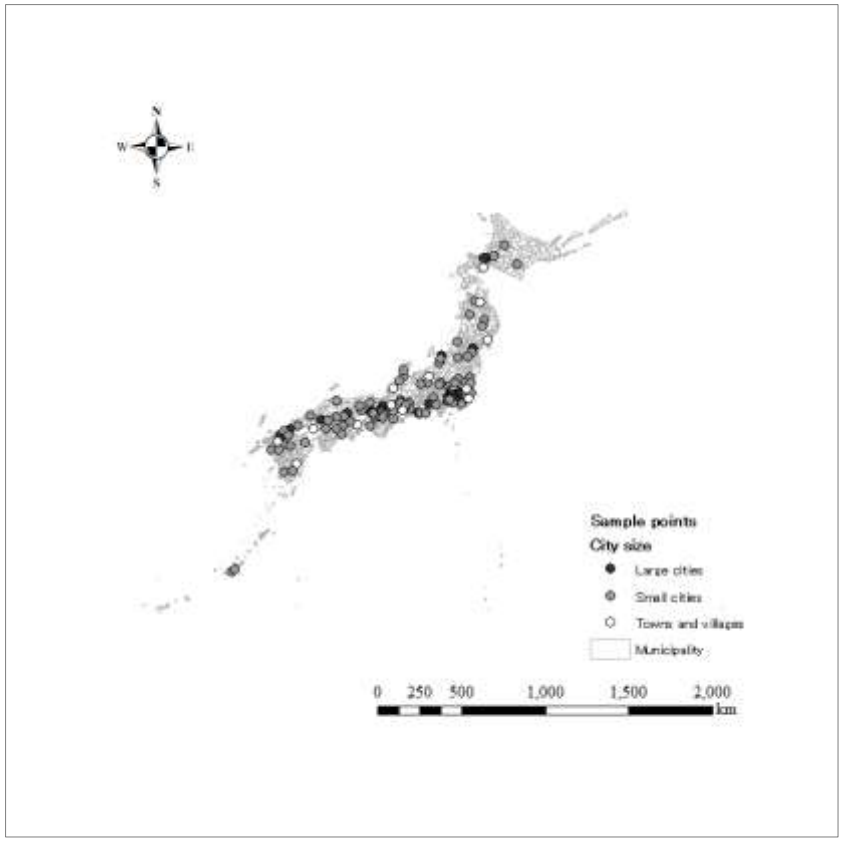
Figure 5-1 displays the sample points of the JPSS by sweep. The dots on the map indicate the municipalities which were sampled. The black dots indicate large cities, the grey dots indicate small cities and the white dots indicate towns and villages.

Figure 5-1 Sample Points of the Japanese Public Safety Survey

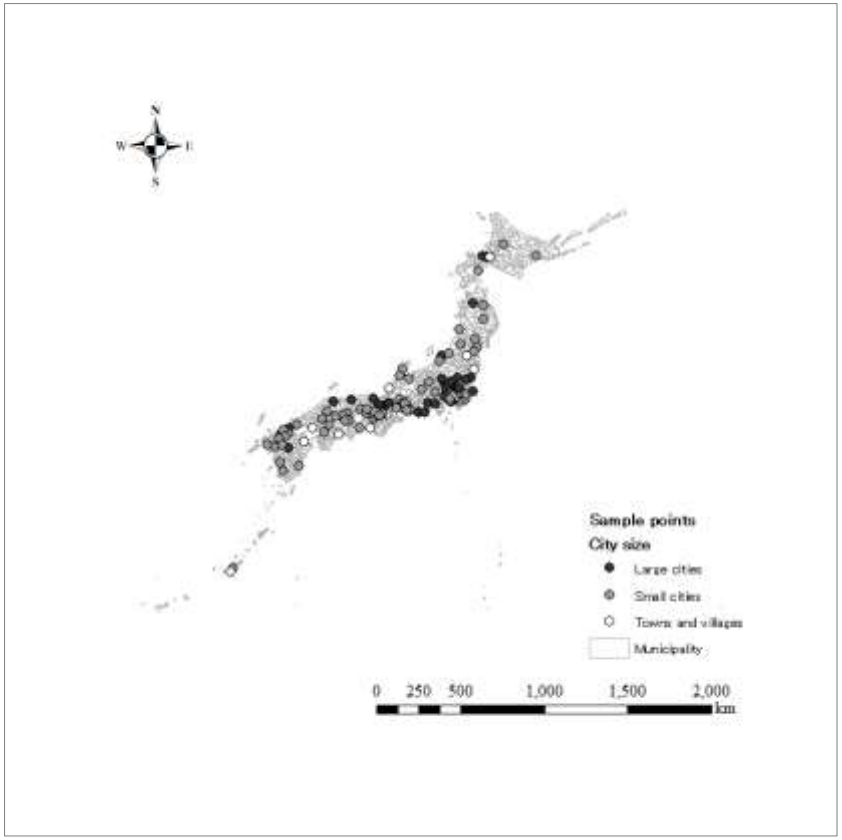
2007



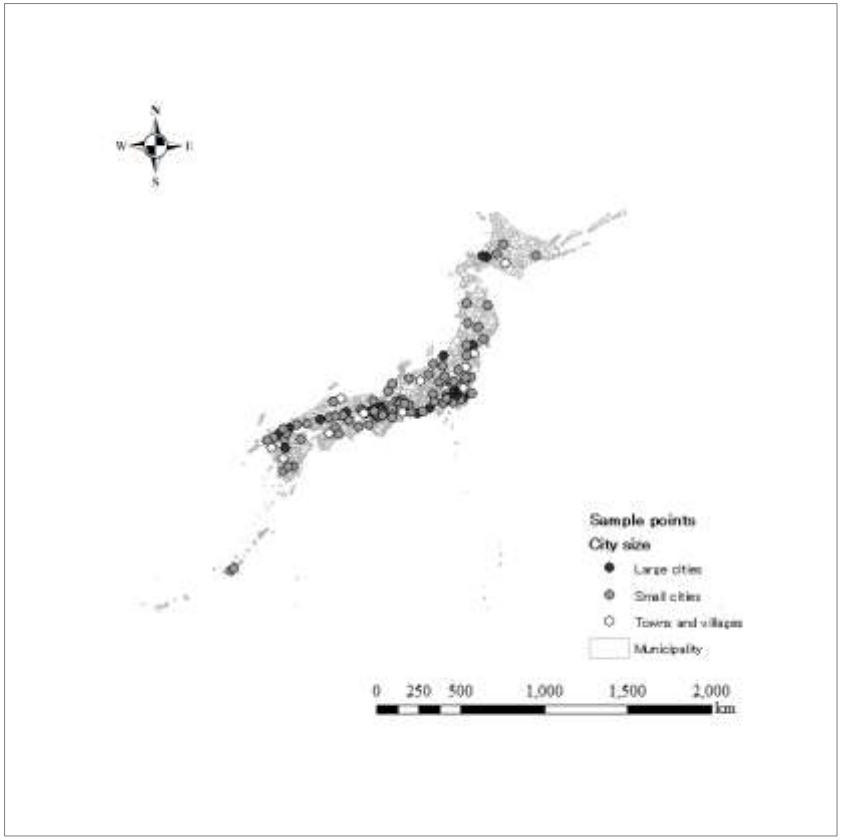
2010



2014


N
W
E
S
Sample points
City size
Large cities
Small cities
Towns and villages
Municipality
0 250 500 1,000 1,500 2,000
km

2018


N
W
E
S
Sample points
City size
Large cities
Small cities
Towns and villages
Municipality
0 250 500 1,000 1,500 2,000
km

5.2.2 Contents of the Japanese Public Safety Survey

All sweeps of the JPSS included questions about criminal victimisation, fear of crime, perceived risk of victimisation, perceived public safety and perceived disorder, as well as questions about respondents' demographic and household information, lifestyle, neighbourhood environment and attitudes toward and experience of community policing. The sections below describe each of these main sections in turn.

5.2.2.1 (Repeat) Victimisation

The JPSS includes questions asking respondents to report any victimisation of different types of crime experienced in the last year. Survey questions are worded along the lines as follows: "*Did you or your family experience crime last year?*" Every sweep defines the reference date and the survey asks the respondents to report victimisation for a year from the reference date (e.g., 6th sweep: from 1st September 2017 to 31st August 2018). From the 2nd sweep (2004) onwards, respondents were asked to report how many times they (or their family) had experienced each type of crime during the past year. Different from many Western victimisation surveys, such as the CSEW, the JPSS does not limit the number of criminal victimisations that respondents can report. This is important since it has been demonstrated that limiting the maximum number of victimisations that respondents can report in crime surveys often leads to undercounting the true picture of (repeat) victimisation and crime concentration, thereby failing to capture the true prevalence of victimisation (Ellingworth et al., 1995; Farrell & Pease, 1993; Sampson & Farrell, 1990).

Figure 5-2 shows the JPSS questions about victimisation. Question 1 asks the respondents to

report their and their family members' victimisation of 16 different types of crime in the last year, as well as the number of victimisations and whether they reported their experience of crime to the police.

Figure 5-2 Excerpt of the Japanese Public Safety Survey (Victimisation)

はじめに、犯罪の被害にあった経験及び犯罪の被害にあうのではないかという不安についてお伺いします

問1　あなた、あるいは同居の家族のだれかが、この1年間（平成29年9月1日から平成30年8月31日まで）に以下に示す1から17の犯罪の被害にあったことがありますか。

付問1　被害にあった場合は、その犯罪の番号すべてに○を、ない場合は「18」に○をつけてください。

付問2　次に、○をつけた犯罪の被害に何回あったかお伺いします。被害の回数を書いてください。

付問3　その被害を警察に届けましたか。届けた回数を書いてください。届けなかった人は「0」を記入してください。

付問1 被害にあった犯罪の種類の番号に○をつけてください。		付問2 被害の回数			付問3 届けた回数		
④ 例）自転車が盗まれた	→		1	回		0	回
1 暴行や傷害などの暴力的な犯罪にあった	→			回			回
2 自宅にどろぼう（空き巣など）に入られた	→			回			回
3 ひったくりにあった	→			回			回
4 自転車が盗まれた	→			回			回
5 自動車やオートバイが盗まれた	→			回			回
6 すりにあった	→			回			回
7 自動車内の金品を盗まれた	→			回			回
8 痴漢にあった	→			回			回
9 特殊詐欺（振り込め詐欺等）にあった	→			回			回
10 悪質商法などでお金を取られた	→			回			回
11 自宅や自動車などに落書きされたり、壊されたりした	→			回			回
12 自宅や敷地内に無断で侵入された	→			回			回
13 人につきまとわれたり、のぞかれたりした	→			回			回
14 インターネットを利用した犯罪の被害にあった	→			回			回
15 凶悪犯罪（殺人、放火、強盗、強制性交等）にまきこまれた	→			回			回
16 （18歳未満のお子さんと同居している方のみお答えください）子供が不審者に声をかけられたり、追いかけられたりした	→			回			回
17 その他（交通事故を除く　　）	→			回			回
18 1年間被害にあったことはない							

Q1-1. Did you or your family members experience the following crimes last year?

Q1-2. How many times did you or your family members experience the following crimes last year?

Q1-3. How many times did you or your family members report crime to the police last year?

1. Violent crime
2. Residential burglary
3. Snatch
4. Bicycle theft
5. Motor vehicle theft
6. Pickpocket
7. Theft from vehicle
8. Molester
9. Remittance fraud
10. Consumer fraud
11. Vandalism
12. Criminal trespass
13. Hanging around, stalking and voyeurism
14. Cybercrime
15. Felonious offences (e.g., murder, arson, robbery and sexual offence)
16. Contact by suspicious persons to children
17. Others
18. Neither I nor my family members experience crime last year

5.2.2.2 Fear of crime

Every sweep of the JPSS includes questions about 1) how often the respondents feel fear of being victimised (without distinction of crime type), 2) how often the respondents feel fear that their family members are victimised (without distinction of crime type), 3) how fearful the respondents feel that they and their family members are victimised (by types of crime) and 4) where they feel fear that they and their family members are victimised (e.g., station, park). From the 2nd sweep (2004) onward, the respondents are also asked to report their fear of 18 different types of crime when walking alone after 11pm (the respondents themselves and their family members). **Figure 5-3** shows the questions about fear of crime excerpted from the JPSS.

Figure 5-3 Excerpt of the Japanese Public Safety Survey (Fear of Crime)

問５　あなたは、日頃、あなた自身や同居の家族が犯罪の被害にあうのではという不安をどの程度感じていますか。ａ）～ｓ）の犯罪それぞれについて、右の回答欄のあてはまる番号に○をつけてください。

		非常に不安	かなり不安	やや不安	不安はない
a）	暴行や傷害などの暴力的な犯罪にあう不安	1	2	3	4
b）	自宅にどろぼう（空き巣など）に入られる不安	1	2	3	4
c）	ひったくりにあう不安	1	2	3	4
d）	自転車が盗まれる不安	1	2	3	4
e）	自動車やオートバイが盗まれる不安	1	2	3	4
f）	すりにあう不安	1	2	3	4
g）	自動車内の金品を盗まれる不安	1	2	3	4
h）	痴漢にあう不安	1	2	3	4
i）	特殊詐欺（振り込め詐欺等）にあう不安	1	2	3	4
j）	悪質商法などでお金を取られる不安	1	2	3	4
k）	自宅や自動車などに落書きされたり、壊されたりする不安	1	2	3	4
l）	自宅や敷地内に無断で侵入される不安	1	2	3	4
m）	人につきまとわれたり、のぞかれたりする不安	1	2	3	4
n）	インターネットを利用した犯罪の被害にあう不安	1	2	3	4
o）	凶悪犯罪（殺人、放火、強盗、強制性交等）にまきこまれる不安	1	2	3	4
p）	テロに巻き込まれる不安	1	2	3	4
q）	飲酒運転による交通事故、ひき逃げなどの悪質・危険な交通法令違反の被害にあう不安	1	2	3	4
r）	（18歳未満のお子さんと同居している方のみお答えください）子供が不審者に声をかけられたり、追いかけられたりする不安	1	2	3	4
s）	その他の不安（具体的に　　）	1	2	3	4

Q5. How fearful are you that you or you family members are victimised of the following crimes?

1 = very fearful, 2 = fearful, 3 = somewhat fearful, 4 = not at all fearful

a) Violent crime
b) Residential burglary
c) Snatch
d) Bicycle theft
e) Motor vehicle theft
f) Pickpocket
g) Theft from vehicle
h) Molester
i) Remittance fraud
j) Consumer fraud
k) Vandalism
l) Criminal trespass
m) Hanging around, stalking and voyeurism
n) Cybercrime
o) Felonious offences (e.g., murder, arson, robbery and sexual offence)
p) Terrorism
q) Drunk-driving accident
r) Contact by suspicious persons to children
s) Others

5.2.2.3 Perceived risk of victimisation

The last four sweeps include a question about whether they think they are more likely to be a victim of different types of crime compared with others in the same generation. Specifically, the JPSS asks: "*How likely do you think that you or your family member living with you will be a victim of crime in the next year?*" (0 = very unlikely, 1 = somewhat unlikely, 2 = somewhat likely, 3 = very likely). **Figure 5-4** shows the question about perceived risk of victimisation excerpted from the JPSS.

Figure 5-4 Excerpt of the Japanese Public Safety Survey (Perceived Risk of Victimisation)

問７　あなた自身や同居の家族が今後１年間に、犯罪の被害にあう可能性がどの程度あると思っていますか。
ａ）～ｓ）の犯罪それぞれについて、右の回答欄のあてはまる番号に○をつけてください。

	かなりある	少しある	ほとんどない	全くない
ａ）暴行や傷害などの暴力的な犯罪にあう可能性	1	2	3	4
ｂ）自宅にどろぼう（空き巣など）に入られる可能性	1	2	3	4
ｃ）ひったくりにあう可能性	1	2	3	4

（問７　続き）　（あなた自身や同居の家族が今後１年間に、犯罪の被害にあう可能性）	かなりある	少しある	ほとんどない	全くない
ｄ）自転車が盗まれる可能性	1	2	3	4
ｅ）自動車やオートバイが盗まれる可能性	1	2	3	4
ｆ）すりにあう可能性	1	2	3	4
ｇ）自動車内の金品を盗まれる可能性	1	2	3	4
ｈ）痴漢にあう可能性	1	2	3	4
ｉ）特殊詐欺（振り込め詐欺等）にあう可能性	1	2	3	4
ｊ）悪質商法などでお金を取られる可能性	1	2	3	4
ｋ）自宅や自動車などに落書きされたり、壊されたりする可能性	1	2	3	4
ｌ）自宅や敷地内に無断で侵入される可能性	1	2	3	4
ｍ）人につきまとわれたり、のぞかれたりする可能性	1	2	3	4
ｎ）インターネットを利用した犯罪の被害にあう可能性	1	2	3	4
ｏ）凶悪犯罪（殺人、放火、強盗、強制性交等）にまきこまれる可能性	1	2	3	4
ｐ）テロに巻き込まれる可能性	1	2	3	4
ｑ）飲酒運転による交通事故、ひき逃げなどの悪質・危険な交通法令違反の被害にあう可能性	1	2	3	4
ｒ）（18歳未満のお子さんと同居している方のみお答えください）子供が不審者に声をかけられたり、追いかけられたりする可能性	1	2	3	4
ｓ）その他の可能性（具体的に　　）	1	2	3	4

Q7. How likely do you think that you or your family member living with you will be a victim of crime in the next year?

1 = very likely, 2 = somewhat likely, 3 = somewhat unlikely, 4 = very likely

a) Violent crime
b) Residential burglary
c) Snatch
d) Bicycle theft
e) Motor vehicle theft
f) Pickpocket
g) Theft from vehicle
h) Molester
i) Remittance fraud
j) Consumer fraud
k) Vandalism
l) Criminal trespass
m) Hanging around, stalking and voyeurism
n) Cybercrime
o) Felonious offences (e.g., murder, arson, robbery and sexual offence)
p) Terrorism
q) Drunk-driving accident
r) Contact by suspicious persons to children
s) Others

5.2.2.4 Perceived disorder

From the 2nd sweep (2004), the JPSS asks respondents to evaluate their local neighbourhood environment. Specifically, the respondents are asked to report how much they agree with statements about neighbourhood disorder using a four-point scale. The statements used in the JPSS are:

- *A lot of vandalised and abandoned buildings in my neighbourhood*
- *A lot of dark places with few lamps*
- *Trees and shrubs are left unmaintained in my neighbourhood*
- *A lot of graffiti in my neighbourhood*
- *Many harmful places in my neighbourhood*
- *A lot of places where delinquents loitering*
- *Many teenagers who smoke*
- *A lot of abandoned motorbikes and bicycles on the streets*
- *Neighbours who have trouble with others*
- *Many teenagers loitering in the daytime* and *Many teenagers loitering in the evening*

5.2.3 Limitations of the Japanese Public Safety Survey Data

The JPSS is not without its limitations. These are described here in advance of the analytical chapters which follow. First, as with other victimisation surveys, telescoping might have happened, where respondents report experiencing a crime which in fact occurred outside of the reference period (Gaskell et al., 2000; Gottfredson & Hindelang, 1977). Second, since the JPSS does not ask the respondents to report indirect victimisation (whether they saw or heard crime in their neighbourhoods in the past year), the research will not be able to examine how indirect victimisation affects people's fear of crime. This is important in light of the research described in **Chapter 4** which shows that indirect experience of crime can have a major impact on people's feelings of fear, safety and security (Adu-Mireku, 2002; Covington & Taylor, 1991; Skogan & Maxfield, 1981; Stafford & Galle, 1984; Tseloni & Zarafonitou, 2008). Third, the JPSS asks about the victimisation experience of both the respondent and their families. This is different to many other crime victim surveys which relate only to the perceptions and experiences of the person completing the survey. This may have the effect of swelling the number of victimisations captured by the survey. It also means that the results reported in the JPSS may not be comparable to other surveys which do not include the experiences of family members. However, it should be noted prior research in Asian settings has also used the same type of question (whether they or any member of their households experienced criminal victimisation) (Messner et al., 2017), and this question is consistent across sweeps which enables the thesis to test the crime drop hypothesis. Fourth, the response rates are poor compared to the CSEW (75% in 2013/2014) and the NCVS (82% for households and 86% for eligible persons in 2015), and the numbers of valid responses are often inadequate to reach statistically reliable conclusions especially given a low crime society. Unlike the CSEW and the NCVS, the JPSS was not administered by the government, and this may have led the low response rate. The number of surveyed respondents in the quota sampling

is however reasonably high, which may have been confounded by sample characteristics (e.g., individuals who are highly concerned about crime are eager to answer). Fifth, there is a difference in the response rate over the sweeps, and this may affect the explanation of the results. However, the response rate can be calculated only for the 6th sweep (2018) which used the basic resident registration system. Therefore, the number of responses/surveyed respondents in a quota sampling and the number of responses/selections in other sweeps are not comparable. Sixth, the JPSS likely fails to capture when people show higher or lower levels of fear of crime since it does not ask about feelings of fear at different times of the day and in different locations. It assumes a stable level of fear. Although true of most fear of crime surveys, this is at odds with recent research which has revealed that the levels of fear can differ depending on the time of the day even in the same location (Solymosi et al., 2015; Taylor & Covington, 1993).

5.3 Dataset 2: Census

The Japanese government has conducted a census every five years since 1920, although some questions are only included in alternate sweeps (see **Table 5-2)**. A census every five years is more frequent than in many other countries; for example, the United States (Census Bureau, 2021) and the United Kingdom (Office for National Statistics, 2021) conduct a census every ten years. The raw data of the Japanese census are provided by the Statistics Bureau of Japan, and the spatial aggregation units include prefectures, municipalities, and census tracts.

5.3.1 Content of the Census

Census data have been commonly used in criminological research that focuses on macro-level factors to explain crime (Battin & Crowl, 2017; Bellair, 1997; Giacopassi & Forde, 2000; Hipp, 2010; Jobes et al., 2004; Johnson & Kane, 2016; Kane & Cronin, 2013; Martin, 2002; Miethe et al., 1991; Morenoff & Sampson, 1997; Powers et al., 2018; Pamela Wilcox Rountree & Warner,

1999; Sampson & Groves, 1989; Smith et al., 2000; Taylor & Covington, 1988; Walsh & Taylor, 2007; Wilcox et al., 2004; Wo et al., 2016), and sometimes a census has been analysed in conjunction with other independent data sources (Barton et al., 2017; Boggess & Hipp, 2010; Browning et al., 2004, 2010; Bruinsma et al., 2013; Camacho Doyle et al., 2021; Deryol et al., 2016; Fay-Ramirez, 2015; Hawdon & Ryan, 2009; Hipp & Wickes, 2017; Kaylen & Pridemore, 2013; Kingston et al., 2009; Louderback & Roy, 2018; Maskaly, 2014; Nobles et al., 2016; Taylor et al., 1985). **Table 6-2** presents the constructs and variables of the Japanese census. The census includes questions about family structure, employment, housing type, and mode of commute, all of which have implications for the experience and perceptions of crime, fear of crime and perceived risk of victimisation, as discussed in **Chapter 8**.

Table 5-2 Constructs and Variables of the Japanese Census

Construction	Description	Answer	Every 5 yrs	Every 10 yrs
Household	N of family members	Number	✓	✓
characteristics	Types of residence	SA	✓	✓
	owned, public rental housing, UR rental housing[5]*, private rental housing, company-owned housing, bed-sitting, employee dormitory, other*			
Demographic	Sex	SA	✓	✓
characteristics	*male, female*			
	Relationship with head of family	SA	✓	✓
	head of family him/herself, spouse, child, parent, spouse of head's child, parent of head, parent of head' spouse, grandchild, grandparent, brother or sister, other relatives, resident housekeeper, other			
	Year and month of birth	Number	✓	✓
	Marital status	SA	✓	✓
	single, married, widowed, divorced			
	Nationality	Name	✓	✓
	Length of residence	SA	✓	✓
	from birth, less than a year, 1 – 4 years, 5 – 9 years, 10 – 19 years, 20 years and more			
	Place of residence 5 years ago	Name	✓	✓

[5] "UR" stands for Urban Renaissance Agency, a semi-governmental administrative corporation.

the same place as now, another place in the same municipality, another municipality, foreign country			
Education	SA	n.a.	✓
elementary school, primary school, junior high school, high school, college, university, graduate school			
Employment status	SA	✓	✓
full-time, part-time (homemaker), part-time (student), unemployed			
Place of work	Name	✓	✓
Transport mode to commute	MA	n.a.	✓
walk, train, bus, employee shuttle bus, car, taxi, motorbike, bicycle, others			
Occupation	Name	✓	✓

Note: SA = single answer, MA = multiple answers

5.3.2 Limitations of the Data

Although a variety of municipal-level information on different groups of people across the nation is included in the census in Japan, there has been an issue related to the response rate. Indeed, there has been a slow decline from 99.5% total response rate in 1995 to 81.3% in 2020. Additionally, it has been empirically revealed that people who are young and single, live alone, live in metropolitan areas, and whose length of residence is short are less likely to participate in the census, causing spurious geographical patterns and correlations (Hanibuchi & Yamauchi, 2019, 2020).

5.4 Integration of Data

The thesis aims to determine the impact of both individual/household- and neighbourhood-level characteristics on the levels of criminal victimisation and fear of crime. To meet the intended aims of the thesis, the two data sets described above are integrated for analysis. The number of sampled municipalities in the JPSS is 150 for each sweep (sampled municipalities vary depending on sweep), and that of municipalities in Japan is around 1,900. In addition, the sweeps of the JPSS and the census that the thesis uses for the analysis took place at different timings. A matching table was therefore created to integrate two independent data sets.

A respondent table (**Table 5-3**) stores respondents' information (the number of records = 7,503). This enables researchers to identify each respondent based on survey year, sample point, and respondent ID. Specifically, the table consists of the following variables:

locate_id: sample point

survey_year_locate: ID (composite variable of survey year and location)

id: 20 respondents in each sample point

Table 5-3 Respondent Table

1)

survey_year	locate_id	survey_year_locate	id	respondent id
2007	1	**2007001**	1	200700101
2007	1	2007001	…	
2007	1	2007001	20	200700120
2007	2	2007002	1	200700201
2007	2	2007002	…	
2007	2	2007002	20	200700220
2007	…	…	…	
2007	150	2007150	1	200715001
2007	150	2007150	…	
2007	150	2007150	20	200715020
2010	1	2010001	1	201000101
2010	…	…	…	
2010	150	2010150	20	201015020
2014	1	2014001	1	201400101
2014	…	…	…	
2014	150	2014150	20	201415020
2018	1	2018001	1	201800101
2018	…	…	…	
2018	150	2018150	20	201815020

A sample point table (**Table 5-4**) consists of survey year and sampled municipality (the number of records = 600). This enables researchers to obtain the census data for the municipal where each respondent lives. Specifically, the table consists of the following variables:

id: ID for each sample point (1 – 600)

survey_year_locate: ID (composite variable of survey year and sample point) referenced from the respondent table

jiscode: municipality ID (5 digit)

survey_year: survey year

census_year: census year corresponding with the survey year

census_year_jiscode: compost variable of census year and jiscode

Table 5-4 Sample Pont Table

	1)			2)	3)	4)
id	survey_year_locate	jiscode	municipality name	survey_year	census_year	census_year_jiscode
1	**2007001**	01102	Kita-ku, Sapporo	2007	2005	**200501102**
…	…	…	…	2007	2005	…
150	2007150	47211	Okinawa	2007	2005	200547211
151	2010001	01103	Higashi-ku, Sapporo	2010	2010	201001103
…	…	…	…	2010	2010	…
300	2010150	47213	Ishikawa-Ishizaki, Uruma	2010	2010	201047213
301	2014001	01104	Shiraishi, Sapporo	2014	2010	201001104
…	…	…	…	2014	2010	…
450	2014150	47350	Haebara, Shiojiri	2018	2015	201547350
451	2018001	01104	Shiraishi, Sapporo	2018	2015	201501104
…	…	…	…	2018	2015	…
600	2018150	47213	Ishikawa-Akebono, Uruma	2018	2015	201547213

A census table (**Table 5-5**) consists of census year and municipality. The unique key field is "census_year_jiscode", which is composit variable of "census year" and "jiscode".

Table 5-5 Census Table

4)

census_year_jiscode	census year	jiscode	pref name	municipality name
200501101	2005	01101	Hokkaido	Chuo-ku, Sapporo
200501102	2005	01101	Hokkaido	
	2005	…	…	…
200547382	2005	47382	Okinawa	Yonaguni
201001101	2010	01101	Hokkaido	Chuo-ku, Sapporo
	2010	…	…	…
201047382	2010	47382	Okinawa	Yonaguni
201501100	2015	01100	Hokkaido	Chuo-ku, Sapporo
	2015	…	…	…
201547382	2015	47382	Okinawa	Yonaguni

First, "survey_year_locate" in the respondent table (**Table 5-3**) is linked to "survey_year_locate" in the sample point table. Second, "census_year_jiscode" in the sample point table (**Table 5-4**) is linked to "census_year_jiscode" in the census table (**Table 5-5**). Since the thesis uses four sweeps of the JPSS, a pair of survey year and municipality is needed to give municipality-level variables to each respondent. A pair of survey year and sample point enables researchers to identify which survey year and municipality each respondent belongs to.

Municipalities and survey years are used in merging the data. Since municipal mergers and dissolutions were carried out between four sweeps of the JPSS, it was needed to match sample points with corresponding municipalities. The JPSS data are therefore merged with the nearest preceding census data, so the 2007 JPSS is merged with the 2005 census, the 2010 and 2014

surveys are merged with the 2010 census, and the 2018 JPSS is merged with the 2015 census (**Table 5-6**).

Table 5-6 Matching Table

2) 3)

survey_year	census_year
2007	2005
2010	2010
2014	2010
2018	2015

Chapter 6 Patterns and Predictors of Household Property Crime Victimisation in Japan, 2007-2018

Chapter Summary

This chapter reports the findings of an empirical study into the patterns and predictors of household property crime victimisation in Japan from 2007 to 2018. Using data collected as part of the JPSS and the Japanese census, this study uses multilevel statistical modelling to examine 1) how individual/household- and neighbourhood-level variables affect the experience of household property crime victimisation and 2) whether the experience of household crime reported in the JPSS data provides evidence of a crime drop, as has been observed in police recorded crime data in Japan over the survey period. This chapter concludes by discussing the implications of the findings for prevention and future research.

6.1 Introduction

As described in **Chapter 3**, there is a large body of Western studies on the patterns and predictors of criminal victimisation. Among them, many recent studies draw on cross-sectional data and employ a multilevel analytical framework to investigate how variations in the individual/household- and area-level variables affect victimisation risk (see, for example, Massey et al., 1989; Messner et al., 2017; Outlaw, 2002; Roh et al., 2010; Rountree et al., 1994; Tewksbury & Mustaine, 2000; Zhang et al., 2007). Informed by social disorganisation theory and environmental criminology, these studies offer compelling evidence that demographic, household, social and environmental factors can positively or negatively affect the risk of criminal victimisation, which in turn has implications for what might be done to reduce crime and associated harms. This research also usefully highlights the interactions between variables

operating at different levels, to show, for example, that households sharing similar characteristics might exhibit differential victimisation risks when located in different areas. Despite this large body of victimisation research, presently there are only a handful of theoretically-informed multilevel studies that investigate the patterns and predictors of criminal victimisation in East Asia (Roh et al., 2010; Zhang et al., 2007) and, to the author's knowledge, no such studies in Japan.

