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Crime Control Measures, Individual Liberties, and Crime Rates: An Assessment of 40 Countries

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Abstract

The balance between crime control methods and individual liberties is always problematic, creating tension, because in order to investigate crime, and adjudicate and punish offenders, it is necessary to make reasonable intrusions into the liberty of citizens. This study uses data from 40 countries to examine the crime control measures (police per capita and conviction rates) that reflect government investments in criminal justice apparatus to control crime and criminals, as well as the use of these crime control measures through government intervention in the lives of its citizens (formal citizen contacts with police, prosecution rate, and detention rate), to examine their impact on crime victimization rates (homicide rates and crimes included in the international crime victim survey). The purpose is to examine whether these government interventions have any impact on crime rates across countries, controlling other independent variables that might help to explain any observed relationships among these variables (such as measures of civil liberties, democracy, human development, available information and communications technologies, political rights, corruption perceptions, education, economic freedom, freedom of the press, and prosperity).

Keywords

comparative criminal justice, crime control, social and political factors, crime rates, homicide rates

The balance between crime control methods and individual liberties is always problematic, creating tension, because in order to investigate crime, and adjudicate and punish offenders, it is necessary to make reasonable intrusions into the liberty of citizens. These intrusions include formal police contacts with citizens, prosecution, conviction, and detention.

Besides individual liberty interests, another constraint on these criminal justice interventions into the lives of citizens is the resources available. That is, a country's financial capacity to fund police, courts, and corrections impacts its ability for effective crime control and its impacts on individual

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liberty. Most importantly, however, does the extent of government interventions have any impact on crime rates across countries?

This research is designed to generate an empirical comparison of multiple nations to examine the extent to which crime control efforts, and investments in criminal justice, impact crime rates. Important social, economic and political variables are also examined to assess the extent they have any significant influence on the relationship between crime control efforts and crime rates.

Literature Review

There is a body of research which attempts to assess the impact of government policy and practice on crime. This research is designed to inform governments in ways to best allocate public funds to achieve the greatest impact on public safety and to learn from the experiences of other jurisdictions.

There are differences in approach, of course, with some researchers taking a more critical approach that questions the motives of governments to improve public safety in general versus protecting the privileged classes or those holding power (Liska, 1993). Analyses of the general deterrent effect of government efforts to control and prevent crime run from the macro (social level) to micro (individual level). Some work has concluded that the criminal justice system does a good job in identifying and punishing offenders who break the law frequently, but the mechanisms to make this work more effectively are not always clear (Barnes, 2014). A study in Brazil, for example, attributed a drop in homicides to more effective policing methods and stricter gun control, without solving underlying socioeconomic problems (Goertzel & Tulio, 2009). A study in Guatemala concluded that poor efficiency in police departments resulted in low clearance rates, which would have to be increased to improve crime control (Alda, 2014). An analysis in the United States found no relationship between apprehension risk and crime rates, using crimes reported to police as the measure of crime. But when using victimization survey data, strong deterrent effects were found. At the same time, police resource levels were found to impact apprehension risk for most property crimes, except the most common one: larceny (Zedlewski, 1989).

These mixed results have led many researchers to examine noncriminal justice factors to assess their possible impact on crime rates. In most cases, the research has examined the comparative impact of legal versus nonlegal factors on crime rates.

A Combination of Legal and Extralegal Factors

Studies that have examined the impact noncriminal justice-related factors on crime rates have reported a range of different findings. An analysis of 169 countries found income inequality was related to violence in both low- and middle-income countries, arguing for reduced income equality as a violence reduction approach (Wolf, Gray, & Fazel, 2014). But another study found the association between income inequality and violent crime rates was limited to murder rates (Crutchfield, 1989). Other work has found similar impacts of inequality on homicide rates (Messner, Raffalovich, & Shrock, 2002).

Still other research finds other factors at work. A study by Pridemore (2011) found that when poverty and inequality are both measured, there was a significant poverty-homicide association, but the inequality-homicide association disappeared. Similarly in Sweden, the socially and/or economically disadvantaged were much more likely to experience violence than others (Stickley & Carlson, 2010).

More recent work has uncovered some similarities in their results. Baumer and Wolff (2014) conducted a cross-national analysis of homicide trends over 20 years and found declines were linked to reductions in poverty, urbanization, and the ratio of older to younger persons. Higher imprisonment rates were not found to be associated with declines in homicide rates. A large study of

international homicide trends, using cross-sectional analyses, found lethal violence is dependent on the rule of law, the quality governance, level of democracy, and social and economic equality. High rates and imprisonment and long sentences were found to correspond with high homicide rates (Lappi-Seppala & Lehti, 2014). A comprehensive review of the findings of 70 previous cross-national homicide studies found consistent evidence connecting homicide rates and resource deprivation cross-nationally (Trent & Pridemore, 2011).

A large number of additional studies have been conducted, using different measures of social factors, different combinations of countries and jurisdictions, over different time periods, and using different measures of crime. These multiple differences likely account for the wide variation in results.

For example, resource deprivation and a larger youth population have been found to increase homicide rates over time (McCall, Parker, & MacDonald, 2008). Childhood economic disadvantage has also been found to be related to criminal involvement (Fergusson, Swain-Campbell, & Horwood, 2004). In Japan, measures of economic stress, population age structure, and certainty of punishment were found to be predictors of postwar trends in violent crime (Roberts & LaFree, 2004). Many other studies have assessed other social, economic, and political factors that might impact crime rates and victimization risk, including housing, health, racial heterogeneity, social support, and gender (Livingston, Kearns, & Bannister, 2014; Lee & Ousey, 2005; Pratt & Godsey, 2003; Steffensmeier, 2000; Stickley, Koyanagi, Roberts, Rotman, & McKee, 2013).

The Present Study

In the present study, an effort is made to examine a large number of countries, using available measures of crime, criminal justice, and social conditions in recent years. In this way, an effort is made to examine these factors in multiple countries over a common time period.

Specific research questions include:

Research Question 1: Do countries with higher police per capita, formal police contacts with citizens, prosecution rate, conviction rate, and detention rate experience *less crime*?

Research Question 2: Are there *other variables* (social, political, and economic) that might help explain the relationship between government crime control efforts and crime rates?

Figure 1 illustrates the approach taken in this study. It outlines how government investments in crime control (as measured by police per capita and conviction rates) combine with government intervention in the lives of citizens (as measured by formal contacts with police, prosecution rate, and detention rate) in an effort to impact crime rates.¹ Figure 2 diagrams the logic that the number of police per capita and their formal contacts with the public might lead to increased rates of prosecution and conviction, resulting in higher detention rates, and ultimately in lower crime rates.

Data Sources

The United Nations Office on Drugs and Crime (UNODC) has produced a global statistical series on crime and criminal justice via a Crime Trend Survey, which requires the responses of individual governments to provide these data. Statistics on formal police contacts, prosecutions, convictions, and detention among multiple countries (called UN Member States) are included in this data gathering effort. Of course, these data are limited in that they reflect only crimes known to governments, and there is a great deal of missing data resulting from many UN Member States that do not provide data regularly to the UNODC.

The first limitation is addressed by use of the International Crime Victimization Survey, which is carried out periodically in multiple nations. These data provide a more comprehensive count of all

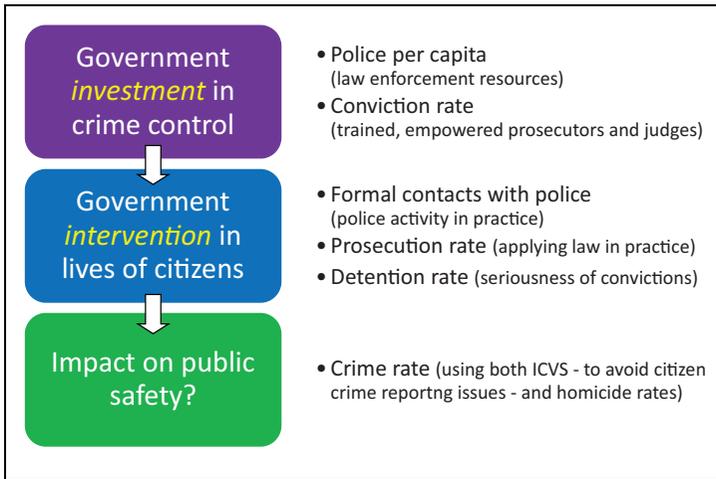


Figure 1. Does government crime control investment and intervention impact crime rates?

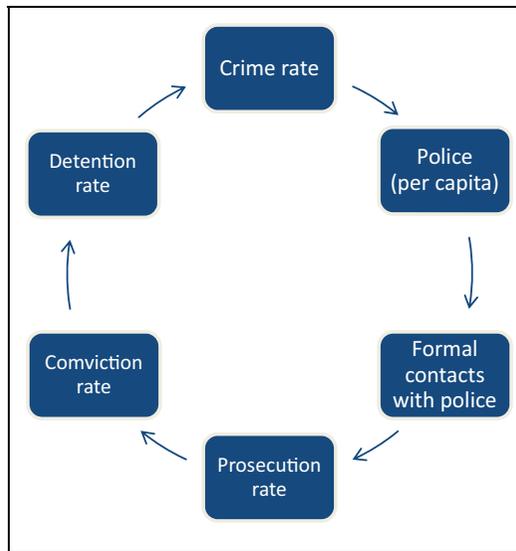


Figure 2. Logic model of potential criminal justice impact on crime rates.

crime because crimes not reported to the police are also included in this survey of citizens. The homicide data includes only intentional homicides reported to the police, rather than mortality data. Attempted homicides were not included.²

The data are for 2010, excluding missing data, leaving 40 countries for analysis (see Table 1 for a listing of the countries included). Given that there are 193 countries in the United Nations, the missing data problem is large, but data that are not gathered or reported cannot be analyzed.

Results

Research Question 1 was whether the criminal justice-related factors, presented in Figures 1 and 2, have a significant impact on crime. That is to say, do crime control measures plus government

Table 1. Countries Included in the Study.

Country	Continent—Region
Uganda	Africa
Canada	North America
Mexico	North America
United States	North America
Colombia	South America
Costa Rica	Central America
Hong Kong	East Asia
Japan	East Asia
Korea	East Asia
India	Central Asia
Turkey	Western Asia
Belarus	Eastern Europe
Bulgaria	Eastern Europe
Czech Republic	Eastern Europe
Georgia	Eastern Europe
Hungary	Eastern Europe
Poland	Eastern Europe
Slovakia	Eastern Europe
Ukraine	Eastern Europe
Denmark	Northern Europe
Finland	Northern Europe
Iceland	Northern Europe
Ireland	Northern Europe
Latvia	Northern Europe
Lithuania	Northern Europe
Norway	Northern Europe
Sweden	Northern Europe
United Kingdom	Northern Europe
Albania	Southern Europe
Portugal	Southern Europe
Serbia	Southern Europe
Slovenia	Southern Europe
Spain	Southern Europe
Austria	Western Europe
France	Western Europe
Germany	Western Europe
Netherlands	Western Europe
Switzerland	Western Europe
Australia	Oceania
New Zealand	Oceania

interventions in the lives of its citizens impact crime and homicide rates? The impact on crime victimization rates (less homicide) was significant. ($R^2 = .682$, analysis of variance [ANOVA] sig. $p < .003$) with the detention/incarceration rate explaining nearly all the variance. These are somewhat surprising results, especially in that the detention rate was, by far, the best predictor of crime and homicide rates.³ The crime victimization rates measured are those counted by the International Crime Victim Survey, which includes car theft, bicycle theft, burglary, robbery, larceny, assault, and sex offenses. The impact on homicide rates was also significant. ($R^2 = .714$; ANOVA sig. $p < .001$).⁴ The R^2 measures the proportion of variation in the crime rates and homicide rates explained by the independent variables. Findings (of .682 and .714) imply that 88% and 71% of the variation in data

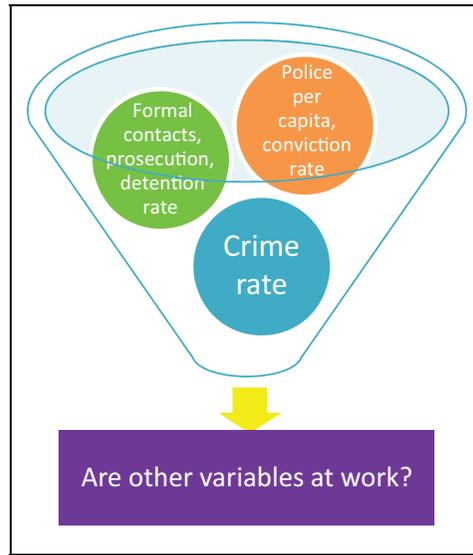


Figure 3. Potential missing variables in explaining crime and homicide rates.

for crime rates and homicide rates, respectively, is explained by the regression. This is strong explanatory power in social science research, although it must be kept in mind that no statistic establishes causation, only the logical exclusion of alternate explanations does. This is also a cross-sectional analysis, and trend data over a longer period time would be required to draw stronger conclusions.

This left the question of whether other, noncriminal justice–related variables can better explain crime and homicide rates across countries. This question is illustrated in Figure 3.

Independent variables were added in an effort to explain differences in crime and homicide rates among countries and the importance of social, political, and economic factors in this explanation. Ten different indexes were used to measure different dimensions of social, political, and economic life. These included a civil liberties ranking, a democracy index, human development index, information and communications technologies index, political rights index, corruption perceptions index, education index, index of economic freedom, press freedom index, and prosperity index. These measures are each summarized in Table 2.

Each of these 10 indexes measures important social, political, and economic factors that not only influence the quality of life in a society but also help to define the relationship between citizens and their government. There is some overlap among these indexes, but they each measure multiple variables in unique combinations, so they are measuring somewhat different aspects of social, political, and economic life. Correlations among these independent variables are presented in Table 3. It can be seen that there are statistically significant correlations between these indexes, because they measure overlapping concepts, but the strength of the correlations ranges from .896 to .451, suggesting some differences in what they measure.

These 10 measures also have the attribute of being in existence over many years, so their methodology has been refined over time, and they are widely used to assess conditions around the world (Glatzer, Camfield, Møller, & Rojas, 2015; Land, Michalos, & Sirgy, 2012; Miringhoff & Miringhoff, 1999). The civil liberties ranking measures freedom of expression and belief, associational and organizational rights, rule of law, and personal autonomy and individual rights. It has been published annually since 1972 and provides data on nearly 200 countries. The indicators are drawn from the Universal Declaration of Human Rights (Freedom House, 2015a; United Nations, 2015).

Table 2. Measures of Social, Political, and Economic Life.

Indexes That Combine Multiple Variables	Variables Included
Civil liberties ranking	Freedom of expression and belief, associational and organizational rights, rule of law, and personal autonomy and individual rights
Democracy index	Electoral process, civil liberties, government operation, political participation, political culture
Human development index	Life expectancy, income per capita, education level
Information and communications technologies index	Connectivity, access, and policy related to Internet, phones, and ISP markets
Political rights index	Electoral process, political pluralism and participation, and functioning of government
Corruption perceptions index	Surveys of extent of corruption in the public sector, from perspective of businesspersons and country experts
Education index	Average years of schooling and the expected years of schooling
Index of economic freedom	Rule of law, limited government, regulatory efficiency, open markets
Press freedom index	Freedom of journalists, news organizations, and the Internet, plus efforts made by governments to ensure respect for press freedom
Prosperity index	Wealth, economic growth, education, health, personal well-being, and quality of life

Note. ISP = Internet service provider.

The democracy index is gathered by the Economist Intelligence Unit and was first published in 2007. It classifies 165 countries based on five categories: electoral process and pluralism, civil liberties, the functioning of government, political participation, and political culture. Countries are placed within one of the four types of regimes: full democracies, flawed democracies, hybrid regimes, and authoritarian regimes (Economist Intelligence Unit, 2014).