This chapter addresses this research gap. It unfolds as follows. First, this chapter will establish whether household property crime, as measured in the JPSS, has fallen in ways comparable to the trends observed in Japanese police recorded crime data. If this is the case, the relationship between criminal victimisation and various predictor variables drawn from social disorganisation theory and environmental criminology will be then investigated. In anticipation of the analyses to follow, and as described in **Chapter 3**, it is worth reiterating that Japan, like many countries, has experienced large reductions in crime in recent decades. Although the falls in crime in Japan started later (around the 2000s) than those observed in many Western countries (the 1990s), the overall trajectory and magnitude of the falls are similar in Japan (Sidebottom et al., 2018). Put another way, the so-called 'international crime drop' has extended to Japan, even though the peak levels of crime in Japan have long been much lower than those recorded in most Western industrialised countries. However, the patterns of victimisation observed in Japan may not necessarily apply to other East Asian countries. Since the JPSS, which the thesis employs, covers the period over which crime has fallen in Japan, this provides an opportunity to determine the observed predictors of household property crime against a backdrop of general reductions in crime. This chapter is concerned with the patterns and predictors of residential burglary and vandalism (hereafter household property crime, as defined in previous research, e.g., Hope, 2007) in Japan.

Residential burglary and vandalism are selected for two main reasons. First, it is well-established that burglary and vandalism cause serious psychological consequences for its victims; the victims of burglary can be anxious, shocked and distressed at the time of being victimised, and experience prolonged difficulty in sleeping (Beaton et al., 2000; Maguire, 1980). The victims of vandalism, too, can feel vulnerable and unsafe after their experiences (Goldstein, 1996). From this perspective, it is important to understand the factors which elevate the risk of household property crime in order to inform crime prevention policymaking. Second, existing research recognises that, as explained in **Chapter 3**, the risk of victimisation is affected by the characteristics of the household and the locations in which households are situated, including neighbourhood-level disorder and informal social control.

The research questions for this chapter are:

- *Is the crime drop observed in the nationally representative household survey?*
- *What are the patterns and predictors of household property crime in Japan?*

Drawing on prior research and relevant theories of criminal victimisation (most notably social disorganisation theory and environmental criminology), more specifically, the following hypotheses are tested:

1. The levels of household property crime victimisation in Japan measured using the JPSS data decreased from 2007 to 2018. It is hypothesised that crime reductions are observed in the social survey as with the official crime statistics.

2. Sex and age are unrelated to the risk of household property crime. It is hypothesised that risk of household property crime relates more to household characteristics, not those of the respondent him/herself.
3. As the size of the family increases, the levels of household property crime decrease. From the perspective of the routine activity theory, the size of the family can be negatively associated with the levels of household property crime because the number of family members increases the probability that the house is occupied, thereby increasing potential guardianship and thus enhancing the offenders' perceived risk of being detected.
4. Homeownership will reduce the risk of household property crime. Living in one's own house is expected to decrease the risk of household property crime since, all things being equal, homeowners are considered more likely to introduce security devices to their households than those who rent a property.
5. A detached house will increase the risk of household property crime. Living in a detached house can elevate household property crime risk since, all things being equal, there are generally more entry/exits points which can be exploited by motivated offenders.
6. Increased household income will be associated with increased risk of household property crime. Higher levels of income can be associated with higher levels of household property crime since household income increases target attractiveness.
7. Social support will decrease the risk of household property crime. Social support is associated with lower levels of household property crime risk since the number of neighbours who can help each other increases local guardianship which is effective in preventing victimisation.

8. Neighbourhood disorder will increase the risk of household property crime. From the perspective of the social disorganisation theory, neighbourhood social and physical disorder can increase the risk of household property crime since it represents the concentration of disadvantage in neighbourhoods that can increase the risk of crime. In addition, from the perspective of the broken window theory, neighbourhood disorder can lead to subsequent serious crime.
9. The presence of community policing will decrease the risk of household property crime. The presence of community policing is expected to reduce the risk of household property crime through increasing the perceived risk of apprehension.
10. The increase in population density will increase the risk of household property crime. From the perspective of the routine activity approach, population density can increase the risk of household property crime since it can increase the number of potential offenders and targets.
11. The ratio of daytime population to night-time population will decrease the risk of household property crime. In Japan, household property crime can occur daytime when the capable guardians are not at home, leading to higher risks of being targeted, as the routine activity approach discusses.
12. The increase in residential turnover will increase the risk of household property crime. From the perspective of social disorganisation theory, residential turnover can increase the levels of household property crime through deteriorating or preventing the formation of informal social control and social ties in a community.
13. The increase in the municipal-level income will be associated with a greater risk of household property crime. Higher levels of income can be associated with higher levels of household property crime since household income increases target attractiveness.

14. The unemployment rate will increase the risk of household property crime. From the perspective of the social disorganisation theory, higher levels of unemployment can be associated with higher levels of household property crime since it represents neighbourhood deterioration.
15. The increase in a municipal-level ratio of woman-headed household, manufacturing and service industries will be associated with a greater risk of property household crime. From the perspective of social disorganisation theory, higher ratios of woman-headed households, manufacturing and service industries, which may represent low socioeconomic status, can be associated with higher levels of household property crime. Since socially-disorganised neighbourhoods have little or no informal social control, there can be more likely to be potential targets of potential offenders.
16. A municipal-level ratio of university degree will decrease the risk of household property crime. Higher ratio of those who have university degrees can be associated with higher levels of household property crime. From the perspective of the routine activity approach, they can be more attractive to potential offenders than others since they are more likely to have attractive goods in their households than others.

The analyses for this chapter are presented in four sections. The next section reports the analytical method that this chapter employs. The third section reports the results of exploratory factor analysis of perceived neighbourhood disorder variables that can elevate the risk of victimisation and those of multilevel logistic regression predicting the patterns and predictors of household property crime. In the fourth section, a discussion of the implications of the findings for crime prevention policy and practice in Japan is given to conclude the chapter.

6.2 Method

This chapter first looks at the changes in reported household property crime victimisation according to the JPSS. Two analyses are then performed to investigate the patterns and predictors of household property crime victimisation: exploratory factor analysis and multilevel logistic regression. The following sections describe the details of these two analyses.

6.2.1 Structure of Neighbourhood Disorder

Exploratory factor analysis is performed on the pooled data from the 2007 – 2018 JPSS to identify the structure of latent variables from eleven perceived neighbourhood disorder items (see **Table 6-2**) and address if these items share the component which consists of neighbourhood social and physical disorder, as has been found in the past literature (Hewitt et al., 2018; Kubrin, 2009, 2010; Kubrin & Weitzer, 2003; Sampson & Groves, 1989; Sampson & Raudenbush, 1999).

The JPSS asks the respondents to what extent they agree with various statements about neighbourhood disorder (see **Chapter 4**). From the perspective of the broken windows theory, even minor neighbourhood disorders can increase the levels of crime. The impact of the disorder on crime has been supported by a wealth of research in Western countries (Kelling & Sousa, 2001; Rountree et al., 1994; Skogan, 1990). Neighbourhood disorder is categorised into two types: social and physical. “Social incivilities include such problems as loitering youths or homeless people, rowdy behaviour, drug dealing, public drunkenness and prostitution. Physical incivilities include such environmental stimuli as litter, vandalism, vacant or dilapidated housing, abandoned cars, and unkempt lots” (Perkins & Taylor, 1996, p. 67). Using exploratory factor analysis, this chapter first examines if perceived neighbourhood disorder items used in the JPSS cluster into

these two dimensions (social and physical) as discussed in the Western context. The exploratory factor analysis is performed in SPSS version 27.

The survey records the city size of each respondent's address for the first-stage sampling. Since different sweeps of the JPSS use different city size categories, city size was reintegrated in the way shown in **Figure 6-1** to investigate if the levels of neighbourhood disorder vary depending on city size. The cities with 500,000 or more population which play a dominant role in the prefecture are designated by the Cabinet of Japan as "Ordinance-designated cities". "Core cities" are designated by the assemblies of the prefecture and have residents greater than 200,000.

Figure 6-1 Re-Categorising City Size for the Analysis

Patterns and Predictors of Victimisation

Multilevel logistic regression is conducted to empirically investigate the factors related to the risk of household property crime victimisation. A multilevel analysis proposes that individual/household- and neighbourhood-level characteristics are both of importance since "crime opportunity is structured at multiple, embedded units of analysis" (Rountree, 2018, p. 168). As discussed in **Chapter 3**, multilevel modelling has been commonly applied to victimisation studies (Hewitt et al., 2018; Jones & Pridemore, 2019; Miethe & McDowall, 1993; Piscitelli &

Doherty, 2018; Roh et al., 2010; Rountree et al., 1994; Rountree & Land, 2000; Velez, 2001; Zhang et al., 2007). Indeed, ignoring the higher level of a multilevel nested structure in data analysis can cause poor performance, such as the inaccuracy of classification and biased standard errors for parameter estimates (Park & Yu, 2016). In this chapter, therefore, multilevel logistic regression is adopted since the data employed are nested (households within municipalities) and the dependent variable (victimisation experience) is binary. The study uses a binary variable since the study is concerned with what individual/household- and neighbourhood-level variables make people the victimisation of household property crime. The analysis is conducted using Stata version 16 with the "melogit" command.

6.2.1.1 Dependent Variables

The experience of direct household property crime victimisation for the past year is the dependent variable for the current study. The analysis focuses on how individual/household- and neighbourhood-level variables affect the experience of criminal victimisation. The dependent variable is the item in the JPSS asking the respondents if they had experienced residential burglary and/or vandalism (household property crime) in the last year. The response scale was 0 = no, 1 = yes. In the analysis, if the respondents experienced at least one of these two types of crime, they are coded 1. **Table 6-1** displays descriptive statistics for the independent and dependent variables used in this study. It demonstrates that 4.8% of the respondents reported they or their family experienced household property crime victimisation in the year previous to being surveyed.

6.2.1.1 Independent Variables

This part describes how the explanatory variables are used in this study. The independent variables constitute the year, and individual/household- and neighbourhood-level measures. The

survey year is added as a trend variable (the survey year 2007 is reference). Sex, age, number of family members, homeownership, detached house, annual household income and social support (how many neighbours whom the respondents can ask for help each other) are added as "level 1 individual/household-level variables". Social and physical disorder, population density, the ratio of daytime and night-time population, a ratio of population aged 15 – 64 and 65 and over, residential turnover, ratio of woman-headed households, taxable income per person, unemployment rate, ratio of manufacturing industry, ratio of service industry and a university degree are added as "level 2 neighbourhood-level variables".

Since four sweeps of the JPSS are examined in this study, each survey year variable will be used to investigate if the crime drop is observed in the social survey data. The year 2007 is treated as the baseline, and other survey years are added as dummy variables. Female respondents are coded as 1 and males as 0. Age is asked in categories of 20s, 30s, 40s, 50s, 60s, and 70s. Sex and age are used as control variables. The total number of persons in households, homeownership, detached house and annual household income will be used to test the routine activity approach. Social support will be used as a measure of collective efficacy. The scores of perceived social disorder and physical disorder, aggregated at the municipal-level, will be used as a measure of the broken windows theory. The impact of community policing will be tested based on the answer to the question about how often they see police foot patrol or police car patrol. Municipal-level population density, ratio of daytime and night-time population and the ratio of the population aged 15 – 64 and 65 and over will be used to determine how population-related variables are associated with the levels of household property crime. Municipal-level residential turnover (ratio of the population who moved in the surveyed year in all populations), unemployment rate and ratio of woman-headed households will be used to test the social disorganisation theory.

Municipal-level taxable income per person will be used to test the routine activity approach. Municipal-level ratio of the manufacturing industry and the service industry in all industry categories will be used to investigate how land use affects the levels of household property crime. Municipal-level ratio of university degree holders among all residents will be used to examine if municipal-level education influences the household property crime risk.

Table 6-1 Descriptive Statistics for the Variables Used in Victimisation Analysis (the 2007 – 2018 Japanese Public Safety Survey)

Variable			*n*	*%*	Mean	S. D.	Min	Max
Dependent variable								
	victimisation (1 = yes)		-	-	0.048	0.214	0.000	1.000
Year (dummy coded)								
	year 2010		-	-	0.264	0.441	0.000	1.000
	year 2014		-	-	0.270	0.444	0.000	1.000
	year 2018		-	-	0.229	0.420	0.000	1.000
Lv1. Individual/household								
	Sex (1 = female)		-	-	0.515	0.500	0.000	1.000
	age		-	-	3.640	1.673	1.000	6.000
		1 = 20s	1294	13.9	-	-	-	-
		2 = 30s	1564	16.8	-	-	-	-
		3 = 40s	1561	16.8	-	-	-	-
		4 = 50s	1634	17.6	-	-	-	-
		5 = 60s	1644	17.7	-	-	-	-
		6 = 70s	1588	17.1				
	n of family members		-	-	3.129	1.504	1.000	13.000
	homeownership (1 = yes)		-	-	0.724	0.447	0.000	1.000
	detached house (1 = yes)		-	-	0.718	0.45	0.000	1.000
	annual household income		-	-	1.321	0.533	1.000	3.000

		1 = less than 6,000,000 JPY	5826	62.7	-	-	-	-
		2 = 6,000,000 JPY - 12,000,000 JPY	2150	23.2	-	-	-	-
		3 = 12,000,000 JPY and more	301	3.2	-	-	-	-
	social support		-	-	1.480	0.842	0.000	3.000
		0 = few	1413	15.2	-	-	-	-
		1 = some	2362	25.4	-	-	-	-
		2 = several	4709	50.7	-	-	-	-
		3 = many	788	8.5	-	-	-	-
Lv2. Neighbourhood								
	social disorder		-	-	0.001	0.430	-1.150	1.660
	physical disorder		-	-	0.001	0.359	-1.170	1.100
	community policing		-	-	0.000	3.000	1.406	0.788
	population density		-	-	4392.206	4753.066	53.700	22380.200
	ratio of daytime and night-time population		-	-	98.539	23.235	73.000	386.700
	population: 15 - 64 years old		-	-	13.117	1.785	6.882	20.464
	population: 65 years and over		-	-	23.154	4.921	9.145	47.165

residential turnover	-	-	3.988	1.633	1.040	11.320
ratio of woman-headed households	-	-	0.015	0.005	0.000	0.040
taxable income per person	-	-	3231.209	593.564	2194.800	10232.200
unemployment rate	-	-	5.877	1.727	2.300	18.200
ratio of manufacturing industry	-	-	0.243	0.076	0.070	0.470
ratio of service industry	-	-	0.668	0.083	0.390	0.850
university degree	-	-	0.167	0.071	0.040	0.410

6.2.1.2 Analytical Strategy

Three sequential multilevel models were used to determine the predictor variables for household property crime victimisation. This thesis is based on a repeated-cross sectional survey and the census which enable the author to investigate the impact of individual/household- and neighbourhood-level factors on the risk of household property crime. The study in this chapter tests three models of multilevel regression. Model 1 is the trend-only model which includes only the year variables. Model 2 is a pooled model without the survey year variables; individual/household- and municipal-level variables are included in the analysis. Model 3 is the full model; the year, individual/household- and municipal-level variables are included. It can be hypothesised that in Model 1 the survey year variables are associated with reductions in the risk of household property crime victimisation. If the impact of the survey year variables disappears in Model 3, it means that the crime drop has been caused by the changes in socioeconomic factors. If the impact of the survey year variables is still observed in Model 3, it means that the crime drop has been caused by other factors which are not covered by the available data.

6.3 Results

This section reports the changes in household property crime victimisation from 2007 to 2018, and the results of exploratory factor analysis and multilevel logistic regression.

6.3.1 Criminal Victimisation in Japan

Figure 6-2 shows the overall decline in household property crime, as measured by the JPSS from 2007 to 2018. It reveals that the percentage of sampled respondents experiencing household property crime fell from 6.5% in 2007 to 3.4% in 2010, 3.7% in 2014 and 3.1% in 2018. This represents an overall percentage change of 4.2%. This fall is small compared to the trend in the

police data; according to the official crime statistics, the number of residential burglary decreased by 30.4% (from 103,490 in 2007 to 31,505 in 2018) and that of vandalism decreased by 42.3% (from 185,472 in 2007 to 78,371 in 2018). This gap between the JPSS data and the police data regarding the degree of the crime drop may be due to telescoping which is a common weakness related to the survey data. Specifically, since the respondents may report victimisation that occurred outside of the reference period intentionally or unintentionally, the degree of the declines in victimisation can be smaller in the social survey than in the crime statistics.

The results of one-way ANOVA revealed that there is a statistically significant difference in the mean levels of victimisation across the four sweeps (Welch' $F(4, 9189) = 16.888$, $p<.001$). A post hoc Bonferroni test for a one-way ANOVA was then performed and confirmed that the risk of household property crime in 2007 was found to be statistically higher than that in 2010 and 2018 ($p<.001$). It can at least be said that the levels of household property crime victimisation decreased between 2007 and 2010. Multilevel logistic regression analysis later in this chapter will, therefore, examine if the impact of the year on victimisation is still observed even after controlling for other variables. Since the results of the one-way ANOVA confirmed that the ratio of the respondents reporting household property crime victimisation decreased from 2007 to 2010, it is necessary to understand the factors associated with this drop.

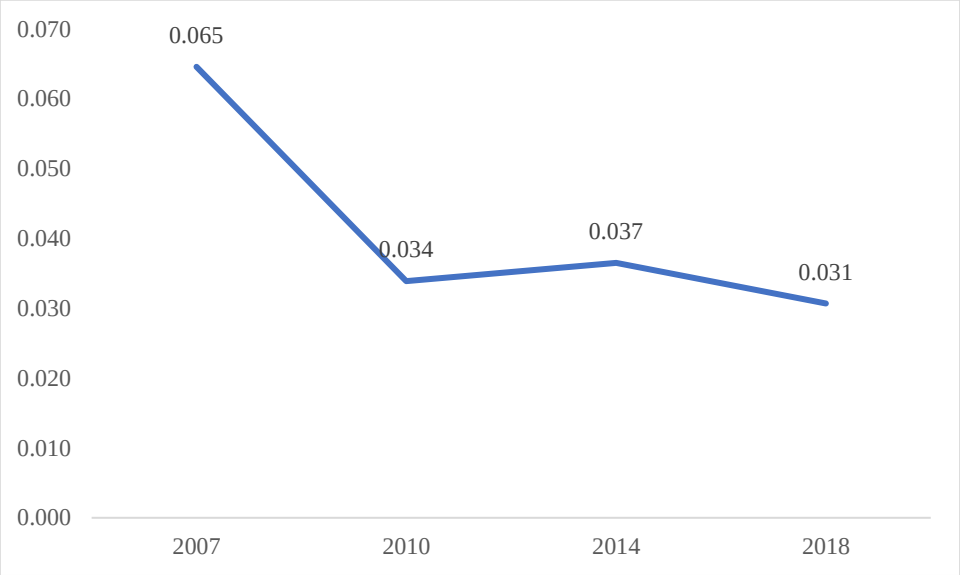
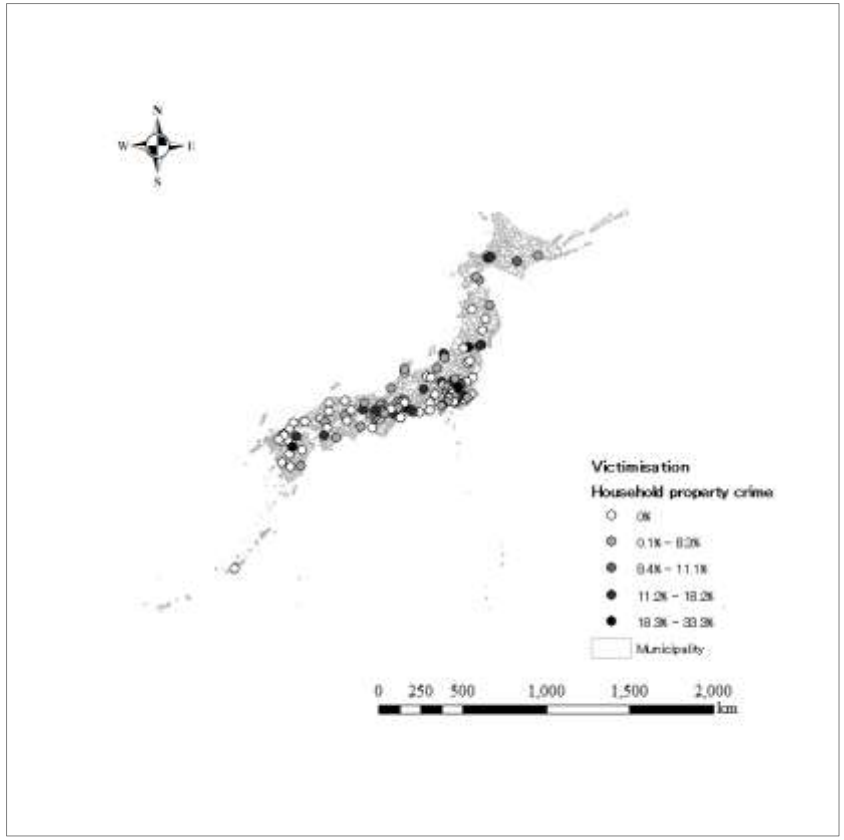


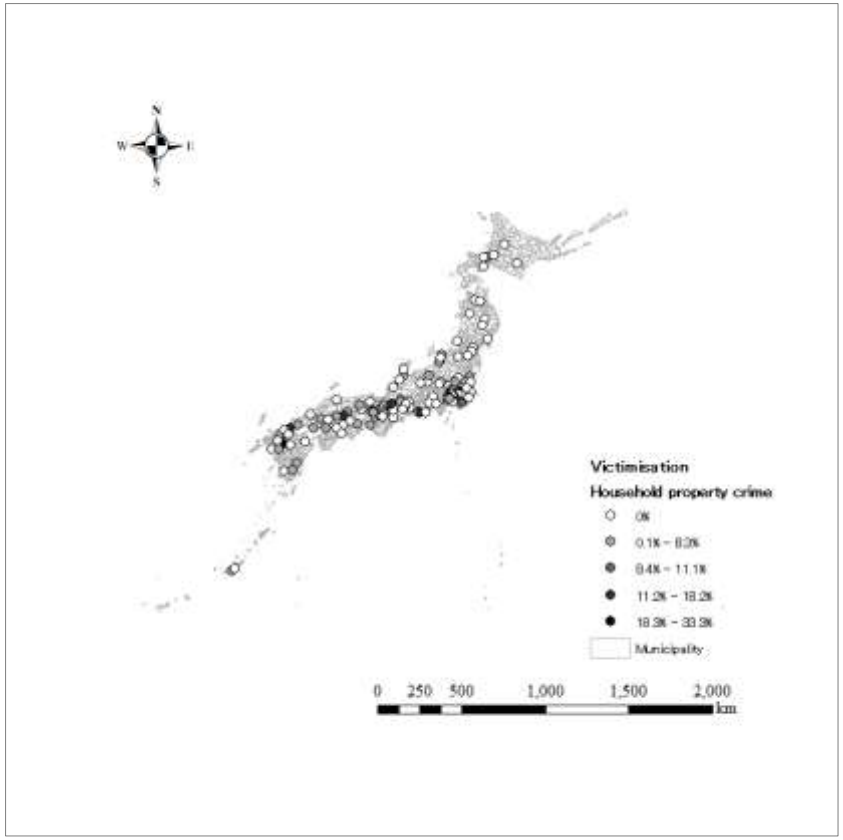
Figure 6-2 Changes in the Mean Level of Household Property Crime Victimisation 2007-2018

Figure 6-3 maps the percentage of the respondents who experienced household property crime victimisation in the reference period by sample points each year. It shows that high household property crime victimisation rate areas concentrate in coastal or metropolitan cities such as Tokyo and Osaka throughout four sweeps.

2007


Victimisation
Household property crime
0%
0.1% - 0.2%
0.4% - 1.1%
11.2% - 18.2%
18.3% - 33.3%
Municipality
0 250 500 1,000 1,500 2,000
km

2010


Victimisation
Household property crime
0%
0.1% - 0.2%
0.4% - 1.1%
11.2% - 18.2%
18.3% - 33.3%
Municipality
0 250 500 1,000 1,500 2,000
km

2014 **2018**

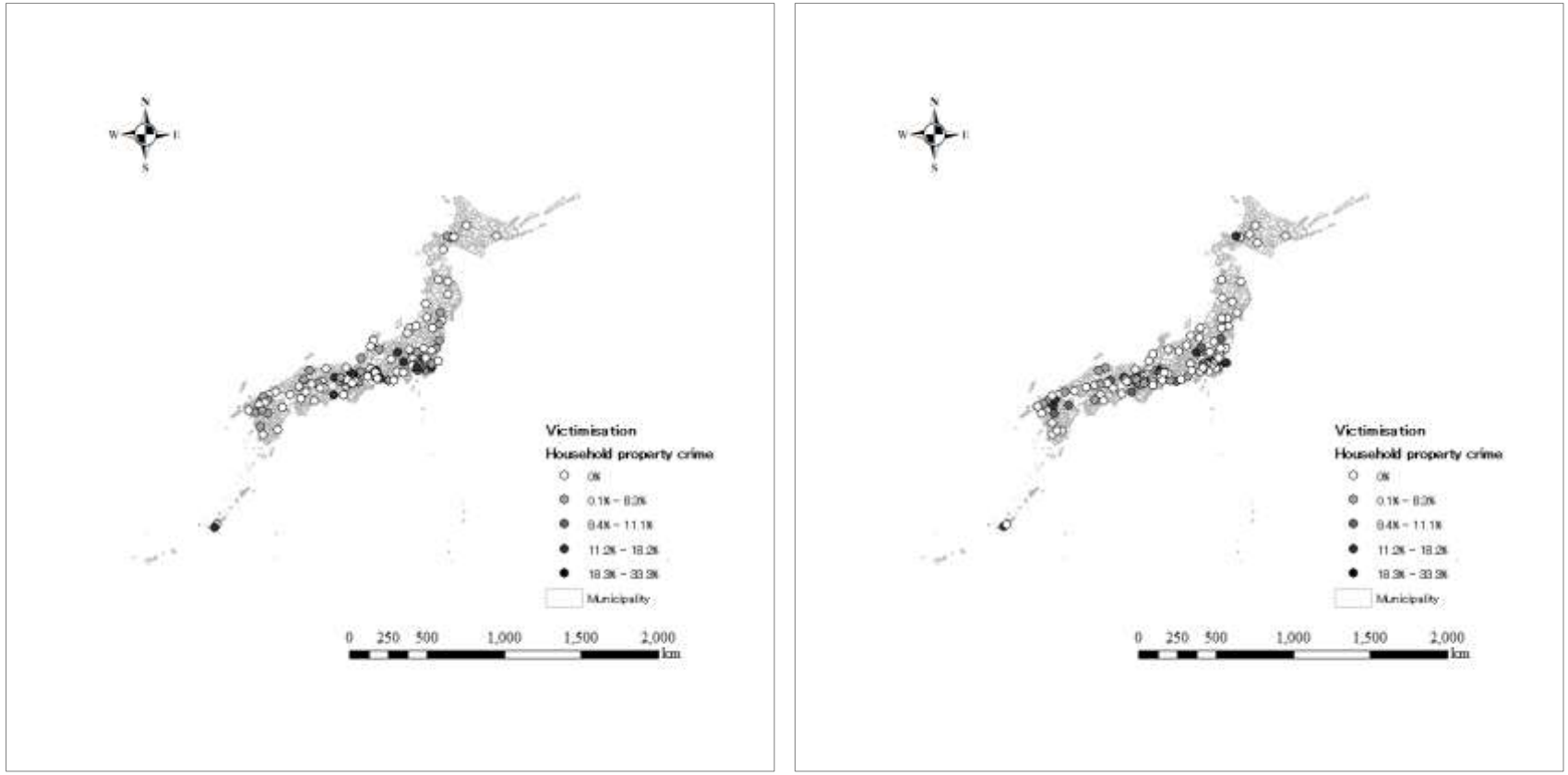


Figure 6-3 The Risk of Household Property Crime Victimisation by Sample Points

6.3.2 Structure of Neighbourhood Disorders

Table 6-2 presents the descriptive statistics for the items from the JPSS which are used in exploratory factor analysis.

Table 6-2 Descriptive Statistics for Eleven Neighbourhood Disorder Variables

Variable	Mean	S. D.	Min	Max
A lot of vandalised and abandoned buildings in my neighbourhood	1.180	0.770	0.000	3.000
A lot of dark places with few lamps	1.810	0.798	0.000	3.000
Trees and shrubs are left unmaintained in my neighbourhood	1.400	0.756	0.000	3.000
A lot of graffiti in my neighbourhood	0.700	0.653	0.000	3.000
Many harmful places in my neighbourhood	0.460	0.611	0.000	3.000
A lot of places where delinquents loitering	0.730	0.663	0.000	3.000
Many teenagers who smoke	0.770	0.721	0.000	3.000
A lot of abandoned motorbikes and bicycles on the streets	0.870	0.769	0.000	3.000
Neighbours who have trouble with others	0.880	0.697	0.000	3.000
Many teenagers loitering in the daytime	0.610	0.611	0.000	3.000
Many teenagers loitering in the evening	0.790	0.735	0.000	3.000

Table 6-3 displays the results of the exploratory factor analysis with promax rotation. Two factors are extracted with eigenvalues greater than 1.0 (Kaiser-Guttman criterion). Eight out of eleven variables (Many teenagers loitering in the evening; Many teenagers who smoke; A lot of places where delinquents loitering; Many teenagers loitering in the daytime; A lot of abandoned motorbikes and bicycles on the streets; Many harmful places in my neighbourhood; A lot of graffiti in my neighbourhood; Neighbours who have trouble with others) are loaded on the first principal component (41.4% of the variance). Three out of eleven variables (Trees and shrubs are

left unmaintained in my neighbourhood; A lot of dark places with few lamps; A lot of vandalised and abandoned buildings in my neighbourhood) are loaded on the second component (14.2% of the variance). As shown in **Table 6-3**, eleven disorder variables used in the analysis are divided into two factors. The first factor is named social disorder, and the second factor is named physical disorder. Factor scores were calculated for each factor.

Table 6-3 Exploratory Factor Analysis with Promax Rotation

Items	Factor 1: social disorder	Factor 2: physical disorder
Many teenagers loitering in the evening	.824	-.053
Many teenagers who smoke	.807	-.031
A lot of places where delinquents loitering	.803	-.010
Many teenagers loitering in the daytime	.776	-.016
A lot of abandoned motorbikes and bicycles on the streets	.662	.011
Many harmful places in my neighbourhood	.541	.024
A lot of graffiti in my neighbourhood	.529	.108
Neighbours who have trouble with others	.519	.072
Trees and shrubs are left unmaintained in my neighbourhood	-.002	.817
A lot of dark places with few lamps	.002	.610
A lot of vandalised and abandoned buildings in my neighbourhood	.079	.398

Figure 6-4 shows the changes in the factor score of the social and physical disorder over time by city size. The Y axis refers to the average score of each disorder category. Interestingly, social and physical disorder show different trends over time; while the levels of social disorder show a declining trend regardless of city size, those of physical disorder demonstrate different trends depending on city size. Specifically, the physical disorder in large cities and small cities reaches

its peak in 2014 and then turned downward; however, in towns and villages, the trend went up from 2014 to 2018.

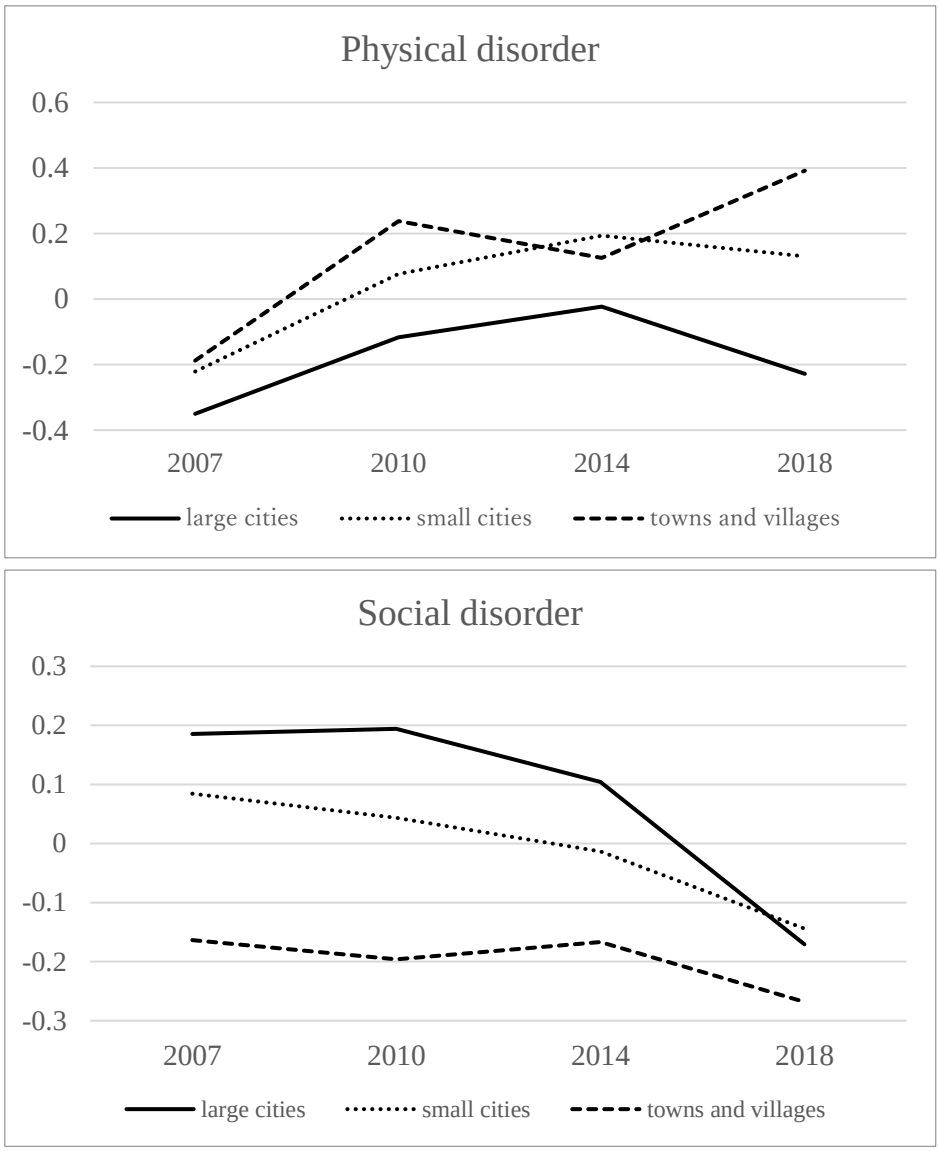


Figure 6-4 Changes in Disorder Over Time

In summary, the results reveal that both social and physical disorder variables suggested by early literature (Perkins & Taylor, 1996) are discovered in Japan. The neighbourhood social and

physical disorder variables produced from the analysis will be used in the subsequent empirical studies in **Chapters 6**, **7 and 8** to determine the impact of neighbourhood social and physical disorder on the levels of victimisation, repeat victimisation, fear of crime and perceived risk of victimisation.

The results also reveal that the levels of disorder changed differently depending on disorder type and city size; while all city sizes show that the levels of perceived neighbourhood social disorder are on a declining trend throughout the survey years, those of perceived neighbourhood physical disorder in large cities and small cities reach its peak in 2014 and then turn downward, and those in towns and villages dropped from 2010 to 2014 and then went up to 2018. This unexpected finding will be discussed later in this chapter.

6.3.3 Patterns and Predictors of Victimisation

Table 6-4 shows the results of multilevel logistic regression analyses predicting victimisation of household property crime. Odds ratios are employed to measure the effect size of the association between two variables. B coefficient is the change in a dependent variable for one unit change in an independent variable. In the current study, an odds ratio of above 1 depicts a higher risk of household property crime victimisation correlated with the change of unit in particular independent variables. An odds ratio of less than 1 suggests, oppositely, a lower risk of household property crime victimisation. An odds ratio of 1 implies there is neither a positive nor negative effect of the independent variable on the risk of household property crime victimisation. For instance, an odds ratio of 1.5 in group A to group B means that the risk of household property crime victimisation is 1.5 times more in group A than the odds of condition in group B.

Model 1 includes the survey year variable only. Model 1 reveals a significant negative correlation between all year variables and rates of self-reported household victimisation (year 2010: *OR* = 0.513, p <.001; year 2014: *OR* = 0.546, p <.001; year 2018: *OR* = 0.462, p <.001). The risk of victimisation from 2010 to 2018 was significantly reduced compared with that in 2007. Put another way, the crime drop is observed in the self-reported victimisation social survey. The following regression models will now elucidate if individual/household- and neighbourhood-level variables are associated with the likelihood of household property crime and whether the year variables still show significant effects on the risk of victimisation even after controlling for other exploratory variables.

Model 2 tests how certain individual/household- and neighbourhood-level factors are associated with criminal victimisation. A significant correlation was identified for six independent variables. At the individual/household-level, living in a detached house (*OR* = 1.828, p<.01) is found to be significantly associated with higher risks of household property crime victimisation, while homeownership (*OR* = .560, p<.01) and social support (*OR* = .835, p<0.05) reduce significantly the risk of household property crime victimisation. At the neighbourhood-level, the frequency of seeing police patrols (*OR* = 1.275, p<0.01) and residential turnover (*OR* = 1.179, p<0.05) are found to be associated with significant increases in the risk of household property crime victimisation, while physical disorder (*OR* = .642, p<.05) statistically decreases the risk of household property crime victimisation. Specifically, Model 2 reveals that those who live in detached houses in the neighbourhood where the frequency of police patrol and residential turnover is higher than in other areas exhibit higher levels of household property crime victimisation risks, and those who live in their own houses, have more neighbours whom they can help each other than others, and live in the neighbourhoods where the levels of perceived

neighbourhood physical disorder are higher than other areas exhibit lower levels of household property crime victimisation risks.

Model 3 includes data relating to the year and the individual/household- and neighbourhood-level variables. Interestingly, two out of three survey year variables are still significantly negative in the risk of victimisation even after controlling for individual/household- and neighbourhood level variables (the year 2010: *OR* = .525, p<.05; the year 2018: *OR* = .544, p<.05). At the individual/household level, living in a detached house (*OR* = 1.702, p<.05) shows a statistically significant positive impact on the risk of household property crime victimisation. On the other hand, homeownership (*OR* = .578, p<.01) and social support (*OR* = .829, p<.05) are found to be negatively correlated with the likelihood of household property crime victimisation. At the neighbourhood-level, the frequency of police patrols (*OR* = 1.261, p<.01) statistically increases the risk of victimisation of household property crime.

Table 6-4 Multilevel Logistic Regression Predicting Victimisation of Household Property Crime

		Model 1				Model 2				Model 3			
	Variable	OR	SE	z		OR	SE	z		OR	SE	z	
Trend													
	year 2010	0.513	0.083	-4.110	***					0.525	0.132	-2.570	*
	year 2014	0.546	0.086	-3.850	***					0.627	0.161	-1.820	
	year 2018	0.462	0.082	-4.360	***					0.544	0.157	-2.110	*
Lv. 1													
	female					1.026	0.134	0.190		1.026	0.134	0.190	
	age					0.974	0.044	-0.590		0.974	0.044	-0.590	
	n of family members					1.061	0.051	1.220		1.061	0.051	1.220	
	homeownership					0.560	0.118	-2.750	**	0.560	0.118	-2.750	**
	detached house					1.828	0.402	2.740	**	1.828	0.402	2.740	**
	annual household income					0.855	0.114	-1.180		0.855	0.114	-1.180	
	social support					0.835	0.068	-2.210	*	0.835	0.068	-2.210	*
Lv. 2													
	social disorder					1.400	0.243	1.940		1.331	0.235	1.620	
	physical disorder					0.642	0.142	-2.000	*	0.771	0.182	-1.100	
	community policing					1.275	0.109	2.850	**	1.261	0.107	2.730	**
	population density					1.000	0.000	-0.430		1.000	2.77E-05	0.030	

	ratio of daytime and night-time population					0.996	0.004	-0.980		0.999	0.004	-0.340	
	population: 15 years old or under					1.088	0.073	1.260		1.089	0.073	1.280	
	population: 65 years and over					1.020	0.029	0.690		1.032	0.030	1.100	
	residential turnover					1.179	0.097	1.990	*	1.130	0.096	1.440	
	ratio of woman-headed households					9.83E+05	0.002	-0.380		0.144	3.704	-0.080	
	taxable income per person					1.000	0.000	0.610		1.000	0.000	-0.570	
	unemployment rate					1.019	0.053	0.350		1.020	0.065	0.310	
	ratio of manufacturing industry					6.806	11.570	1.130		2.861	4.909	0.610	
	ratio of service industry					1.147	2.050	0.080		0.400	0.737	-0.500	
	university degree					0.222	0.466	-0.720		6.917	17.967	0.740	
	_cons	0.065	0.007		***	0.003	0.008	-2.400	*	0.011	0.027	-1.810	
	jiscode												
	var(_cons)	0.124	0.103			0.074	0.122			0.048	0.116		

Note: *p< .05; **p<.01; ***p<.001

6.4 Discussion

Japan has long enjoyed low crime rates compared with many other advanced nations, and, as a result, has received comparatively little attention from criminologists. Consequently, much uncertainty exists concerning what individual, household, social, and environmental characteristics affect the risk of crime that does occur in the Japanese context. The purpose of this chapter is, therefore, to determine if the victimisation patterns observed in mainly Western research are applicable to Japan. Specifically, employing exploratory factor analysis and multilevel analysis, this chapter analysed the nationwide patterns and predictors of criminal victimisation during the crime drop in Japan using data from the self-reported victimisation survey. The following section discusses the key findings to emerge from the analysis reported in this chapter.

6.4.1 Structure of Neighbourhood Disorder

As a preliminary analysis, exploratory factor analysis was performed to determine the underlying constructs of neighbourhood disorder variables. The results of exploratory factor analysis confirmed that similar perceived disorder items discussed in the Western context were found in Japan. In other words, both social and physical disorder variables suggested by early literature (Perkins & Taylor, 1996) were discovered from the analysis of the items used in the social survey in Japan. The results also revealed that the levels of disorder changed differently depending on disorder type and city size; while all city sizes showed that the levels of perceived neighbourhood social disorder were on a declining trend throughout four sweeps of the survey, those of perceived neighbourhood physical disorder in large cities and small cities reached its peak in 2014 and then turned downward, and those in towns and villages dropped from 2010 to 2014 and then went up to 2018. A possible explanation for this result is that since rural areas in Japan have experienced

depopulation (Shimada & Suzuki, 2021), there can be an increase in the number of unmaintained trees and shrubs, and vandalised or unkempt houses which, as a result, leads to obscure neighbourhoods. This means that although physical disorder in the Western context represents the absence of neighbourhood social control or organisation (McGarrell et al., 1997; Perkins & Taylor, 1996; Taylor & Hale, 1986), that in the Japanese context does not necessarily mean the breakdown of local communities. As the disorder model discusses, the perceived disorder is associated with fear of crime (LaGrange et al., 1992; Skogan & Maxfield, 1981). This is because neighbourhood disorder demonstrates the breakdown of social control or tradition (McGarrell et al., 1997; Perkins & Taylor, 1996; Taylor & Hale, 1986), causing the residents discomfort and calling into question the public order (Skogan, 1986). A subsequent study in **Chapter 8** will then aims to examine if higher levels of physical disorder in rural areas affect the levels of fear of crime in Japan.

6.4.2 Patterns and Predictors of Victimisation

Multilevel logistic regression was conducted to investigate the factors correlated with household property crime victimisation in Japan. Model 1 which includes only the survey year variables demonstrated that all survey year variables were negatively associated with household property crime victimisation. Put differently, crime reductions were observed in the self-reported crime victimisation survey as well as the crime statistics.

Model 2 tested the impact of individual/household- and neighbourhood-level characteristics as predictor variables involving pooled data across the sweeps. Of seven individual/household-level variables considered, three variables were found to show statistically significant relationships on

the risk of household property crime victimisation: homeownership, detached house, and social support.

Table 6-5 summarises the support for each hypothesis. As shown, hypotheses 1, 2, 4, 5 and 7 are (partially) supported.

Table 6-5 Answers to the Hypotheses

Hypotheses	
1. The levels of household property crime victimisation decreased from 2007 to 2018.	Mixed
2. Sex and age will not be related to the risk of household property crime.	Yes
3. As the size of the family increases, the levels of household property crime decrease.	No
4. Homeownership will reduce the risk of household property crime.	Yes
5. A detached house will increase the risk of household property crime.	Yes
6. The increase in household income will increase the risk of household property crime.	No
7. Social support will decrease the risk of household property crime.	Yes
8. Neighbourhood disorder will increase the risk of household property crime.	No
9. The presence of community policing will decrease the risk of household property crime.	No
10. The increase in population density will increase the risk of household property crime.	No
11. The increase in daytime and night-time population will increase the risk of household property crime.	No
12. The increase in residential turnover will increase the risk of household property crime.	No
13. The increase in the municipal-level income will be associated with a greater risk of household property crime	No
14. The unemployment rate will increase the risk of household property crime.	No
15. The increase in the municipal-level ratios of woman-headed household, manufacturing and service industries There will be a statistical relationship between land use and the associated with a greater risk of property household crime	No

16. A municipal-level ratio of university degree will decrease the risk of household property crime.	No

Confirmed hypotheses will be discussed first here. Homeownership was found to associated with reduced likelihood of household property crime victimisation, providing support for hypothesis 4. A possible explanation for the negative impact of homeownership on crime risk reduction is that owner-occupied houses are more likely to have security measures than rented houses. Although the JPSS does not test the "security hypothesis" directly, the impact of security measures on victimisation risk has been discussed. Indeed, several studies in Western countries have shown that the introduction of security measures to households or streets can decrease the risk of burglary (Bowers et al., 2004; Farrell et al., 2014; Farrell, Tseloni, Mailley, et al., 2011; Tseloni et al., 2017)**.**

Detached houses were found to statistically related with an increased risk of household property crime, providing support for hypothesis 5. This is consistent with previous literature in various countries (Bernasco, 2006; Bernasco & Nieuwbeerta, 2005; Forrester et al., 1988; Vandeviver et al., 2015; Vandeviver & Bernasco, 2020; Vilalta & Fondevila, 2021), suggesting that multiple entry points of detached house can increase the risk of residential burglary. This is also in line with the study in Tokyo, Japan (Takagi et al., 2011). In this sense, the current study provided considerable insight into the applicability of the routine activity approach to Japan nationwide.

Social support, as expected, was negatively associated with the risk of household property crime (hypothesis 7). Past research has reported that interactions with neighbours can have preventive effects on crime (Markowitz et al., 2001; Robinson et al., 2003). Indeed, as previous research in Japan (Komiya, 1999) also stated, close relationships with neighbours can work as guardianship to prevent victimisation. Although the current study provided the effects of social support on

reducing victimisation risks at the individual/household level, further evidence may be required to investigate its impact at the neighbourhood level (Sampson et al., 1997).

Four out of seven individual/household-level variables were not found to be significantly related to household property crime risk: sex, age, number of family members and annual household income. Past literature in the East Asian context has reported that being female is positively or negatively related to the victimisation risk depending on the types of crime; females show higher risks of personal theft (Messner et al., 2007) and robbery (Kuo et al., 2009), while they exhibit lower levels of risk of assault (Messner et al., 2007) and larceny (Kuo et al., 2009). However, since the focus of the current study is household property crime, it is reasonable that sex was not a predictor variable for household property crime victimisation (hypothesis 2). The same can be true of age (hypothesis 2).

It can be said that the number of family members increases guardianship which leads to the reduction of household property crime risks. Contrary to hypothesis 3; however, the number of the family was not related to the risk of household property crime. The levels of household property crime victimisation risk can be explained by the routine activity approach (Cohen & Felson, 1979). Much past literature has adopted the routine activity approach to explain the variation in residential burglary victimisation (Coupe & Blake, 2006; Gamo et al., 2017; Rountree & Land, 1996a; Sampson & Wooldredge, 1987; Sidebottom, 2013; Thompson & Fisher, 1996; Townsley & Sidebottom, 2010; Tseloni et al., 2004; Wuschke et al., 2013). As Thompson & Fisher (1996, p. 62) said, households that "appear that someone is at home during the day" are less likely to be victimised of residential burglary. Further research is therefore warranted to investigate the impact of the number of family members on the risk of household property crime

in Japan. Although household income has been found to increase the attractiveness of household as a target of crime in previous studies (Miethe & McDowall, 1993; Zhang et al., 2007), the findings from the current study did not yield support for the impact of household income on the risk of household property crime.

At the neighbourhood-level, three out of 14 variables were found to be significantly associated with household property crime risk either positively or negatively: community policing, residential turnover, and physical disorder. Prior literature on community policing in both Western and Eastern countries has argued that community policing can reduce the risk of victimisation (Rhineberger-Dunn & Carlson, 2011; Tilley, 1993; Velez, 2001); however, the results from this chapter found that there was a significantly positive association between the frequency of seeing police patrol and household property crime victimisation. There are several possible explanations for this unexpected result. First, those who have been victimised are more likely to pay attention to policing activities in their neighbourhoods. Second, the police conduct hot spot policing or place-based policing in high-crime-density neighbourhoods. Since the data used in this thesis are cross-sectional and cannot infer causal relationships, further research is required to investigate the relationship between criminal victimisation and community policing using panel data.

As expected from the previous research (Hewitt et al., 2018; Kubrin, 2009; Kubrin & Weitzer, 2003; Sampson & Groves, 1989), residential turnover was found to associated with higher levels of risks of household property crime. As Sampson (1991) argued, high levels of residential turnover can prevent the formation of social bonds in a community that works as a mediator of

crime. It can be then said that the social disorganisation theory is applicable to the Japanese context to explain crime patterns.

Physical disorder was statistically significant in the unexpected direction; there was a negative association between the levels of perceived neighbourhood physical disorder and those of household property crime risk. The positive impact of neighbourhood disorder on the crime risk has been explained from the perspective of the social disorganisation theory; as past literature (Kelling & Sousa, 2001; Rountree et al., 1994; Skogan, 1990) argued, the variables which represent neighbourhood disorder can increase the risk of victimisation. As discussed above, preliminary analysis in this chapter reported the high levels of perceived neighbourhood physical disorder in towns and villages. However, it is possible that physical disorder in the Japanese context does not necessarily mean the lack of social control in the neighbourhood which can lead to delinquency and crime; physical disorder may represent depopulation in rural areas of Japan. Further research is needed to interpret the relationship between the levels of neighbourhood perceived physical disorder and the residents there in Japan. Subsequent research in **Chapter 8** will examine how neighbourhood disorder is associated with fear of crime. Except for residential turnover, unexpectedly, other municipal-level variables from the census did not show any significant impact on the risk of household property crime in Model 2.

Model 3 included the year, individual/household- and neighbourhood-level variables to examine the predictors of household property crime victimisation. Homeownership, detached house, social support, and community policing were still statistically significant in Model 3; however, its impacts were diminished. This means that from 2007 to 2010, there could be immediate social or environmental changes that significantly affected the crime trends in Japan, such as the

improvement of security measures. The current study empirically demonstrated that the year was significantly correlated with the risk of victimisation even after controlling for other variables. Put differently, the results provided evidence for the crime drop in Japan. If the crime drop from 2007 to 2018 can be explained by the individual/household- and neighbourhood-level variables used in Model 3, the effects of the year variables should have disappeared. However, they still significantly reduced the risk of household property crime victimisation. This leads to the conclusion that the crime drop has been caused by factors which were not included in the datasets. Possible factors related to substantial falls in household property crimes include improved security measures. Indeed, recent evidence (Tseloni et al., 2017) revealed that household security devices have played an important role in the significant reduction in the number of burglaries. Additional work on the impact of home security on the number of household property crimes would be helpful to understand the patterns of crime during the crime drop in Japan.

No significant correlation was identified between the variables from the census and the likelihood of household property crime victimisation. From the perspective of environmental criminology, social and environmental characteristics of neighbourhoods can affect the variation in crime distribution. For instance, much past literature has reported that land use (Barnum et al., 2017; Bernasco & Block, 2011; Eck & Weisburd, 2015; Hiropoulos & Porter, 2014; Mogavero & Hsu, 2018) and neighbourhood-level income (Miethe & McDowall, 1993; Zhang et al., 2007) generate or attract criminal activities, leading to a concentration of both motivated offenders and suitable targets. Municipal-level percentage of those who have a university degree was expected to reduce the risk of victimisation, as Messner et al. (2007) argued that education is positively related to the perceived capability of self-defence and alertness which leads to low levels of victimisation risk. However, these effects were not found in the current study. A possible explanation for this is that,

since Japan is a very homogeneous society as **Chapter 2** discussed, the characteristics of neighbourhoods (level. 2) may not statistically affect the household property crime victimisation risk, and those of the target itself (e.g., housing type) (level. 1) can significantly be associated with the likelihood of victimisation.

6.5 Conclusion

This chapter aimed to give an account of the patterns and predictors of household property crime victimisation in Japan by using secondary data analysis of two independent datasets. To sum up, the findings from this chapter are broadly consistent with previous research in Western societies; some individual/household- and neighbourhood-level variables were found to significantly affect the risk of victimisation in the direction expected from prior research. Crime has fallen internationally since the 1990s (Tseloni et al., 2010). Although crime reduction in Japan began much later (Sidebottom et al., 2018), Japan showed a similar style of crime reduction to that observed in other industrialised countries. These findings from the current study have considerable implications for criminology research, policy and practice.

There are two major implications for future research on crime in Japan. First, the current study suggests the need to reconsider the concept of neighbourhood physical disorder in the Japanese context. Preliminary analysis revealed that the levels of physical disorder were higher in rural areas. However, it is unlikely that the variable obtained from the exploratory factor analysis represents the social disorganisation discussed in the Western context. Therefore, future research on crime in Japan should address the factors which represent neighbourhood physical disorder and can lead to higher risks of victimisation. Second, this study empirically demonstrated that a multilevel approach is applicable in the Japanese context; municipal-level contextual effects were

observed in the risk of household property crime victimisation. It is recommended future crime research in Japan should adopt multilevel modelling when the data used are nested.

The current study identified several approaches that are considered important from policy and practice perspectives as well. First, consistent with much literature in the Western context, social disorder was positively associated with higher risks of criminal victimisation. Being presented more than 30 years ago, the idea of broken windows has played an important role in policymaking in North America (Wagers et al., 2017). Policymakers in Japan, therefore, might consider focusing on reducing social disorder in communities to prevent crime and associated harms. Second, evidence from the current study demonstrated contextual effects of victimisation risk; municipal-level residential turnover and affluence can elevate the risk of individual/household-level victimisation. Thus, crime prevention policies targeting these high-risk areas are considered especially important.

Chapter 7 Patterns and Predictors of Residential Burglary and Vandalism Victimisation in Japan, 2007-2018

Chapter Summary

The preceding chapter demonstrated that certain individual/household and neighbourhood-level variables were associated with an increased risk of household property crime victimisation in Japan. These findings were largely consistent with criminological theory and the findings from previous research in Western countries. This chapter builds on the previous chapter and focuses on a particular kind of victimisation pattern, namely the repeat victimisation of Japanese households. Specifically, this chapter aims to investigate which, if any, factors distinguish repeat victims of repeat residential burglary and vandalism from single victims and non-victims. The chapter concludes by discussing the implications of the findings for preventing repeat victimisation and for future research in Japan.

7.1 Introduction

Chapter 6 investigated both the micro- and macro-level factors associated with the risk of household property crime in Japan. It showed that the risk of household property crime in Japan was associated with homeownership and social disorder. Consistent with patterns identified previously using police recorded crime data, **Chapter 6** also reported evidence of a crime drop apparent in the JPSS data analysed in this thesis; the mean level of household property crime fell by about 3% between 2007 and 2018 (2007: 6.5%, 2018; 3.1%). The findings presented in **Chapter 6** are the first steps toward better understanding of the patterns and predictors of household property crime in contemporary Japan. However, many important questions remain. For example, it is still uncertain whether the reductions in household property crime observed in

the JPSS are due to a decline in the prevalence rate and/or that of the number of household property crime victimisations per household. In addition, since **Chapter 6** focused only on those who have been victimised more than once (victims) and those who have never (non-victims), it is not yet known how prevalent repeat victimisation is, and what, if any, factors differentiate repeat victims from other groups (i.e. those who have experienced victimisation once and those who were never victimised).

This chapter empirically explores patterns of repeat victimisation of residential burglary and vandalism in Japan. Specifically, using the 2007-2018 JPSS and the 2005-2015 census, this chapter seeks to investigate what individual/household- and neighbourhood-level factors distinguish repeat victims of residential burglary and vandalism from single and non-victims. Residential burglary and vandalism are analysed separately here since their probabilities of occurrence and severity differ.

The research question for this chapter is thus:

- *What are the patterns and predictors of repeat residential burglary and vandalism in Japan?*

Drawing on prior research, relevant theories and the findings from **Chapter 6**, the following hypotheses are tested.

1. Homeownership will reduce the risk of repeat residential burglary and vandalism victimisation. Homeownership is expected to decrease the likelihood of repeat residential

burglary and vandalism victimisation since owner-occupation houses are more likely to have security measures than rented houses.

2. Detached house will increase the risk of repeat residential burglary and vandalism victimisation. From the perspective of the routine activity approach, it is hypothesised that detached house increases the risk of repeat residential burglary and vandalism victimisation.
3. Social support will reduce the risk of repeat residential burglary and vandalism victimisation. From the perspective of the social disorganisation theory, social support can be effective in reducing the levels of the risk of repeat residential burglary and vandalism victimisation.
4. Community policing will increase the risk of repeat residential burglary and vandalism victimisation. The frequency of seeing community policing can be associated with higher risks of repeat residential burglary and vandalism victimisation

The remainder of this chapter is organised as follows. The next section briefly reviews the literature on repeat victimisation and describes the boost and flag explanations of repeat victimisation. The method and measures used in this chapter are then described. The results of multilevel logistic regression predicting the patterns and predictors of repeat residential burglary and vandalism then follow. This chapter closes by suggesting implications for future (repeat) victimisation research and crime prevention in Japan.

7.2 Literature Review

7.2.1 Repeat Victimisation

Repeat victimisation[6] refers to cases where, within a specific period of time, the same victim experiences the same type(s) of crimes. Previous research has established that crime is disproportionally distributed; a small number of people and places experience a large number of offences (Farrell, 1995; Farrell, Tseloni, et al., 2005; Farrell & Pease, 1993; McVie et al., 2020; Park & Eck, 2013; Pease et al., 2018; Weisel, 2005). Previous victimisation is one of the most powerful predictors of future (repeat) victimisation (Farrell, 1995; Farrell & Pease, 2001; Osborn et al., 1996; Osborn & Tseloni, 1998; Park, 2015; Park & Eck, 2013; Pease, 1991; Weisel, 2005). In the United States, the National Youth Survey demonstrated that 10% of respondents accounted for 55% of all reported criminal victimisations over the 17-year study period (Menard, 2000). In the United Kingdom, Trickett et al. (1992) examined the national victimisation survey (later called the BCS) and revealed that the number of victimisations per victim (person or household) increased in the area with high crime rates, which led to the conclusion that repeat victimisation is the main indicator of crime rates. Using the BCS, Weisel (2005) also reported that 19% of victims experienced 40% of all residential burglaries and 24% of victims experienced 46% of all car crimes over the 25-year period. Understanding the patterns of repeat victimisation is very important not only for crime reduction but also for the efficient deployment of crime prevention and investigation resources (Farrell, 1995; Farrell & Pease, 1997; Ignatans & Pease, 2015; McVie et al., 2020; Weisel, 2005).

[6] "A variety of different terms have arisen to refer to the same phenomenon: revictimization, multiple victimization, repeat victimization, multivictimization, repetitive victimization, and recidivist victimization" (Farrell, 1995, p. 473). However, more resent research has differentiated these phenomena; repeat victimisation refers to the repeated victimisation of the same type of crime, and multiple victimisation refers to that of different types of crime (Outlaw, 2002). The thesis follows the later definition of repeat and multiple victimisation.

Some preliminary work on the phenomenon of repeat victimisation was carried out in the 1970s; however, repeat victimisation has especially received much attention in the last three decades (Farrell, 1995). In fact, since repeat victimisation has been the major concern in the field of crime prevention, especially in England and Wales (Bottoms & Costello, 2010; Farrell et al., 2002; Farrell & Pease, 2001; Park & Eck, 2013; Trickett et al., 1992), many studies on repeat victimisation have been published there since around the 1990s (Bottoms & Costello, 2010; Bowers et al., 1998; Chenery et al., 2002; Ellingworth et al., 1995; Farrell, 1992; Farrell et al., 1995; Farrell et al., 2005; Farrell & Pease, 1993, 1994; Hope et al., 2001; Hope & Trickett, 2008; Hopkins & Tilley, 2001; Ignatans, 2020; Johnson, 2008; Johnson et al., 1997, 2009; McVie et al., 2020; Osborn et al., 1996; Osborn & Tseloni, 1998; Park & Eck, 2013; Ratcliffe & Mccullagh, 1998; Trickett et al., 1992; Tseloni, 2006; Tseloni & Pease, 2005, 2015; Wiles et al., 2003).

The characteristics of repeat victimisation of different types of crime have been analysed using different data sources. This section reviews the literature on the distribution of criminal victimisation. A lot of prior research on repeat victimisation has used national victimisation surveys. In the United States, the NCVS has been popularly used to determine the patterns and predictors of repeat victimisation (Clay-Warner et al., 2016; Farrell et al., 2005; Hart et al., 2005; Park, 2015; Planty & Strom, 2007; Tseloni & Pease, 2003, 2004; Ybarra & Lohr, 2002). For instance, Tseloni and Pease (2003, 2004) used the 1994 NCVS to determine the patterns and predictors of aggregated personal crime (sexual offence, robbery, assault, threat, pickpocketing and larceny). Their multilevel negative binomial model analysis revealed that sex, marital status, single parent, routine activities (the frequency of using public transport) and length of residence were found to be associated with the risk of repeat personal crime.

Several studies in the United Kingdom have used the CSEW to investigate the distribution of different types of crime, such as residential burglary (Chenery et al., 2002; Morgan, 2001; Osborn & Tseloni, 1998; Tseloni & Pease, 2005; Wiles et al., 2003), vandalism (Osborn & Tseloni, 1998), household property crime (Ellingworth et al., 1995; Farrell, Clark, et al., 2005; Hope et al., 2001; Ignatans, 2020; Tseloni, 2006; Tseloni & Pease, 2005), personal crime (Ellingworth et al., 1995; Farrell et al., 2005; Ignatans, 2020; Trickett et al., 1992; Tseloni & Pease, 2005), robbery (Farrell & Pease, 1993; Tseloni, 2006; Tseloni & Pease, 2005; Wiles et al., 2003), motor vehicle theft (Ignatans, 2020; Tseloni & Pease, 2005), and domestic violence (Farrell & Pease, 1993). Ellingworth et al. (1995), for example, analysed four sweeps of the BCS (1982, 1984, 1988 and 1992), and they revealed that about 60 to 70% of household property crime victims are repeat victims. Osborn and Tseloni (1998) used the 1992 BCS and the 1991 census to analyse the factors associated with the number of residential burglary and vandalism. Their negative binomial regression analysis showed that prior victimisation, increased age of head of household, the number of adult members and cars in household, non-manual occupations, terraced house and living in the second floor or above, length of residence, area-level number of cars per household, a ratio of population who are 5 to 15 years old, and inner city were found to be statistically related to higher risks of repeat residential burglary, and prior victimisation, the number of adult members and cars in household, living in social housing, terraced house, length of residence, area-level number of cars per household and private rented housing and ratios of population who are 5 to 15 years old and who are from the Indian subcontinent were found to be statistically related to higher risks of repeat vandalism.