The human development index was established by the United Nations Development Programme. It provides a summary measure on three development dimensions: life expectancy, educational attainment, and standard of living (United Nations Development Programme, 2015a). The information and communications technologies index was developed by United Nations Conference on Trade and Development. It developed indices to comparatively assess across nations the levels of Internet connectivity, numbers of users, and the digital divide (United Nations Conference on Trade and Development, 2013).

The political rights index is based on data in three categories: electoral process, political pluralism and participation, and functioning of government. Countries are ranked based on multiple indicators for each of these criteria (Freedom House, 2015b). The corruptions perceptions index is published by Transparency International, and it ranks countries based on the level of corruption in their public section as perceived by citizens, businesspersons, and country-level experts. It relies on a combination of polls of multiple constituencies (Transparency International, 2015).

The education index was developed by the United Nations Development Programme combining average years of schooling and expected years of schooling, used in measuring economic development and quality of life—a key factor determining whether a country is a developed, developing, or underdeveloped nation (United Nations Development Programme, 2015b). The index of economic freedom was developed by the Heritage Foundation and combines indicators in 10 areas for nearly all countries in the world. The indicators include multiple measures of open markets, regulatory efficiency, limited government, and rule of law (Heritage Foundation, 2015).

Table 3. Zero-Order Correlations.

Variables	Homicide	Liberties	Democracy	Human Development	Infotech	Political Right	Corruption Perceptions	Education	Economic Freedom	Prosperity Freedom	Press Freedom	Contact Personnel	Prosecution	Conviction	Detention
Pearson Correlation	1.000	0.355*	0.236	-0.327*	-0.415*	0.505*	0.470*	-0.391*	-0.095	0.396*	0.413*	-0.077	0.103	-0.054	0.133
Liberties	1.000	-0.108	-0.041	-0.050	-0.040	-0.003	0.073	-0.065	-0.089	0.074	-0.036	0.037	0.049	0.031	0.102
Democracy	1.000	0.896*	1.000	-0.563*	-0.696*	0.780*	0.729*	-0.609*	-0.661*	0.696*	0.919*	-0.100	0.103	-0.247	0.026
Human development	1.000	-0.563*	1.000	-0.563*	-0.715*	0.751*	0.802*	-0.624*	-0.743*	0.774*	0.888*	-0.088	0.299*	-0.308*	0.108
Infotech	1.000	0.769*	1.000	1.000	0.769*	-0.417*	-0.656*	0.854*	0.451*	-0.767*	-0.589*	0.280	0.001*	0.191	0.099
Political right	1.000	0.529*	1.000	1.000	1.000	-0.529*	-0.781*	0.867*	0.600*	-0.899*	-0.756*	0.196	-0.104	0.257	0.293*
Corruption perceptions	1.000	0.657*	1.000	1.000	1.000	1.000	0.657*	-0.447*	-0.537*	0.541*	0.788*	-0.055	0.162	-0.096	0.269*
Education	1.000	0.657*	1.000	1.000	1.000	1.000	0.657*	-0.657*	-0.776*	0.852*	0.768*	-0.142	0.278	-0.370*	0.080
Economic free	1.000	0.490*	1.000	1.000	1.000	1.000	0.490*	1.000	0.490*	-0.844*	-0.680*	0.145	-0.107	0.159	0.284
Prosperity	1.000	-0.631*	1.000	1.000	1.000	1.000	-0.631*	1.000	-0.899*	-0.631*	-0.707*	-0.065	-0.344*	0.289*	0.322*
Press freedom	1.000	0.714*	1.000	1.000	1.000	1.000	0.714*	1.000	0.541*	1.000	0.714*	-0.168	0.151	-0.322*	-0.025
Contact	1.000	0.094	1.000	1.000	1.000	1.000	0.094	1.000	0.451*	1.000	1.000	-0.094	0.296	-0.266*	0.101
Personnel	1.000	0.333	1.000	1.000	1.000	1.000	0.333	1.000	0.451*	1.000	1.000	0.333	1.000	0.508	-0.013
Prosecution	1.000	0.309	1.000	1.000	1.000	1.000	0.309	1.000	0.451*	1.000	1.000	0.309	1.000	-0.128	0.141
Conviction	1.000	0.309	1.000	1.000	1.000	1.000	0.309	1.000	0.451*	1.000	1.000	0.309	1.000	-0.362	0.141
Detention	1.000	0.309	1.000	1.000	1.000	1.000	0.309	1.000	0.451*	1.000	1.000	0.309	1.000	-0.039	1.000

Note: ICVS = International Crime Victim Survey.

*p < .05.

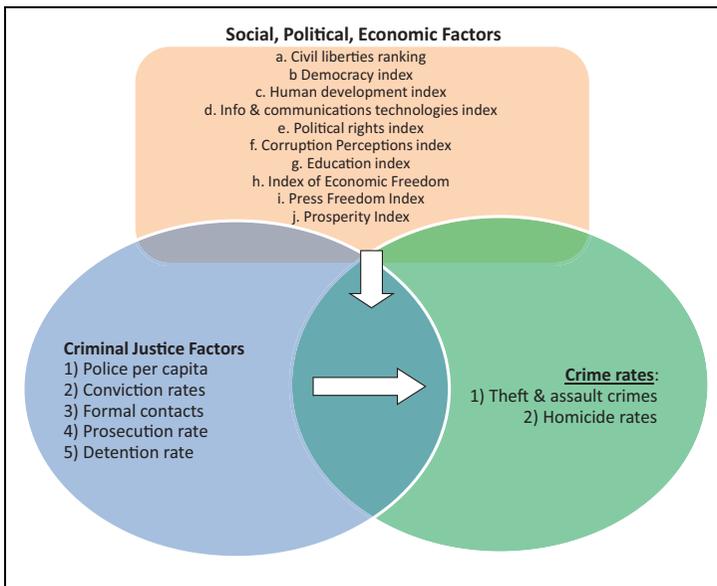


Figure 4. Assessing the influence of social, political, and economic factors.

The press freedom index was developed by Reporters Without Borders, and it ranks countries annually based on each country's press freedom record during the previous year. It reflects the comparative degree of freedom that journalists, news organizations, and Internet reporters enjoy in each country, and the efforts made by government to protect this freedom (Reporters Without Borders, 2015). The prosperity index was developed by the Legatum Institute, and it is based on multiple indicators including wealth, economic growth, education, health, personal well-being, and quality of life (Legatum Prosperity Index, 2015).

It is important to remember that these indexes measure qualities that are difficult to quantify, yet this is precisely what they do. Moreover, methodologies can change year to year in order to enhance their validity, but most of these indexes describe their methodology in their reports, so their measurement efforts are transparent.

Figure 4 illustrates how these multiple indexes on a range of social, political, and economic issues were used as independent variables to determine their influence on the relationship between criminal justice factors and crime and homicide rates.

The impact of these 10 multifactor indexes on crime victimization rates was not significant ($R^2 = .103$, ANOVA sig. $p < .965$), although the detention rate remained the strongest factor in explaining the variance. However, the impact on homicide rates was significant ($R^2 = .654$; ANOVA sig. $p < .000$). Economic freedom and corruption perceptions had the strongest associations with homicide rates, which corresponds with observed differences in other studies described below.

As a result, government investment in crime control and intervention in the lives of citizens is shown to have measurable impacts on crime victimization rates and homicide rates across 40 countries. Social, political, and economic factors do not have a strong impact on crime rates, although they have a significant impact on homicide rates. The strongest factors were found to be economic freedom (rule of law, limited government, regulatory efficiency, open markets), and low corruption (the extent of corruption in the public sector). Longitudinal studies covering more countries over a longer time period will provide more insight into causal connections beyond mere association.

Several unknowns must be addressed by future research. First, it is not clear what are the precise ways by which government crime control and economic factors impact crime or homicide rates. These require closer analysis in individual countries (i.e., microlevel analysis using in-country observations and interviews with key stakeholders). This microlevel variation might be masked in this study which relies on macro-level data.

Second, it must be determined through analysis on additional data whether these findings will hold up over time with data from the coming years. Trend data are required to establish relationships over time. Third, Asian and African countries are underrepresented in this group of 40 countries due to lack of data provided to the United Nations from the Member States. Therefore, there might be variables of interest in those regions which have not yet been captured. That is to say, the true relationship between important variables, such as detention rate and crime victimization rate, might be concealed, given the skewed sample of countries reporting these data and able to be included in this analysis.

Discussion and Conclusion

All countries experience crime, yet the evidence is not clear how best to invest limited resources for maximum impact. Every nation invests in police resources and court systems to produce arrests and convictions and thereby impact crime. Nations make use of available crime control measures in formal contacts of citizens with the police, the prosecution rate for those arrests, and the detention rate for those convicted of crimes. This study looked at data on these variables for 40 countries for whom data were available, finding that higher detention/incarceration rates were associated with crime victimization rates. It is not clear, however, whether it was certainty, severity, or other factors behind the detention that drives this relationship. Other comparative studies of homicide rates in particular have found no relationship between incarceration rates and homicide. As Lappi-Seppälä and Lehti found in their cross-national study of homicide, “high rates of imprisonment, and extensive use of life sentences are usually associated with high and increasing homicide rates—and not the other way around” (2014, p. 159). Somewhat different results were found by Baumer and Wolff, who offer an explanation for it.

we concluded that growth in imprisonment was unrelated to homicide trends, but this finding describes the overall pooled pattern that emerges across our sample of nations. Drawing insights from theories of legitimacy and procedural justice, we acknowledge the possibility that this null effect could mask off-setting effects across nations: increases in imprisonment could yield homicide reductions in nations where the justice system is considered legitimate, while they could yield increases where there is deep suspicion regarding government authority. (Baumer & Wolff, 2014)

The idea is that there may be unmeasured intervening variables, such as perceptions of government or justice system legitimacy, which account for the observed findings. This explanation draws support in the current study in that both economic freedom and corruption perceptions were the most strongly associated with homicide rates, suggesting that measures of government legitimacy might be added to better explain the relationship between imprisonment and homicide rates.

There is reason to believe that noncriminal justice-related factors may also influence crime victimization rates. An effort was made to examine the impact of these factors by controlling for 10 important social, political, and economic influences in each country that exists outside the criminal justice system. These factors did, indeed, make a significant difference in homicide rates (see also Rogers & Pridemore, 2013). Similar to the findings in the current study, Lappi-Seppälä and Lehti’s cross-national study concluded, “homicide is lower under more effective governments and in less corrupt environments” (2014, p. 175). It remains for future research to untangle the reasons

for this, which might rely on more specific measures of rule of law, legitimacy, public attitudes, and corruption levels in individual countries.

It should be noted that the problem of reaching a satisfactory explanation of variations in crime rates has been experienced by a variety of researchers. Contemporary studies attempting to explain crime drops and increases around the world suffer from the same data problems. For example, burglary rates across nations have been found to be impacted by gross domestic product and consumer confidence (Rosenfeld & Messner, 2009), and conviction rates have been related to crime rates in some countries (Farrington, 2015). An analysis of homicide rates over time found they “went up and are now going down in most parts of the world, but this has taken place at different times, with different backgrounds, and probably for different reasons” (Lappi-Seppälä & Lehti, 2014, p. 155). The impact of unmeasured variables, better measures of the same variables, and the reasons behind these observed relationships are difficult to answer in macro-level studies. This is because gathering data of consistent reliability and validity comparatively across jurisdictions is even more difficult than obtaining such data within single countries. In addition, macro-level studies have difficulty in being sensitive to local effects and interaction effects that unmeasured, or poorly measured, variables produce.

Studies that are designed to test particular theories of why crimes rates vary also have very mixed results, due to either inadequate theories or the data to test them appropriately. In the case of criminology, it might be both. As LaFree and Drass (2002) concluded, “These results support the utility of recognizing crime booms as an important criminological concept while retaining a healthy scepticism toward any specific claims made about their existence” (p. 790). Most of the best data exist in developed countries, as many developing countries do not have the infrastructure or resources for reliable data collection. As an example, the 40 countries in the current study, listed in Table 1, reveal a disproportionate number of developed countries. Therefore, existing explanations might be missing important variables, simply due to the nature of the sample of countries selected. These problems have been noted in multiple studies (Alzheimer, 2013; Farrington, 2015; Pridemore & Grubestic, 2013; Tonry, 2014).

Therefore, it might be a better path to look first at variations *within* nations in the effort to locate important influences and variables to be measured before moving to multinational-level studies of available data, which often mask these local variations and the reasons for them. As Pridemore (2005) has observed, “An in-depth case study of a single country provides a better understanding of data sets and insight into nation-specific influences on rates of interpersonal violence” (p. 754). As a result, the conceptual breakthroughs are likely to come from observations from the bottom-up (microlevel) investigations, rather than from macro-level studies which have the limitations noted here.

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Notes

1. Definitions of these terms are provided by the United Nations as part of their data survey. Relevant definitions are provided below:

“Formal Contact” with the police and/or criminal justice system may include persons suspected, or arrested or cautioned, for a criminal offence, at the national level.

“Persons Prosecuted” means alleged offender against whom prosecution commenced in the reporting year. Persons may be prosecuted by the public prosecutor or the law enforcement agency responsible for prosecution, at the national level, irrespective of the case-ending decision.

“Persons Convicted” means persons found guilty by any legal body authorized to pronounce a conviction under national criminal law, whether or not the conviction was later upheld.

“Persons Held in Prisons, Penal Institutions, or Correctional Institutions” means persons held in prisons, penal institutions, or correctional institutions on a specified day and should exclude noncriminal prisoners held for administrative purposes, for example, persons held pending investigations into their immigration status or foreign citizens without a legal right to stay. (UN Crime Trends Survey Form, 2016).

2. Intentional homicide is defined as unlawful acts inflicted upon a person with intent to cause death or serious injury (United Nations, 2016).
3. Only data on detention (incarceration) rates were available. There were no data on the length of detention, which might offer greater analytic utility.
4. An analysis of variance (ANOVA) is a statistical technique that compares different sources of variance within a data set (to determine if significant differences exist between two or more groups). The ANOVA calculates the ratio of the actual difference to the difference expected due to chance alone. The ANOVA tells us we have a statistically significant effect ($p < .003$ and $p < .001$ on the crime victimization rates and homicide rates, respectively).

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The Periodicity of Violent and Property Crime in Tshwane, South Africa

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Abstract

In this article, we identify and analyze the periodicity of violent and property crimes committed in Tshwane, South Africa, from 2001 to 2006. This is done using Fourier analysis, an advanced explorative mathematical technique commonly used in the physical sciences to detect the presence of a frequency or periodicity in a large time-series data set. The use of this technique in criminology is in its infancy, and in this study, Fourier analysis is used to identify periodic moments in time at which the risk of being a victim of violent and property crime in the city of Tshwane is heightened. Results indicated that violent crime peaks roughly every 7 and 75 days over the 5-year study period, with a marginal peak every 150 days. Property crimes peak every 75 days and every 150 days. Periodic peaks of crime observed in this study are explained using the central tenets of routine activities theory. Fourier analysis is an underused, powerful data-driven mathematical tool that should be added to the methodological arsenal available to criminologists when analyzing the temporal dimension of crime.