Research on repeat victimisation during the crime drop is also available, though its number is limited. Using the data from the CSEW for over 30 years, Ignatans and Pease (2015) reported that during the crime drop the amount of victimisation of the top 10% of most victimised households drastically decreased; however, the ratio of total criminal victimisation experienced by them rose. Their subsequent research (Pease & Ignatans, 2016) provided additional evidence for the disproportional distribution of victimisation risk during the international crime drop. Using the ICVS data, they reported that from 1992 to 2000, while the number of property crime (burglary, attempted burglary, theft from garage) decreased by 30%, the proportion of victimisation experienced by the most suffered group increased by 43%. Longitudinal empirical research in Scotland also reported that, during the crime drop, the risk of criminal victimisation has been disproportionately distributed to a few particular groups (McVie et al., 2020). Specifically, using eleven sweeps of the Scottish victim survey from 1992 to 2014/2015, they performed latent class analysis and revealed that while 82.3% of respondents showed almost zero probability of being victimised, 5.7% of those showed the risk of multiple victimisation per year.

7.2.2 Distinguishing Repeats from Single and Non-Victims

Several studies have examined the characteristics of repeat victims in comparison to those who have been victimised once and those who have never been victimised. For example, Gabor and Mata (2004), using victimisation survey data from Canada, found that those who are 25-34, 35-44 and 45-54 and with technical college education, and live in British Columbia showed higher levels of repeat violent and property crime than those who are 75 years and over and with a high school diploma, and live in the Atlantic provinces. Fagan and Mazerolle (2011) used a longitudinal delinquency study in Queensland, Australia, to investigate the predictors of serious offences (fighting, hurting or beating someone, offences involving firearms, sexual coercion,

robbery and break-in) victimisation. The results of the logistic regression revealed that those who are male, older and move their houses frequently were more likely to be repeat victims of youth serious offences than others.

Some prior research has focused on the characteristics of repeat victims and single victims. For instance, Faergemann et al. (2010) analysed the medical records of interpersonal violence victims in Sweden to determine the demographic and socioeconomic characteristics of repeat victims which distinguish them from single victims. Using logistic regression, they found that those who are pensioners, unemployed, experience high levels of household crowding, and live in single-person households were likely to show higher risks of repeat victimisation. Planty and Strom (2007) employed the NCVS from 1993 through 2000 to analyse the factors which distinguish repeat violent crime (sexual offence, robbery and assault) victims from single violent crime victims. The findings from their logistic regression demonstrated that those who are younger, Hispanic black and divorced were likely to show a higher risk of repeat violent crime victimisation.

7.2.3 The East Asian Context

Empirical research on repeat victimisation has gained attention in many Western advanced countries. Very little is, however, currently known about the risk of repeat victimisation in the Asian context. Using the KNCVS, Park (2015) analysed the correlates of repeat household crime victimisation (robbery through criminal trespass, burglary, criminal trespass, other trespasses, vandalism, vandalism through criminal trespass, motor vehicle theft, and motor vehicle damage). The results of the zero-inflated negative binominal analysis demonstrated that the introduction of security measures or participating in community policing in neighbourhoods has preventive effects on household victimisation.

Lee and Jo (2017) drew on data from the national youth panel survey to examine the determinants of repeat victimisation in South Korea, focusing on sex differences. They reported that the likelihood of repeat victimisation is affected by routine activities/lifestyle, social control and strain. Specifically, factors that increased the risk of repeat victimisation were strain from peers, being abused at home, drinking, smoking, and for girls specifically, hanging out with deviant peers and being involved in nonviolent delinquency. The findings from these two studies in South Korea are consistent with those in Western industrialises countries; social disorganisation and risky activities increase the likelihood of repeat victimisation (Sampson & Groves, 1989; Tseloni et al., 2010; Tseloni & Pease, 2015).

Zhu et al. (2021) used the 2009-2010 Child Victimization Survey from five major cities in China to examine the individual-level variables which distinguish single and repeat victims of five different types of crime (conventional crime including robbery, theft and vandalism), maltreatment, victimisation by peers and siblings, and indirect victimisation) from non-victims. The findings from their multinomial logistic regression model suggested that different demographic characteristics of children were statistically significant in distinguishing one-time and repeat victims from non-victims; single parents, unemployed fathers and having siblings were found to be the decisive factors which distinguished repeat victims from one-time victims and non-victims, though these variables did not distinguish single victims from non-victims.

More recent research in Taiwan (Kuo et al., 2022) gives an insight into the patterns of repeat burglary victimisation in the East Asian context. Using the survey data and the police-recorded burglary data, they provided additional support to the concentration of repeat burglary

victimisation. Specifically, it was revealed that the top 10% most burgled households consisted of 30% of reported burglary victimisation.

While the studies discussed above have provided insight into the patterns of repeat victimisation in certain parts of Asia, a question regarding the applicability of these patterns specifically to the Japanese context remains to be addressed. In Japan, research on spatiotemporal concentration of crime (near repeat victimisation) is available (Amemiya et al., 2020; Hino & Amemiya, 2019; Kikuchi, 2015); however, that on repeat victimisation is limited. For instance, Hino and Amemiya (2019) analysed the 2005-2014 police data on Fukuoka city, the 6th largest city in Japan, to investigate the distribution of residential burglary in multifamily housing. Of 8,118 cases of residential burglary in multifamily housing reported to the police during the reference period, around one-third were repeat victimisation. Although their research provided insight into the concentration of residential burglary on specific groups in Japan, they did not examine the characteristics of repeat-victimised households. As far as the author is aware, no studies have analysed repeat victimisation nationwide during the crime drop in Japan. This chapter, therefore, aims to empirically bridge this gap by examining the nationwide social survey and the census.

7.2.4 Boost and Flag Explanations

But why does repeat victimisation occur? Tseloni and Pease (2004, pp. 931–932) argued that "we need to understand whether repeat victimization reflects risk which attended the target and led to each offence against it, or whether prior victimization communicates something to the offender which leads to the risk's increasing". An early attempt presented three possible reasons for repeat burglary victimisation: 1) the same offender returns to the same location, 2) the offender tells his or her group members of the target, and then they commit the second offence, or 3) the

characteristics of the residence is attractive to all motivative offenders (Polvi et al., 1991). Two explanations have been advanced to account for these three patterns of repeat victimisation; "boost" and "flag" (Bottoms & Costello, 2010; Bowers & Johnson, 2004; Hope & Trickett, 2008; Johnson, 2008; Johnson et al., 2009; Lantz & Ruback, 2017; Park, 2015; Park & Eck, 2013; Pease, 1998; Tillyer, 2014; Tseloni & Pease, 2003; Turchan et al., 2019; Wang & Liu, 2017; Weisel, 2005). This section reviews these two accounts of repeat victimisation and the related literature.

The boost theory suggests that offenders obtain knowledge from the first offence and utilise this for reoffending by either themselves or their associates. Thus, the boost explanation applies to the first two types of repeat victimisation described above. On the whole, "the longer victimization history, the closer to certainty is the probability of suffering a subsequent crime" (Tseloni & Pease, 2004, p. 932). In the context of residential burglary, the offender gains knowledge or information on how to access the property, how to break or overcome the installed security, and when the property is unguarded from the initial offence (Weisel, 2005). This explanation accords with the rational choice perspective (Clarke & Cornish, 1985; Farrell et al., 1995; Lantz & Ruback, 2017) discussed in **Chapter 3**; if the offence is successful, the offender (or his or her associates) may choose the same target again.

The flag theory, on the other hand, speaks to the idea that certain targets have higher attractiveness or vulnerability for all potential offenders. Consequently, those targets are more likely to be victimised by different criminals, and their probability of being victimised is not influenced by their victimisation history (vulnerability or heterogeneity). As Lantz and Ruback (2017, p. 1068) write, "A flagged residence may have particularly poor lighting or security, although still appearing to be wealthy or affluent enough for the expected reward to be worth the risk".

Previous research has tested these two explanations on repeat victimisation (Bowers & Johnson, 2004; Braga et al., 2018; Hope & Trickett, 2008; Johnson, 2008; Johnson et al., 2009; Lantz & Ruback, 2017; Osborn et al., 1996; Osborn & Tseloni, 1998; Park, 2015; Pease, 1998; Tseloni & Pease, 2003, 2004). Some scholars have suggested that the boost explanation is preferred. For example, Bennett's (1995) interviews with residential burglars in Cambridge reported that a majority of the interviewed offenders said they had returned, and about half of them chose the targets who had been burgled by the members of their subgroups. Johnson's (2008) simulation experiment on repeat burglary victimisation in the United Kingdom tested both boost and flag theories by using the crime record and census data. His conclusion provided support for the boost model. Although the contribution of each theory might depend on types of crime, the flag model alone did not seem enough to account for the temporal patterns of repeat victimisation; that is, taking repeat residential burglary as an example, it has been shown in the Western countries that repeat victimisation is likely to happen quickly after the first victimisation (Johnson, 2008; Johnson et al., 1997; Polvi et al., 1991; Ratcliffe & Mccullagh, 1998; Sagovsky & Johnson, 2007; Townsley et al., 2000; Weisel, 2005). A subsequent research on repeat burglary and theft from vehicle (Johnson et al., 2009) also revealed that offences of these two types of crime clustered in space and time, and those occurring closest to each other tended to be committed by the same offender. Using hierarchical linear modelling, an empirical study on repeat residential burglary in the United States (Lantz & Ruback, 2017) lent further evidence to support the boost account; repeat offences were likely to be committed by those from the same subgroups. Pease (1998) suggested that if the victims do not change the characteristics of their residence after the first burglary, such as the introduction of security measures, they might be targeted again by the same offenders.

7.3 Method

This chapter first looks at the distribution of victimisation of residential burglary and vandalism amongst the respondents during the reference period of the JPSS by sweep and sample point. Lorenz curves for victims of residential burglary and vandalism are displayed to show the concentration of victimisation. A series of multilevel logistic regressions are then performed to determine the patterns and predictors of repeat residential burglary and vandalism victimisation.

7.3.1 Patterns and Predictors of Repeat Victimisation

The empirical studies in **Chapters 6 and 8** are concerned with household property crime which consists of residential burglary and vandalism. Using multilevel logistic regression, this chapter analyses residential burglary and vandalism separately because different characteristics could place households at risk of experiencing recurrent victimisation of different types of crime (Osborn & Tseloni, 1998). Two separate models are tested to examine the predictors of repeat victims of residential burglary and vandalism. Model A compares repeat victims with other groups. Model B addresses the factors which distinguish repeat victims from single victims.

7.3.1.1 Dependent Variables

Dichotomous dependent variables are created to examine the predictors of repeat victimisation for residential burglary and vandalism. Two comparisons are examined, A and B, for both residential burglary and vandalism. In comparison A, repeat victims are coded 1 and others (single victims and non-victims) are coded 0. Capping the number of victimisations is performed here due to the low number of victimisations in the data. In comparison B, repeat victims are coded 1 and single victims are coded 0. Those who have never been victimised are hence excluded from

comparison B. This approach is used in previous repeat victimisation research (Gabor & Mata, 2004). Specifically, comparison A sets out to investigate "the basic markers" of, and comparison B aims to understand "threshold factors" of repeat victimisation (Gabor & Mata, 2004, p. 205). Descriptive statistics relating to these dependent variables are presented in **Table 7-1.**

Table 7-1 Descriptive Statistics of Repeat Victimisation

Variable	Mean	S. D.	Min	Max
repeat residential burglary victimisation	0.023	0.148	0.000	1.000
repeat vandalism victimisation	0.028	0.166	0.000	1.000

7.3.1.2 Independent Variables

The independent variables considered in this chapter are the same as those used in **Chapter 6,** thereby allowing us to compare the patterns and predictors of victimisation per se with those of repeat victimisation.

7.3.1.3 Analytical Strategy

As with **Chapter 6**, three analytic models are tested for each set of comparisons. Model 1 is the trend-only model which includes only the year variables. Model 2 is the pooled model without the survey year variables; individual/household- and municipal-level variables are included in the analysis. Model 3 is the full model; the year, individual/household- and municipal-level variables are included. **Table 7-2** summarises the comparisons and models for the analysis in this chapter.

Table 7-2 Models for the Analysis

DV	Comparisons	Models
Residential burglary	A: Repeat victims versus other groups	1: year variables only
		2: 1 + individual & household variables
		3: 2 + neighbourhood variables
	B: Repeat victims versus single victims	1: year variables only
		2: 1 + individual & household variables
		3: 2 + neighbourhood variables
Vandalism	A: Repeat victims versus other groups	1: year variables only
		2: 1 + individual & household variables
		3: 2 + neighbourhood variables
	B: Repeat victims versus single victims	1: year variables only
		2: 1 + individual & household variables
		3: 2 + neighbourhood variables

7.4 Results

This section reports the distribution of victimisation of residential burglary and vandalism in the JPSS by sweep and sample point, the concentration of victimisation and the results of multilevel logistic regression.

7.4.1 Repeat Victimisation in Japan

Table 7-3 displays the observed distribution of victimisation of residential burglary and vandalism amongst the respondents during the reference period (12 months) of the JPSS by sweep. As expected, a small minority of the sample in every sweep reported experiencing residential burglary and vandalism. Vandalism shows a slightly higher prevalence rate than residential burglary; however, the prevalence rates of both crime types are quite low throughout four sweeps.

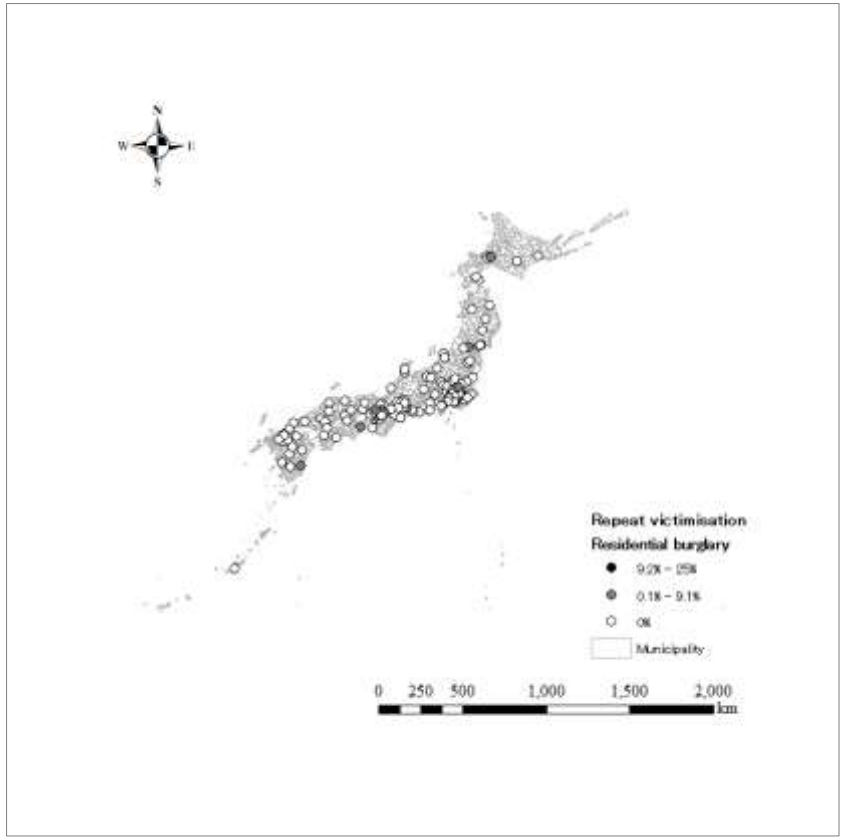
In total, 2.0% of respondents reported residential victimisation and 2.4% of those reported vandalism victimisation.

Table 7-3 Prevalence of victimisation 2007-2018

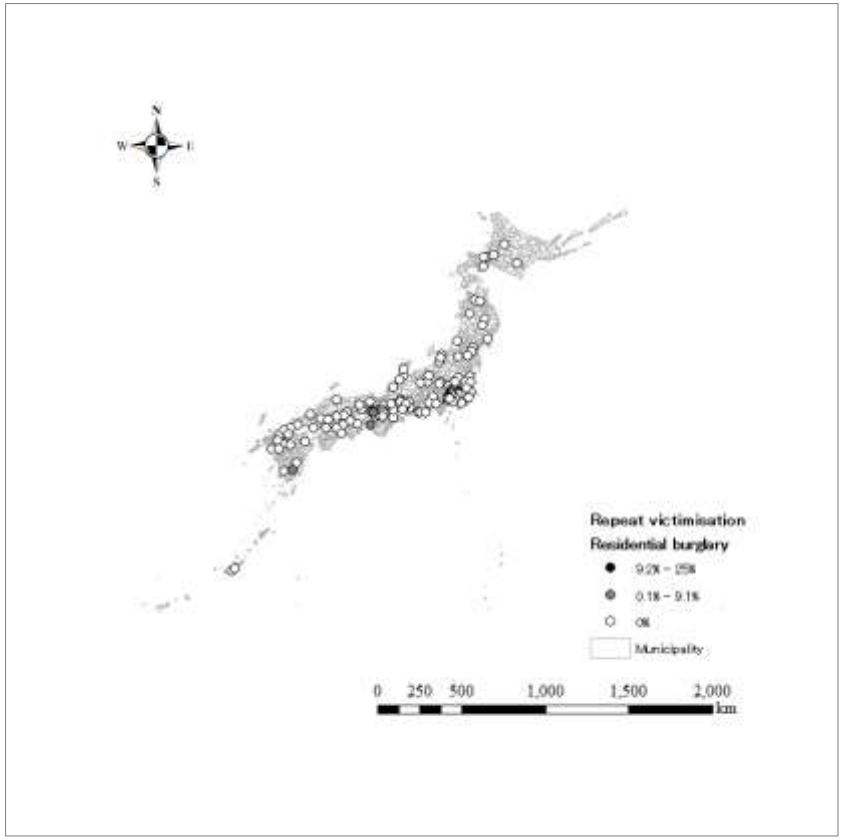
		2007	2010	2014	2018	Total
Residential burglary	**Yes**	52	29	39	25	145
		2.9%	1.5%	1.9%	1.5%	2.0%
	No	1727	1949	1989	1602	7267
		97.1%	98.5%	98.1%	98.5%	98.0%
Vandalism	**Yes**	72	42	38	28	180
		4.0%	2.1%	1.9%	1.7%	2.4%
	No	1707	1936	1990	1599	7232
		96.0%	97.9%	98.1%	93.1%	97.6%
Total	**Yes**	124	71	77	53	325
		3.5%	1.8%	1.9%	1.6%	2.1%
	No	3434	3885	3979	3201	14499
		96.5%	98.2%	98.1%	98.4%	97.9%

Figure 7-1 and **Figure 7-2** show the victimisation risk of repeat residential burglary and vandalism by sample points for each survey year. They reveal that metropolitan areas, such as Tokyo and Osaka, generally exhibit higher levels of repeat victimisation risk.

2007


Repeat victimisation
Residential burglary
0.2% – 25%
0.1% – 0.1%
0%
Municipality
0 250 500 1,000 1,500 2,000
km

2010


Repeat victimisation
Residential burglary
0.2% – 25%
0.1% – 0.1%
0%
Municipality
0 250 500 1,000 1,500 2,000
km

2014 **2018**

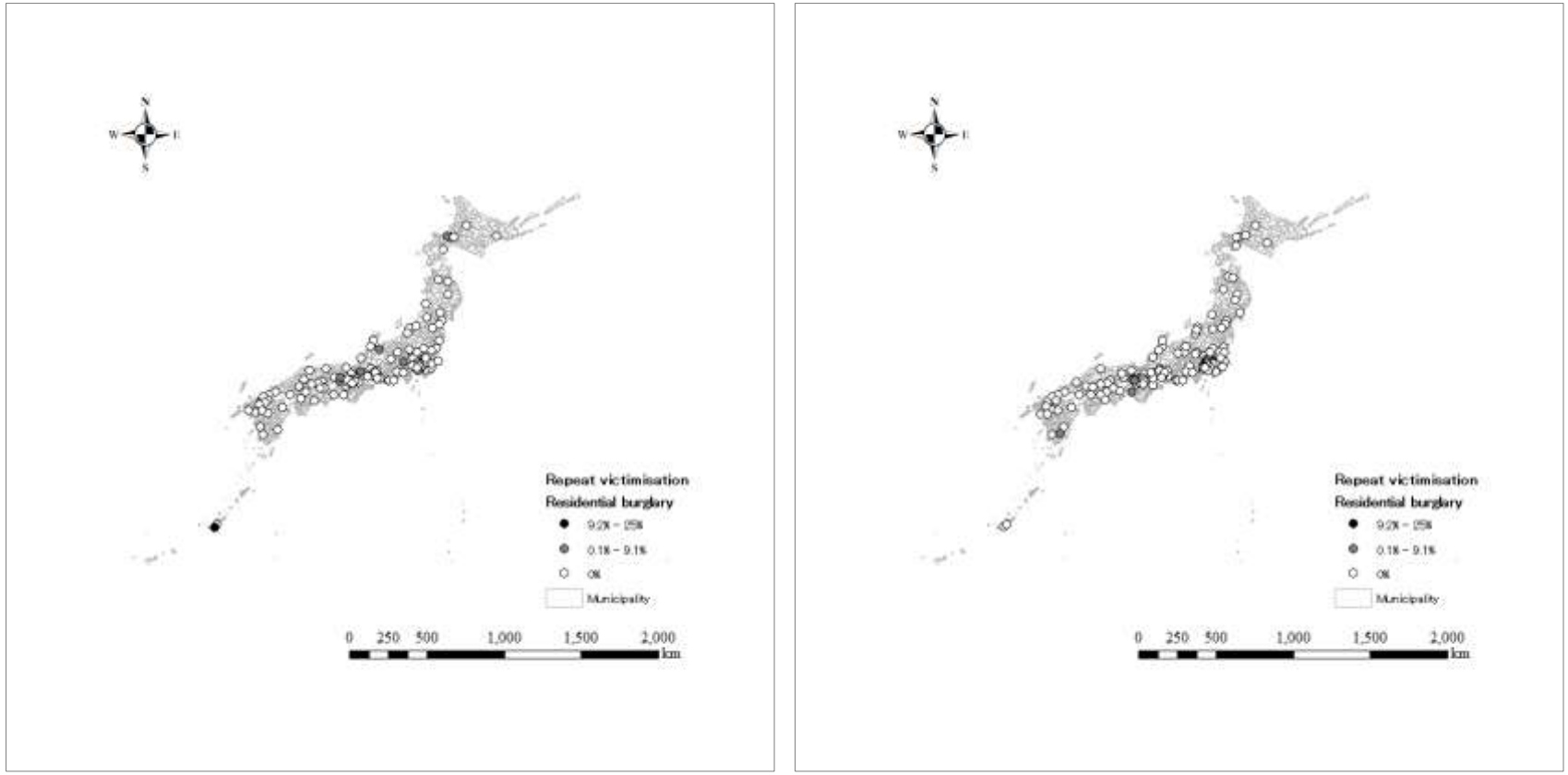
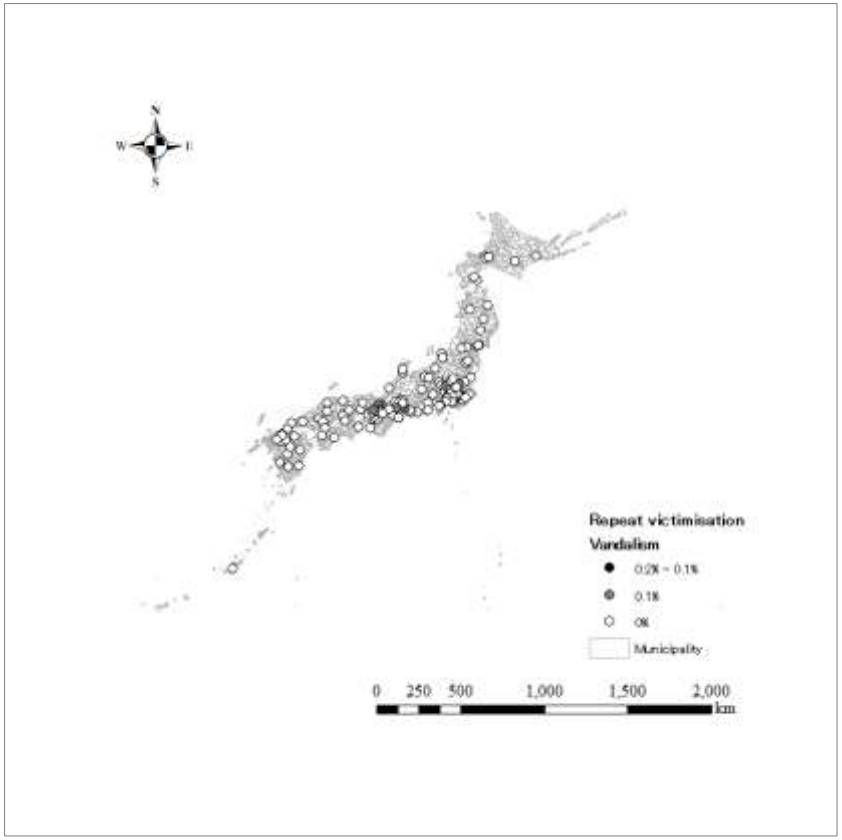
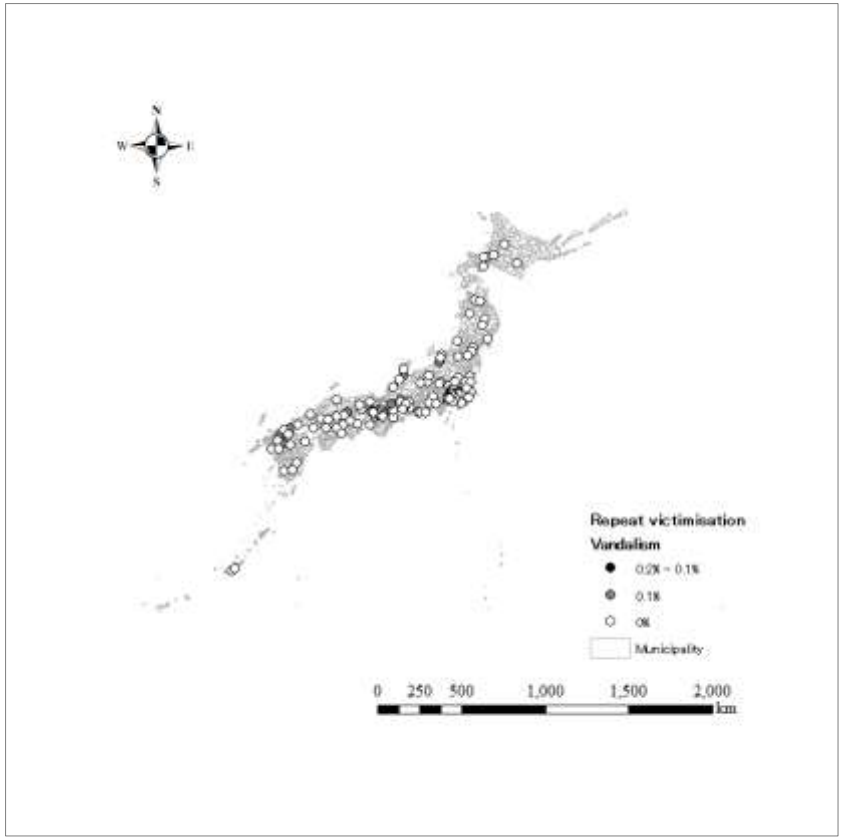


Figure 7-1 The Risk of Repeat Residential Burglary Victimisation by Sample Points

2007


N
W
E
S
Repeat victimisation
Vandalism
0.2% - 0.1%
0.1%
0%
Municipality
0 250 500 1,000 1,500 2,000
km

2010


N
W
E
S
Repeat victimisation
Vandalism
0.2% - 0.1%
0.1%
0%
Municipality
0 250 500 1,000 1,500 2,000
km

2014 **2018**

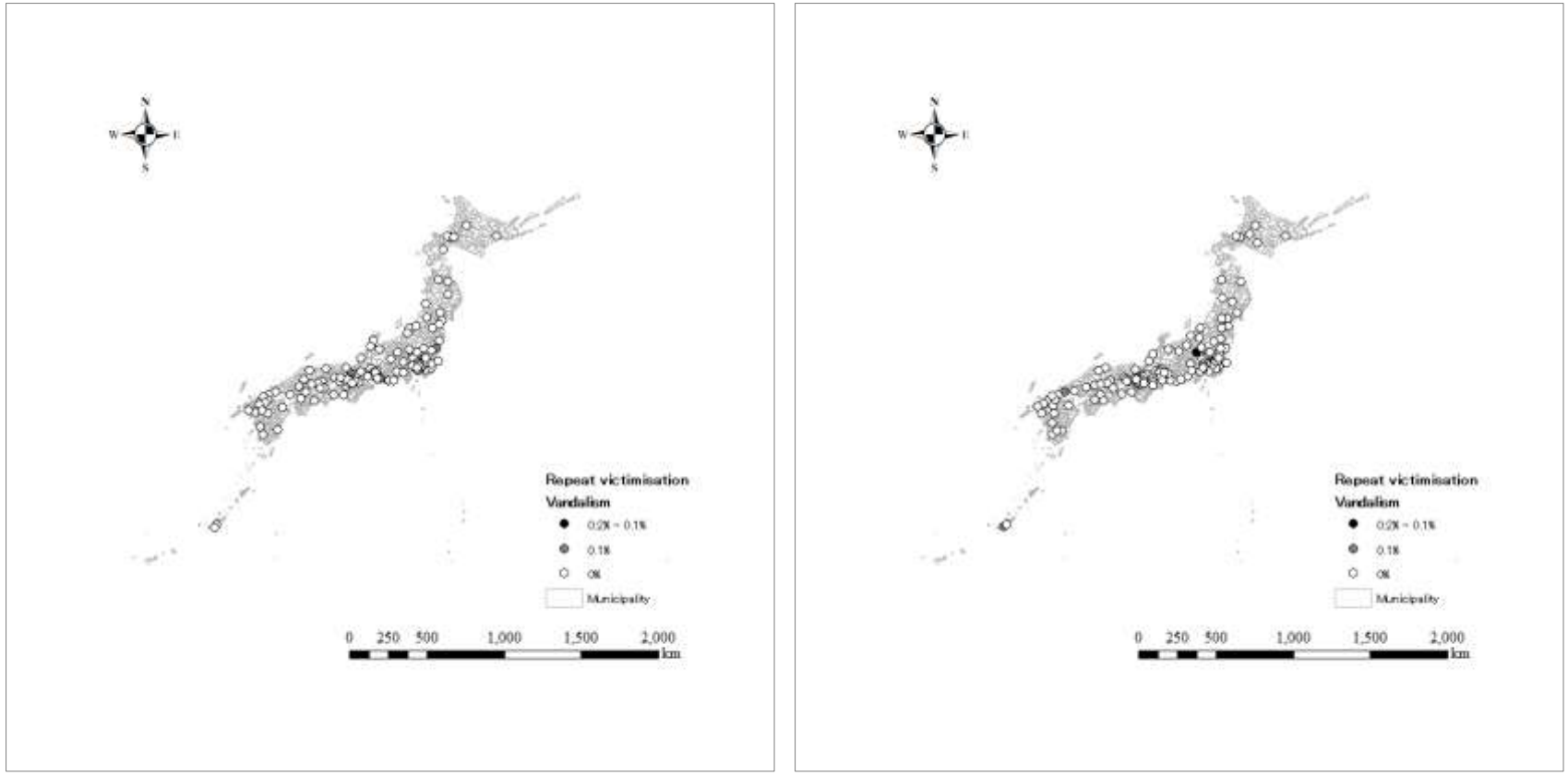


Figure 7-2 The Risk of Repeat Vandalism Victimisation by Sample Points

Table 7-4 displays the observed distribution for residential burglary and vandalism victimisation. It demonstrates the skewed distribution of residential burglary and vandalism. The households that had been burgled more than twice accounted for 17.3% of the total number of households that reported residential burglary in the JPSS. The households that had been vandalism more than twice accounted for 23.6% of the total number of households that reported vandalism in the JPSS. The ratio of repeat victims to all victims differs depending on the crime type and survey sweep. For example, while 30.8% of residential burglary victims were repeat, its percentage dropped to 16.0% in 2018.

Table 7-4 Observed Distribution for Victimisation 2007-2018

	Frequency									
	Residential burglary					**Vandalism**				
N of crimes	**2007**	**2010**	**2014**	**2018**	**All**	**2007**	**2010**	**2014**	**2018**	**All**
0	1727	1949	1989	1693	7358	1707	1936	1991	1690	7324
1	41	24	27	21	113	58	27	29	23	137
2	10	2	9	2	23	11	7	5	2	25
3	1	2	1	1	5	1	4	1	1	7
4	0	1	0	0	1	1	0	2	0	3
5	0	0	1	0	1	1	1	0	0	2
6	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	1	0	1	2
8	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0
10	0	0	1	0	1	0	2	0	0	2
11	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0
15	0	0	0	1	1	0	0	0	1	1
Total	1779	1978	2028	1718	7503	1779	1978	2028	1718	7503
% Repeat victims of all victims	21.1	17.2	30.8	16.0	17.3	19.4	35.7	21.6	17.9	23.6

Lorenz curves are a useful method to graph the distribution of victimisation, and have been used in recent criminological studies (Amemiya & Ohyama, 2019; Bernasco & Steenbeek, 2017; Farrell, 1995; Hardyns et al., 2019; Levin et al., 2017; Mohler et al., 2019; Musah et al., 2020; O'Brien, 2019; Schnell et al., 2017; Steenbeek & Weisburd, 2016; Tseloni & Pease, 2005; Vandeviver & Steenbeek, 2019). This helps the researcher assess how the risk of victimisation varies among populations (Tseloni & Pease, 2005). **Figure 7-3** and **Figure 7-4** display Lorenz curves for residential burglary and vandalism in the JPSS. The x-axis represents the cumulative percentage of victims, and the y-axis represents that of victimisations. The Gini coefficients are as follows: for residential burglary 0.90 in 2007, 0.89 in 2010, 0.87 in 2014 and 0.90 in 2018; for vandalism 0.90 in 2007, 0.84 in 2010, 0.89 in 2014 and 0.88 in 2018. They demonstrate that for both residential burglary and vandalism, the later survey year shows more concentrated victimisation. This suggests that during the crime drop, some specific groups of people have experienced elevated risks of residential burglary and vandalism.

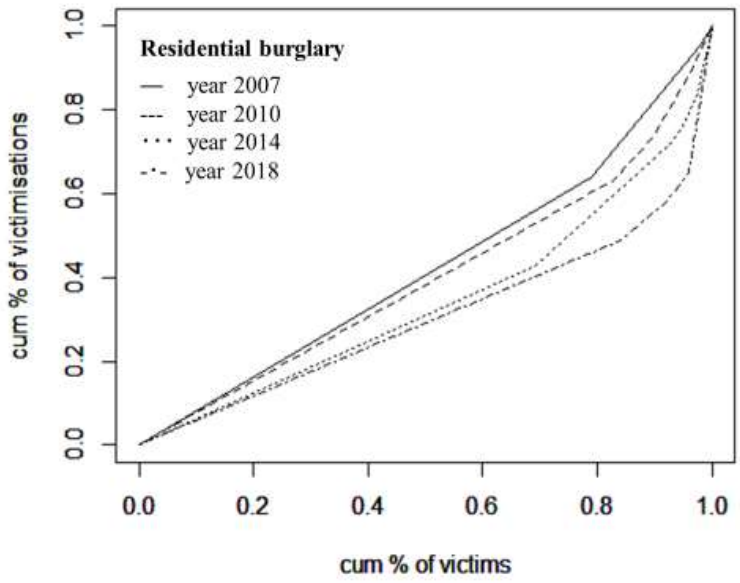


Figure 7-3 Lorenz Curves for 2007 – 2018 Residential Burglary

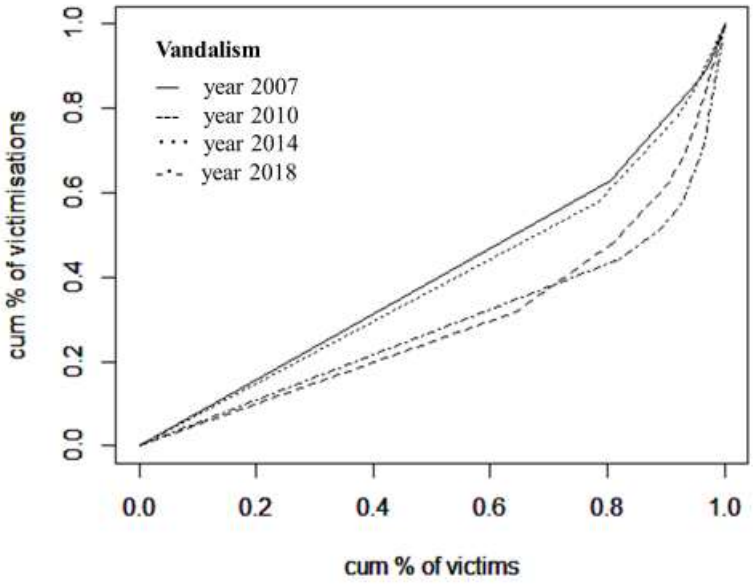


Figure 7-4 Lorenz Curves for 2007 – 2018 Vandalism

7.4.2 Patterns and Predictors of Repeat Victimisation

This section reports the results of a series of multilevel logistic regression models.

7.4.2.1 Residential Burglary

To make sense of the patterns and predictors of repeat residential burglary victimisation, two series of analyses are performed: repeat victims versus other groups and repeat victims versus single victims.

7.4.2.1.1 Repeat Victims Versus Other Groups

Table 7-5 presents the results of multilevel logistic regression predicting the factors which distinguish repeat victims of residential burglary from all other groups (comparison A). Two variables are found to be statistically significant predictors: social support and university degree.

The results demonstrate that no year variable was associated with the risk of repeat victimisation of residential burglary. In other words, the levels of repeat victimisation are not statistically affected by year. At the individual/household-level variables, the final model demonstrates that social support (*OR* = 0.581, p<.05) statistically reduces the risk of repeat residential burglary victimisation. At the neighbourhood level, the ratio of residents who have university degrees (*OR* = 1. E + 06, p<.05) increases the likelihood of repeat residential burglary victimisation. Put differently, those who receive social support are likely to show lower levels of repeat residential burglary risk than the reference groups, and those who live in the neighbourhoods with a higher ratio of residents with university degrees are more likely to be repeat victims of residential burglary than other groups. The population density is negatively associated with repeat residential burglary victimisation in Model 2; however, its impact disappeared after controlling for the influences of the survey year variables in the final model.

Table 7-5 Multilevel Logistic Regression of Predictor Factors on Repeat Residential Burglary Victimisation (Comparison A)

		Model 1				Model 2				Model 3			
	Variable	OR	SE	z		OR	SE	z		OR	SE	z	
Trend													
	year 2010	0.409	0.224	-1.630						0.363	0.258	-1.430	
	year 2014	0.952	0.409	-0.120						0.740	0.497	-0.450	
	year 2018	0.368	0.219	-1.680						0.421	0.343	-1.060	
Lv. 1													
	female					1.612	0.632	1.220		1.615	0.633	1.220	
	age					1.106	0.148	0.750		1.116	0.151	0.810	
	n of family members					1.004	0.145	0.030		1.000	0.146	0.000	
	homeownership					0.609	0.374	-0.810		0.655	0.406	-0.680	
	detached house					2.217	1.470	1.200		2.035	1.365	1.060	
	annual household income					1.043	0.390	0.110		1.044	0.391	0.120	
	social support					0.591	0.139	-2.240	*	0.581	0.138	-2.290	*
Lv. 2													
	social disorder					1.049	0.524	0.100		0.993	0.516	-0.010	
	physical disorder					0.336	0.218	-1.680		0.388	0.272	-1.350	
	community policing					1.405	0.355	1.350		1.384	0.348	1.290	
	population density					1.000	0.000	-2.120	*	1.000	0.000	-1.920	
	ratio of daytime and night-time population					1.007	0.008	0.900		1.009	0.008	1.180	

(Continued)

	population: 15 years old or under					1.164	0.208	0.850		1.184	0.212	0.950	
	population: 65 years and over					0.994	0.083	-0.070		1.027	0.086	0.320	
	residential turnover					1.253	0.289	0.980		1.187	0.289	0.710	
	ratio of woman-headed households					3.54E+10	2.51E+12	0.340		2.28E+12	1.69E+14	0.380	
	taxable income per person					1.000	0.000	-0.700		1.000	0.000	-0.880	
	unemployment rate					1.069	0.146	0.490		1.073	0.178	0.420	
	ratio of manufacturing industry					0.001	0.002	-1.730		0.000	0.001	-1.880	
	ratio of service industry					0.000	0.002	-1.810		0.000	0.002	-1.860	
	university degree					8.E+04	4.E+05	1.980	*	1.E+06	7.E+06	2.170	*
	_cons	0.005	-0.002	10.800	***	0.024	0.145	-0.620		0.015	0.088	-0.700	
	n of observations	7503				6018				6018			
	n of groups	434				406				406			
	jiscode												
	var(_cons)	0.612	0.843			1.40E-32	1.08E-16			1.78E-32	3.39E-16		

Note: *p< .05; **p<.01; ***p<.001

7.4.2.1.2 Repeat Victims Versus Single Victims

Table 7-6 the results of multilevel logistic regression predicting the factors which distinguish repeat victims of residential burglary from single victims (comparison B). Two variables are found to be statistically significant predictors: social support and the ratio of manufacturing industry. The year 2018 is the predictor variable of the lower levels of repeat residential burglary victimisation in Model 1; however, its effect is not observed after controlling for other variables in Model 3. At the individual/household level, social support (*OR* = 0.499, p<.05) decreased the likelihood of being repeat victims of residential burglary. At the neighbourhood level, a greater ratio of manufacturing industry (*OR* = 3.48E - 06, p<.05) was found to be associated with lower levels of repeat residential burglary. In other words, those who have social support are less likely to be repeatedly victimised of residential burglary, while those who live in municipalities where the percentage of manufacturing industry is larger than in other municipalities are more likely to be repeat victims of residential burglary. In Model 2, the population density is negatively, and the unemployment rate is positively associated with the risk of repeat residential burglary victimisation; however, their effects are not observed in Model 3 which controlled survey years.

Table 7-6 Multilevel Logistic Regression of Predictor Factors on Repeat Residential Burglary Victimisation (Comparison B)

		Model 1				Model 2				Model 3			
	Variable	OR	SE	z		OR	SE	z		OR	SE	z	
Trend													
	year 2010	0.820	0.568	-0.290						1.032	1.067	0.030	
	year 2014	1.751	1.009	0.970						1.331	1.317	0.290	
	year 2018	0.111	0.087	-2.810	**					0.137	0.168	-1.630	
Lv. 1													
	female					1.819	0.921	1.180		1.816	0.946	1.140	
	age					1.049	0.192	0.260		1.031	0.196	0.160	
	n of family members					1.059	0.189	0.320		1.065	0.201	0.330	
	homeownership					1.403	1.088	0.440		1.915	1.569	0.790	
	detached house					0.651	0.514	-0.540		0.615	0.514	-0.580	
	annual household income					0.994	0.504	-0.010		0.749	0.381	-0.570	
	social support					0.488	0.148	-2.360	*	0.499	0.156	-2.220	*
Lv. 2													
	social disorder					0.839	0.580	-0.250		0.841	0.629	-0.230	
	physical disorder					0.488	0.397	-0.880		0.370	0.363	-1.010	
	community policing					1.670	0.542	1.580		1.637	0.558	1.440	
	population density					1.000	0.000	-2.080	*	1.000	0.000	-1.810	
	ratio daytime and night-time population					1.010	0.010	0.990		1.017	0.013	1.330	

	population: 15 years old or under					1.195	0.287	0.740		1.214	0.307	0.770	
	population: 65 years and over					0.906	0.103	-0.870		0.989	0.118	-0.090	
	residential turnover					0.931	0.270	-0.250		0.957	0.305	-0.140	
	ratio of woman-headed households					9.02E-19	9.06E-17	-0.410		13.043	1338.191	0.030	
	taxable income per person					0.999	0.000	-1.370		0.999	0.001	-1.360	
	unemployment rate					1.471	0.286	1.990	*	1.068	0.270	0.260	
	ratio of manufacturing industry					0.000	0.000	-2.120	*	3.48E-06	2.E-05	-2.020	*
	ratio of service industry					0.000	0.000	-1.670		0.005	0.029	-0.860	
	university degree					2613089.000	20100000.000	1.920		1182601.000	10800000.000	1.530	
	_cons	0.216	0.124	-2.660	**	270.326	2167.359	0.700		7.110	59.239	0.240	
	n of observations	236				188				188			
	n of groups	157				135				135			
	jiscode												
	var(_cons)	0.886	1.918			7.27E-33	8.64E-17			2.93E-33	4.63E-17		

Note: *p< .05; **p<.01; ***p<.001

7.4.2.2 Vandalism

To make sense of the patterns and predictors of repeat vandalism victimisation, two series of analyses are performed: repeat victims versus other groups and repeat victims versus single victims.

7.4.2.2.1 Repeat Victims Versus Other Groups

Table 7-7 presents the results of multilevel logistic regression predicting the factors which distinguish repeat victims of vandalism from other groups (comparison A). Two variables are found to be statistically significant predictors: social support and social disorder. As with repeat residential burglary victimisation, survey year variables are not found to be significant predictors of the risk of repeat vandalism victimisation. With regard to individual/household- and neighbourhood-level variables, social support (OR = 0.634, $p<.05$) is negatively and perceived social disorder (OR = 5.019, $p<.01$) is positively related to the repeat vandalism victimisation risk. In summary, those who have social support in their neighbourhoods are less likely to experience repeat victimisation of vandalism, and those who perceive higher levels of neighbourhood social disorder are more likely to be at the risk of repeat vandalism victimisation risk than other groups (single victims and non-victims of vandalism).

Table 7-7 Multilevel Logistic Regression of Predictor Factors on Repeat Vandalism Victimisation (Comparison A)

		Model 1				Model 2				Model 3			
	Variable	OR	SE	z		OR	SE	z		OR	SE	z	
Trend													
	year 2010	1.001	0.393	0.000						1.328	0.977	0.390	
	year 2014	0.510	0.234	-1.470						0.709	0.574	-0.420	
	year 2018	0.383	0.205	-1.790						0.467	0.438	-0.810	
Lv. 1													
	female					1.442	0.532	0.990		1.464	0.541	1.030	
	age					1.069	0.134	0.540		1.079	0.135	0.610	
	n of family members					1.259	0.157	1.850		1.254	0.157	1.810	
	homeownership					0.671	0.384	-0.700		0.686	0.393	-0.660	
	detached house					0.960	0.546	-0.070		0.942	0.542	-0.100	
	annual household income					0.662	0.260	-1.050		0.669	0.264	-1.020	
	social support					0.651	0.146	-1.920		0.634	0.142	-2.040	*
Lv. 2													
	social disorder					5.334	2.522	3.540	***	5.019	2.433	3.330	**
	physical disorder					0.334	0.221	-1.650		0.375	0.264	-1.390	
	community policing					1.346	0.319	1.250		1.344	0.318	1.250	
	population density					1.000	7.E-05	-0.420		1.000	0.000	-0.360	
	ratio daytime and night-time population					0.994	0.010	-0.620		0.995	0.010	-0.530	

	population: 15 years old or under					0.817	0.174	-0.950		0.801	0.172	-1.040	
	population: 65 years and over					0.973	0.085	-0.310		0.997	0.091	-0.030	
	residential turnover					1.126	0.270	0.490		1.184	0.287	0.700	
	ratio of woman-headed households					0.015	1.155	-0.060		2.05E+11	1.63E+13	0.330	
	taxable income per person					0.999	0.001	-1.060		0.999	0.001	-0.920	
	unemployment rate					0.989	0.145	-0.080		0.901	0.163	-0.570	
	ratio of manufacturing industry					28037.770	168378.700	1.710		74846.960	481143.800	1.750	
	ratio of service industry					105.076	672.368	0.730		196.533	1365.816	0.760	
	university degree					1016.955	6116.553	1.150		1015.339	7427.469	0.950	
	_cons	0.005	0.002	-12.400	***	0.002	0.015	-0.830		0.001	0.005	-0.890	
	n of observations	7503				6018				6018			
	n of groups	434				406				406			
	jiscode												
	var(_cons)	0.783	0.606			9.97E-32	4.06E-16			7.83E-32	2.86E-16		

Note: *p< .05; **p<.01; ***p<.001

7.4.2.2.2 Repeat Victims Versus Single Victims

Table 7-8 presents the results of multilevel logistic regression predicting the factors which distinguish repeat victims of vandalism from single victims (comparison B). One variable is found to be a statistically significant predictor: social disorder. More specifically, the year 2018 negatively affects the risk of repeat vandalism victimisation in Model 1; however, its impact was not confirmed after controlling individual/household- and neighbourhood-level variables in Model 3. No individual/household-level variables are predictors of repeat vandalism victimisation in Model 3. At the neighbourhood level, perceived social disorder (*OR* = 3.804, $p<.05$) is found to be associated with higher levels of repeat vandalism victimisation risk.

Table 7-8 Multilevel Logistic Regression of Predictor Factors on Repeat Vandalism Victimisation (Comparison B)

		Model 1				Model 2				Model 3			
	Variable	OR	SE	z		OR	SE	z		OR	SE	z	
Trend													
	year 2010	2.546	1.306	1.820						3.485	3.296	1.320	
	year 2014	1.156	0.640	0.260						1.513	1.576	0.400	
	year 2018	0.172	0.101	-2.990	**					0.335	0.444	-0.830	
Lv. 1													
	female					1.427	0.655	0.780		1.290	0.611	0.540	
	age					1.143	0.185	0.830		1.142	0.199	0.760	
	n of family members					1.216	0.195	1.220		1.142	0.188	0.800	
	homeownership					0.618	0.473	-0.630		0.726	0.576	-0.400	
	detached house					0.912	0.683	-0.120		0.964	0.734	-0.050	
	annual household income					0.828	0.438	-0.360		1.089	0.619	0.150	
	social support					0.719	0.190	-1.250		0.770	0.204	-0.990	
Lv. 2													
	social disorder					3.562	1.876	2.410	*	3.804	2.126	2.390	*
	physical disorder					0.308	0.254	-1.430		0.259	0.239	-1.470	
	community policing					1.208	0.380	0.600		1.230	0.405	0.630	
	population density					1.000	8.E-05	-0.250		1.000	9.E-05	-0.200	
	ratio of daytime and night-time population					1.009	0.017	0.510		1.010	0.018	0.580	

(Continued)

	population: 15 years old or under					0.827	0.208	-0.760		0.825	0.213	-0.740	
	population: 65 years and over					0.881	0.100	-1.120		0.955	0.121	-0.360	
	residential turnover					0.865	0.251	-0.500		0.940	0.279	-0.210	
	ratio of woman-headed households					8.01E-33	7.19E-31	-0.820		442.587	46277.630	0.060	
	taxable income per person					0.998	0.001	-1.260		0.999	0.001	-0.810	
	unemployment rate					1.386	0.267	1.700		0.968	0.265	-0.120	
	ratio of manufacturing industry					28.423	192.034	0.500		2690.656	20024.410	1.060	
	ratio of service industry					0.030	0.226	-0.470		21.946	189.357	0.360	
	university degree					8.E+05	6.E+06	1.890		1.E+04	9.E+04	1.010	
	_cons	0.198	0.086	-3.740	***	524.652	5075.275	0.650		0.092	0.979	-0.220	
	n of observations	271				206				206			
	n of groups	179				148				148			
	jiscode												
	var(_cons)	0.617	0.942			9.65E-33	7.18E-17			6.91E-33	5.70E-17		

Note: *p< .05; **p<.01; ***p<.001

7.5 Discussion

This chapter aims to explore patterns of repeat victimisation of residential burglary and vandalism in Japan using the 2007-2018 JPSS and the 2005-2015 census during the crime drop. As already reported, crime rates have been on a declining trend in many industrialised countries, and Japan is no exception. However, since crimes are disproportionately distributed to specific groups against the significant and prolonged crime declines, and these specific people and places still show higher risks of criminal victimisation, it is important to understand the patterns of repeat victimisation for crime prevention. This chapter sought to address the individual/household- and neighbourhood factors which distinguish repeat victims from other groups.

Table 7-9 summarises predictor variables for repeat victimisation of residential burglary and vandalism (full models) found in the current study. It shows that the predictors of repeat victimisation are different from those of victimisation discussed in **Chapter 6**. In addition, the vast majority of variables had no relationship with repeat victimisation of residential burglary and vandalism. This section discusses the findings from the analysis.

Table 7-9 Variables Influencing Repeat Victimisation of Residential Burglary and Vandalism

	Comparison A (repeat victims vs. other groups)		Comparison B (repeat victims vs. single victims)	
	Residential burglary	Vandalism	Residential burglary	Vandalism
Trend				
year 2010	n.s.	n.s.	n.s.	n.s.
year 2014	n.s.	n.s.	n.s.	n.s.
year 2018	n.s.	n.s.	n.s.	n.s.
Lv. 1 Individual/household				
female	n.s.	n.s.	n.s.	n.s.
age	n.s.	n.s.	n.s.	n.s.
n of family members	n.s.	n.s.	n.s.	n.s.
homeownership	n.s.	n.s.	n.s.	n.s.
detached house	n.s.	n.s.	n.s.	n.s.
annual household income	n.s.	n.s.	n.s.	n.s.
social support	negative	negative	negative	n.s.
Lv. 2 Neighbourhood				
social disorder	n.s.	positive	n.s.	positive
physical disorder	n.s.	n.s.	n.s.	n.s.
community policing	n.s.	n.s.	n.s.	n.s.
population density	n.s.	n.s.	n.s.	n.s.
daytime and night-time population	n.s.	n.s.	n.s.	n.s.
population: 15 years old or under	n.s.	n.s.	n.s.	n.s.
population: 65 years and over	n.s.	n.s.	n.s.	n.s.
residential turnover	n.s.	n.s.	n.s.	n.s.
ratio of woman-headed households	n.s.	n.s.	n.s.	n.s.
taxable income per person	n.s.	n.s.	n.s.	n.s.
unemployment rate	n.s.	n.s.	n.s.	n.s.
ratio of manufacturing industry	n.s.	n.s.	positive	n.s.
ratio of service industry	n.s.	n.s.	n.s.	n.s.
university degree	positive	n.s.	n.s.	n.s.

The results of multilevel logistic regression analysis demonstrated that the survey year was not found to be associated with the risk of repeat residential burglary and vandalism. **Chapter 6** showed that the survey year variables were associated with the reduced levels of household property victimisation, leading to the conclusion that the crime drop was confirmed in the social survey. It can therefore be suggested that the crime drop in Japan is due to the significant reduction in the number of single victims, rather than repeat victims.

For comparisons A and B for residential burglary, individual-level social support was negatively associated with the risk of repeat victimisation (hypothesis 3). This result substantiates previous findings in the literature on the relationship between interactions with neighbours and crime in other countries (Markowitz et al., 2001; Robinson et al., 2003). Since the impact of social support was observed in both comparisons A and B of residential burglary, it can be said that social support is a powerful predictor enough to distinguish the repeat victims from both single victims and non-victims. As **Chapter 6** reported, social support was the predictor of victimisation of household property crime. This chapter confirmed that social support was effective in reducing not only single victims but also repeat victims. With regard to vandalism, the impact of social support was observed only in comparison A. This leads to the conclusion that the impact of social support on the reduction of repeat vandalism victimisation risk was not powerful enough to distinguish repeat victims from single victims.

As discussed above, there are two dominant accounts for repeat victimisation: “boost” and “flag”. The “boost” account argues that the first victimisation increases the likelihood of subsequent victimisation. The “flag” account, on the other hand, states that the characteristics of targets make

them more vulnerable to crime than others. Physical environments of households (homeownership and detached house) were found to be predictors of single victimisation; however, it was not able to lend support for "boost" and "flag" explanations. The impact of social support on reducing the risk of repeat victimisation of residential burglary and vandalism, on the other hand, can be explained in both two accounts for repeat victimisation; the low levels of social support make it difficult to ask for help (boost) and to exercise informal social control (flag). It can be then said that neighbourhood crime prevention interventions which focus on the increase in social support are required.

Social disorder was found to be associated with an increased risk of repeat vandalism victimisation in comparisons A and B. This result is supported by the broken windows theory (Wilson & Kelling, 1982). The social disorder was not a predictor variable for single victimisation in the study in **Chapter 6**; however, the current study demonstrated that those who perceive higher levels of neighbourhood social disorder are more likely to exhibit higher levels of repeat vandalism victimisation risks than single victims and those who have never been victimised. Put differently, living in neighbourhoods where the levels of social disorder are higher than in other neighbourhoods can cause consecutive and persistent risks of vandalism victimisation.

A ratio of manufacturing industry was the predictor variable that distinguishes the repeat victims of residential burglary from single victims. A possible explanation for the relationship between the risk of repeat residential burglary victimisation and the ratio of manufacturing industry is that from the perspective of social disorganisation theory, area-level low socioeconomic status (blue-collar workers) can elevate the risk of repeat residential burglary victimisation. As with neighbourhood social disorder, a ratio of manufacturing industry was not associated with the risk

of single victimisation. This result can eventually lead to the suggestion that different variables are associated with different types of victimisations (single and repeat).

Contrary to the expectation, at the individual/household-level, homeownership and detached house were nothing to do with the risk of repeat residential burglary and vandalism (hypotheses 1 and 2). In **Chapter 6**, homeownership was found to reduce, and detached house was found to increase the levels of household property crime. However, the findings from this chapter were not consistent with those from **Chapter 6**. Put in another way, although living in detached house and homeownership are decisive factors of household property crime, these are not associated with victimisation among those who have been (already) victimised.

Table 7-10 summarises the support for each hypothesis. As shown, hypothesis 3 is partially supported, and others are not.

Table 7-10 Answers to the Hypotheses

Hypotheses	
1. Homeownership will reduce the risk of repeat residential burglary and vandalism victimisation.	No
2. Detached house will increase the risk of repeat residential burglary and vandalism victimisation.	No
3. Social support will reduce the risk of repeat residential burglary and vandalism victimisation.	Mixed
4. Community policing will increase the risk of repeat residential burglary and vandalism victimisation.	No

7.6 Conclusion

The findings from this chapter have an implication for future criminological research. This chapter empirically demonstrated that the crime drop in Japan can be ascribed to the significant reduction in the number of single victims, and specific groups of people and places still show high levels of victimisation risks. This result raises an important point for future empirical criminological research in the Japanese context. More specifically, although this thesis focuses on residential burglary and vandalism, further research is required to understand the patterns of repeat victimisation of other types of crime.

The findings from this chapter should be of interest to practitioners. The first implication for practice is that crime prevention interventions are especially warranted for those who have been victimised before. Since the data which the current study employed are not panel, this chapter was unable to discuss the repeat victimisation from the perspectives of boost and frag explanations. However, considering the results from this chapter, it is obviously of importance to prevent subsequent victimisation of those who have victimisation experiences, which can, as a result, lead to further reduction of crime trends in Japan. The second implication for practice is that local governments should give greater attention to reducing neighbourhood social disorder. This chapter revealed that the perceived neighbourhood social disorder was the decisive factor that distinguishes repeat vandalism victims from single victims and non-victims. It can be therefore recommended that the local governments should make an effort to eliminate neighbourhood social disorder which can result in high risks of repeat vandalism victimisation. The third implication for crime prevention flows from this chapter is that since effective crime prevention measures may be different depending on their targets (single victims, repeat victims and non-victims), it is needed to plan the measures for each target. Specifically, **Chapters 6 and 7** demonstrated that

different variables were statistically related to the risk of victimisation and that of repeat victimisation. Therefore, evidence-based policing (Sherman, 1998) or problem-oriented policing (Goldstein, 1979) are considered useful to plan the measures for each target based on empirical research.

The current study suffers from some limitations associated with the datasets which the current study employs. The first is the current study obtained relatively few significant predictor variables of repeat victimisation which may be due to the very low number of repeat victimisation and associated low statistical power. Second, the current study capped the number of repeat victimisations due to the number of repeat victimisations observed in the JPSS.

This chapter concludes that the predictors of repeat victimisation of residential burglary and vandalism in Japan are quite different from those of single victimisation of household property crime reported in **Chapter 6**. Interestingly, no survey year variable was related to the likelihood of repeat victimisation. Put differently, while single victims have fallen against the crime drop, there was no significant change in the levels of repeat victims over time. Interventions to previously burgled or vandalised households are therefore necessary to prevent further victimisation which can lead to the reduction of the total number of crimes in Japan.

Chapter 8 Patterns and Predictors of Fear of Household Property Crime and Perceived Risk of Household Property Crime Victimisation in Japan, 2007-2018

Chapter Summary

This chapter moves from focussing on criminal victimisation to the fear and perceived risk of criminal victimisation. More specifically, the chapter reports the findings of a study into the patterns and predictors of fear of crime and perceived risk of victimisation in Japan from 2007 to 2018. Using two independent datasets, multilevel OLS regression models are used to analyse 1) how the year, and individual/household- and neighbourhood-level variables affect the levels of fear of and perceived risk of household property crime victimisation, and 2) the relationship between fear of and perceived risk of household property crime victimisation. The results provide both consistencies and inconsistencies with the prevailing theories of and previous research on fear of crime and perceived risk of victimisation. The chapter ends by providing the implications of the findings for policymaking and future research on fear of crime and perceived risk of victimisation.

8.1 Introduction

As indicated in **Chapter 4,** the fear of crime has been a very popular topic in the field of criminology for the last 50 years. Much research has been undertaken into the patterns and predictors of being fearful of criminal victimisation, and many of these studies have produced results that are consistent with the leading models of fear of crime presented in **Chapter 4**, namely the indirect victimisation model, the disorder model and the community concern model. As with

criminal victimisation, previous research confirms that both micro- and macro-level factors can help explain the observed patterns of fear of crime. The indirect victimisation model, for example, is concerned with the association between fear of crime and an individual's characteristics (e.g., demographic characteristics), whereas both the disorder and community concern models focus on the association between levels of fear of crime and broader neighbourhood factors (e.g., levels of neighbourhood disorder and variations in land use).