Keywords

periodicity, South Africa, Fourier analysis, violent and property crime

The notion that crime has periodicity or is cyclic in nature is not new. As early as the 19th century, Quételet (1969) observed that crime has a seasonal periodicity. He found that crimes against property reached a maximum in winter and crimes against persons peaked in the summer months. His findings were later supported by Sutherland (1947) who also found that property crimes reached their highest levels in winter, while crimes against persons peaked in the hot days of summer. Since then, however, research into the seasonality of crime has produced somewhat inconsistent results, with some researchers finding support for Quetelet's summer increase in property crimes (see, e.g., Anderson, 1987; Cohn & Rotton, 2000), while others finding peaks during winter (see, e.g., Field, 1992; Landau & Fridman, 1993; Van Koppen & Jansen, 1999). In terms of violent crime, several

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researchers have found no seasonal effect (see, e.g., Cheatwood, 1988; Hipp, Bauer, Curran, & Bollen, 2004), while others have found statistically significant seasonal patterns (see, e.g., Hakko, 2000; Hird & Ruparel, 2007).

Research into weekly and daily variations of crime has tended to provide more consistent and significant findings. Results of this work have largely demonstrated that crime as a whole peaks on weekends and dips during the middle of the week (LeBeau, 1994; LeBeau & Corcoran, 1990). Not surprisingly, however, different types of crimes display different weekly variations. For example, Morrison and O'Donnell (1994) and van Koppen and Jansen (1999) found Fridays to be the most popular days for commercial property crime in England and the Netherlands, respectively, while violent crimes such as rape, assault, and homicide have been found to be more common on Saturdays (Ceccato, 2005; Jewkes & Abrahams, 2002). Of course, crime is also distributed unevenly during the course of a day. While this fact is generally acknowledged by criminologists, the area itself is underresearched. This is largely due to a lack of indicators summarizing hour-of-day variations in crime, although some measures have been introduced to address this (Felson & Poulsen, 2003). Most types of crimes typically peak during the evening and late night/early morning hours and fall to a low later in the morning (see, e.g., Ceccato, 2005; Feldman & Jarmon, 1979; Henry & Bryan, 2000; Pittman & Handy, 1964; Pokorny, 1965). These temporal variations in crime are most likely explained by the opportunities or risks that are present, as people vary their activities depending on the temporal resolution. For example, property crime most often occurs during the day as people are often at work or out conducting daily errands leaving their homes unoccupied and easy targets for potential offenders.

While most prior research has shown the temporal variability of crime, these studies have either identified temporal patterns of crime at various hypothesized resolutions (i.e., by season, day or hour) or attempted to explain these variations empirically. In contrast, in this study, we adopt a more inductive, data-driven methodological approach in an attempt to identify previously unknown and/or unpredictable periodic peaks of crime. As a result, we do not test any previously stated hypotheses, but rather let the explorative technique generate results that we attempt to explain using our existing knowledge of the geographic locale under investigation. In doing so, this study moves beyond the extant criminological literature on temporal analysis of crime in three important ways. First, Fourier analysis is used as a mathematical tool in the temporal examination of crime data. While Fourier analysis has been previously used in a variety of physical sciences, the use of this technique in criminology is relatively new and novel. In fact, we are aware of only a handful of studies that have applied this technique to crime data (Biermann et al., 2009; Rhodes, Kling, & Johnston, 2007; Tranter, 1985), and none have employed it in the way that this study proposes. Second, the results of this research may provide important insight into existing criminological theory by offering a unique perspective of the temporal variability of crime in a study area. By placing time as a key ingredient in criminological research, we expand upon the theoretical developments of earlier researchers, such as Rengert and Wasilchick (1985), Miller (2005), and Ratcliffe (2006). Third, by examining criminal variations in Tshwane, South Africa, this research adds an important international perspective to the existing temporal crime research. Most of the research of this nature has been conducted in the United States and Europe; very little is known about the temporal variations in criminal behavior in less developed contexts, particularly in Africa.

In this article, we first outline a key criminological theory that offers an explanation for temporal patterns of criminal behavior. We then describe the crime data employed and outline the methods used in this research. Finally, we present the results and discuss their theoretical implications

Theory

A criminological theory that is extremely adept at interpreting and understanding periodicities of crime is routine activities (RA) theory (Cohen & Felson, 2006). Unlike the vast majority of

criminological theories, which tend to focus on offender characteristics, RA theory emphasizes the importance of examining characteristics of crimes. It focuses on offender opportunity and victimization risk rather than on offender motivation and argues that crime can only happen when there is a convergence in space and time of three essential elements: a motivated offender, a suitable target, and the lack of a capable guardian. The availability of each of these three elements varies over time, affecting the likelihood that they will co-occur and thus impacting the possibility of criminal events and criminal victimization.

RA theory suggests that individuals generally follow fairly strict and regimented routines—daily, weekly, monthly or seasonal, and even yearly routines (Brunsdon, Corcoran, Higgs, & Ware, 2009). Essentially, the same periodicities that are found throughout nature and in society as a whole also exist in individual human behavior. Some of these individual “routine activities” are essentially obligatory, such as attendance at school or work. These tend to be fairly fixed in duration across time periods and rarely change. However, other activities, such as social events, are more discretionary and less fixed in time; individuals have more choice as to if and when they will engage in these activities (Lebeau & Corcoran, 1990). The theory suggests that during those periods when individuals are not engaged in normal routine activities, the likelihood of convergence of the three key elements increases, affecting opportunities for victimization and crime.

RA theory is often used to explain well-known temporal variations and fluctuations in the occurrence of crime. Ratcliffe (2006) has stressed the effect of time as a constraint on offender movement and behavior, particularly in relation to obligatory rather than discretionary activities. Essentially, he argues that those activities that do not place strong temporal constraints on individuals are less likely to inhibit offender motivation. For example, as noted earlier, it is generally accepted that rates of violent crime tend to be higher on weekends than on weekdays; this appears to be due at least in part to variations in routine activities. During the week, people tend to be more involved with obligatory routine activities, leaving less free time for crime (and possibly reducing offender motivation), while on the weekends, the increased amount of free time provides more opportunity for crime and victimization (Rotton & Cohn, 2000). Similarly, public and school holidays, which are of course periodic in nature, have been linked to variations in the occurrence of crime (Cohn & Rotton, 2003) and may help to not only explain the seasonal periodicity of crime but also why seasonal patterns of crime have been found to vary by geographic location, particularly country.

Another factor that may impact crime periodicities are periodic events that are location-specific and which may serve as crime (Brantingham & Brantingham, 1995). Crime generators are settings or events that draw in large numbers of people for noncriminal reasons; this has the effect of bringing offenders and targets together and creating opportunities for crime. Festivals and sporting events are good examples of crime generators. The local nature of these events means that they may only affect crime rates in those locations; as a result, crime periodicities are likely to vary by country, city, and even neighborhood. It is important to realize that because these crime generators are location-specific, the results of any analysis will be impacted by how the data are stratified. Minor periodicities that occur in smaller areas may be masked by overall community patterns.

Method

Data

Crime data for this study were obtained from the former Crime Information Analysis Center (CIAC) of the South African Police Services (SAPS). The SAPS group serious crime committed in South Africa into five broad categories: contact crime (crimes against persons), contact-related crime, property-related crime, other serious crime, and crime detected as a result of police action. Detailed descriptions of the crime categories are provided in South African Police Services (2014).

The CIAC provided crime data for Tshwane across all five categories from September 1, 2001 to August 31, 2006 (5 years). Included in the data were the location (x–y coordinates), date, and time of day, as well as a unique code for each crime incident. The five categories of serious crime provided by the SAPS were recategorized into violent and property crime. Violent crime in this research consisted of murder, attempted murder, rape, assault with intent to cause grievous bodily harm, and common and indecent assault. Property crimes included all burglary, theft, and robbery. We are weary of summing crime into these two broad categories. The dangers of aggregating crime across various types are well known (see Andresen & Linning, 2012); however, this study was mainly interested in identifying unique periodicities of violent and property crime, broadly speaking. It was also an aim of ours to improve the statistical power of the analysis by making the two crime categories as voluminous as possible. Future research could disaggregate crime further in order to make more specific interpretations about what is driving the periodicities of certain crime types, if indeed any are found.

Finally, it is worth noting that crime data obtained from the SAPS must be viewed with caution (Gould, Burger, & Newham, 2012). Although a worldwide phenomenon, the underreporting of crime in a South African context cannot be underestimated. Victim surveys in South Africa consistently uncover between 60% and 70% more crime than reported by official sources, with upward of 50% of crime in many serious categories being unreported (see Statistics South Africa, 2011). Victims of crime in South Africa, particularly in more deprived neighborhoods, are often reluctant to report crime to the SAPS due to a general mistrust in the criminal justice system that stems in part from their experiences under apartheid (see Breetzke, 2012; Kynoch, 2003). While there may be more malevolent reasons for the underrecording of crime, the truth is that it is nearly impossible to report and record all crime over a given period. Despite this, however, previous international research has shown that using official police data usually produces results consistent with victimization surveys (see Byrne & Sampson, 1986; Ceccato & Dolmen, 2011; McDowall & Loftin, 1992), and a number of local researchers have successfully used SAPS data in a variety of crime contexts (see Breetzke & Cohn, 2012, 2013). In any event, official records from the SAPS represent the only official and spatially replete crime data set available in the country. While it is possible that examining case dockets or using police call-for-service data might provide a better measure of crime activity over this period, this information is currently unavailable in South Africa. Therefore, while the crime data obtained may not be fully representative of the exact number of crime occurring within Tshwane over the study period, it is the most reliable and comprehensive data set available for the researchers to examine.

Analytical Analysis

The first step in the analytical process was the programming of a database in which every record corresponded to an hour in the day (from September 1, 2001, to August 31, 2006). The total numbers of violent and property crimes committed within each of the 43,829 hours over this 5-year time period were calculated (total crime = 648,254; violent crime = 159,621; property crime = 488,634) and added to the database. Fourier analysis was then used to identify periodic time sequences at which the risk of being a victim of violent and/or property crime in Tshwane was heightened. Fourier analysis is one of the most pervasive tools in applied analysis and is typically employed to detect the presence of a frequency or periodicity in a large data set. In its narrowest sense, Fourier analysis provides an accurate and economical description of a time-series data set, although the term is also used more broadly to describe any data analysis procedure that measures fluctuations in a time series by comparing them with sinusoids (Bloomfield, 2004). From a more technical perspective, the technique involves the decomposition of a time-series data set into a sum of sinusoidal components (the coefficients of which are the discrete Fourier transform of the series). The result of the analysis is a description in sine or cosine cycles of different length, which generates that sequence

(Bloomfield, 2004). In contrast with similar models such as the autoregressive integrated moving average or exponential smoothing, the purpose of Fourier analysis is to identify the seasonal fluctuations of different lengths. In the former types of analysis, the length of the seasonal component is usually known (or guessed) a priori and then included in some theoretical model of moving averages or autocorrelations. Fourier analysis on the other hand yields a description in sine or cosine cycles of differing length, which generates that sequence. For additional theoretical information on the use of this technique, see Tolstov (1976) and Stein and Shakarchi (2003).

The history of Fourier analysis stretches back to the early Greek and Egyptian astronomers who observed the periodic motion of the sun well enough to know that the length of the year was 365.25 days (Bloomfield, 2004). Throughout the 19th century, more sophisticated versions and techniques of Fourier analysis were developed to use over a series of numbers (Whittaker & Robinson, 1924). Fourier analysis is most commonly used in the physical sciences (e.g., chemistry, geophysics, and climatology), where the technique has been historically used to test the stability of time-dependent finite-difference formulae (LeVeque & Trefethen, 1988). We do, however, note the increasing use of the technique in the related discipline of forensic science, where Fourier analysis has been used to, among others, determine the time of death of victims of crime (Smart, 2010), provide an estimation for the age of blood stains (Edelman, Manti, van Ruth, van Leeuwen, & Aalders, 2012), and enhance fingerprint feature extractions (Chikkerur, Cartwright, & Govindaraju, 2007).

Results

Figure 1 shows the periodicities identified by the analysis for both violent and property crimes in Tshwane. It is important to note that the numbers on the y-axis are *not* the linear days of the year but rather represent day periods. As a result, the values on the y-axis represent all possible days during which there could be periodicities in violent and property crimes. Thus, for example, the violent crime peak at the 7- to 9-day time period identifies a periodicity that occurs on approximately a weekly basis (i.e., every 7–9 days); it does not indicate a rise in crime on a particular date or day of the week, but rather that over the 5 years of the study there is a “peak” of violent crime every 7–9 days in Tshwane. The nonspecificity of the peak could be an indication of the temporal accuracy of the crime data used or, more likely, the fact that the weekend spans 2 days. The lengths of the peaks (x-axis) indicate their magnitude of occurrence in percentage. For example, approximately 4.5% ($n = 7,182$) of all violent crime over this 5-year time period is committed every 7–9 days. In summary, there is a periodic peak in violent crime every 7–9 days in Tshwane; over the whole 5-year study period, approximately 4.5% of violent crime has occurred at this periodicity. The next highest periodic peak for violent crime is found at the 75- to 80-day time period, followed by less moderate peaks at the 21-day and 145-day periods. There is an additional discernible peak at 365–370 days, which is not shown on this graph due to space restrictions. This was the only other notable peak in violent crime.

For property crimes, the greatest periodicity is found at roughly the 75- to 78-day time period; that is, approximately 4.7% ($n = 22,966$) of all property crime committed over this 5-year time period occurs every 75–78 days. There is a second peak, of lesser magnitude, at approximately the 155-day period and other notable peaks every 7–8 days, every 18–20 days, and every 64–66 days. As with violent crime, there is also an additional discernible peak at 365–370 days, representing an annual periodicity of crime, which is not shown on this graph.

Discussion

One challenge when adopting a data-driven approach to temporal crime analysis is attempting to make sense of the specific observations made. In the below sections, we attempt to explain these

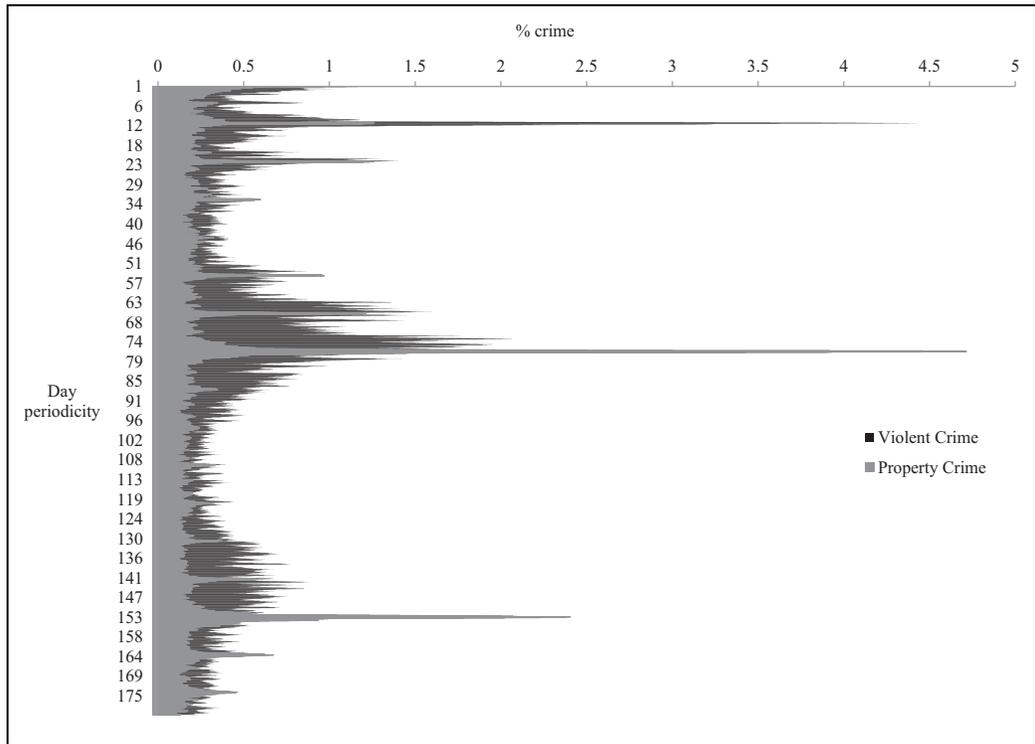


Figure 1. Fourier analysis of violent and property crimes in Tshwane (2001–2006).

results within the framework of RA theory and provide some initial thoughts on implications of these results for this theory.