It has been suggested that fear of crime and perceived risk of victimisation are different concepts (Ferraro & LaGrange, 1987). Fear of crime refers to "an emotional reaction of dread or anxiety to crime or symbols that a person associates with crime" (Ferraro, 1995, p. xiii) and perceived risk of victimisation refers to "people's assessment of crime rates and the probability of victimization" (Dubow et al., 1979, p. 3). Moreover, extensive research has examined the relationship *between* fear of crime and perceived risk of victimisation. Ferraro (1995) argued that perceived risk of victimisation is a significant predictor of fear of crime. Specifically, he presented the risk interpretation model, in which both micro- and macro-level factors are found to increase levels of fear of crime via perceived risk of victimisation (Ferraro, 1995). Subsequent studies have provided empirical support for the risk interpretation model (Jackson, 2004; Rengifo & Bolton, 2012).

Despite the large body of research on fear of crime, little is currently known about what variables affect fear of crime and perceived risk of victimisation in Japan. Moreover, the few relevant studies from East Asia which are available have produced results which depart from those commonly found in Western studies, thereby calling into question the extent to which findings from Western nations are generalisable to the Japanese context. For example, previous studies on

fear of crime among Chinese people (Liu et al., 2009; Yun et al., 2010; Zhang et al., 2009) have reported that younger citizens tend to show higher levels of fear of crime than older citizens. This is inconsistent with much Western literature which has demonstrated that the elderly are likely to exhibit greater levels of fear of crime (despite often experiencing lower levels of victimisation) (McGarrell et al., 1997; Meško et al., 2008; Onat et al., 2021; Parker & Ray, 1990; Tulloch, 2000).

The study reported in this chapter uses two forms of data: the JPSS and the census, as described in **Chapter 5**. Informed by the dominant theories of fear of crime, this chapter aims to examine if individual/household- and neighbourhood-level variables affect the reported levels of fear of crime and perceived risk of victimisation. As with **Chapter 6**, this chapter focuses on the fear of and perceived risk of victimisation as it relates to household property crime (residential burglary and vandalism).

The research questions for this chapter are:

- *What are the patterns and predictors of fear of and perceived risk of household property crime in Japan?*
- *What is the relationship between fear of crime and perceived risk of victimisation?*

Specifically, the following hypotheses are tested.

1. The levels of fear and perceived risk of household property crime victimisation decreased from 2007 to 2018. Since the crime rate in Japan has decreased from 2007 to 2018, the levels of fear and perceived risk of household property crime are likewise expected to decrease as

well, albeit it is acknowledged that levels of fear of crime do not always track actual changes in crime risk. The relationship between the two has seldom been investigated in the Japanese context.

2. Previous victimisation will increase the levels of fear and perceived risk of household property crime. From the perspective of the indirect victimisation model, previous victimisation (respondents themselves or their family) can increase the levels of fear of and perceived risk of household property crime.
3. Sex and age will be related to fear and perceived risk of household property crime. As the indirect victimisation model argues, it is hypothesised that those who are female and elderly will show higher levels of fear and perceived risk of household property crime.
4. As the size of the family increases, the levels of fear of and perceived risk of household property crime decrease. Since the survey asks the respondents to report how fearful the respondents feel that they and their family members are victimised, and how likely they think that they and their members will be victims of crime in the next year, the number of family members increases the levels of fear of and perceived risk of household property crime.
5. Homeownership will increase the levels of fear and perceived risk of household property crime. Those who live in their own houses can increase the levels of fear and perceived risk of household property crime since they are likely to increase security measures that increase the levels of fear of and perceived risk of household property crime.
6. A detached house will increase the levels of fear of and perceived risk of household property crime. Detached houses have multiple points of entry which can increase target attractiveness.
7. The increase in household income will increase the levels of fear of and perceived risk of household property crime. Those who live in household with high income can increase the levels of fear and perceived risk of household property crime since they are likely to have

expensive goods in their household (high target attractiveness).

8. Social support will decrease the levels of fear of and perceived risk of household property crime. From the perspective of the community concern model, social support and community policing are expected to reduce the levels of fear and perceived risk of household property crime.
9. Neighbourhood disorder will increase the levels of fear of and perceived risk of household property crime. From the perspective of the disorder model, neighbourhood disorder is expected to increase the levels of fear and perceived risk of household property crime.
10. The presence of community policing will decrease the levels of fear of and perceived risk of household property crime. From the perspective of the community concern model, social support and community policing are expected to reduce the levels of fear and perceived risk of household property crime.
11. The increase in residential turnover will increase the levels of fear of and perceived risk of household property crime. From the perspective of the disorder model, residential turnover is expected to increase the levels of fear and perceived risk of household property crime.
12. The increase in the municipal-level income will be associated with greater levels of fear of and perceived risk of household property crime. Those who live in the neighbourhoods where the municipal-level income is higher than other neighbourhoods can increase the levels of fear and perceived risk of household property crime since they are likely to have expensive goods in their household or introduce security measures to their households.
13. The unemployment rate will increase the levels of fear of and perceived risk of household property crime. From the perspective of the disorder model, the unemployment rate is expected to increase the levels of fear and perceived risk of household property crime.
14. The increase in the municipal-level ratios of woman-headed household, manufacturing and

service industries will be associated with a greater fear of and perceived risk of property household crime. From the perspective of the disorder model, higher ratios of woman-headed households, manufacturing and service industries are expected to increase the levels of fear of and perceived risk of household property crime since they can represent social disorganisation or lower social classes.

15. A University degree will increase the levels of fear of and perceived risk of household property crime. Those who have a university degree can increase the levels of fear and perceived risk of household property crime since they are likely to have expensive goods in their household or introduce security measures to their households.
16. Perceived risk of household property crime increases the levels of fear of household property crime. As Ferraro (1995) argues, the perceived risk of household property crime can increase the levels of fear of household property crime.

The remainder of this chapter is organised as follows. The next section describes the methods used in this chapter. The results of multilevel OLS regression models predicting the patterns and predictors of fear of and perceived risk of household property crime then follow. This chapter closes by suggesting implications for future research.

8.2 Method

This chapter first looks at the changes in levels of fear of and perceived risk of household property crime victimisation between 2007 and 2018. A series of multilevel OLS regression models are then performed to determine the patterns and predictors of fear and perceived risk of household property crime. This is achieved through two separate studies. The first study investigates the patterns and predictors of fear of household property crime by testing four different statistical

variants. Variant A includes the variables that were included in the multilevel model predicting criminal victimisation of household property crime (a composite variable of residential burglary and vandalism victimisation) in **Chapter 6**. Variant B includes the self-reported household property crime victimisation variable, which was employed as the dependent variable in the studies in **Chapter 6**. Variant C includes the variable which represents the perceived risk of household crime victimisation. Variant D considers both past victimisation and the perceived risk of victimisation. As research in other countries has confirmed (Covington & Taylor, 1991; Liska et al., 1988; Skogan & Maxfield, 1981; Stafford & Galle, 1984), victimisation experience can increase the levels of fear of crime. In addition, the current study is concerned with the statistical association between fear of crime and perceived risk of victimisation (Ferraro, 1995). The second study is concerned with the patterns and predictors of the perceived risk of household property crime. To investigate this, two variants will be tested. Variant E considers the variables that were used in **Chapter 6**. Variant F includes, in addition to the variables considered in variant E, self-reported past victimisation of household property crime is included.

All analyses in this chapter are conducted using Stata version 16 with the "mixed" command.

8.2.1.1 Dependent Variables

The dependent variables used in this study are taken from the JPSS. The two dependent variables are fear of household property crime and perceived risk of household property crime victimisation. Respondents are asked to report their levels of fear and the perceived risk of victimisation for several different types of crime. In terms of the specific survey questions used to generate these dependent variables, for fear of crime, respondents are asked how fearful they are of residential burglary and vandalism; 0 = not at all fearful, 1 = somewhat fearful, 2 = fearful, 3 = very fearful.

For perceived risk of victimisation, respondents are asked to assess the likelihood that they will experience residential burglary and vandalism over the next year: 0 = very unlikely, 1 = unlikely, 2 = likely, 3 = very likely. A Pearson's correlation analysis is performed since both variables gage fear of crime and perceived risk of victimisation. A Pearson's correlation analysis showed a statistically significant relationship between fear of residential burglary and that of vandalism ($r = .655$, $p = .000$) and perceived risk of residential burglary victimisation and that of vandalism victimisation ($r = .798$, $p = .000$). Therefore, the mean level of fear of residential burglary and vandalism and that of perceived risk of residential burglary and vandalism victimisation are used as the dependent variables for the analysis.

8.2.1.2 Independent Variables

The independent variables considered in this chapter match those used in **Chapter 6**. Depending on the variants, some models include self-reported household property crime victimisation or/and perceived risk of household property victimisation as independent variables. **Table 8-1** presents the descriptive statistics for the dependent and independent variables predicting fear of and perceived risk of household property crime, as measured herein. It shows that many respondents were somewhat fearful of household property crime (Mean = 0.818), albeit they generally think they are unlikely to be the victims of household property crime over the next year (Mean = 1.183).

Table 8-1 Descriptive Statistics of Fear of Crime and Perceived Risk of Victimisation

Variable	Mean	S. D.	Min	Max
Dependent variable				
fear of household property crime	0.818	0.638	0.000	3.000
perceived risk of household property crime	1.183	0.691	0.000	3.000

8.2.1.3 Analytical Strategy

Table 8-2 displays the models for the analysis in this chapter. As with the empirical studies in **Chapter 6**, three models are tested to determine the predictor variables for fear of and perceived risk of victimisation of household property crime. Model 1 is the trend-only model which includes only the survey year dummy variables to explore if levels of fear of and perceived risk of household property crime victimisation change as the crime trends decline, compared with those in 2007 (reference). Model 2 is a pooled model without the survey year variables; individual/household- and municipal-level variables are included in the analysis. Model 3 is the full model; the year, individual/household- and municipal-level variables are included.

For the fear of crime dependent variable, there are four variations of both Models 1 and 2, involving all combinations of the variables 'previous victimisation' and 'perceived risk of victimisation'. Variant A does not include either predictor; B includes previous victimisation but not perceived risk; C does not include previous victimisation but does include perceived risk; D included both previous victimisation and perceived risk. Thus, Model 3-D includes the year of the survey, individual/household variables, municipal variables, fear of crime, and perceived risk of victimisation.

For the perceived risk of victimisation dependent variables, there were two variations of Models 2 and 3, involving the absence (E) and presence (F) of previous victimisation (the perceived risk of victimisation variable omitted since it is now the dependent variable). Thus, the full Model 3-F includes the year of the survey, individual/household variables, municipal variables, and fear of crime.

Table 8-2 Models for the Analysis

DV	Variants	Models	Previous victimisation	Perceived risk
Fear of crime	1	1: year variables only	No	No
	2-A	2: 1 + individual & household variables	No	No
	2-B		Yes	No
	2-C		No	Yes
	2-D		Yes	Yes
	3-A	3: 2 + neighbourhood variables	No	No
	3-B		Yes	No
	3-C		No	Yes
	3-D		Yes	Yes
Perceived risk of victimisation	1	1: year variables only	No	No
	2-E	2: 1 + individual & household variables	No	No
	2-F		Yes	No
	3-E	3: 2 + neighbourhood variables	No	No
	3-F		Yes	No

8.3 Results

This section reports the levels of fear of and perceived risk of household property crime by sweep and sample point, and the results of multilevel logistic regression.

8.3.1 Fear of Crime and Perceived Risk of Victimisation in Japan

Figure 8-1 presents how people's fear of household property crime and perceived risk of household property crime victimisation changed from 2007 to 2018. It demonstrates that fear and perceived risk show similar trends; both show a downward trend between 2007 and 2014, and a slight increase in 2018.

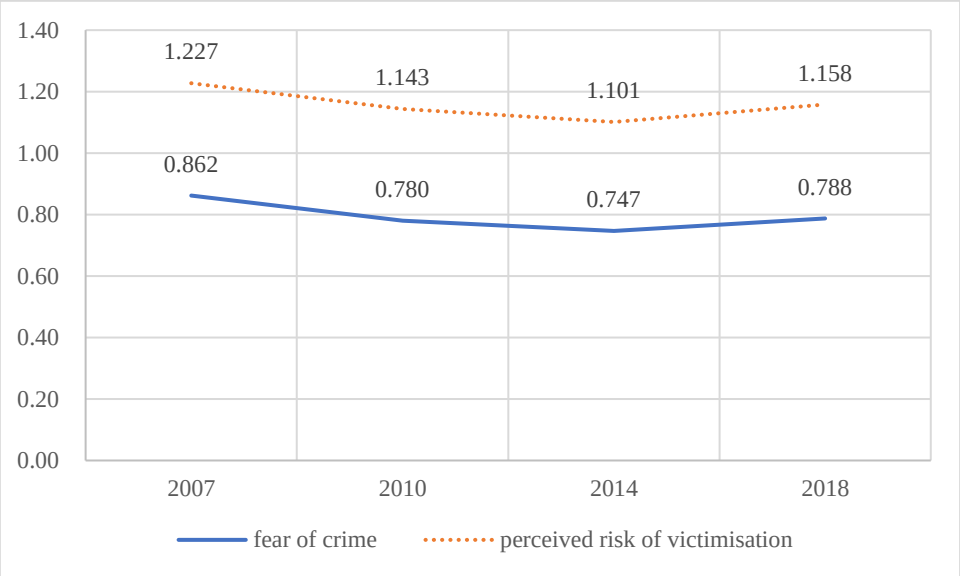
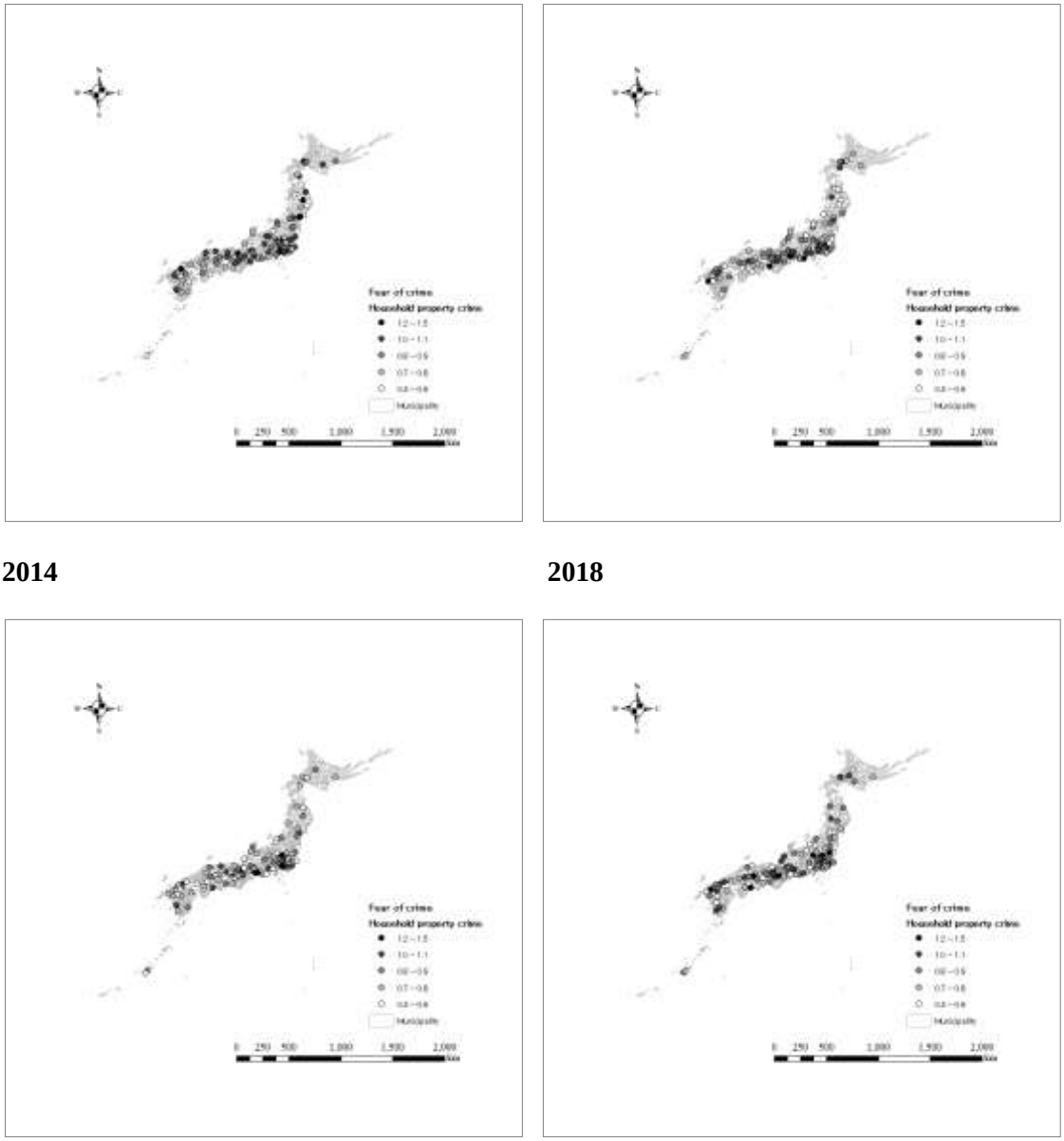


Figure 8-1 Changes of Fear of Crime and Perceived Risk of Victimisation Over Time 2007 – 2018

Figure 8-2 displays the levels of fear of household property crime by sample points. It shows that those who live in coastal or metropolitan cities such as Tokyo were likely to show higher levels of fear of crime.

2007 **2010**

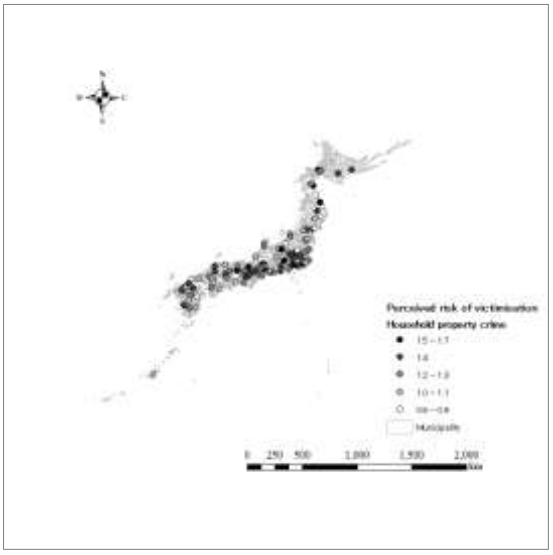


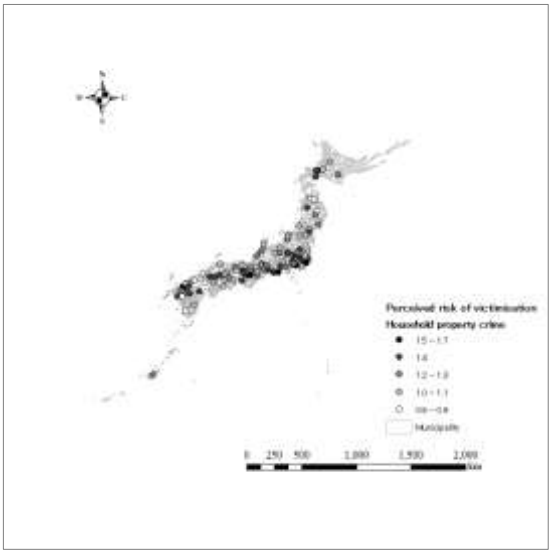
2014 **2018**

Figure 8-2 Fear of Household Property Crime by Sample Points

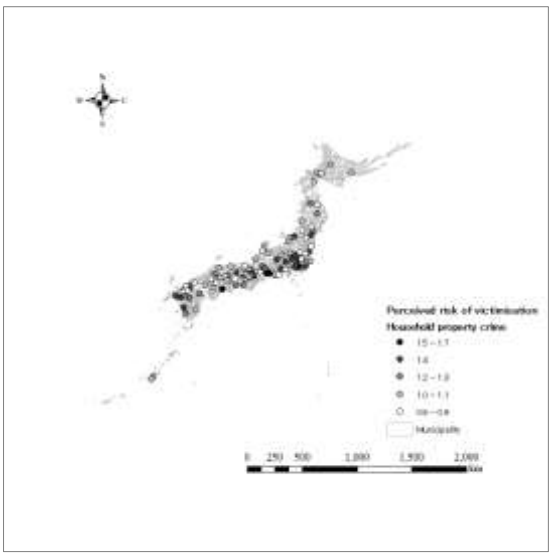
Figure 8-3 shows the levels of perceived risk of household property crime victimisation by sample points. As with fear of household property crime, higher levels of perceived risk of victimisation are observed in large cities.

2007 **2010**





2014 **2018**



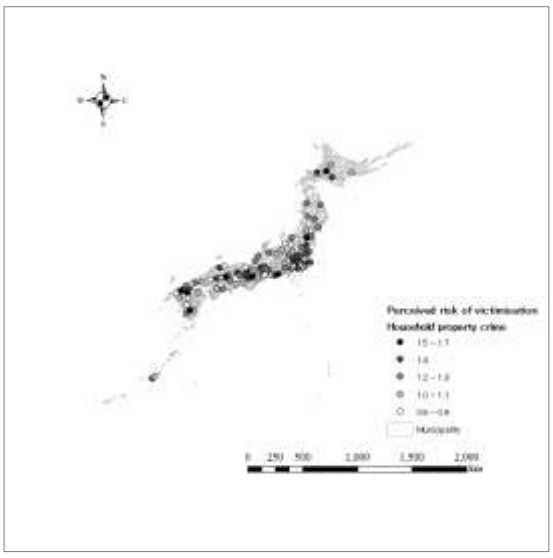


Figure 8-3 Perceived Risk of Perceived Risk of Household Property Crime by Sample Points

8.3.2 Fear of Crime

Table 8-4 present the results of multilevel OLS regression predicting fear of household property crime. Model 1 demonstrates that all year variables are associated significantly with lower levels of fear of crime (year 2010: β coefficient = -0.079, p<.001, year 2014: β coefficient = -0.117, p<.001, year 2018: β coefficient = -0.072, p<.01). This means that the levels of fear of household property crime are statistically lower in 2010, 2014 and 2018 than those in 2007.

Model 2 considers the impact of individual/household- and municipal-level variables. Model 2-A excludes both fear of crime and perceived risk of victimisation variables. Analysis reveals that at the individual/household-level, being female (β coefficient = 0.033, p<.05), living in a detached house (β coefficient = 0.119, p<.001) and increased annual household income (β coefficient = 0.053, p<.01) is associated with increased levels of fear of crime, whereas being older (β coefficient = -0.062, p<.001) is associated with lower levels of fear of crime. At the municipal-level, increased social disorder (β coefficient = 0.138, p<.001), increased residential turnover (β coefficient = 0.029, p<.01) and a greater ratio of manufacturing industry (β coefficient = 0.686, p<.01) are found to be associated with higher levels of fear of crime, while community policing (β coefficient = -0.024, p<.05), a higher ratio of daytime and night-time population (β coefficient = -0.001, p>.05), the greater percentage of the population of 15 years old or under (β coefficient = -0.016, p<.05) and higher unemployment rate (β coefficient = -0.015, p<.05) are found to be associated with lower levels of fear of crime.

In addition to the variables analysed in Model 2-A, Model 2-B analyses the effect of previous victimisation on fear of crime. Model 2-B shows that at the individual/household-level, previous household property crime victimisation (β coefficient = 0.462, p<.001), being female (β coefficient = 0.032, p<.05), living in a detached house (β coefficient = 0.110, p<.001) and

increased annual household income (β coefficient = 0.054, p<.001) are found to elevate the levels of fear of crime, while being older (β coefficient = -0.062, p<.001) is found to reduce the levels of fear of crime. At the neighbourhood-level, increased social disorder (β coefficient = 0.130, p<.001), increased population turnover (β coefficient = 0.029, p<.01), the greater ratio of manufacturing industry (β coefficient = 0.686, p<.01) are found to elevate fear of crime, and higher frequency of seeing policing (β coefficient = -0.024, p<.05), a higher ratio of 15 years old or under (β coefficient = -0.018, p<.05) and higher unemployment rates (β coefficient = -0.016, p<.05) are found to decrease fear of crime.

Model 2-C drops the previous victimisation variable and examines the impact of the perceived risk of household property crime victimisation on fear of household property crime. It demonstrates that at the individual-household-level, higher levels of perceived risk of victimisation (β coefficient = 0.576, p<.001) and living in detached housing (β coefficient = 0.068, p<.01) are associated with higher levels of fear of crime, and being older (β coefficient = -0.046, p<.001) is found to be associated with lower levels of fear of crime. At the neighbourhood-level, increased social disorder (β coefficient = 0.071, p<.001) and the higher ratio of manufacturing industry (β coefficient = 0.357, p<.05) are positively related to fear of crime, while the frequency of seeing community policing (β coefficient = -0.028, p<.001) and higher unemployment rate (β coefficient = -0.011, p<.05) are negatively related to fear of crime.

Model 2-D analyses the effects of both previous victimisation of and perceived risk of household property crime victimisation on fear of household property crime. The analysis reveals that at the individual/household-level, previous victimisation (β coefficient = 0.255, p<.001), higher levels of perceived risk of victimisation (β coefficient = 0.568, p<.001), detached house (β coefficient =

0.064, p<.01) are positively associated with fear of crime, and being older (β coefficient = -0.046, p<.001) is negatively associated with fear of crime. At the municipal-level, increased social disorder (β coefficient = 0.067, p<.001) and the higher ratio of service industry (β coefficient = 0.686, p<.01) increase the levels of fear of crime, while the higher frequency of seeing community policing (β coefficient = -0.024, p<.05) and the higher ratio of manufacturing industry (β coefficient = -0.011, p<.05) reduces the levels of fear of crime.

Table 8-3 Multilevel OLS Regression Predicting Fear of Household Property Crime (Variants A, B, C, and D)

		Fear of crime														
		Model 1			Model 2-A			Model 2-B			Model 2-C			Model 2-D		
	Variable	β	SE		β	SE		β	SE		β	SE		β	SE	
Trend																
	year 2010	-0.079	0.022	***												
	year 2014	-0.117	0.022	***												
	year 2018	-0.072	0.023	**												
Lv. 1																
	victimisation							0.462	0.039	***				0.255	0.030	***
	perceived risk of victimisation										0.576	0.009	***	0.568	0.009	***
	female				0.033	0.016	*	0.032	0.016	*	0.012	0.012		0.013	0.012	
	age				-0.062	0.005	***	-0.062	0.005	***	-0.046	0.004	***	-0.046	0.004	***
	n of family members				0.004	0.006		0.003	0.006		-0.003	0.005		-0.004	0.005	
	homeownership				0.009	0.027		0.020	0.027		-0.036	0.021		-0.029	0.021	
	detached house				0.119	0.027	***	0.110	0.027	***	0.068	0.021	**	0.064	0.021	**
	annual household income				0.053	0.016	**	0.054	0.015	***	0.007	0.012		0.008	0.012	
	social support				-0.002	0.004		-0.001	0.004		0.001	0.003		0.001	0.003	

(Continued)

Lv. 2																
	social disorder				0.138	0.021	***	0.130	0.021	***	0.071	0.016	***	0.067	0.016	***
	physical disorder				0.022	0.026		0.031	0.026		0.008	0.020		0.013	0.020	
	community policing				-0.024	0.010	*	-0.028	0.010	**	-0.028	0.008	***	-0.030	0.008	***
	population density				0.000	0.000		0.000	0.000		0.000	0.000		0.000	0.000	
	ratio of daytime and nighttime population				-0.001	0.000	*	-0.001	0.000		0.000	0.000		0.000	0.000	
	population: 15 years old or under				-0.016	0.008	*	-0.018	0.008	*	-0.007	0.006		-0.008	0.006	
	population: 65 years and over				-0.005	0.003		-0.005	0.003		-0.004	0.002		-0.004	0.002	
	residential turnover				0.029	0.010	**	0.024	0.010	*	0.012	0.008		0.010	0.008	
	ratio of woman-headed households				5.183	2.843		5.475	2.832		1.006	2.184		1.129	2.182	

(Continued)

	taxable income per person				0.000	0.000		0.000	0.000		0.000	0.000		0.000	0.000	
	unemployment rate				-0.015	0.006	*	-0.016	0.006	*	-0.011	0.005	*	-0.011	0.005	*
	ratio of manufacturing industry				0.686	0.202	**	0.662	0.202	**	0.357	0.155	*	0.348	0.155	*
	ratio of service industry				0.254	0.208		0.268	0.207		0.229	0.160		0.243	0.159	
	university degree				0.050	0.247		0.112	0.248		-0.008	0.190		0.023	0.191	
	_cons	0.861	0.016	***	0.735	0.280	**	0.771	0.281	**	0.281	0.215		0.321	0.216	
	n of observations	7,390			5,936			5,880			5,916			5,861		
	n of groups	434			406			406			406			406		
	log likelihood	-6991.47			-5405.84			-5285.60			-3831.53			-3762.06		
	var(_cons)	0.006	0.002		0.000	0.002		0.000	0.002		0.000	0.000		0.000	0.000	
	var(Residual)	0.383	0.007		0.362	0.007		0.353	0.007		0.214	0.004		0.211	0.004	

Note: *p< .05; **p<.01; ***p<.001

Model 3 considers all categories of variables: the year of survey, individual/household- and municipal-level. At the individual/household-level, Model 3-A (without prior victimisation and perceived risk of victimisation) reveals that at the individual/household-level, being female (β coefficient = 0.033, p<.05), living in a detached house (β coefficient = 0.116, p<.001) and higher annual household income (β coefficient = 0.052, p<.01) are found to increase the levels of fear of household property crime, while being older (β coefficient = -0.062, p<.001) is associated with lower levels of fear of household property crime. At the neighbourhood-level, increased social disorder (β coefficient = 0.134, p<.001), higher levels of residential turnover (β coefficient = -0.025, p<.05) and a greater percentage of manufacturing industry (β coefficient = 0.627, p<.01) elevated fear of crime, and the higher frequency of seeing community policing (β coefficient = -0.025, p<.05), the greater ratio of the population who are 15 years old or under (β coefficient = -0.016, p<.05) are found to decrease fear of crime.

Model 3-B examines how previous victimisation affects fear of crime. The results demonstrated that at the individual/household-level, prior victimisation (β coefficient = 0.462, p<.001), female (β coefficient = 0.032, p<.05), living in a detached house (β coefficient = 0.108, p<.001) and higher annual household income (β coefficient = 0.053, p<.01) are associated with higher levels of fear of crime, and being older (β coefficient = -0.061, p<.001) is associated with lower levels of fear of crime. At the neighbourhood-level, increased social disorder (β coefficient = 0.127, p<.001), increased residential turnover (β coefficient = 0.021, p.<05) and the larger ratio of manufacturing industry (β coefficient = 0.615, p<.01) are found to increase the levels of fear of crime, and community policing (β coefficient = -0.029, p<.01), a ratio of the population who are 15 years old or under (β coefficient = -0.019, p<.05) and 65 years and over (β coefficient = -0.007, p<.05) are found to decrease the levels of fear of crime.

Model 3-C analyses the relationship between the levels of fear of crime and those of perceived risk of criminal victimisation. The results reveal that at the individual/household-level, higher levels of perceived risk of crime (β coefficient = 0.576, p<.001) and detached house (β coefficient = 0.068, p<.01) are associated with an increase in fear of crime, and being older (β coefficient = -0.046, p<.001) is associated with a decrease in fear of crime. At the neighbourhood level, increased social disorder (β coefficient = 0.071, p<.001) and a larger ratio of manufacturing industry (β coefficient = 0.349, p<.01) are found to increase the levels of fear of crime, while the higher frequency of community policing (β coefficient = -0.028, p<.001) is found to decrease the levels of fear of crime.

Model 3-D seeks to address the effects of previous victimisation and perceived risk of crime. It is shown that at the individual/household-level, prior victimisation (β coefficient = 0.255, p<.001), greater levels of perceived risk of victimisation (β coefficient = 0.568, p<.001) and detached house (β coefficient = 0.064, p<.01) are found to affect the levels of fear of crime positively, and being older (β coefficient = -0.046, p<.001) are found to affect the levels of fear of crime negatively. At the neighbourhood level, greater social disorder (β coefficient = 0.067, p<.001) and the larger ratio of manufacturing industry (β coefficient = 0.346, p<.05) are found to increase fear of crime, and a higher frequency of seeing community policing (β coefficient = -0.030, p<.001) is found to reduce fear of crime. Homeownership is found to have no association with the levels of fear of household property crime in any of the models tested in this study.

Table 8-4 Multilevel OLS Regression Predicting Fear of Household Property Crime (Model 3-A to -D)

		Model 3-A			Model 3-B			Model 3-C			Model 3-D		
	Variable	β	SE		β	SE		β	SE		β	SE	
Trend													
	year 2010	-0.019	0.030		-0.009	0.030		0.001	0.023		0.006	0.023	
	year 2014	-0.044	0.031		-0.037	0.031		-0.006	0.024		-0.003	0.024	
	year 2018	0.005	0.034		0.019	0.034		0.007	0.026		0.015	0.027	
Lv. 1													
	victimisation				0.462	0.039	***				0.255	0.030	***
	perceived risk of victimisation							0.576	0.009	***	0.568	0.009	***
	female	0.033	0.016	*	0.032	0.016	*	0.012	0.012		0.013	0.012	
	age	-0.062	0.005	***	-0.061	0.005	***	-0.046	0.004	***	-0.046	0.004	***
	n of family members	0.004	0.006		0.003	0.006		-0.003	0.005		-0.004	0.005	
	homeownership	0.008	0.027		0.018	0.027		-0.036	0.021		-0.030	0.021	
	detached house	0.116	0.027	***	0.108	0.027	***	0.068	0.021	**	0.064	0.021	**
	annual household income	0.052	0.016	**	0.053	0.015	**	0.006	0.012		0.008	0.012	
	social support	-0.002	0.004		-0.001	0.004		0.001	0.003		0.001	0.003	

(Continued)

Lv. 2													
	social disorder	0.134	0.021	***	0.127	0.021	***	0.071	0.016	***	0.067	0.016	***
	physical disorder	0.034	0.027		0.040	0.027		0.009	0.021		0.013	0.021	
	community policing	-0.025	0.010	*	-0.029	0.010	**	-0.028	0.008	***	-0.030	0.008	***
	population density	0.000	0.000		0.000	0.000		0.000	0.000		0.000	0.000	
	ratio of daytime and night-time population	-0.001	0.000		-0.001	0.000		0.000	0.000		0.000	0.000	
	population: 15 years old or under	-0.016	0.008	*	-0.019	0.008	*	-0.007	0.006		-0.008	0.006	
	population: 65 years and over	-0.006	0.003		-0.007	0.003	*	-0.004	0.003		-0.005	0.003	
	residential turnover	0.025	0.010	*	0.021	0.010	*	0.011	0.008		0.009	0.008	
	ratio of woman-headed households	4.369	3.025		4.395	3.008		0.719	2.324		0.678	2.319	
	taxable income per person	0.000	0.000		0.000	0.000		0.000	0.000		0.000	0.000	
	unemployment rate	-0.009	0.008		-0.009	0.008		-0.009	0.006		-0.009	0.006	
	ratio of manufacturing industry	0.627	0.210	**	0.615	0.209	**	0.349	0.161	*	0.346	0.161	*
	ratio of service industry	0.152	0.221		0.174	0.220		0.212	0.170		0.229	0.170	
	university degree	0.238	0.294		0.260	0.296		0.012	0.226		0.024	0.228	
	_cons	0.863	0.294	**	0.894	0.295	**	0.304	0.226		0.343	0.228	

(Continued)

	n of observations	5,936			5,880			5,916			5,861		
	n of groups	406			406			406			406		
	log likelihood	-5404.09			-5283.55			-3831.35			-3761.69		
	var(_cons)	0.000	0.002		0.000	0.002		0.000	0.000		0.000	0.000	
	var(Residual)	0.362	0.007		0.353	0.007		0.214	0.004		0.211	0.004	

Note: *p< .05; **p<.01; ***p<.001

8.3.3 Perceived Risk of Victimisation

Table 8-5 displays the results of multilevel OLS regression predicting the levels of the perceived risk of household property crime victimisation. Model 1 includes only survey year variables. This reveals that all three survey year variables are negatively correlated with the levels of the perceived risk of household property crime victimisation (year 2010: β coefficient = -0.081, p<.01, year 2014: β coefficient = -0.128, p<.001, year 2018: β coefficient = -0.066, p<.01). This means that the levels of the perceived risk of crime in 2010, 2014 and 2018 show a significant reduction compared to those in 2007.

Model 2 is concerned with the impact of individual/household- and municipal-level characteristics on the levels of the perceived risk of household property crime. Model 2-E is run without the prior victimisation variable. It demonstrates that at the individual/household-level, being female (β coefficient = 0.037, p<.05), homeownership (β coefficient = 0.078, p<.01), living in a detached house (β coefficient = 0.092, p<.01) and higher annual household income (β coefficient = 0.078, p<.001) are found to be related to higher levels of a perceived crime risk, while being older (β coefficient = -0.027, p<.001) is found to be related to lower levels of perceived crime risk. At the neighbourhood-level, greater social disorder (β coefficient = 0.115, p<.001), higher residential turnover (β coefficient = 0.030, p<.05), a higher ratio of woman-headed households (β coefficient = 7.488, p<.05), higher levels of municipal-level taxable income per person (β coefficient = 7.E-05, p<.05) and the higher ratio of manufacturing industry (β coefficient = 0.567, p<.05) are found to be positively associated with levels of the perceived risk of household property crime victimisation. No neighbourhood-level variable predicts lower levels of the perceived risk of household property crime victimisation.

Model 2-F is concerned with the impact of victimisation on perceived crime risk. The results show that at the individual/household-level, prior criminal victimisation (β coefficient = 0.364, p<.001), being female (β coefficient = 0.035, p<.05), homeownership (β coefficient = 0.087, p<.01), living in detached house (β coefficient = 0.082, p<.01) and higher annual household income (β coefficient = 0.078, p<.001) are found to be associated with higher levels of the perceived risk of household property crime, while being older (β coefficient = -0.026, p<.001) is found to be associated with lower levels of the perceived risk of household property crime. At the municipal-level, increased social disorder (β coefficient = 0.109, p<.001), increased residential turnover (β coefficient = 0.027, p<.05), the ratio of woman-headed households (β coefficient = 7.973, p<.05), municipal-level taxable income per person (β coefficient = 6.E-05, p<.05) and the increased ratio of manufacturing industry (β coefficient = 0.552, p<.05) are found to increase the levels of the perceived crime risk, and a greater ratio of the population who are 15 years old and under (β coefficient =-0.019, p<.05) are found to reduce the levels of the perceived crime risk.

Model 3 is concerned with the effects of the year of the survey, individual/household- and neighbourhood characteristics on the perceived risk of household property crime victimisation. Model 3-E demonstrates that no survey year variables show significant effects on the levels of the perceived risk of household property crime victimisation. At the individual/household-level, being female (β coefficient = 0.038, p<.05), homeownership (β coefficient = 0.077, p<.05), detached house (β coefficient = 0.088, p<.01) and higher annual household income (β coefficient = 0.077, p<.001) are found to increase the levels of perceived criminal victimisation risk, and being older (β coefficient = -0.027, p<.001) is found to decrease. At the neighbourhood-level, increased social disorder (β coefficient = 0.109, p<.001), increased residential turnover (β coefficient = 0.025, p<.05) and a greater ratio of manufacturing industry (β coefficient = 0.485,

p<.05) are found to be correlates of higher levels of perceived household property crime risk. No neighbourhood-level variable is associated with lower levels of perceived household property crime risk.

Model 3-F analyses the relationship between the experience of victimisation and perceived crime risk. There is no significant relationship between the survey year and perceived crime risk. At the individual level, previous victimisation (β coefficient = 0.364, p<.001), being female (β coefficient = 0.035, p<.05), homeownership (β coefficient = 0.085, p<.01), living in detached house (β coefficient = 0.079, p<.01) and higher annual household income (β coefficient = 0.077, p<.001) are found to elevate the levels of perceived risk of household property crime victimisation, while being older (β coefficient = -0.026, p<.001) is found to decrease. At the neighbourhood-level, higher levels of social disorder (β coefficient = 0.103, p<.001) and the larger percentage of manufacturing industry (β coefficient = 0.479, p<.05) are found to increase, and the percentage of the greater population who are 15 years and under (β coefficient = -0.019, p<.05) is found to decrease the levels of perceived household property crime risk.

Table 8-5 Multilevel OLS Regression Predicting Perceived Risk of Household Property Crime (Variants E and F)

		Perceived risk of victimisation													
		Model 1			Model 2-E			Model 2-F			Model 3-E			Model 3-F		
	Variable	β	SE		β	SE		β	SE		β	SE		β	SE	
Trend																
	year 2010	-0.081	0.024	**							X			-0.019	0.035	
	year 2014	-0.128	0.023	***										-0.057	0.036	
	year 2018	-0.066	0.024	**										0.013	0.039	
Lv. 1																
	victimisation							0.364	0.043	***				0.364	0.043	***
	female				0.037	0.017	*	0.035	0.017	*	0.038	0.017	*	0.035	0.017	*
	age				-0.027	0.006	***	-0.026	0.006	***	-0.027	0.006	***	-0.026	0.006	***
	n of family members				0.012	0.007		0.012	0.007		0.012	0.007		0.011	0.007	
	homeownership				0.078	0.030	*	0.087	0.030	**	0.077	0.030	*	0.085	0.030	**
	detached house				0.092	0.030	**	0.082	0.030	**	0.088	0.030	**	0.079	0.030	**
	annual household income				0.078	0.017	***	0.078	0.017	***	0.077	0.017	***	0.077	0.017	***
	social support				-0.005	0.004		-0.004	0.004		-0.005	0.004		-0.004	0.004	
Lv. 2																
	social disorder				0.115	0.024	***	0.109	0.024	***	0.109	0.024	***	0.103	0.024	***

(continued)

	physical disorder				0.023	0.029		0.029	0.029		0.040	0.031		0.044	0.031	
	community policing				0.006	0.011		0.003	0.011		0.004	0.011		0.002	0.011	
	population density				0.000	0.000		0.000	0.000		0.000	0.000		0.000	0.000	
	ratio of daytime and night-time population				-0.001	0.000		-0.001	0.000		-0.001	0.000		-0.001	0.000	
	population: 15 years old or under				-0.017	0.009		-0.019	0.009	*	-0.017	0.009		-0.019	0.009	*
	population: 65 years and over				-0.003	0.004		-0.003	0.004		-0.004	0.004		-0.005	0.004	
	residential turnover				0.030	0.012	*	0.027	0.012	*	0.025	0.012	*	0.022	0.012	
	ratio of woman-headed households				7.488	3.254	*	7.973	3.253	*	6.532	3.479		6.783	3.471	
	taxable income per person				0.000	0.000	*	0.000	0.000	*	0.000	0.000		0.000	0.000	

(Continued)

	unemployment rate				-0.007	0.007		-0.008	0.007		0.001	0.009		0.001	0.009	
	ratio of manufacturing industry				0.567	0.232	*	0.552	0.232	*	0.485	0.241	*	0.479	0.241	*
	ratio of service industry				0.030	0.238		0.036	0.237		-0.111	0.255		-0.097	0.254	
	university degree				0.114	0.285		0.165	0.286		0.388	0.342		0.406	0.344	
	_cons	1.226	0.017	***	0.800	0.321	*	0.799	0.323	*	0.974	0.339	**	0.973	0.341	**
	n of observations	7436			5974			5913			5974			5913		
	n of groups	434			406			406			406			406		
	log likelihood	-7673.56			-6064.49			-5965.25			-6061.97			-5962.55		
	var(_cons)	0.007	0.003		0.003	0.003		0.003	0.003		0.003	0.003		0.003	0.003	
	var(Residual)	0.455	0.008		0.443	0.008		0.438	0.008		0.443	0.008		0.437	0.008	

Note: *p< .05; **p<.01; ***p<.001

8.4 Discussion

Table 8-6 summarises the results of this chapter in terms of the observed relationship between our predictor variables and fear of crime and perceived risk of victimisation. It is interesting to note that different variables are statistically associated with these two dependent variables. This section discusses the main findings from this study and their implications for future research and policymaking.

Table 8-6 Variables Influencing Fear of and Perceived Risk of Household Property Crime

	Fear of Crime				Perceived Risk	
	Model 3-A	Model 3-B	Model 3-C	Model 3-D	Model 3-E	Model 3-F
Trend						
year 2010	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
year 2014	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
year 2018	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Lv. 1 Individual/household						
victimisation		positive		positive		positive
perceived risk of victimisation			positive	positive		
female	positive	positive	n.s.	n.s.	positive	positive
age	negative	negative	negative	negative	negative	negative
n of family members	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
homeownership	n.s.	n.s.	n.s.	n.s.	positive	positive
detached house	positive	positive	positive	positive	positive	positive
annual household income	positive	positive	n.s.	n.s.	positive	positive
social support	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
Lv. 2 Neighbourhood						
social disorder	positive	positive	positive	positive	positive	positive
physical disorder	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
community policing	negative	negative	negative	negative	n.s.	n.s.
population density	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
ratio of daytime and night-time population	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
population: 15 years old or under	negative	negative	n.s.	n.s.	n.s.	negative
population: 65 years and over	n.s.	negative	n.s.	n.s.	n.s.	n.s.
residential turnover	positive	positive	n.s.	n.s.	Positive	n.s.
ratio of woman-headed households	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
taxable income per person	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.

unemployment rate	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
ratio of manufacturing industry	positive	positive	positive	positive	positive	positive
ratio of service industry	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
university degree	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.

The first study aimed to examine the patterns and predictors of fear of household property crime victimisation. Nine models (1-A, 2-A, 2-B, 2-C, 2-D, 3-A, 3-B, 3-C and 3-D) were tested. The impact of the survey year was statistically significant in Model 1; however, it was not observed after controlling for other independent variables. Therefore, hypothesis 1 is not supported. This means that both individual/household- and neighbourhood-level variables contributed to the levels of fear of crime. This result offers evidence in support of the much-observed "crime-fear-paradox" (Hale, 1996; Skogan & Maxfield, 1981; Warr, 1984). In other words, although crime has been decreasing in Japan over the period for which the author has data, the levels of fear of crime do not show a significant reduction over time, albeit there is a small decline. The reasons for this disconnect in the Japanese context remain unclear. In other settings, commentators point to the media as being the main factor which causes high levels of fear of crime even in areas with low crime rates (Bolger & Bolger, 2019; Chiricos et al., 1997; Gerbner & Gross, 1976; Liska & Baccaglini, 1990; Warr & Stafford, 1983). In Japan, too, it has been argued that the levels of fear of crime can be heavily affected by media (Hamai & Ellis, 2008); however, their claims seem to be somewhat speculative. Future studies are therefore needed to empirically examine the variables, including media exposure, which cause higher levels of fear of crime regardless of the actual crime rates. Specifically, one possible approach for future studies can be to interview people to examine if there is any relationship between media consumption and fear of different types of crime, and if so what types of media have the largest impact on determining the levels of fear and if the degree of its impact differs depending on demographic characteristics. Interviews have been commonly used to explore the effects of media on fear of crime in previous research (Callanan, 2012; Callanan & Rosenberger, 2015; Ditton et al., 2004; Sacco, 1982; Silva & Guedes, 2022; Wu et al., 2019).

The results regarding the impact of individual/household-level variables were largely consistent with what would be expected by the previous literature. For example, previous experience of criminal victimisation was found to increase reported levels of fear of household property crime in all the models tested here. This finding lends support to the victimisation model of fear of crime (Farrall et al., 2007; McGarrell et al., 1997) and related literature (Covington & Taylor, 1991; Liska et al., 1988; Skogan & Maxfield, 1981; Stafford & Galle, 1984), thereby supporting hypothesis 2, and suggesting that the victimisation model of fear of crime is generalisable to the Japanese context.

As stated above, one of the main aims of this study was to investigate if the perceived risk of criminal victimisation is associated with fear of crime, as Ferraro (1995) argued. The current study demonstrated that even after controlling for other relevant variables, the effects of perceived crime risk were observed (hypothesis 16). More specifically, higher levels of perceived risk of household property crime victimisation were found to increase those of fear of crime. This finding suggests that although fear of crime and perceived risk of victimisation are different concepts, they are highly related, as has been proposed in previous research (LaGrange & Ferraro, 1989; Rountree & Land, 1996b; Warr & Stafford, 1983).

Living in detached houses was statistically associated with higher levels of fear of household property crime (hypothesis 6). As Miethe & Meier (1994) argued, the houses which are detached from other units with multiple points of entry have higher risks of burglary victimisation, and the relationship between household property victimisation and detached house was confirmed in **Chapter 6**. It is therefore assumed since those who live in detached houses are likely to be fearful

of household property crime victimisation since they think their houses are attractive to potential offenders.

Annual household income was associated with higher levels of fear of crime in variants A and B; however, this association was not observed in variants C and D which included victimisation and perceived crime risk variables (hypothesis 7). It can thus be said that although family income, all things being equal, is expected to increase the target attractiveness of households (Rountree & Land, 1996a, 1996b), its impact disappeared when victimisation and perceived risk variables were statistically controlled for. As **Chapter 6** demonstrated, annual household income was found to negatively affect the risk of household property crime victimisation. In addition, the current study revealed that the risk of victimisation significantly increased self-reported levels of fear of crime. These findings lead to the conclusion that the indirect effect of household income on fear of crime was observed; the impact of household income on elevating the levels of fear of crime became insignificant after controlling the indirect effect of victimisation.

The results reported here also showed some inconsistencies compared to previous research. For example, all models tested in the study showed that increased age was associated with lower levels of fear of crime, though many previous studies in Western countries have demonstrated the opposite (McGarrell et al., 1997; Meško et al., 2008; Parker & Ray, 1990; Tulloch, 2000) (hypothesis 3). Although the current study did not include many variables representing respondents' lifestyle or physical vulnerability, it has been reported that these factors can affect the levels of fear among the elderly (Henson & Reyns, 2015; Pogrebin & Pijoan, 1978; Tulloch, 2000). Future work, therefore, needs to be performed to analyse what kinds of characteristics are associated with heightened levels of fear of crime among elderly people in Japan. Another

possible explanation for this inverse association between fear of crime and age could be unique to the Asian culture. One prior empirical study in South Korea also reported that those who have higher incomes tend to show higher levels of perceived crime risk (Cho & Park, 2019). More specifically, they argued that the elderly in South Korea have well-established cultural values and norms which serve to reduce their perceived fear of crime and victimisation risk.

Second, individual-level social support was not associated with fear of crime (hypothesis 8). As the community concern model (McGarrell et al., 1997; Taylor & Hale, 1986) argues, neighbourhood-level collective efficacy is expected to work as an inhibitor of fear (Farrall et al., 2007). The effects of social cohesion indeed have been confirmed in a large body of literature (Ferguson & Mindel, 2007; McNeeley & Yuan, 2017; Montolio & Planells-Struse, 2015; Renauer, 2007; Ross & Jang, 2000; Skogan & Maxfield, 1981). However, the current study showed neither positive nor negative impact of social support on the levels of fear. This may be due to the measurement of social support in the data used here. This thesis uses the responses to a four-point scale question in which the survey respondents comment on how many neighbours they can ask for help. However, different measurements have been used in prior studies, such as shared values in neighbourhoods and mutual trust among neighbours (Renauer, 2007) or participation in community decision-making (Montolio & Planells-Struse, 2015). It was therefore possible that different measurements of social support may lead to different results.

Regarding the neighbourhood-level predictors, the results generally support social disorganisation theory and environmental criminology. As hypothesised, increased neighbourhood social disorder was found to be associated with increased fear of household property crime (hypothesis 9). The impact of social disorder was observed even after controlling for other variables including the

perceived risk of victimisation. This result is explained by the disorder model of fear of crime (LaGrange et al., 1992; Skogan & Maxfield, 1981), which suggests that increased signs of disorder indicate a lack of neighbourhood social control and guardianship (McGarrell et al., 1997; Perkins & Taylor, 1996; Taylor & Hale, 1986) which makes people more fearful that crime may occur in such locations (Skogan, 1986). In addition, it can be said that neighbourhood social disorder indicators, such as teenagers loitering, drive fear as they work as "signals" of crime (Ditton & Innes, 2005; Innes, 2005).

The frequency of seeing police patrols in the local area was found to be related to lower levels of fear of crime, even after controlling for the perceived risk of victimisation (hypothesis 10). This result suggests that people feel safer in the neighbourhoods where the police are more visible, a principle which lies at the heart of so-called reassurance policing; the visibility, accessibility and familiarity of the police can reduce crime and fear of crime (Ditton & Innes, 2005; Millie & Herrington, 2005; Tuffin et al., 2006). Although community policing in Japan has been discussed in criminological literature, many previous studies on it are theoretical (Aldous & Leishman, 1997, 1999, 2000; Ames, 1979; Bayley, 1991; Leishman, 2007), and much uncertainty still exists about how community policing in Japan affects (or does not affect) fear of crime. The results from the present study empirically showed that community policing (as measured by the extent to which the police were visible in the local area) was associated with lower levels of fear of crime, providing support for the relationship between community policing and fear of crime verified in the past cross-sectional studies.

Although residential turnover was correlated with higher levels of fear of household property crime in variants A and B, its impact disappeared after controlling for the perceived risk of

criminal victimisation (hypothesis 11). This result leads to the conclusion that the perceived risk of victimisation is contextually higher in neighbourhoods with high levels of residential turnover, providing additional support for the disorder model (LaGrange et al., 1992; Skogan & Maxfield, 1981).

The ratio of municipal-level manufacturing industry was found to be significantly associated with increased levels of fear of crime in all models analysed even after controlling municipal-level education and income (hypothesis 14). As the disorder model (LaGrange et al., 1992; Skogan & Maxfield, 1981) and the community concern model (McGarrell et al., 1997; Taylor & Hale, 1986) speak, neighbourhood social and environmental characteristics influence the levels of fear of crime. Indeed, preliminary research (Taylor et al., 1985) reported that land use is one of the decisive factors of fear of crime. The code of the street can give a possible explanation for this result. Specifically, the code of the street, first presented by Anderson (1999), refers to "a set of informal rules governing interpersonal public behaviour, particularly violence" (Anderson, 1999, p. 33). Based on his extensive research in deprived black communities in the inner-city of Philadelphia, the environments of such communities cause the violent behaviours of the low-status youth there (Anderson, 1999). Prior research has empirically investigated the impact of "the code of the street" on youth violent behaviours (Brezina et al., 2004; Brookman et al., 2011). It can be then suggested that living in working-class areas leads to higher levels of fear of crime because of street culture of violence there.

The second study aimed to examine the patterns and predictors of the perceived risk of household property crime victimisation. Two variants (E and F) were tested to determine if the relationship

between previous victimisation and perceived risk of victimisation is observed, as Ferraro (1995) has argued.

The current study demonstrated that, in the Japanese context, fear of crime and perceived risk of criminal victimisation were affected by different variables. This leads to the conclusion that fear of crime and perceived risk of victimisation should be discussed separately since they are different concepts, as has been argued in the past literature (Chon & Wilson, 2016; LaGrange & Ferraro, 1989; Rountree & Land, 1996b; Warr & Stafford, 1983). In the Japanese context, limited research (Shimada et al., 2004; Yamamoto & Shimada, 2016) has discerned them clearly, and the current study provided additional insight into the discussion on fear of crime and perceived risk of victimisation, showing that the difference between fear of crime and perceived risk of victimisation is observed Japan nationwide.

The survey year variables did not statistically influence the levels of the perceived risk of victimisation (hypothesis 1). This means that, as with fear of crime, the levels of perceived crime risk have not been on a declining trend during the crime drop. Put differently, both fear of crime and the perceived risk of victimisation in Japan do not accurately match up with actual crime trends.

The analysis of individual/household-level variables as predictors of perceived risk of household property crime yielded many consistencies with the research literature. As the victimisation model (Farrall et al., 2007; McGarrell et al., 1997) argues, the previous victimisation of household property crime statistically increased its perceived risk. This finding is consistent with prior research (Chon & Wilson, 2016; Lai et al., 2017) (hypothesis 2).

As expected, female and older respondents were more likely to exhibit a greater perceived risk of victimisation, supporting hypothesis 3. This result confirmed the applicability of the indirect victimisation model (McGarrell et al., 1997) to the Japanese context, showing consistencies with much previous research on the association between perceived crime risk and sex (Cho & Park, 2019; Ferguson & Mindel, 2007; McGrath & Chananie-Hill, 2011; Tseloni & Zarafonitou, 2008) and age (Chon & Wilson, 2016; Hummelsheim et al., 2011; McGrath & Chananie-Hill, 2011; Oh & Kim, 2009; Sampson & Raudenbush, 2004). As **Chapter 6** revealed, sex was not associated with the actual risk of household property crime; however, the current study demonstrated the relationship between higher levels of perceived crime risk and sex. As Ferraro (1996) argued, this can be explained by the "shadow of sexual assault hypothesis"; fear of sexual offence among women can elevate fear of other types of crime (Choi et al., 2019; Chui et al., 2012; Fisher & Sloan, 2003; Henson & Reyns, 2015; Rader et al., 2007; Wilcox et al., 2006).

With regard to household characteristics, three variables were found to be associated with higher levels of the perceived risk of household property crime; homeownership, detached house and annual income. Contrary to previous studies (McNeeley & Yuan, 2017; Perkins et al., 1993), homeownership was found to be associated with higher levels of perceived household property crime risk. A possible explanation for this unexpected result is that those who live in their own houses are likely to introduce security measures that elevate their perceived risk of victimisation (Ferguson & Mindel, 2007; Rountree & Land, 1996a, 1996b). Further research therefore should consider the impact of home security on the levels of perceived risk of household property crime in the Japanese context.

Living in detached house was related to increased levels of the perceived risk of household property crime, as well as fear of crime. These results support hypothesis 6. Since detached houses have multiple points of entry which increase their attractiveness to motivated offenders (Miethe & Meier, 1994), and, in fact, those who live in detached house show higher victimisation risk revealed in **Chapter 6**, it is reasonable that they are likely to exhibit higher levels of perceived household property crime risk.

Annual household income was also positively correlated with higher levels of perceived household property crime risk (hypothesis 7). This is inconsistent with prior research in Western countries (Abbott & McGrath, 2017; McGrath & Chananie-Hill, 2011; Rountree & Land, 1996b; Sampson & Raudenbush, 2004) which argued that those with lower income are likely to show higher levels of perceived crime risk. A possible explanation for this result is that family income increases target attractiveness (Rountree & Land, 1996a, 1996b), and this leads to higher levels of perceived household property crime risk.

Social disorder was found to be statistically correlated with higher levels of perceived risk of victimisation even after controlling for previous victimisation, supporting hypothesis 9. This result supports the disorder model (LaGrange et al., 1992; Skogan & Maxfield, 1981), and is consistent with prior research in Tokyo (Suzuki & Shimada, 2006). It can be therefore said that the current study provided further evidence for the disorder model in Japan, showing that neighbourhood social disorder increases the levels of the perceived risk of victimisation nationwide.

In the current study, population and industry compositions were significant factors associated with higher levels of perceived household property crime risk. A ratio of the population who are 15 years old and under was associated with lower levels of the perceived risk of crime. The systemic model (Bursik & Grasmick, 1993) argues that extensive interpersonal networks among neighbours strengthen the control of crime and delinquency. A possible explanation for this finding, therefore, is that children contribute to lower levels of the perceived risk of crime, building better informal social ties in the neighbourhoods.

The ratio of manufacturing industry was found to be correlated with increased levels of the perceived risk of household property crime victimisation (hypothesis 14), as well as fear of household property crime. This finding can be explained by the disorder model (LaGrange et al., 1992; Skogan & Maxfield, 1981) and the community concern model (McGarrell et al., 1997; Taylor & Hale, 1986); land use can be associated with the levels of the perceived risk of victimisation. **Table 8-7** summarises the support for each hypothesis. As shown, hypotheses 2, 5, 6, 9, 10, 14 and 16 are (partially) supported.

Table 8-7 Answers to the Hypotheses

Hypotheses	
1. The levels of fear and perceived risk of household property crime victimisation decreased from 2007 to 2018.	No
2. Previous victimisation will increase the levels of fear and perceived risk of household property crime.	Yes
3. Sex and age will not be related to fear and perceived risk of household property crime.	No
4. As the size of the family increases, the levels of fear and perceived risk of household property crime decrease.	No
5. Homeownership will increase the levels of fear and perceived risk of household property crime.	Mixed
6. A detached house will increase the levels of fear of and perceived risk of household property crime.	Yes
7. The increase in household income will increase the levels of fear and perceived risk of household property crime.	No
8. Social support will decrease the levels of fear and perceived risk of household property crime.	No
9. Neighbourhood disorder will increase the levels of fear and perceived risk of household property crime.	Mixed
10. The presence of community policing will decrease the levels of fear and perceived risk of household property crime.	Mixed
11. The increase in residential turnover will increase the levels of fear and perceived risk of household property crime.	No
12. The increase in the municipal-level income will be associated with greater levels of fear and perceived risk of household property crime.	No
13. The unemployment rate will increase the levels of fear and perceived risk of household property crime.	No
14. The increase in the municipal-level ratios of woman-headed household, manufacturing and service industries will be associated with a greater risk of property household crime.	Mixed
15. A University degree will increase the levels of fear and perceived risk of household property crime.	No
16. Perceived risk of household property crime increases the levels of fear of household property crime.	Yes

8.5 Conclusion

This chapter sought to better understand the patterns and predictors of fear of and perceived risk of household property crime in Japan, using secondary data collected as part of a multi-sweep survey and drawing on the Japanese national census. In summary, the results of the analysis provided both consistencies and inconsistencies with the predominantly Western research literature. The findings reported have considerable implications for future research. First, this chapter contributes to the literature by providing evidence for "crime-fear-paradox" (Hale, 1996; Skogan & Maxfield, 1981; Warr, 1984); despite the noted drops in crime, the levels of fear of crime in Japan have not shown a significant reduction over time. The current study empirically revealed that although the crime drop has been happening (**Chapter 6**), the levels of fear of crime have been fairly stable. This chapter is concerned with the patterns and predictors of fear of and perceived risk of household property crime, it is recommended for future research to determine the predictor variables which elevate the levels of fear of and perceived risk of different types of crime.

Second, the current study revealed that the concepts of fear of crime and perceived risk of victimisation are different, showing that different variables were associated with them. As stated above, the research which distinguishes fear of crime from perceived crime risk remains limited in Japan (Shimada et al., 2004; Yamamoto & Shimada, 2016). This study provided an important finding in the understanding of the patterns and predictors of both fear of and perceived risk of household property crime, analysing them separately. Future research in Japan therefore should differentiate these two concepts when examining their patterns.