Violent Crime Periodicities

For violent crime, the largest periodicity observed in the data (by a substantial distance) occurred weekly (i.e., every 7–9 days). This is not surprising as it is fairly well accepted that violent crime follows a weekly cycle, with more violent crime on the weekends than on weekdays. Of course, a weekend occurs every 7 days, resulting in the peak observed. A number of other short-term economic variations, such as weekly paydays, may also contribute to this cycle. In South Africa, a large number of unskilled migrant laborers are paid weekly, which would result in an increase in cash on hand for these segments of the population that have previously been shown to be at a greater risk of offending in South Africa (Breetzke & Horn, 2006). Additionally, a number of small loans firms in South Africa also deliver a weekly payday system to benefit financially constrained individuals. It could be that this convergence of weekly income through paydays and/or loans coupled with the occurrence of weekends may explain this crime peak occurring every 7–9 days over the 5-year study period.

Violent crime also exhibits a second periodicity falling roughly between the 2- and 3-month time period. The explanation for this observation is less obvious, but it may be related to the occurrence of school holidays in the country. School calendars in South Africa are generally broken up into four terms of approximately 3 months each. Each term is followed by 2 or more weeks of vacation when schools are closed. Previous research both in the United States (Cohn & Rotton, 2000) and China (Peng, Xueming, Hongyong, & Dengsheng, 2011) has demonstrated an increase in crime during

periods of school closings and holidays. This appears consistent with RA theory as the occurrence of school holidays can result in changes in routine or typical activities of people, thus increasing the probability that individuals will be vulnerable to certain types of criminal victimization or will be motivated to engage in crime. School holidays in particular may change the type of behaviors in which individuals choose to engage, such as socializing more frequently with friends or going away on vacation; these clearly may affect the likelihood of certain types of violent crime by increasing the amount of time they spend in social contact with others. School holidays also may be times when family and friends spend more time together; this may increase the risk of violent crimes such as assault, which frequently involve victims and offenders who know each other in some way (Cohn & Rotton, 2003).

More moderate peaks for violent crime are found at approximately 3-week intervals and at an almost 5-month interval. It is not certain as to the causes of these periodicities; they may be related to sporting events, national and/or local holidays, or other local events that act as crime generators. Last, the peak found at the 365 to 370-day period may be explained by major public holidays and/or events that occur annually such as New Year's Day, Christmas, or any major sporting event or activity that occurs periodically on the same day each year.

Property Crime Periodicities

The largest periodicity for property crimes observed in the data occurred approximately every 2½ months. This is similar to that exhibited in the violent crime data, although the property crime peak is much sharper and more pronounced. Again, this may be related to the occurrence of school holidays which typically exhibits a 2½ to 3-month cycle in South Africa.

A second smaller peak occurs approximately every 5 months. Similar to violent crime, this may be associated with holidays or local events; it also could possibly be linked to repeat victimization. Research into property crime victims generally has found that one predictor of property crime victimization is prior victimization; having a prior burglary event, for example, appears to increase the risk of a future burglary (Johnson, 2008; Sidebottom, 2012). While the majority of the research suggests that the risk of repeat victimization tends to be highest shortly after the initial crime occurred and then declines fairly rapidly, a number of studies have found an additional increase in risk well after the decline, particularly for nonresidential burglaries. For example, Weisel (2005) found that commercial burglars used a "cool down" period, waiting until the victims had reduced their vigilance before targeting the same location again about 5 months after the original crime. Similar increases in victimization roughly 4–5 months after the initial burglary have been found in Canada (Polvi, Looman, Humphries, & Pease, 1990), the United Kingdom (Chenery, Holt, & Pease, 1997), and Australia (Townsend, Homel, & Chaseling, 2000). This may be related to economic factors as well; offenders are aware that victims are likely to replace many stolen items after receiving insurance money, and they may delay revictimization until these replacement items will be available as targets. The peak found at the 365 to 370-day period for property crime could be explained by the occurrence of major public holidays, events, or activities that occur periodically on the same day each year.

Finally, it is important to note that Fourier analysis is a data-driven technique that robustly determines the periodicity of phenomena. In our context, we envisage it as an inductive approach to analyzing crime data that do not, and cannot, accept or reject a null hypothesis. The technique allows the data to drive the process and generate descriptive results which need to be explained post hoc using existing knowledge and/or tested further using additional techniques. For example, the explanation provided here that school holidays could account for the periodicities observed for both violent and property crime can be readily tested using existing additional time-series techniques. If an association is found, then the explanation has potential validity; if no association is found, then

there would appear to be another activity or process driving this association. Therein lies the strength of Fourier analysis in identifying potential known (or speculated) and unknown periodicities in crime or some periodic phenomena. Results generated can then be explained and/or undergo further analysis. We do not purport to have all the answers here and there are potentially other more relevant explanations to explain the patterns we have observed in our study, but we suggest that uncovering them requires additional analysis which is beyond the scope of this work. Future research in this area could aim to investigate the explanations we have provided for the observed violent and property crime periodicities in this study perhaps using more conventional statistical approaches.

Theoretical Implications

The findings of this research have important theoretical implications for RA theory and also help to identify areas in which future research is needed. First, it is clear that studies of crime periodicities have focused primarily on attempting to explain previously identified temporal variations in crime. Little effort has been made to identify any additional unidentified periodicities that may be hidden or otherwise unpredictable. A greater focus on examining “unknown” temporal variations in crime data, and on time as a significant variable within criminology, may expand our understanding of RA theory considerably. Second, the vast majority of existing research into temporal variations in crime has been carried out in the United States, with some studies conducted in Europe and Asia; temporal-based studies in other parts of the globe are extremely rare. Expanding the focus to include South Africa allows for a greater understanding of the generalizability of RA theory to less developed areas and to areas with markedly different cultural perspectives and ethnocentricities. The explanations provided for the periodicities identified in both violent and property crime not only provide support for RA theory’s contention that changes in routine activities affect the likelihood of criminal victimization but also suggest that RA theory may be applicable to studies of criminal behavior in other parts of the world, particularly in South Africa.

However, the identification of previously undiscovered cyclical periodicities in crime in Tshwane suggests that there may be additional currently unknown context-specific routine activities that serve as crime generators and/or crime attractors in the city. The challenge is to identify what these periodic activities may be. Future research might attempt to determine whether these newly identified temporal variations are location-specific or whether they occur in countries other than South Africa. Expansion of this research to additional settings outside South Africa may also help to increase our understanding of the possible links between RA theory and other criminological theories such as social disorganization (Shaw & McKay, 1942). Future research could also attempt to examine crime periodicities at finer spatial scales (e.g., examining individual neighborhood periodicities rather than a city as a whole) and using finer temporal scales (e.g., identifying hourly periodic peaks of crime) than those used here.

Limitations

There are several limitations in this study. The first is a problem that is very common in research of this nature: that of determining the exact time at which a criminal incident occurs. This is particularly relevant in the case of property crime. This problem presents a challenge for all temporal crime researchers since victims may be away at the time of the offense or the property crime may occur at some point during the night. The SAPS typically record a burglary event at the time the incident is reported to the police. While other ways of predicting the actual time of property crime was committed are available (Ratcliffe, 2010), these methods often require an estimated “start” and “end” date/time that the victim was away from his or her residence. This level of detail is not captured by the SAPS. For violent crime, however, both the offender and the victim are present at the

time of the offense; and in some instances, the assault may be witnessed by law enforcement officers or someone willing to contact the authorities, or the crime is detected by a closed-circuit television system. We therefore accept that the property crime data provided could be more prone to temporal accuracy errors than the violent crime data. However, we believe that this issue is minimized in the present study because the temporal resolution used in this research is the day rather than the hour the crime occurred.

Second, it is probable that different periodicities exist in violent and property crime in different parts of the city, particularly if there are local crime generators (such as local festivals or other events) that affect individual neighborhoods but have little impact on the city as a whole. Stratifying neighborhoods within a city by various sociodemographic factors might produce different and more insightful periodicities in crime. Future research is needed to examine the inter- and intraneighborhood temporal variation of crime using the same methodology employed here. This is an avenue for future research.

Third, we would like to have conducted this research over a much longer time period (i.e., crime between 2001 and 2014). This would have given greater statistical power to the technique employed and may have resulted in stronger 'peaks' of periodicity or uncovered other instances of high periodicity across both crime types. However, crime data from 2007 onward were however unavailable. Regardless, the 5 years' worth of crime data, detailing approximately 650,000 incidences of crime, are more than adequate in identifying unique periodicities in crime trends.

Finally, this study is based in one city in South Africa; it is almost certain that applying this tool to other countries would produce different periodicities if only because each country (or even each city within a country) may have different periodic events that affect crime. Therefore, the generalizability of the specific results found in this study to cities in other parts of the world is open to debate. However, the method of studying temporal variations of crime introduced here clearly may be used in other settings and may increase our understanding of the similarities and differences in criminal offending worldwide.

Conclusion

This research has identified cyclical periodicities of crime in a city over time. While the data-driven approach adopted here has its limitations, we believe nonetheless that the results generated have extremely important implications for criminology. First, the study has shown that Fourier analysis is an underused but clearly viable tool for studying temporal variations in time-series crime data. This study represents one of the first exploratory attempts at using this tool; additional research is needed to both refine how it is used and expand the possibilities for its continued application in the discipline. Second, the study has identified several periodicities that have not previously been explicated in earlier research. It is possible that the explanations provided for these periodicities at those time periods are not supported in future research and that it is still yet to be determined what causes these peaks. We believe this uncertainty is a strength of the use of Fourier analysis and of this study rather than a drawback. Third, we have conducted this research in South Africa, allowing for international comparisons of temporal variations in crime and criminal behavior. This research is intended to employ a relatively new tool for examining temporal variations in crime data; clearly, much future research is needed to determine its cross-national viability and to refine its use. However, we believe that this article represents a good first empirical and exploratory step in a potential new and exciting direction in the temporal analysis of crime data.

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When the Elderly Turn to Petty Crime: Increasing Elderly Arrest Rates in an Aging Population

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Abstract

Declines in offending in older age have been consistently observed in nearly every criminological study to date. Because of this, theories that address offending in older life focus exclusively on explaining decreases in crime or “desistance.” However, recent increases in elderly arrest rates in some aging societies provide a unique opportunity to forward theories of older age offending with an empirical touchstone. Using Japan as a case study, this article draws from a social integration perspective to examine whether changes in family and economic integration are associated with increasing arrest rates. Using prefectural fixed-effects models with elderly arrests from 1995 to 2004, the findings suggest that weakened family integration is associated with elderly arrest rates, particularly for petty crimes. This article situates these results within the context of Japan and discusses how social integration and later life offending may be related in aging societies like Japan.

Keywords

elderly crime, Japan, social integration

One of the core foundations of criminological theory is the observed relationship between age and crime. As Steffensmeier and colleagues (1989) write, “the proposition that involvement in crime diminishes with age is one of the oldest and most widely accepted in criminology” (p. 803). Contemporary theories of crime and aging were developed within this context, and they propose various explanations for declines in older age offending. Individuals desist from crime because they develop bonds to conventional institutions such as marriage or employment (Laub & Sampson, 2003; Sampson & Laub, 1995); yield to social pressures toward conformity (Steffensmeier, Allan, Harer, & Streifel, 1989); or experience maturation involving psychological, sociological, and biological mechanisms (Moffitt, 1993, 1997). Because declines in older age have been consistently

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observed, it has proven difficult to differentiate among these processes, and criminological theory and research seldom consider offending at the oldest ages.

A recent trend of increasing arrests among the elderly in some aging societies provides an unprecedented opportunity to revisit conceptualizations of offending in older age. Starting in the mid-1990s, Japan has witnessed a near tripling of the arrest rate among people 65 years and older (Ministry of Justice, 2008). In 2007, 13% of all arrestees were 65 years and older and the majority was arrested for the first time in elderly age (Ministry of Justice, 2008). For comparison, in the United States, 0.7% of arrestees were elderly (Federal Bureau of Investigation, U.S. Department of Justice, 2008). Although the case of Japan has received the most publicity, there is some indication that elderly arrest rates may be also increasing in other aging societies, including Korea, China, and Taiwan (Chen, 2015; Hyun-chaee, 2015; Ji-sook, 2008; Ota, 2009; *Taipei Times*, 2012).

These trends are not easily explained by contemporary criminological theories on crime and aging; however, recent studies suggest that social isolation, economic need, and lenient punishments may be contributing to increasing crime rates among the elderly (Chen, 2015; Ezaki, 2014; Ministry of Justice, 2008; Ota, 2009). Although this research provides important insight into individual-level explanations for elderly offending, it is based on selected samples (Ezaki, 2014; Ota, 2009) or does not consider confounding factors in regression analyses (Ministry of Justice, 2008; Ota, 2009). These limitations result from the very difficult challenges of studying elderly offending at the individual level, where administrative data are rarely available (Brinton, 2003) and the stigma around criminal offending has resulted in a complete absence of crime-related questions in nationally representative social surveys. Apart from these difficulties, individual-level explanations overlook social and economic dislocations that are more broadly experienced by older populations in rapidly aging societies (Ezaki, 2014; Ministry of Justice, 2008; Ota, 2009). The context of population aging suggests a macrolevel approach, where regional changes in social integration potentially explain increases in elderly arrest rates.

In this article, I analyze unique administrative data on all prefectural-level elderly arrests in Japan from 1995 to 2004, in order to examine increases in older age offending and to identify social integration factors that are associated with rising rates. I distinguish between female and male arrest rates, and I find that the relationships between arrest rates and social integration are gendered. I then draw on in-depth interviews with a small number of individuals living in Tokyo and arrested in older age to help situate the prefectural-level findings within the Japanese context. Although the use of administrative records to study crime, particularly petty crimes like theft and shoplifting, is not without limitations, this article contributes one of the first empirical examinations of rising elderly arrest rates in Japan.

Elderly Offending and Social Integration

The case of increasing elderly arrest rates in Japan and other aging societies seems to defy most contemporary theories on crime and aging. Indeed, declines in offending in older age, and the shape of the age–crime curve more generally (with a peak in offending in adolescence and decrease over age), are perceived to be so commonplace that they are considered a “social fact” (Greenberg, 1985; Hirschi & Gottfredson, 1983; Steffensmeier et al., 1989; Tittle & Grasmick, 1997). Even apart from elderly crime, however, recent trends in Japan appear to challenge beliefs about the universality of these patterns. Research on homicide rates among men in Japan finds that the age–crime curve has flattened over the past several decades (Hiraiwa-Hasegawa, 2005).

Notwithstanding these recent trends in Japan, the basic shape of the curve has been generally uncontested, although the reasons for the age–crime patterns have triggered much debate. A main distinction among perspectives is the comparative role of early life experiences as opposed to later life factors for explaining crime declines over age. On the one hand, maturation perspectives focus

on childhood factors and social bonds for shaping criminal propensities over an individual's lifetime (Gottfredson & Hirschi, 1990; Moffitt, 1993, 1997). Changes in offending over age do not reflect adult transitions, such as getting married or finding a good job; rather, declines in offending result from aging processes that are universally experienced. In contrast, life-course perspectives on crime propose that social bonds and attachments shape offending not only in childhood but also in throughout adulthood (Laub & Sampson, 2003; Sampson & Laub, 1995; South & Messner, 2000). Adult social bonds have the potential to strengthen attachments to normative lifestyles, reduce negative peer influences, and establish conventional routines that cause declines in offending. Although aging plays some role in desistance, sociological factors over the entire life course are important for declines.