Recommendations for making practical policies against high levels of fear of crime and the perceived risk of victimisation in neighbourhoods are also suggested by the current study. First, it is important for policymakers, the police and communities to consider measures to reduce social disorder. As discussed earlier, neighbourhood social disorder was found to increase the levels of both fear and perceived crime risk, providing additional support for the broken window theory (Wilson & Kelling, 1982) which argues that the disorder represents the lack of social control and the signal of crime. Interestingly, previous research in Japan revealed that low levels of neighbourhood disorder were found to be the more effective variable than the frequency of seeing police patrol in reducing perceived risk of victimisation (Shimada & Ohyama, 2018).

Second, further investigations are needed to understand what kinds of community policing in Japan are especially effective to improve the levels of perceived risk of victimisation. Various styles of neighbourhood policing have been put into practice in Japan, including koban, police foot patrol, police car patrol, and patrol by city office or citizens themselves. The current study demonstrated the effects of police patrol in general on reducing the levels of fear of household property crime. Future research should be devoted to the understanding of effective community policing measures. In the past literature in the Japanese context, for example, it has been reported that citizen patrol reduces the levels of fear of crime (Yamamoto & Shimada, 2016) and police patrol reduces the levels of perceived risk of victimisation (Shimada & Ohyama, 2018), while neighbourhood security box increases the levels of perceived risk of victimisation (Yamamoto & Shimada, 2016).

Chapter 9 Discussion and Conclusion

Chapter Summary

This chapter discusses the main findings from the thesis and their implications for criminological research and crime prevention. The chapter begins with a summary of the thesis aims and a reminder of the main findings from each of the three empirical studies which make up this thesis. The key predictors of victimisation, repeat victimisation, fear of crime and perceived risk of victimisation found are then reviewed and situated within previous theory and research, with differences and similarities with Western studies highlighted. Drawing on the results of this thesis, the chapter then sets out ideas for future criminological research and crime prevention in Japan and elsewhere.

9.1 Thesis Aims and Findings

An increasing number of studies have analysed the patterns of different types of crime, producing evidence that both micro- and macro-level factors increase or decrease the risk of criminal victimisation. However, with few recent exceptions (Shimada & Ohyama, 2018; Shimada & Suzuki, 2021), there is limited theoretically-informed multilevel research on the patterns and predictors of criminal victimisation in Japan. Moreover, Japan, according to official crime statistics, like many countries, has experienced a notable crime decline in recent decades, especially in relation to property crime, albeit these falls (beginning in the early 2000s) occurred much later than was observed in many Western countries where the so-called crime drop began around the early 1990s. Japan is therefore considered an interesting setting for criminological research since, in terms of crime trends, Japan shares both similarities (the experience of the significant and prolonged crime drop) and differences (the level of crime rate) with many of the Western countries where criminology theories have been mainly developed and tested. Although

the crime rate in Japan has been on a declining trend and is much lower than that in most Western advanced nations, it is still important to understand the factors associated with both experiencing and fearing crime, in light of the many negative psychological and behavioural consequences linked to crime. The focal research questions raised in this thesis concerned the patterns and predictors of victimisation, repeat victimisation, fear of crime and perceived risk of victimisation against the crime drop in Japan.

Specifically, the following research questions were tested in the thesis:

1. What are the patterns and the predictors of criminal victimisation in Japan?
2. What are the patterns and the predictors of repeat victimisation in Japan?
3. What are the patterns and the predictors of fear of crime in Japan?
4. What are the patterns and the predictors of perceived risk of victimisation in Japan?
5. Is the crime drop observed in the nationally representative household survey?

The thesis focused specifically on household property crime (residential burglary and vandalism) to test the above research questions. The empirical work in this thesis consisted of repeated cross-sectional secondary analysis of two independent datasets, which hitherto have been the subject of limited criminological research. These datasets were derived from four waves of a nationally representative social survey, the "Japanese Public Safety Survey" (JPSS), and three waves of the Japanese census. These two datasets were integrated in order to analyse the relationship between relevant individual/household- and neighbourhood-level variables on victimisation, repeat victimisation, fear of crime and perceived risk of victimisation. In doing so, the thesis also assessed the generalisability of variables derived from social disorganisation theory and environmental criminology. All studies reported here performed multilevel regression analysis to

accomplish the thesis aims, since individuals and households are nested within municipalities, nesting which needs to be accounted for in the statistical analysis. In addition to multilevel modelling, exploratory factor analysis was also performed as a preliminary analysis in Study 1 (on the patterns and predictors of victimisation) to identify the structure of latent variables from eleven perceived neighbourhood disorder items. The next three sections briefly describe each of the three empirical studies reported here and the fourth section summarises the findings from these studies.

9.1.1 Study 1: Patterns and Predictors of Household Property Crime Victimisation

Past literature has revealed that both macro- and micro-level factors are associated with victimisation risk. Study 1, presented in **Chapter 6,** explored the patterns and predictors of household property crime, as measured in the JPSS. To discover the underlying structure of eleven perceived neighbourhood disorder items used in the JPSS, Study 1 first performed exploratory factor analysis. The results of the exploratory factor analysis confirmed the factor structure hypothesised from previous literature in Western countries. Specifically, two factors that represent neighbourhood social and physical disorder were extracted from the analysis, consistent with previous research (Perkins & Taylor, 1996). Contrary to expectations, however, higher levels of perceived neighbourhood disorder were observed in rural areas in Japan; the respondents in towns and villages were more likely to report signs of physical disorder in their neighbourhoods than those living in cities. The reasons for this finding remain unclear. One explanation could be the observed depopulation and decline in many rural areas of Japan (Shimada & Suzuki, 2021), which relates to the survey questions: “Trees and shrubs are left unmaintained in my

neighbourhood", "A lot of dark places with few lamps" and "A lot of vandalised and abandoned buildings in my neighbourhood".

Three multilevel logistic regression models were then performed to examine the predictor variables of household property crime. With regard to the survey year variables, the year 2010 and 2018 were found to be negatively associated with household property crime risk even after controlling for individual/household- and neighbourhood level variables. This finding provides evidence to support the claim that (household property) crime has fallen in Japan over recent decades, as has been observed in official crime statistics.

Three out of the seven individual/household-level variables included in the statistically modelling were found to be significantly associated with household property crime risk in the expected direction: living in a detached house increased, and homeownership and the presence of social support reduced the risk of household property crime. These results were all consistent with what has been found in previous research, lending preliminary support for the generalisability of these variables to the Japanese context. Of the fourteen neighbourhood-level variables entered in the model, and after controlling for survey year and the other individual/household-level variables, only the presence of community policing was found to be significantly associated with the risk of household property crime, and specifically to *increase* the risk of household property crime. At first glance, this association appears counterintuitive and indeed is not consistent with what would be expected from previous research (Rhineberger-Dunn & Carlson, 2011; Tilley, 1993; Velez, 2001). Two possible explanations were given for this unexpected result. First, household property crime victims may pay greater attention to neighbourhood policing in their local area than those who have not been victimised. Second, the police may be more present in neighbourhoods where

(household property) crime has taken place, and so, all things being equal, those who have experienced crime will be more likely to have seen police patrolling their area. In conclusion, it was recommended that future research should consider the relationship between criminal victimisation and community policing since the data that the thesis used did not allow the author to test these hypotheses. Specifically, individual-level panel data analysis can be helpful to identify the causal relationship between them.

9.1.2 Study 2: Patterns and Predictors of Repeat Residential Burglary and Vandalism Victimisation

It is well-established that previous victimisation is a strong predictor of future victimisation, and that a small number of victims account for a sizable proportion of all victimisations. Study 2 presented in **Chapter 7** sought to determine the patterns and predictors of repeat residential burglary and vandalism in Japan. Repeat victims here are defined as victims of the same crime type on more than one occasion over the one-year survey period. Study 2 first looked at the prevalence and distribution of (repeat) residential burglary and vandalism. Consistent with previous research, the data revealed a skewed distribution of residential burglary and vandalism among the JPSS respondents; repeat victims of residential burglary made up 0.4% of the survey sample and accounted for 17.3% of all victimisation, and those of vandalism made up 0.6% of the survey sample and accounted for 23.6% of all victimisations.

Multilevel logistic regression analyses were then performed to empirically investigate the effects of survey years, and individual/household- and neighbourhood-level factors on the risk of repeat residential burglary and vandalism victimisation. Two separate comparisons were tested;

comparison A compared repeat victims with other groups (single victims and non-victims), and comparison B examined the factors which distinguish repeat victims from single victims.

Analyses revealed that the factors associated with single victimisation were different from those associated with repeat victimisation. In contrast with what was found in Study 1, the survey year variables were not correlated with the risk of repeat residential burglary and vandalism victimisation. This may suggest that the crime drop in Japan over recent years is mainly attributed to reductions in single victimisation as opposed to the reduction of repeats against the same households. This result provides evidence that in Japan, as well as in other industrialised countries, the crime drop has not been experienced by all victims equally (Farrell, 1995; Farrell, Tseloni, et al., 2005; Farrell & Pease, 1993; Ignatans & Pease, 2015; McVie et al., 2020; Park & Eck, 2013; Weisel, 2005).

Receiving social support and holding a university degree were factors shown to distinguish repeat residential burglary victims from other groups. Social support and social disorder were the factors that distinguish repeat vandalism victims from other groups. Social support and a ratio of manufacturing industry were the factors that distinguish repeat residential burglary victims from single victims. Social disorder was the factor that distinguishes repeat vandalism victims from single victims. In line with previous studies (Markowitz et al., 2001; Robinson et al., 2003) and Study 1, social support was found to be effective in reducing the risk of victimisation. Moreover, Study 2 confirmed that social support statistically decreases the risk of repeat victimisation as well. This result is in line with the social disorganisation theory; collective efficacy is effective in meditating the levels of crime (Burchfield & Silver, 2013; Maimon & Browning, 2010; Morenoff et al., 2001; Sampson & Raudenbush, 1999). Study 1 reported that homeownership was found to

reduce, and detached house was found to increase the levels of household property crime. Contrary to the findings of Study 1, homeownership and detached house were not found to be associated with the risk of repeat residential burglary and vandalism. It can be then suggested that a detached house and homeownership are predictors of single victimisation; however, they are not significant enough among the victims. To conclude, future research should investigate the characteristics of people and places at higher risk of repeat victimisation of different types of crime.

9.1.3 Study 3: Patterns and Predictors of Fear of Household Property Crime and Perceived Risk of Household Property Crime Victimisation

Studying the fear of crime is of great importance since high levels of fear can negatively influence the quality of life and even lead to the decline of neighbourhoods (Skogan, 1986). There are three dominant theoretical models to account for the patterns of fear of crime: the indirect victimisation model, the disorder model, and the community concern model. As with criminal victimisation, existing studies have demonstrated that individual/household- and neighbourhood-level variables are correlated with the levels of fear of crime and perceived risk of victimisation (Jackson, 2004; Rengifo & Bolton, 2012). However, relatively little attention has so far been paid to fear of crime in Asian contexts, including Japan. Study 3 presented in **Chapter 8** aimed to determine the factors associated with fear of household property crime and perceived risk of household property crime in Japan with a special focus on the impact of the previous victimisation and the relationship between fear of crime and perceived risk of victimisation.

Four multilevel regression models were tested to make sense of the patterns of fear of household property crime victimisation. Overall, the analyses provided both consistencies and inconsistencies with prior studies. The results revealed that the survey year variables were not found to be related to levels of fear of household property crime. This means that the crime drop in Japan does not appear to be associated with any changes in the levels of fear of household property crime in Japan. This disconnect between falling crime rates and stable fear of crime rates mirrors what has been found elsewhere in studies of fear of crime, and has been referred to as the 'reassurance gap' (Millie & Herrington, 2005). At the individual/household-level, experiencing previous victimisation, being older, living in a detached house and having a higher annual household income were found to be associated with increased fear of household property crime. Contrary to the findings of previous research (McGarrell et al., 1997; Meško et al., 2008; Parker & Ray, 1990; Tulloch, 2000), age was associated with decreased levels of fear of crime. There are several possible explanations for this outcome. One of the possible explanations for this is that as previous research in East Asia (Cho & Park, 2019) reported, the elderly are more likely to keep cultural values and norms which reduce their levels of fear of crime. Individual-level social support was not significantly related to fear of crime, though prior studies have reported that social cohesion reduces fear, providing support for the community concern model (Ferguson & Mindel, 2007; McNeeley & Yuan, 2017; Montolio & Planells-Struse, 2015; Renauer, 2007; Ross & Jang, 2000; Skogan & Maxfield, 1981). It was concluded that different measurements of social support may lead to different results of the impact of social support. At the neighbourhood-level, social disorder and community policing were found to be statistically related to fear of household property crime. As expected, social disorder deteriorated respondents' fear of crime, providing support for the generalisability of the disorder model (LaGrange et al., 1992; Skogan & Maxfield, 1981) in Japan. Community policing was found to reduce the levels of fear of crime. Although

Japanese-style community policing has been somewhat popular, the discussion on its impact on crime is, presently, largely theoretical and superficial (Aldous & Leishman, 1997, 1999, 2000; Ames, 1979; Bayley, 1991; Leishman, 2007). From the results of Study 3, it appears that the police in Japan may work to reassure the public through their high visibility, accessibility and familiarity to citizens (Ditton & Innes, 2005; Millie & Herrington, 2005; Tuffin et al., 2006). To test this explanation directly, experimental research would be helpful (Bennett & Lavrakas, 1989; Brown & Wycoff, 1987; Merry et al., 2012).

The patterns of perceived risk of household property crime victimisation were also examined using multilevel regression. It was demonstrated that there was a statistical association between prior victimisation and perceived risk of victimisation. One of the most remarkable results to emerge from Study 3 was that different predictors were associated with fear of crime and perceived risk of victimisation. So far in the Japanese context, few studies have differentiated these two concepts (Shimada et al., 2004; Yamamoto & Shimada, 2016). Study 3 confirmed the findings of previous studies in other countries (Chon & Wilson, 2016; LaGrange & Ferraro, 1989; Rountree & Land, 1996b; Warr & Stafford, 1983) by indicating that fear of crime and perceived risk of victimisation are two qualitative different (albeit related) concepts, predicted by different variables in the Japanese context. The survey year variables were not found to be correlated with the perceived risk of household property crime victimisation after controlling the individual/household- and neighbourhood level variables. The findings from the analysis furthered support the three fear-of-crime models. For instance, as expected, prior victimisation, sex, detached house, annual household income, social disorder and land use statistically increased the levels of the perceived risk of victimisation.

9.1.4 Summary of the Findings

Returning to the five research questions which motivated this thesis, the three empirical studies reported in this thesis found that:

1. 2.0% of survey respondents were residential burglary victims.
2. 2.4% of survey respondents were vandalism victims.
3. 17.3% of survey respondents who reported residential burglary were repeat residential burglary victims.
4. 23.6% of survey respondents who reported vandalism were repeat vandalism victims.
5. Year, homeownership, living in a detached house, receiving social support and the presence of community policing were all negatively associated with household property crime victimisation in Japan.
6. Receiving social support, level of education and ratio of manufacturing industry were associated with repeat residential burglary. Social support was found to be negatively, and social disorder was found to be positively associated with repeat vandalism.
7. Victimisation, perceived risk of victimisation, age, detached house, social disorder and community policing were associated with fear of household property crime.
8. Victimisation, sex, age, homeownership, detached house, annual household income, social disorder and ratio of the population of those who are 15 years or under were associated with perceived risk of household property crime victimisation.
9. The crime drop observed in official crime statistics was also found here through analysis of self-reported survey data (see **Figure 6-2**). In the years over which crime fell in Japan, the levels of fear of crime and perceived risk of household property crime in Japan did also fall, mediated by the reductions of the prevalence of victimisation; however, the degree of the reductions was not significant compared with those of crime itself. This was considered the

"crime-fear paradox". Additionally, the crime drop showed no significant association with changes in patterns of repeat burglary victimisation and vandalism in Japan.

Table 9-1 and **Table 9-2** show the statistically significant predictor variables of victimisation, repeat victimisation, fear of crime and perceived risk of victimisation that emerged from the research reported here. They reveal that different factors were found to increase or decrease the levels of victimisation, repeat victimisation, fear of crime and perceived risk of victimisation.

Table 9-1 Summary of Predictor Variables of Victimisation and Repeat Victimisation

Study	**1**	**2**	**2**	**2**	**2**
Outcome	**Victimisation**	**Repeat victimisation (repeat victims vs. other groups)**	**Repeat victimisation (repeat victims vs. other groups)**	**Repeat victimisation (repeat victims vs. single victims)**	**Repeat victimisation (repeat victims vs. single victims)**
Types of crime	**Household property crime**	**Residential burglary**	**Vandalism**	**Residential burglary**	**Vandalism**
Trend	year 2010 (-), year 2018 (-)	n.s.	n.s.	n.s.	n.s.
Lv.1 Individual/household	homeownership (-), detached house (+), social support (-)	social support (-)	social support (-)	social support (-)	n.a.
Lv.2 Neighbourhood	community policing (+)	university degree (+)	social disorder (+)	ratio of manufacturing industry (+)	social disorder (+)

Table 9-2 Summary of Predictor Variables of Fear of Crime and Perceived Risk of Victimisation

Study	**3**	**3**
Outcome	**Fear of crime**	**Perceived risk of victimisation**
Types of crime	**Household property crime**	**Household property crime**
Trend	n.s.	n.s.
Lv.1 Individual/household	victimisation (+), perceived risk of victimisation (+), age (-), detached house (+)	victimisation (+), female (+), age (-), homeownership (+), detached house (+), annual household income (+)
Lv.2 Neighbourhood	social disorder (+), community policing (-)	social disorder (+), population: 15 years old or under (-)

Study 1 revealed that the survey year variables were correlated with the risk of household property crime victimisation, leading to the conclusion that other factors caused the significant and prolonged crime reductions in Japan which were not adequately explained in the thesis. A possible factor for the crime drop in Japan is the improvement of household security measures. As discussed above, it has been empirically demonstrated that home or street security devices reduce the likelihood of burglary (Bowers et al., 2004; Farrell et al., 2014; Farrell, Tseloni, Mailley, et al., 2011; Tseloni et al., 2017). Study 1 included age, sex, number of family members, homeownership, housing type, household income and social support as the individual/ household-level variables; however, future research should test the "security hypothesis" in the Japanese context by determining the impact of security measures on the risk of household property crime since the data from which were used in this thesis does not contain any information on home security. Specifically, asking the respondents to report the use of security devices will be helpful (Miethe & McDowall, 1993; Tewksbury & Mustaine, 2003).

Regarding Study 2, the survey year variables were not associated with repeat residential burglary victimisation in all tested models. This leads to the conclusion that the significant and prolonged crime reductions in Japan are not due to the decline of repeat victimisation cases but due to the decline of one-time victimisation cases. In other words, crime reductions affected some population groups more than others (Ignatans & Pease, 2015; McVie et al., 2020; Nilsson et al., 2017). The final model (Model 3) demonstrated that individual-level social support, the municipal-level university degree and a ratio of manufacturing industry were correlated with the likelihood of repeat residential burglary. The impact of the survey year 2018 on repeat vandalism victimisation was observed in Model 1 (trend-only model) of repeat vandalism victimisation. However, it disappeared in Model 3 (full model) which controlled the individual/household and

neighbourhood characteristics. Individual-level social support and neighbourhood-level social disorder were found to be significantly associated with the risk of repeat vandalism victimisation. Put another way, the changes in these variables contribute to the levels of repeat vandalism victimisation.

Regarding Study 3, all survey year variables showed a significant impact on fear of and perceived risk of household property crime only in Model 1 (trend-only model); however, they were not observed in the Model 3 (final model) in which criminal victimisation was controlled. This means that the reductions in victimisation did not coincide with those of fear of crime and perceived risk of victimisation. It was demonstrated that victimisation, perceived risk of victimisation, age, detached house, social disorder and community policing were associated with the levels of fear of crime, and victimisation, sex, age, homeownership, detached house, annual household income and a ratio of the population who are 15 years or under were associated with the levels of the perceived risk of victimisation.

9.2 Theoretical Implications

This thesis has several important implications for criminological research in Japan. First, although Japanese society is widely considered to be very homogeneous compared with other advanced nations, as described in **Chapter 2**, the thesis emphasised the usefulness of multilevel modelling, showing the notable differences between the effects of household-level variables and neighbourhood-level variables, both on crime and fear of crime. Examples of criminological multilevel modelling are currently limited in Japan (Shimada & Ohyama, 2018; Shimada & Suzuki, 2021; Takagi & Shimada, 2019). The thesis, therefore, suggests that multilevel modelling is useful to analyse the impact of both micro- and macro-level variables on the distribution of crime in Japan.

Second, the thesis demonstrated that using multiple secondary data sources is also useful in criminological research. The thesis consists of the analysis of two independent datasets (social survey and census data) which are both open to the public and further consent from the respondents is not required. Although secondary data analysis has some limitations (see **Chapter 4**), it is still helpful as a method of crime analysis especially when it is difficult to reach the population or obtain research ethical approval. As well as the social survey and the census, the open crime data are considered very useful for crime analysis in Japan. Indeed, using the 6th wave of the JPSS, the census and the open crime data, prior research examined the risk of vehicle theft and crime prevention behaviours in Japan nationwide (Shimada & Suzuki, 2021). As research prospects, it is suggested that future research seeks to better utilise currently available data to perform further analysis of crime patterns and crime opportunity structures.

Third, the thesis revisited the concepts of social and physical disorder in Western criminological research to examine if the same concepts are obtained in the Japanese context using the nationwide social survey and the census. Exploratory factor analysis was performed to identify the structure of latent variables from perceived neighbourhood disorder items in the JPSS. It validated that similar disorder items discussed in the Western context were discovered in Japan. However, contrary to expectations, the levels of physical disorder were greater in towns and villages than in cities. It was concluded that since depopulation has been progressing in rural areas of Japan, the neighbourhoods there have many unmaintained trees and shrubs, dark places vandalised and abandoned buildings which construct the physical disorder variable. Considering that the concept of perceived neighbourhood physical disorder in Japan is different from that in Western countries, it is necessary to delimitate the factors associated with the physical disorder which represents neighbourhood breakdown or declines. Specifically, two methods can be proposed to further investigate neighbourhood physical disorder in the Japanese context. First, scale development in measuring neighbourhood physical disorder in Japan can be useful to assess its attribute. Second, systematic social observation (SSO) can be helpful to collect data on natural social phenomena which represent neighbourhood physical disorder. SSO developed by Reiss (1971) is "a powerful tool for the study of human behaviors, especially human interactions, as they occur" (Mastrofski et al., 2010, p. 226). Since previous research that uses SSO has highlighted the usefulness of SSO approach with a social survey to capture a picture of neighbourhood structure (Perkins et al., 1993; Raudenbush & Sampson, 1999; Taylor et al., 1985; Todak & James, 2018), further research using SSO can be of importance to understand neighbourhood physical disorder in the Japanese context.

Fourth, the thesis lent partial support to the applicability of the social disorganisation theory and environmental criminology to the Japanese context. Study 1 revealed that, for instance, living in a detached house was found to increase, and homeownership and social support were found to reduce, the risk of household property crime. These results are in line with what the social disorganisation theory and the routine activity approach argue. There were, however, more social disorganisation- and environmental criminology-informed variables that are found not to have an association with the dependent variable of interest, suggesting limits to the generalisability of these theories to the Japanese context. Since the thesis is based on secondary data analysis, the author was not able to control the response categories used for each question in the JPSS. Taking social support as an example, different measurements have been used in prior studies and it would be worth analysing if different measurements of social support produce different results from what the thesis demonstrated.

Fifth, a large sample-size nationwide victimisation survey is required to gain a more complete picture of the patterns of crime in Japan. Considering the certain amounts of crimes which are not reported to the police, the victimisation survey plays an important role in the understanding of victimisation trends. Today, a systematic nationwide victim survey is not carried out every year in Japan, and this is why the author employed the social survey carried out by the independent research institute. It is therefore suggested that a large sample-size victimisation survey is helpful for both researchers and practitioners to reach the true level of crime.

9.3 Practical Implications

The findings of the thesis have implications for crime prevention in Japan. First, several explanations have been so far put forward to account for why Japan has a low crime rate compared

to most other industrialised countries: a thriving economy (Komiya, 1999), high levels of informal social control (Ames, 1981; Bayley, 1978; Bayley & Shearing, 1996) and the use of koban (Aldous & Leishman, 1997; Ames, 1981; Bayley, 1978). Although these explanations are still theoretical and speculative, using the multilevel regression analysis, the thesis empirically revealed that contextual effects exist among Japanese municipalities. Specifically, the thesis revealed that, for instance, at the individual/household- and neighbourhood-level variables decided the levels of victimisation, fear of crime and perceived risk of victimisation.

Second, it is necessary to deal with social disorder in the neighbourhoods since it can increase not only actual crime rates but also fear of crime and the perceived risk of victimisation. Community policing which focuses on social disorder is therefore needed to improve the levels of fear of crime and perceived risk of victimisation. Indeed, a recent systematic review revealed that community policing or problem-solving approaches were found to be effective in crime reduction by addressing neighbourhood disorder (Braga et al., 2019). Most of the studies they reviewed however were conducted in the United States. Therefore, future studies should aim to analyse if these intervention approaches have a significant impact in the Japanese context as well.

Third, related to the second implication, it is also important to consider how social support could be better fostered in an effort to reduce crime. The results from Studies 1 and 2 demonstrated that individual-level social support significantly reduced the risks of single and repeat victimisation. The introduction of neighbourhood watch to increase the levels of social support in neighbourhoods can be suggested. Indeed, it has been argued that neighbourhood watch is expected not only to reduce the levels of crime and disorder but also to increase those of sense of community or social interactions (Garofalo & McLeod, 1989; Kang, 2015).

Fourth, crime prevention policies should reflect the crime trends or related problems of each municipality. As the empirical studies in the thesis demonstrated, neighbourhood contextual effects were significant in the levels of crime, fear of crime and perceived risk of victimisation even in a Japanese society which is considered very homogeneous. Indeed, although some believe crime prevention measures born in metropolitan areas are perfectly compatible with rural areas, it has been argued that crime prevention measures are generally based on the practices in urban areas (Schafer et al., 2009). Specifically, crime prevention measures should be planned so as to fit the context of each area (Buttle et al., 2010). In the Japanese context, a very recent crime analysis in Japan has provided evidence that there are variations in motor vehicle and bicycle theft across the urban-rural continuum (Shimada & Suzuki, 2021).

Fifth, it was clearly suggested from the results of Study 2 that the police should direct efforts for crime prevention to the households that have been victimised. Study 2 empirically demonstrated that specific groups of households still show high levels of victimisation risks during the significant and prolonged crime reductions in Japan. Interventions to these households are therefore needed. Free security checks for previously burglarised households (Weisel et al., 1999) can be effective to prevent subsequent victimisation of residential burglary since they can be conducted as part of *junkai renraku* - door-to-door visits routinely made by police officers in Japan.

9.4 Strengths and Limitations

The strengths of this thesis are threefold. First, drawing on nationwide repeated cross-sectional data collected by an independent household survey and the census in Japan, the thesis performed

a multilevel analysis of the factors correlated with victimisation, repeat victimisation, fear of crime and perceived risk of victimisation during the crime drop. The patterns and predictors of these four crime-related variables against the rapid and continuous crime decline in Japan are previously understudied and this forms the main background of this thesis. From the results of three empirical studies, the thesis provides the potential for the application of the social disorganisation theory and environmental criminology.

Second, the thesis applies the same predictors to examine the patterns of four different outcomes: victimisation, repeat victimisation, fear of crime and perceived risk of victimisation. The thesis empirically reveals that different predictor variables are associated with different dependent variables. In other words, those who have high levels of victimisation risks do not always show high levels of fear of crime.

Third, Japan is the research setting for the thesis and it tests the generalisability and feasibility of dominant criminological theories in the East Asian context. As noted above, little empirical research on crime has been conducted in Japan and it is still unclear whether criminological theories born and tested mainly in the Western advanced countries can be useful in achieving a better understanding of crime in Japan.

The thesis is limited in several ways. The first limitation is due to its research design. Specifically, since the thesis employs cross-sectional survey data, the author was not able to infer the cause-effect relationships. Therefore, the results obtained from the thesis can only imply the associations between the dependent variable and the independent variables.

Second, considering the population of Japan, the sample size of the data the thesis employed is not large (around 2,000 households) compared with similar research (about 240,000 persons in about 150,000 households for the NCVS; around 35,000 households for the CSEW). This relatively small sample size can lead to a wide range of confidence intervals for the estimation of the victimisation rate. Therefore, the results from the thesis are encouraging and should be validated and more reliable by larger sample size. In addition, performing a victimisation survey with a larger sample is important to investigate the reporting rates and the cost of crime as the NCVS does.

Third, related to the point above, the JPSS employs quota sampling (2^{nd} to 5^{th} sweeps) and stratified random sampling (6^{th} sweep). Internal and external validity needs to be carefully examined when using quota sampling since these affect the generalisability of obtained results (Brame et al., 2010). Compared to quota sampling, stratified sampling has better sample representativeness and more efficiency in statistical estimates (Wu et al., 2012). However, since missing data still can occur and they are not missing at random (Barbe et al., 2018), the data from the 6^{th} sweep of the JPSS is not complete representative of the population in Japan.

Fourth, since the crime rate in Japan is low there can be a flooring effect in detecting the effect of victimisation on the outcomes. Future research, therefore, adopts different methods to understand the patterns of crime in Japan (e.g., focus group interviews of victims).

Fifth, as discussed in **Chapters 3 and 4**, routine activities and crime prevention behaviours (e.g., the introduction of security measures to households) are decisive factors of the levels of crime and fear of crime. Since the thesis is based on secondary data analysis, the author does not have

any cognisance to write all the questions that may be required (the impact of routine activities and crime prevention behaviours on the levels of victimisation, repeat victimisation, fear of crime and perceive risk of victimisation).

9.5 Directions for Future Research

It is recommended that future research should be undertaken following four suggestions provided from the thesis. First, future studies should carry out individual-level panel data analysis. As stated above, the thesis was unable to infer the causal relationships since the data employed are cross-sectional. Therefore, panel data analysis will prove important to better understand the causality of crime and individual/household and municipal-level variables.

Second, today, a large-scale victimisation survey which asks the respondents to report their routine activities is not carried out in Japan. Therefore, first-hand data analysis is required to investigate how routine activities are associated with the levels of (repeat) victimisation, fear of crime and perceived risk of victimisation in the Japanese context.

Third, the thesis performed the individual-level analysis of the factors associated with (repeat) victimisation, fear of crime and perceived risk of victimisation. In future work, the aggregated-level analysis is suggested to determine to what extent the improvement of security measures at the national-level has affected the levels of crime.

Fourth, although the thesis focuses on household property crime, further work needs to be carried out to determine the patterns and predictors of other types of crime in Japan. Although the thesis provided some applicability of the social disorganisation theory and environmental criminology

to explain the patterns of household property crime in Japan, there is still uncertainty with regard to that to other types of crime. Therefore, future studies could fruitfully explore the patterns and predictors of other types of crime.

9.6 Conclusions

As far as the author is aware, this thesis is the first attempt to empirically analyse the patterns and the predictors of victimisation, repeat victimisation, fear of crime and perceived risk of victimisation in Japan during the crime drop. This was enabled by three empirical studies using four sweeps of the nationwide repeated cross-sectional survey and three sweeps of the census. The findings from the thesis provided both consistency and inconsistency with the literature in the Western industrialised countries, showing some applicability of the criminological theories to Japan. It is hoped that the thesis would give some hints and inspiration for criminologists who would like to conduct future criminological empirical research in Japan where large-scale crime research is relatively difficult, and those who would like to conduct comparative studies on crime in the countries that have high crime rates and low crime rates like Japan.

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