Prior research on elderly offending in Japan suggests that life-course perspectives on crime may help to explain the trends. Consistent with the theory's emphasis on later life social bonds, it may be that the unexpected weakening or loss of attachments, such as divorce or forced retirement, place individuals at higher risk of offending. A small survey study of elderly offenders in Japan found that higher proportions of individuals lived alone and were unmarried prior to their arrest, compared to the general elderly population (Ota, 2009). Another recent study in Japan found differences in the strength of social bonds of elderly individuals who were arrested for shoplifting, as compared to those that had no history of prior arrest (Ezaki, 2014). Although these studies consider selected samples and often do not adjust for other potentially endogenous factors, such as economic hardship, they provide some of the only research on increasing elderly arrests in Japan.

In this article, I move from these individual-level explanations to examine whether contextual levels of social integration explain changes in elderly arrest rates over the period of increase from 1995 to 2004. Sometimes described as the "social integration-regulation thesis" (Kubrin, Wadsworth, & DiPietro, 2006, p. 1560), this idea has its roots in Durkheimian concepts of social integration and social regulation. Both aspects—integration and regulation—are intimately related, where integration is the attachment people feel toward others, which provides meaning beyond personal troubles, and regulation is the behavioral norms and rules that facilitate integration. Durkheim suggested that social integration and regulation together enable societies to exert social control over deviant tendencies, such as suicide (Durkheim, 1951). Because of the close linkages between integration and regulation, contemporary scholarship typically focuses on social integration.¹ As Crutchfield and colleagues (1982) explain, "an integrated social system provides 1) a high degree of consensus in norms, values, and goals; 2) cohesiveness or social solidarity; and 3) a sense of belonging or "we feeling" among persons living in the community in question" (p. 468). In the United States, weakened social integration is thought to manifest through increasing proportions of divorced households, single-parent families, and unemployed individuals, as well as higher rates of residential mobility. Macrosocial associations between integration and crime are the result not only of aggregated individual experiences but also of broader regional changes that affect all residents in an area (Stockard & O'Brien, 2002). By focusing on social integration, the key question is not what types of elderly individuals are more likely to commit crimes, but rather, what social and economic conditions are more likely to lead to elderly offending (Blau & Blau, 1982). Social integration is often a central concept in theories such as social disorganization and control (Crutchfield, Geerken, & Gove, 1982), as well as macrolevel perspectives such as the institutional anomie theory (Messner & Rosenfeld, 1994) and the general strain theory at the community level (Agnew, 1999). These latter theories differ with regard to their intervening mechanisms² and are fruitful areas for future research.

In the case of Japan, recent trends in elderly arrest rates are occurring within a rapidly aging population that has recently undergone major social and cultural transitions. Japan is the first country to experience population decline, the result of below replacement-level fertility since 1973. The persistence of very low fertility rates is unprecedented and has resulted in a multitude of social problems and anxieties about the future (Coulmas, 2007; Morgan & Taylor, 2006; Ogawa &

Retherford, 1997; Onishi, 2004). Along with population aging, the country has experienced a broad range of social structural shifts, including a weakened economy and changes in cultural norms, which have created dramatic changes to the family and the labor market. In the next sections, I discuss these various aspects of social integration within the context of Japan and population aging.

Family integration. Family integration is considered a key dimension of social integration. Weakened family integration not only compromises social norms, attitudes, and feelings of social solidarity but also reduces the effectiveness of informal social controls for deterring criminal behavior (Crutchfield et al., 1982; Sampson, 1987; Stockard & O'Brien, 2002). In the U.S. context, family integration is often measured as the proportion of female-headed households or the percent of individuals divorced. In Japan, the issue of female-headed households is less relevant; however, divorce is increasingly a social issue of concern even though the overall rates are quite low (1.84 per 1,000 population in 2013) and have been declining in recent years (Statistical Handbook of Japan, 2014). Despite these recent trends, divorce rates among longer marriages have been increasing over the long term,³ and the media has focused on the negative impact of divorce among older men, suggesting that their families are “discarding” them (Fuess, 2004). Moreover, as interviews from this study will describe, divorce in Japan can often entail drastic family disruption, such as cutting off all ties to family members. For these reasons, the social meaning of divorce in Japan may indicate a more severe form of weakened family integration compared to the U.S. context, despite low rates of marital dissolution in Japan overall.

Apart from marital status, the living situation of older adults may also be an important indicator of family integration in Japan. During the same period of increasing elderly arrest rates, the prevalence of three-generational households and adult children caring for their elderly parents has declined (Ogawa & Retherford, 1997; Traphagan & Knight, 2003). This decrease is related to changing norms regarding the responsibilities of adult children and is connected to the dynamics of population aging, particularly the difficulties of caring for a growing and disproportionate number of elderly individuals who are living longer. In the context of population aging and in societies that are transitioning away from three-generational households, changes in the living situation of older adults, such as whether they live alone or with a spouse as opposed to with their children, may be a particularly relevant measure of family integration.

Economic integration. Economic integration is considered another important dimension of social integration. Living in an impoverished or highly disadvantaged area is thought to lead to despair and a sense of hopelessness about the future (Burr, Hartman, & Matteson, 1999; Kubrin et al., 2006). In the case of the elderly in Japan, the country's decadelong recession and anxieties about the viability of the government pension system (Onishi, 2004, 2005) provide an important backdrop to economic integration measures, such as poverty and unemployment rates. The shifting age structure has made it difficult to find work not only among the elderly, who are increasing the pool of available older workers, but also for young people, who are facing a shrinking labor market economy. In a society where social norms have traditionally dictated that aging elders are revered and cared for, contemporary experiences of economic uncertainty likely conflict with individual expectations.

Other factors related to social integration. Apart from familial and economic factors, social integration is thought to depend on the extent of mobility in a region. Mobility not only disrupts feelings of social cohesion and a sense of belonging, but it also weakens the effectiveness of informal social controls (Crutchfield et al., 1982). Studies in the U.S. context operationalize the concept of mobility as the frequency of recent residential moves (Crutchfield et al., 1982; Sampson, 1985); however, in the case of older individuals in Japan, measures of commuting regions may be more appropriate for

several reasons. Areas with high levels of daytime commuters reflect a lack of guardianship and informal social controls during the day (Cohen & Felson, 1979) that are particularly relevant to mostly retired, older individuals. Feelings of social integration and cohesion are likely quite different for older individuals living in areas with growing numbers of outbound commuters during the day.

Social Integration, Crime, and Gender

Because the meaning of social integration factors and the nature of criminal offending are both very different among older men and women, it is likely that social integration and crime are differentially associated by gender. This expectation is particularly relevant to a highly gendered society, such as Japan. Across time and place, women engage in much lower rates of crime across all crime types, with the exception of prostitution, and they are much less likely to be involved in serious offenses (for reviews, see Kruttschnitt, 2013; Steffensmeier & Allan, 1996). The situation in Japan follows these patterns, where older women have lower levels of arrest and are more likely to be arrested for petty offenses as compared to serious crimes.

Theoretically, some integration factors have been discussed as differentially important to women and men. Integration related to the family, and particularly to childbearing, may be especially salient to women (Kubrin et al., 2006; Steffensmeier & Allan, 1996). For women, who are socialized in the “ethic of care” and caretaking of others (Steffensmeier & Allan, 1996), social status and identity are more closely tied to family. The living situation of elderly adults, such as the prevalence of three-generational households, may be a particularly important integration factor for older women in Japan. Whereas elderly men more often rely on their wives for caretaking in older age, women often outlive their spouses and must depend more on their adult children (Ogawa & Retherford, 1993). Among men, economic integration factors are thought to be more important for crime (Kubrin et al., 2006; Steffensmeier & Allan, 1996). Men are typically socialized to value status and identity based on economic achievement and occupation. Their contributions to the family are often through these channels, where financially supporting a family is regarded more highly than caretaking practices. In Japan, where men dominate the country’s “permanent employment system” (Brinton, 1989), employment may be particularly salient to men. In addition, integration factors that are related to the labor force may be more important for men compared to women. For example, weakened feelings of belonging in commuter regions may be exacerbated among older men, who are more likely to have recently retired from work, as compared to older women in Japan.

Although the theoretical arguments for gendered differences in social integration and crime seem convincing, research has found few variations by gender at the aggregate level (for a review, see Kruttschnitt, 2013). In these studies, factors such as family and economic integration have had largely similar associations, although with some differences in magnitudes, for male and female crime rates. Moreover, research on elderly offending at the individual level indicates few gender differences in feelings of social integration, such as social distrust (Ezaki, 2014). Notwithstanding these findings, the evidence regarding gendered differences at the macrolevel is limited (Kruttschnitt, 2013), and both the theoretical reasons and the specific context of Japan, as a highly gendered society, warrant analyses that distinguish elderly crime among men and women.

Data, Method, and Measures

Data

In this article, I use prefecture-level arrest records to examine whether increases in elderly arrests are associated with changes in social integration. In Japan, there are 47 prefectures with an average

Table 1. Description, Source, and Year for All Variables Used in Fixed-Effects Panel Models.

Variable	Source and Observed Year
Dependent variables	
Older arrest rate (per 100,000 persons)	Tokyo Metropolitan Police and the Statistics Bureau (population): 95, 98, 01, 04
Independent variables	
Marital status of older adults (%)	Japan census: 90, 95, 00, 05
Living situation of older adults (%)	National institute of population and social security research: 95, 98, 01, 04
Labor force status of older adults (%)	Japan census: 90, 95, 00, 05
Receipt of cash assistance among older adults (per 1,000)	Social indicators by prefecture: 95, 98, 01, 04
Commuters to other prefectures (% of employed)	Japan census: 90, 95, 00, 05
Number of police per 1,000 residents	Social indicators by prefecture: 95, 98, 01, 04
Density: Number of people per 1 km ² inhabitable area	Social indicators by prefecture: 95, 98, 01, 04

Note. The term “older adults” refers to people 65 years and older.

geographic area of 8,000 km², which is slightly larger than the U.S. state of Delaware. The prefectural unit of analysis is comparably larger than most U.S. studies of aggregate crime rates, which typically examine counties, but it is relatively smaller both in geographical area and in population size compared to U.S. states. The data come from several sources. The main outcome measure—elderly arrest rates—is based on prefecture-level information on all elderly arrests from 1995 to 2004. Although much of this information is publicly available, it is seldom used and involves a long and complicated process to compile. Each prefectural police department publishes an annual report with detailed arrest information, including age-specific arrest tables. The National Diet Library in Tokyo collects some of these reports; however, there is not a single repository for all prefectures and years studied here. I therefore contacted each of the 47 prefectural police departments by letter or e-mail, and most departments were responsive to requests for their reports. After collecting most of the data in this manner, the Tokyo Metropolitan Police Department (TMPD) provided me with complete information on the number of elderly arrests by prefecture from 1995 to 2004. Information from the TMPD includes all prefectures and additionally distinguishes by gender and offense type, which is a level of detail that is not always included in the prefectural police department reports. Information on all other measures is publicly available and comes from Japanese government agencies such as the Census and Statistics Bureau, as well as an annual government publication entitled *Social Indicators by Prefecture* (see the Measures section and Table 1 for more details).

The data have several advantages for studying elderly offending. First, they include the entire universe of all elderly arrestees in Japan. Second, they concern the period of increase, prior to national attention to the issue.⁴ Third, they differentiate between male and female arrestees, enabling an analysis by gender. Fourth, Japanese criminal statistics and arrest information are generally viewed as more consistent compared to administrative records from other countries, such as the United States (Finch, 2000; Park, 1992). Compared to the Uniform Crime Reports, Japanese statistics reflect more standardized reporting and policing policies across regions.

However, despite these strengths, Japanese arrest records remain an imprecise measure of criminal offending, which reflects crime, police policies, and regional practices.⁵ I discuss these limitations throughout the rest of this article; however, since official records are currently the only available source of crime and offending information in Japan, these data provide a first step toward examining elderly offending in aging populations.

Method

I utilize prefecture-level regression models to investigate how changes in elderly arrest rates are associated with changes in marital status, living situation, employment, and other factors between 1995 and 2004. The models are fixed-effects panel models, which consider changes within Japan's 47 prefectures over time, and they estimate associations between arrest rates and explanatory variables at four time points during the period of change: 1995, 1998, 2001, and 2004 ($N = 188$ prefecture years). Prefectural-based fixed-effects models are well suited to study changes in offending and social and contextual factors for several reasons. As opposed to pooled cross-sectional models, the advantage of prefectural-based fixed-effects models is that they account for any unobserved factors that are specific to the prefecture and do not vary over time. For example, fixed-effects models adjust for prefectures that consistently have higher crime rates, unique policing environments, or different practices for recording and processing arrests. Moreover, examining changes by prefecture, as opposed to pooling prefectural-level data to the national level, enables me to consider more fine-grained variation in social and contextual changes that may be importantly related to changes in arrest rates. Apart from these substantive advantages, fixed-effects models are most appropriate when data have large N s (in this case, prefectures) across relatively few time points. Pooling data to the national level may be useful if researchers want to study dynamic or temporal patterns at a national level and have access to national-level data over a long period of time (Frees, 2004); however, the aim of this article is to understand changes in relationships between offending and social and contextual factors among prefectures during the period of increase.

For the prefectural fixed-effects models, I use the Huber/White/sandwich estimate of variance to adjust standard errors due to the presence of correlated errors (Wooldridge, 2002). In order to construct some independent variables (e.g., marital status, labor force status, and commuters, see Table 1) for years 1998, 2001, and 2004, I use ordinary least squares regression to estimate values based on information from the Japanese censuses for 1990, 1995, 2000, and 2005. For example, I estimate the marital status variable for each prefecture based on observed values in 1990, 1995, 2000, and 2005, allowing for nonlinearity for the construction of the value by incorporating squared and cubic terms for the years. I then use the regression estimates to predict values for the years 1998, 2001, and 2004. Using estimated values for these years introduces error, which should bias the resulting fixed-effects regression results for these coefficients downward; given this, it is possible that the estimates are conservative relative to the true associations. In addition, the models that I present in this article do not include fixed effects for years, which additionally control for period-based associations; however, the results are generally consistent with the more conservative approach and I describe any differences in the text and footnotes.

Using these models, I examine total arrest rates for individuals 65 years and older, and I also distinguish by crime type such as larceny and violent offenses.⁶ Because arrest rates reflect both offending and police practices, some researchers that use administrative records have focused on violent offenses that involve a victim, such as homicide or other violent crimes, in order to address the very salient concern that changes in arrest rates reflect police practices only. While I include this approach here and I discuss other methods to help address this concern later in the article, I suggest that focusing on violent offenses has considerable limitations in research on elderly offending. Partly due to physical restrictions of aging that preclude violent crime, research on elderly offending in the United States finds that older individuals typically engage in petty theft such as shoplifting and other minor crimes (Cullen, Wozniak, & Frank, 1985; Feldmeyer & Steffensmeier, 2007). As this article's results will describe, elderly individuals in Japan are no exception and focusing on violent crimes therefore excludes the majority of offenses for which elderly individuals are arrested. Given that the recent increase in elderly arrests is driven mostly by larceny offenses, I examine those offenses as a separate category. In addition to distinguishing by crime type, I analyze separate models for men and

women. Theoretically, social integration literature suggests that the correlates of offending may differ depending on gender. Although the limited empirical evidence does not typically find gender differences, as discussed above, there are reasons to expect that some social integration factors would be more or less applicable to men as opposed to women.

Following these main models, I present findings from two additional analyses that provide supplementary information to aid in the interpretation of results. The first helps to assess whether changes in police practices might explain the associations, by estimating a model of young adult arrest rates using the elderly specific social integration factors. If changes in police practices, as opposed to changes in elderly offending rates, were systematically associated with social integration factors, the associations would be similarly observed in models that consider other age-specific arrests that are presumably impacted by the police practices. The second analysis provides suggestive evidence about the social meanings of family and economic integration factors in the Japanese context. Using in-depth interviews with a small, selected sample of elderly offenders, I discuss how social and economic integration factors are perceived and experienced by these individuals living in Tokyo, Japan. Although circumscribed, this final section complements the main prefectural-level analyses by providing contextualization for the interpretation of social and economic integration factors (Sale, Lohfeld, & Brazil, 2002; Small, 2011), which is a particularly important consideration in non-Western research (Scrimshaw, 1990).

Measures

Elderly arrest rates. Elderly arrest rates by prefecture are the key dependent variables. For a given year, the number of age-specific arrests by prefecture and gender (from the TMPD) was combined with age-specific population estimates (from the Statistics Bureau). Rates are calculated as the number of elderly adult arrestees per 100,000 persons 65 years and older and are logged.⁷

Marital status. The measure of marital status of individuals 65 years and older is separated by gender and measured using five categorical variables: the percent of older men or women who are married, divorced, widowed, never married, and who do not report status.

Living situation. The living situation of older adults (aged 65 years and older) is measured using four categorical variables: the percent of older people living alone, living with their spouse, living with their children, and living with nonfamilial individuals. I expect that the decline of three-generational households and the increase of elderly people living alone will be associated with increasing elderly arrest rates.

Labor force status. The measure of labor force status for elderly adults is separated by gender and measured by four categorical variables: not in the labor force, employed, unemployed, and status not reported in the census. I expect that weakened labor force attachment, measured as the percent unemployed, will be associated with arrest rates.

Receipt of cash assistance. To measure the extent of prefecture-level poverty among elderly adults, I include the rate of people 65 years and older receiving cash assistance. While there are many determinants of receipt besides economic situation, such as the application procedures of the prefecture and the stigma attached to receiving aid, it is the best available measure to capture poverty rates among elderly adults.

Commuter regions. The percent of employed persons that commute to a different prefecture for work is used to capture whether the prefecture is a commuting suburb.

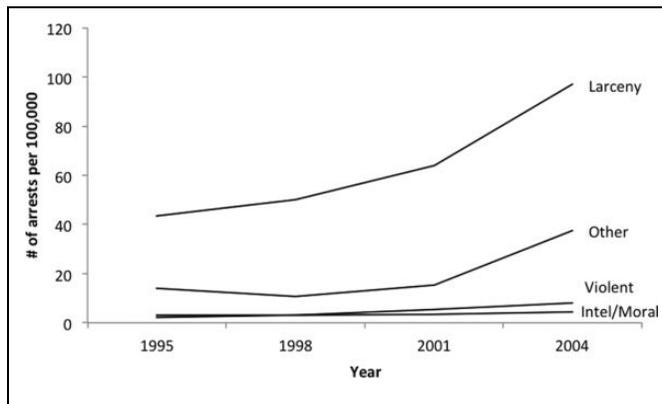


Figure 1. Number of arrests per 100,000 older individuals (65 years and older), by offense type and year. Source. Adapted from Ministry of Justice (2008).

Police ratio. The number of police officers per 1,000 residents measures changes in police presence that may affect arrest rates.

Density. Population density accounts for demographic changes related to population concentration, which are commonly correlated with crime rates.

Results

Before presenting estimates from the prefecture-level fixed-effects regression models, I describe the nature and extent of changes in elderly arrest rates at a national level. From 1995 to 2004, the number of elderly arrests per 100,000 individuals (65 years and older) increased 136% from 62.6 to 147.5. The majority of the change was due to arrests for larceny and other minor crimes, although there were increases across all crime categories (see Figure 1). Although arrest rates for all age categories did increase over this period, the increase at the oldest ages is considerably higher compared to the younger ages. For comparison, among age groups under age 50, arrest rates increased about 35% over this period.

Table 2 describes the means and standard deviations for all measures across prefectures from 1995 to 2004. The average elderly arrest rate by prefecture was 53 per 100,000 in 1995 and 139 per 100,000 in 2004, representing a 162% increase by prefecture. Distinguishing by gender, the elderly male arrest rate increased by 171%, from 80 per 100,000 in 1995 to 217 in 2004. For elderly females, the average arrest rate across prefectures increased by 147%, from 34 in 1995 to 84 per 100,000 in 2004. The arrest rate for violent and serious crimes is comparably very low, where the average rate was two per 100,000 in 1995 and seven per 100,000 in 2004. These rates are slightly higher among men, where the average arrest rate was 15 per 100,000 in 2004; however, it is clear that the majority of elderly arrests, as well as the increase in arrests, can be attributed to larceny and other nonserious crimes. Although all prefectures experienced increases in both elderly male and female arrest rates, there is notable regional variation in the magnitude of the changes. Some prefectures saw increases of more than 200% in arrest rates, while others experienced increases of less than 50% (see Figure 2). Distinguishing by gender, the prefectures with the largest increases in male arrest rates are sometimes, but not usually, the same prefectures that also experience the highest increases in female arrest rates.

Table 2. Means and Standard Deviations for All Prefectures in Japan, 1995 and 2004.

Variable	1995		2004	
	Mean (%)	SD	Mean (%)	SD
Dependent variables				
Older arrest rate: total	52.73	(26.79)	138.97	(33.31)
Men	80.03	(50.19)	216.72	(60.06)
Women	33.81	(15.60)	83.52	(23.95)
Older arrest rate: violent/felonious	2.09	(1.31)	6.95	(3.48)
Men	4.80	(3.15)	15.43	(7.73)
Women	0.25	(0.36)	0.92	(0.81)
Older arrest rate: larceny	42.29	(18.63)	102.82	(26.44)
Men	57.08	(26.71)	139.17	(35.26)
Women	32.03	(14.97)	77.16	(24.38)
Independent variables				
Marital status of older adults (%): men				
Married	84.37	(1.22)	82.89	(1.77)
Divorced	1.55	(0.51)	2.44	(0.62)
Widowed	12.53	(0.65)	11.43	(0.78)
Never married	1.27	(0.38)	1.98	(0.65)
Unreported	0.28	(0.31)	1.25	(1.09)
Marital status of older adults (%): women				
Married	43.22	(2.39)	46.63	(2.11)
Divorced	3.01	(0.70)	3.56	(0.82)
Widowed	50.68	(2.11)	45.48	(2.43)
Never married	2.67	(0.74)	3.08	(0.79)
Unreported	0.43	(0.36)	1.25	(0.91)
Living situation of older adults (%)				
Alone	11.45	(4.14)	13.63	(3.75)
With spouse	27.55	(6.98)	33.56	(6.84)
With children	57.32	(11.03)	48.67	(10.08)
With others	3.67	(0.59)	4.16	(0.79)
Labor force status of older adults (%): men				
Not in labor force	57.46	(4.23)	64.75	(3.44)
Employed	40.35	(4.43)	31.68	(3.46)
Unemployed	1.91	(0.59)	1.61	(0.37)
Unreported	0.27	(0.33)	1.95	(1.99)
Labor force status of older adults (%): women				
Not in labor force	83.38	(3.17)	84.62	(2.29)
Employed	16.18	(3.24)	14.20	(2.39)
Unemployed	0.18	(0.07)	0.21	(0.06)
Unreported	0.26	(0.17)	0.97	(0.99)
Receipt of cash assistance among older adults (per 1,000)	13.80	(8.37)	17.58	(9.92)
Commuters to other prefectures	5.55	(8.22)	6.01	(8.17)
Number of police per 1,000 residents	1.62	(0.36)	1.74	(0.33)
Density	1,363.56	(1,613.17)	1,370.313	(1,659.79)
N	47		47	

Note. The term "older adults" refers to people 65 years and older.

For the independent variables, the changes from 1995 to 2004 reflect the aforementioned decline in three-generational households and a worsening economic situation for elderly adults. In 2004, a larger percent of elderly adults were living alone or with their spouse rather than with their adult children. There was also a higher percent of elderly adults receiving cash assistance from the

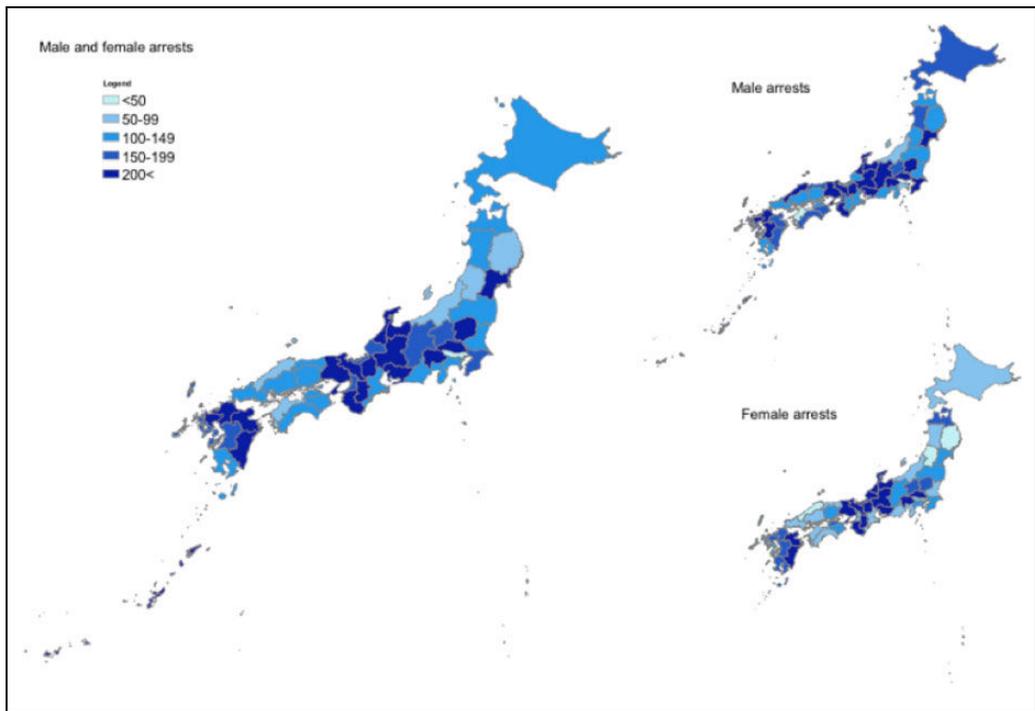


Figure 2. Percentage change in elderly arrest rates in Japan from 1995 to 2004, by prefecture and gender.

government. For marital status, a slightly higher percentage of elderly men and women report being divorced or never married. A smaller percent report being widowed, perhaps reflecting the gains in life expectancy for their partners over this period. For labor force status, the proportion of employed men and women decreased over this period; however, a higher percentage of elderly men and women report that they are not in the labor force, as opposed to being unemployed. Although the means across many of these measures have increased only marginally, the percent changes are more consequential; for example, the percent of older men who are divorced has increased 57% from 1995 to 2004. Because there have been changes across all of these measures, they are incorporated into the following regression models.

Table 3 reports the fixed-effects regression results for men and women aged 65 years and older. Considering the total arrest rate (column 1) four main findings are evident. First, marital status—and particularly, increases in the percent divorced compared to the percent married—is significantly associated with increasing elderly arrest rates.⁸ As Table 3 shows, a one-unit increase in the percent divorced is associated with a 119% increase in the elderly arrest rate. In contrast to the association with divorce, the percent widowed is negatively related to arrest rates. A one-unit increase in the percent widowed corresponds to a 21% decrease in the arrest rate. These patterns hold among arrests for larceny, but not among arrests for violent and more serious crimes. While the description of these results suggests that a relatively small change in marital status corresponds to a very large change in arrest rates, it is important to note that the magnitude of arrest rates is comparably quite modest and is measured as the number of arrests per 100,000 persons 65 years and older. Overall, taking together the estimates related to marital status, the associations suggest that it is not simply changes in the proportion living with a spouse that is consequential; rather, the circumstances around those changes—whether under the stigma of divorce as opposed to the status of widowhood—are particularly important.

Table 3. Fixed-Effects Models of Prefectural Arrest Rates (Logged) for People 65 Year and Older in Japan.

	Total Arrests	Violent/ Felonious Arrests	Larceny Arrests
	(1)	(2)	(3)
Marital status of older adults (ref: married)			
Divorced	1.188 (0.364)**	0.803 (0.721)	1.158 (0.459)*
Widowed	-0.209 (0.054)***	-0.097 (0.115)	-0.183 (0.060)**
Never married	-0.446 (0.464)	-0.551 (0.589)	-0.144 (0.537)
Unreported	-0.164 (0.179)	-0.111 (0.369)	-0.034 (0.202)
Living situation of older adults (ref: with children)			
Alone	0.021 (0.016)	0.041 (0.037)	0.013 (0.021)
With spouse	0.013 (0.013)	0.027 (0.024)	0.017 (0.014)
With others	0.005 (0.023)	-0.065 (0.056)	0.010 (0.025)
Labor force status of older adults (ref: not in labor force)			
Employed	0.016 (0.024)	-0.128 (0.061)*	0.017 (0.026)
Unemployed	0.901 (0.453)	0.469 (0.708)	0.856 (0.533)
Unreported	-0.049 (0.109)	0.031 (0.128)	-0.131 (0.105)
Receipt of cash assistance among older adults (per 1,000)	-0.031 (0.013)*	0.001 (0.024)	-0.042 (0.021)*
Commuters to other prefectures	0.217 (0.054)***	0.128 (0.140)	0.209 (0.059)***
Police rate (per 1,000)	-0.433 (0.755)	-0.582 (1.247)	-1.408 (0.901)
Density	0.000 (0.001)	0.000 (0.001)	0.001 (0.001)
Constant	7.024 (2.148)**	5.176 (4.925)	6.175 (3.055)*
Adjusted R ² (within)	0.855	0.625	0.793
N of observations	188	186	188

Note. The number of observations refers to 47 prefectures observed at four time points. For violent and felonious arrests, there are two prefecture years that have zero elderly arrests and are excluded from the logged arrest rate analyses.

* $p < .05$. ** $p < .01$. *** $p < .001$.

In terms of economic integration, the results are more mixed. Receipt of cash assistance is negatively associated with total arrest rates and arrests for larceny, but labor force status is not significantly associated with these arrests. For cash assistance, the estimated relationship is modest but significant, where a one-unit increase in the rate of receipt correlates with a 3.1% decrease in the arrest rate. The direction of this association is perhaps counterintuitive if the measure is a reflection of poverty status. Instead, it may be that broadened access to cash assistance for the elderly provides an economic safety net for the poor, deterring shoplifting and other offenses. Among violent and serious crimes, the percent employed is negatively associated with arrest rates, where a one-unit increase in the percent employed is related to a 12.8% decrease in violent and serious arrest rates; however, this association is not significant in models that include fixed effects for years.

Looking to other indicators of integration, the percent of commuters to other prefectures is significantly associated with elderly arrests for total crimes and larcenies, where increases in the number of commuters that leave during the day are positively related to elderly arrest rates. Specifically, a one-unit increase in the percent of employed persons that commute to a different prefecture for work is associated with a 22% increase in total arrest rates.

Separately analyzing arrest rates by gender reveals several important differences. Among men, who make up the majority of elderly arrests, the association between commuter regions and arrest rates remains positive for total arrests and larcenies (see Table 4). It is possible that the lack of daytime informal controls characteristic of commuter regions is particularly relevant for men, who

Table 4. Fixed-Effects Models of Prefectural Arrest Rates (Logged) for Men 65 Year and Older in Japan.

	Total Arrests	Violent/ Felonious Arrests	Larceny Arrests
	(1)	(2)	(3)
Marital status of older adults (ref: married)			
Divorced	0.966 (0.301)**	0.166 (0.706)	0.903 (0.326)**
Widowed	-0.363 (0.141)*	0.120 (0.241)	-0.294 (0.140)*
Never married	-0.128 (0.315)	0.012 (0.418)	0.108 (0.359)
Unreported	-0.136 (0.184)	0.111 (0.285)	0.007 (0.207)
Living situation of older adults (ref: with children)			
Alone	0.024 (0.015)	0.005 (0.040)	0.020 (0.019)
With spouse	0.013 (0.013)	0.026 (0.025)	0.016 (0.016)
With others	0.010 (0.029)	-0.115 (0.054)*	0.014 (0.031)
Labor force status of older adults (ref: not in labor force)			
Employed	0.003 (0.018)	-0.091 (0.047)	0.000 (0.019)
Unemployed	0.266 (0.204)	-0.148 (0.314)	0.225 (0.245)
Unreported	-0.017 (0.083)	-0.008 (0.091)	-0.089 (0.092)
Receipt of cash assistance among older adults (per 1,000)	-0.022 (0.015)	-0.008 (0.024)	-0.040 (0.017)*
Commuters to other prefectures	0.231 (0.057)**	0.199 (0.160)	0.208 (0.075)**
Police rate (per 1,000)	0.333 (0.821)	0.957 (1.174)	-0.830 (1.026)
Density	-0.000 (0.001)	-0.001 (0.001)	0.000 (0.001)
Constant	4.799 (2.112)*	1.791 (3.385)	5.399 (2.749)
Adjusted R ² (within)	0.827	0.595	0.738
N of observations	188	183	188

Note. The number of observations refers to 47 prefectures observed at four time points. For violent and felonious arrests, there are five prefecture years that have zero elderly arrests and are excluded from the logged arrest rate analyses.

* $p < .05$. ** $p < .01$. *** $p < .001$.

are more likely to have been employed workers and are now retired or unemployed. Among women, living situation has a modest but significant association with arrest rates for total offenses and larcenies, where the percent living with a spouse only as opposed to living alone or with children in a three-generational household is associated with higher arrest rates (see Table 5). Marital status remains consequential in both models for men and women. The percent widowed continues to be negatively associated with arrest rates for total crimes and larcenies. The percent divorced also continues to be positively associated with arrests for total offenses and larcenies; however, the magnitude of the association is larger among women and the association is not significant among men in more conservative models that additionally control for year fixed effects.

Additional Analyses

Assessing limitations of using arrest data for offending. The above findings are based on the universe of elderly arrests between 1995 and 2004; these data are unique and involved extensive relationship-building efforts with Japanese government agencies to acquire. Despite their strengths, they are administrative measures of crime and are imperfect measures of offending since arrest rates are based on both crime and police practices. To help address this limitation, researchers often focus exclusively on violent and serious offenses. The models presented above distinguish by crime type, and very few factors are related to arrest rates for violent and serious offenses among elderly

Table 5. Fixed-Effects Models of Prefectural Arrest Rates (Logged) for Women 65 Year and Older in Japan.

	Total Arrests	Violent/ Felonious Arrests	Larceny Arrests
	(1)	(2)	(3)
Marital status of older adults (ref: married)			
Divorced	1.796 (0.534)**	-1.051 (1.050)	1.746 (0.577)**
Widowed	-0.112 (0.045)*	-0.074 (0.155)	-0.105 (0.046)*
Never married	-0.646 (0.578)	-0.018 (0.840)	-0.405 (0.655)
Unreported	-0.177 (0.133)	-0.103 (0.385)	-0.156 (0.127)
Living situation of older adults (ref: with children)			
Alone	0.013 (0.026)	0.060 (0.084)	0.004 (0.034)
With spouse	0.026 (0.013)*	-0.018 (0.037)	0.029 (0.014)*
With others	-0.006 (0.031)	-0.104 (0.084)	0.011 (0.030)
Labor force status of older adults (ref: not in labor force)			
Employed	-0.018 (0.038)	-0.006 (0.165)	-0.013 (0.036)
Unemployed	-0.340 (1.624)	1.348 (3.873)	-0.864 (1.611)
Unreported	-0.112 (0.137)	0.357 (0.231)	-0.147 (0.114)
Receipt of cash assistance among older adults (per 1,000)			
Commuters to other prefectures	0.137 (0.080)	-0.028 (0.169)	0.143 (0.090)
Police rate (per 1,000)	-1.450 (0.700)*	2.990 (2.057)	-1.891 (0.746)*
Density	0.000 (0.001)	0.001 (0.002)	0.001 (0.001)
Constant	6.587 (3.315)	-1.092 (13.783)	5.617 (3.657)
Adjusted R ² (within)	0.792	0.370	0.751
N of observations	188	106	188

Note. The number of observations refers to 47 prefectures observed at four time points. For violent and felonious arrests, there are 82 prefecture years that have zero elderly arrests and are excluded from the logged arrest rate analyses.

* $p < .05$. ** $p < .01$. *** $p < .001$.

individuals. This could very well indicate that increases in elderly offending are driven by changes in police practices for petty crimes. However, as noted above, research on elderly offending more generally finds that most elderly individuals commit petty theft and other minor crimes (Cullen et al., 1985; Feldmeyer & Steffensmeier, 2007) and more serious crimes make up a very small number of arrests among elderly individuals in Japan (see Table 2). While cognizant of the limitations of arrest measures, focusing solely on arrests for violent and serious offenses would exclude the vast majority of elderly arrests.

A main concern of using arrest records to analyze offending patterns is that the observed changes are due to police practices only and that the estimated associations are spuriously driven by these practices. For this counterfactual to have credibility, changes in police practices must explain increases in arrests and the estimated associations with social and economic situations, such as divorce rates, multigenerational households, and receipt of cash assistance. These changes must be systematically associated with the observed social and economic factors and must occur over and beyond those policing practices already controlled for in the model, such as the number of officers per residents and unobserved time-stable differences in policing environments. To help assess the concern that arrest rates are only capturing policing changes and not elderly offending rates, I estimate a model of young adult arrests.⁹ If broad-based changes in police practices, rather than elderly offending rates, are systematically correlated with social and economic factors, these associations would be observed for models that consider arrest rates for other ages. Although this

approach cannot comment on police changes that are targeted at elderly individuals, it provides information to help assess one alternative explanation. Findings from a fixed-effects model of logged young adult arrest rates that consider elderly specific covariates estimate no significant associations, with the exception of density and the percent divorced (results available upon request). The estimated association for divorce is smaller compared to the elderly arrest models (0.63 compared to 1.19); however, it suggests that prefecture-level increases in divorce among older people are related to increases in arrest rates among young people. These findings suggest at least two conclusions. First, marital stability is importantly associated with younger arrests, which is consistent with the idea that family disruption among older people has a salient influence on criminal offending among younger generations (Sampson, 1987). Second, the associations between arrest rates and social integration factors that are documented in Tables 3, 4, and 5 are largely specific to elderly arrest rates and are not similarly correlated with younger adult arrest rates. This provides some suggestive evidence that the findings regarding social integration and elderly arrest rates are not due to broad-based policing changes that affect arrest practices among people of all ages.

Social meanings of family and economic integration in Japan. The main analyses in this article examined associations among social integration factors and elderly arrest rates. The theoretical underpinnings concern macrosocial changes in integration, where estimated relationships reflect both aggregated individual experiences and consequences of changing regional contexts for residents. In this final section, I present suggestive evidence about the social meanings of family and economic integration in Tokyo, Japan, from the perspective of a small number of elderly individuals with recent histories of arrest. The methods for locating the participants and conducting the interviews are described in the Appendix. Although the findings cannot be generalized given the small and selected sample ($N = 17$), I suggest that the perspectives and experiences described here help to situate the prefectural-level findings regarding divorce, living situation, and poverty within the Japanese context.

The social meaning of divorce in Japan appears to be quite different from countries with high rates of divorce, such as the United States. Instead, the meaning of divorce in Japan may be most similar to East Asian countries, such as Korea, where divorce is still stigmatized even though it is becoming more prevalent (Jones, 2010). Among those interviewed, divorce was a common experience and 10 of the 17 individuals were divorced (59%), which is high compared to the overall older population in Japan (5.2%).¹⁰ Nearly all of the respondents had children, divorced after lengthy marriages, and described leaving behind their children, homes, neighborhoods, and employers as a result of the divorce. For these individuals, divorce was an experience that entailed leaving behind all remnants of prior life. A 62-year-old man who had not seen his daughter (now in her mid-30s) since the divorce explained: “My daughter thinks that I died. Because of the divorce, I told her [my wife] to tell my daughter that your father is dead.” Another man, 65-years-old, described his relationship with his adult daughter who he had not seen in over 12 years as bleak: “I am not satisfied, but I have already given up.” These experiences were common among those divorced. They illustrate the stigma attached to divorce for older adults, suggesting that the meaning of divorce in Japan is quite different compared to contexts where it is more prevalent, such as the United States.

Changes in living situation, such as the death of coresident parents, a daughter leaving home, or a move entailed by divorce, were a particular focal point among the women in the sample. A 66-year-old woman described spending days sitting on her daughter’s bed and constantly cleaning her daughter’s room, after she left for college. Eventually, the woman started playing *pachinko*, a type of gambling, during the day and began to shoplift groceries to make up for the lost money. “I was really lonely and sad after my daughter went to college—and this doesn’t excuse what I did—but I started to play pachinko . . . I would immediately use my husband’s salary to play pachinko and we were pressed for living expenses.” Another 66-year-old woman, Yamada-san, described how she felt after both of her parents, with whom she lived after her divorce, passed away within the same

year. "More than other people, my relationship with my parents was strong . . . when my parents passed away, I became very insecure, both emotionally and financially. My life became very unstable." Since her parents' passing, Yamada-san was arrested twice, once for shoplifting a jacket that she claims she thought was her own and most recently, for stealing a woman's purse from a department store. When asked to reflect on these events, she said, "I don't think that it's hard to make a living, but in terms of connecting with other people, I feel like I can't impose on them . . . In terms of committing this type of crime, I think that it is partly my fault but the more I think about it, the more I feel that the various important things in my life that disappeared these last 10 years played a big role."

Although the quantitative findings regarding economic integration were mixed, the majority of men (12 of the 14) emphasized their strained economic situation, where being poor and unable to find work was a central source of frustration. Many perceived that their older age was the main contributing factor to their inability to find work. According to one 60-year-old man, "employers don't hire me because of my age. I have tried hard to find a job but the companies worry about that. [Interviewer: Do the employers say you're too old or do you have that impression?] Yes, they say it. After hearing my age, they say no." A 62-year-old man also said he is never given a chance: "Not surprisingly, what they [employers] ask me is my age, that's the first thing they ask me." Many of the men (11 of the 14) described having stable employment histories until reaching older age, when they found it increasingly difficult to find work. Because they often felt that their situations would not improve as they continued to grow older, individuals often described these situations with despair. As one man stated bluntly, "Right now, my life is horrible, the worst. After [turning] 50 years old and now, at 60, I am at the worst place in life. I don't have any hope for the future considering my age."

The findings from the interviews illustrate individual experiences of divorce, changes in living situations, and labor market marginalization among older adults in Tokyo. These stories are based on a small, selected sample and are no more than suggestive; however, they provide some indication of the magnitude of consequences of divorce, changes in living situation, and unemployment for social attachments and feelings of belonging in the Japanese context. They also illustrate how increases in these factors may lead to weakened attachments, declining cohesiveness, diminished informal social controls, and despair for the future among older individuals in Japan.¹¹

Discussion

Recent increases in elderly offending in Japan and other aging societies provide a unique opportunity to forward social integration perspectives on crime in older age. Specifically, I suggest that later life changes in social integration, which are intimately tied to population aging trends, explain recent increases in elderly arrest rates. Findings from fixed-effects panel models support the role of family integration, where it is not simply increases in the percent without a spouse that are consequential for offending rates but instead, it is the specific form of weakened integration through divorce that is important, particularly among women. The results concerning economic integration were more mixed. Although labor force status was not associated with arrest rates, receipt of cash assistance was negatively related to rates. In the case of elderly offending, where a majority of older individuals are no longer working, labor force status may be less consequential than receipt of cash assistance. However, the mixed findings around economic factors are consistent with prior U.S. research, where family integration is found to be comparatively more important (Sampson, 1987). In addition to family and economic integration, changes in the rate of commuters were associated with elderly arrest rates among men, where increases in commuters were related to increases in arrests. This finding not only aligns with prior research on the importance of mobility for informal social controls and offending (Baller & Richardson, 2002; Crutchfield et al., 1982), but in using a measure

of daytime mobility, it also suggests that alternative measures of mobility (apart from residential mobility, which is typically utilized) are valuable.

Importantly, the results suggest that the above associations are largely limited to elderly arrests for larceny and do not extend to more serious crimes. Although variations on the social integration framework have been applied to all types of crimes, including serious and violent offenses (Blau & Blau, 1982; Crutchfield et al., 1982; Sampson, 1987), the findings reported here indicate that integration may be less relevant for elderly arrests related to violent offenses.

In addition to the prefectural models, findings from in-depth interviews with elderly individuals with recent histories of arrest provide some indication, although extremely circumscribed, that the experiences of divorce, living alone or without adult children, and unemployment may have social meanings among older adults in Japan that are different from those in contexts like the United States. Instead, these experiences may be more comparable to those in other East Asian countries, which have similar dynamics of population aging and recent histories of rapid economic development. Although the interviews were based on a small and selected sample, they complement interpretations of the prefectural-level findings by adding cultural contextualization (Sale et al., 2002; Scrimshaw, 1990; Small, 2011). In Japan, divorce is relatively uncommon and stigmatized, often entailing cutting off ties to family members. The prevalence of elderly living alone or without adult children is not only quickly increasing but is also at odds with the cultural expectations of the older generation. It is within this cultural context and within this time period of population aging that weakened family and economic integration are associated with elderly arrest rates.

This article contributes a first step toward examining elderly arrest rates in aging societies and future work that studies these associations at both the macro- and microlevels are needed. For this article, there are several important limitations that may be improved by future research. First, the prefecture-level models utilize administrative records on arrests. As described earlier, arrest information reflects both criminal behavior and responses to it, including police practices. Common methods to address this issue, such as focusing on violent crimes only, exclude the majority of offenses committed by elderly individuals. This article employed several approaches, including the use of fixed-effects analyses, a control variable for changes in police officers, and a supplementary analysis with young adult arrest rates; as a result, I conclude that the associations documented here are saliently related to increasing elderly crime rates. At the same time, however, future research with self-report information is warranted, in order to further examine these associations and to assess whether and how changing police practices contributes to the increase. A second limitation is the use of data at the level of prefectures, which are relatively large geographic units. Compared to U.S. states, the average size of a Japanese prefecture is relatively small; however, U.S. research on social integration often considers smaller areas, such as metropolitan regions (Blau & Blau, 1982; Kubrin et al., 2006; Wadsworth, Kubrin, & Herting, 2014) and counties (Baller & Richardson, 2002). A third limitation is the use of estimated values for some of the independent variables, as described in the Method section and Table 1. This approach introduces measurement error for these variables, which may bias the regression coefficients for these variables downward relative to their actual associations. As such, it is possible that the estimates for these variables understate the magnitude of the true relationships.

Despite these limitations, this article contributes one of the first empirical studies on an important and unanticipated social issue, which offers a unique opportunity to examine criminological theories in a non-Western context. Although this article focused on Japan, similar elderly arrest patterns have been observed in some aging East Asian countries (Chen, 2015; Hyun-chae, 2015; Ji-sook, 2008; Ota, 2009) and may occur in other countries as aging populations increase in size and proportion in the future. In Japan, and perhaps in other East Asian countries that share similar social and cultural emphases on the family (Agnew, 2015), family integration is importantly associated with increasing elderly arrests in Japan. However, family integration may not play a dominant role in contexts where

divorce and living apart from adult children are more commonplace, as in the United States. Instead, unemployment and economic insecurity may emerge as more consistent factors for elderly offending in societies where economic wealth is highly valued.

Appendix

Interviews With Elderly Individuals

Interviews with male ($n = 14$) and female ($n = 3$) individuals who were arrested at or after 60 years of age were conducted in the summer of 2010 in Tokyo, Japan. Before recruitment, I anticipated that it would be difficult to find elderly offenders since the social stigma around arrests and criminal activity is severe. To recruit participants, I used a variety of methods, including distributing flyers at postrelease centers throughout the city and at food distribution sites. My uncle—a Japanese native who is an older low-wage worker himself—was a critically important part of the recruiting process. While distributing flyers, he was able to engage potential participants in conversation about the research. We were able to recruit elderly male participants through these methods; however, it was much more difficult to locate female respondents, and a small number of interviews with elderly females ($n = 3$) were arranged with the assistance of the Tokyo Metropolitan Police and the Ministry of Justice.

The interviews were semistructured and covered a range of topics, including current life situation, daily schedules and routines, previous turning points and important life events, circumstances around arrest(s), and personal beliefs about the current increase in elderly arrest rates.¹² Participants appeared very willing—and some were quite eager—to share their stories. Several stated that they were unable to discuss these events with others and felt unburdened after the interview because they were able to freely describe their offending histories with us.

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Notes

1. Future research that examines integration and regulation as separate factors would be fruitful. For instance, the increase in elderly offending in Japan may be related to both weakened social integration and weakened societal regulation of deviance.
2. Institutional anomie theory (IAT) proposes that crime rates are higher in societies when certain cultural goals, such as monetary success, dominate social, and structural organizations (Messner & Rosenfeld, 1994). The general strain theory (GST) proposes that strain, which results from a variety of structural and

social factors, leads to anger and that some individuals cope by engaging in criminal behavior. GST has been usefully applied to recent crime trends in East Asia (Agnew, 2015). Although this article is not able to test intervening factors of these theories, such as cultural goals and institutional dominance in the case of IAT or negative affect and coping responses in the case of GST, many of the integration factors analyzed here are compatible with these frameworks.

3. 16.6 Percent of all divorces were to marriages of 20 years or more in 2000 (compared to 3.5% in 1950; Fuess, 2004, p. 154).
4. Interviews with police officers, government officials, shoplifting organizations, and other stakeholders suggest that knowledge about the increase was not widespread until the Ministry of Justice report in 2008. Given that public awareness may impact arrest rates, I restrict the time frame prior to the report's publication.
5. Finch (2000) provides a useful overview of criminal statistics in Japan and describes more fully the limitations of Japanese administrative data for studying criminal behavior.
6. Larceny offenses include burglary and vehicle theft, as well as pickpocketing, luggage theft, purse snatching, theft from vehicles, and shoplifting. Major categories of violence and felonious offenses include homicide, robbery, injury, assault, and rape (Ministry of Justice, 2008).
7. Logging the elderly arrest rate measure transforms the outcome variable to be more normally distributed. A Box–Cox transformation and residual sum of squares comparison of means suggest that a logged dependent variable is a better fitting model as opposed to the nonlogged measure.
8. In models with fixed effects for years, the estimated association between divorce and larceny arrest rates is significant at $p < .10$.
9. Young adult arrests include arrests for individuals 14–29.
10. Men 50–59 years old, from the Japanese Census (2000). In the United States, a country with a high divorce rate, the percent among older adults is 12.6 (2000 Census).
11. These findings are consistent with criminological theories at the individual level, such as GST.
12. A translator assisted with all interviews.

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Understanding Compliance Dynamics in Community Justice Settings: The Relevance of Bourdieu's Habitus, Field, and Capital

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Abstract

This article seeks to expand the existing literature on compliance in community justice settings by highlighting the importance of service user participation in efforts to achieve compliance. The article's central argument is that although co-productive strategies can enhance service user participation, the degree to which co-production is achievable in penal supervision is perhaps uncertain, and has received insufficient theoretical or empirical attention. To address the gap in knowledge, the article draws on the data generated from a study of compliance in Wales, United Kingdom, and employs the Bourdieusian concepts of habitus, field, and capital to argue that the convergence of two key factors undermines the viability of co-productive strategies in penal settings. One factor is the service users' habitus of powerlessness which may breed passivity rather than active participation. The second also relates to the power dynamics that characterize penal supervision contexts. Within these contexts, practitioners are statutorily empowered to implement and enforce the requirements of community orders. In the current target-focused policy climate in England and Wales, practitioners may prioritize measurable compliance over forms of compliance that stem from service user participation and engagement perhaps because these are not readily quantifiable.

Keywords

compliance, community-based supervision, corrections, probation, parole

In England and Wales, compliance is a key prong of the government's agenda for community-based supervision. In 2010, the National Offender Management Service introduced the offender engagement programme (OEP). This was a 3-year program that explored how best to promote one-to-one supervision practices that would enhance service user participation and engagement,¹ and in doing so, reduce reoffending (Copsey, 2011). Rates of attrition from interventions delivered in the

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community have however remained consistently high (Cattell, Kenny, Lord, & Wood, 2014; Hatcher, McGuire, Bilby, Palmer, & Hollin, 2012). There is also evidence that attrition is linked to increased rates of reconviction (Hatcher, 2009; McMurrin & Theodosi, 2007).

In addition, studies in England and Wales reveal that in community justice settings,² high rates of enforcement action (for noncompliance) contribute quite significantly to the sustained rise in the prison population (Gyateng, McSweeney, & Hough, 2010). Furthermore, official statistics suggest that there is a link between enforcement action and reoffending (Wood et al., 2015). These findings indicate that it is important to examine compliance dynamics in community justice settings. As such, this article seeks to expand the literature on service user compliance by exploring a much neglected issue which is the degree to which co-productive practice that could encourage service user participation and engagement is achievable in community justice settings. Co-productive practice relies on the participation of co-producers such as practitioners and service users in co-designing and/or co-delivering services (Weaver, 2014). This article's key contention is that the feasibility of co-production in penal supervision contexts (within community justice settings) deserves theoretical and empirical scrutiny. Although the article draws on a study of compliance in community justice settings in Wales, United Kingdom, its objective is to provide a primarily theoretical account of the sociostructural and contextual factors that impair participatory practice such as co-production during penal supervision.

The article employs concepts derived from Bourdieu's theory of social practice to analyze these factors (Bourdieu, 1990; Bourdieu & Wacquant, 1992). Three Bourdieusian concepts are utilized, namely, habitus, capital, and field. These concepts can be used to demonstrate how the power dynamics of social arenas or fields (e.g., penal supervision contexts) interact with the deeply engrained dispositions (habitus) of social actors to shape their perceptions and actions.

In its application of the three Bourdieusian concepts, the article seeks to demonstrate that two interrelated dimensions of the power differential in supervisory relationships within penal supervision settings can help us understand the limits of co-production. One of the dimensions is the service users' subordinate position in the penal supervision field where practitioners occupy the position of power and authority. This creates a power differential that could foment or reinforce a habitus of limited capability and powerlessness among the service users. The article argues that this habitus can breed service user passivity rather than the active participation that underpins co-production.

The article also contends that another key dimension of the power differential in supervisory relationships (within the penal supervision field) that could impair co-production is the ability of practitioners to prioritize non-participatory practices that produce measurable compliance (McCulloch, 2013; Robinson, 2013). Within the current target-focused policy climate in England and Wales, services under pressure to attain set targets might prioritize such practices. It follows that dynamics activated by the power differential in penal supervision contexts may cumulatively impair the degree of co-production attainable in those contexts.

Conceptualizing Compliance

Compliance is a nebulous and multidimensional concept, but Robinson and McNeill (2008) offer a useful theoretical framework for understanding the nature of compliance in community justice settings. Their theoretical framework distinguishes between two forms of compliance, namely, substantive compliance and formal compliance. Attending statutory appointments without concomitant commitment to the overall aims of a community order exemplifies formal compliance (Robinson & McNeill, 2008). Unlike formal compliance, substantive compliance is more sustainable; it is characterized by service user engagement and a commitment to long-term change goals (Robinson & McNeill, 2008). It can as such outlast the order.

The Relevance of Service User Participation

Studies of supervision in community justice settings suggest that service user participation in the planning and delivery of a community order is vital for substantive compliance (Hughes, 2012; Rex, 1999; Weaver & Barry, 2014). Rex's (1999) study of the impact of probation supervision on desistance interviewed 21 officers and 60 service users in England. The service users who reported that they had actively participated in implementing the order were more likely to report that they found supervision useful. Hughes' (2012) study of service user engagement during sentence planning in a probation setting in England found that the opportunity to participate in the intervention by, for example, contributing to sentence planning, encouraged engagement. Weaver and Barry (2014) explored the views of service users undertaking community-based orders. They identified the consequences of limited participation in decision-making as confusion, undermined legitimacy, and disengagement.

Studies of interactions between practitioners and service users in other criminal justice contexts have also identified service user participation in decision-making as vital for compliance. For example, in a large-scale longitudinal study of compliance in court settings and during interactions with the police in Chicago, Tyler (2006) identified procedural justice (perceived fairness of decision-making processes during encounters with legal authorities) as an important antecedent of perceived legitimacy and voluntary compliance. Tyler (2006) dimensionalized procedural justice to include *inter alia* enabling the service user to participate in decision-making or giving the service user a voice. Other studies across the United Kingdom have revealed that procedural justice can encourage compliance in probation settings (Rex, 1999; Ugwu-dike, 2010) during encounters with the police (Hough & Maffei, 2013) and in court settings (McIvor, 2009).

Insights from key models of supervision. Key models of supervision emphasize the important role of service user agency and participation in within community justice settings, in achieving change. For example, some sections of the desistance literature stress that service user agency is a vital element of the change process (Bottoms, 2013; Farrall, Hunter, Sharpe, & Calverley, 2014; Maruna, 2001). Agency in this context refers to the personal decision to activate and commit to the change process. As Maruna (2015, p. 322) observes, "in leading theories of desistance 'personal agency looms large' (Laub & Sampson, 2003, p. 180) and desisters are framed as active participants in constructing their lives". McNeill (2012, p. 10) remarks that service users "also have strengths and resources that they can use to overcome obstacles to desistance... supervision needs to support and develop these capacities."

Advocates of the Good Lives Model similarly argue that change processes should involve the active participation and contribution of the service user. According to Ward and Fortune (2013, p. 31), "... the Good Lives Model is a strengths-oriented rehabilitation theory responsive to offenders' particular interests, abilities, and aspirations." Therefore, intervention plans should be designed and implemented collaboratively, with the service user playing a meaningful role (Ward & Fortune, 2013). Similarly, proponents of the risk-need-responsivity (RNR) model³ draw attention to practice skills that can encourage service user participation and engagement; problem-solving techniques represent key examples, and practitioners use the techniques to enable the collaborative identification and resolution of problems (Andrews & Kiessling, 1980; Dowden & Andrews, 2004).

Co-production as a Mechanism of Service User Participation and Engagement

The co-production of outcomes has been identified as a relational approach that can enable service user participation by mobilizing their strengths and capabilities as agents of change (McCulloch, 2013; Weaver, 2014). Co-production involves:

The provision of services through regular, long-term relationships between professionalised service providers (in any sector) and service users or other members of the community, where all parties make substantial resource contributions. (Bovaird, 2007, p. 847)

Co-production therefore facilitates service user participation. Added to the studies of compliance cited earlier, evidence from sectors within and beyond the criminal justice system, and from key models of supervision, also reveals that service users are more motivated to engage with services if they have participated in the design and delivery of those services (Greene, Hibbard, & Sacks, 2013; Maruna & LeBel, 2010; McMurrin & Ward, 2010; Smith et al., 2012). However, the extent to which co-production is achievable in penal supervision contexts has received insufficient attention. Consequently, in these contexts, there is limited knowledge of the factors that impact upon the co-production of compliance and other outcomes. This article argues that Bourdieu's concepts of habitus, field, and capital can help us understand these factors. Most applications of Bourdieusian field theory in community justice contexts have focused on practitioners' views and experiences (Grant, 2016; Phillips, 2015; Robinson, Priede, Farrall, Shapland, & McNeill, 2014). Deviating from this trend, this article draws on a study of compliance that explored *inter alia* service users' perceptions and experiences. The article analyzes these using the Bourdieusian concepts cited above. There is also an exploration of relevant policy dynamics, and the strategies that can promote the co-production of sustainable compliance.

The Study

Although this article seeks to provide a primarily theoretical account of factors that impair the co-production of sustainable compliance (e.g., substantive compliance) in community justice settings, it also draws on insights from a study of compliance with community-based sanctions in Wales, United Kingdom. The study utilized Straussian Grounded Theory Methodology (SGTM; Strauss & Corbin, 1998). SGTM is theoretically rooted in the interactionist tradition, and it describes the interpretations or meanings with which social actors make sense of their interactions and encounters in the social world, as the basis of social action (Strauss & Corbin, 1998). This is an ontological position that leads interactionists to assert that social reality, including human social behavior, is socially constructed through the interpretations social actors apply to their interactions and encounters.

Given this ontological stance, insights that emerge from a study that employs SGTM should be grounded in the definitions or interpretations with which research participants make sense of their experiences and interactions with others in the social world. Interactionists maintain that these definitions or interpretations inform self-concept and behavior. Thus, they constitute valid sources of knowledge. This epistemological stance on what constitutes appropriate knowledge of social reality necessitates the use of social research methods that can help us understand the interpretive processes that shape self-concept and social action. Qualitative methods such as semi-structured interviews are useful for generating data on the in-depth views of research participants regarding how they, as social actors, interpret their world and how their interpretations inform their perceptions and actions.

This article draws on the data from semi-structured interviews with 25 service users (15 male and 10 female service users) who were undertaking community-based orders under the supervision of the probation service in a location in Wales. The interviews were one-to-one interviews, and they were conducted in probation offices. The study focused on exploring compliance with the main community orders that require service users to fulfill specified requirements under the supervision of a probation practitioner. Therefore, the study did not include those serving the Suspended Sentence Order (SSO) because some SSOs do not incorporate reporting or other supervision requirements.

Table 1. Service Users Sampled.

Stage of Order	Number
Beginning	9
Midway	9
End	7
Total	25

Table 2. Service Users Sampled: Offense Type.

Offense type	<i>n</i>	(%)	National statistics %
Robbery	—	—	1
Indictable motoring offenses	—	—	1
Other indictable offenses	—	—	9
Violence against the person (fueled by substance misuse)	10	40	12
Sexual offenses	1	4	2
Burglary	1	4	5
Theft and handling	3	12	17
Fraud and forgery	3	12	3
Criminal damage	2	8	3
Summary motoring offenses ^a	2	8	24
Other summary offenses ^b	3	12	23
Total	25	100	100

^aThe service users categorized here were serving their orders for drink driving offenses. ^bThe service users categorized here were serving their orders for child neglect offenses.

Probation officers within the probation area in Wales were invited to participate in the study and they recruited the service users they were supervising to also participate. Therefore the initial sample was a convenience sample. Theoretical sampling⁴ which is central to SGTM informed subsequent sampling (Strauss & Corbin, 1998). Table 1 outlines the stages at which the interviews were conducted.

Most of the 25 service users were serving their orders for offenses of violence linked to substance misuse. The overrepresentation of service users in this category of offending is consistent with the general characteristics of service users supervised in the probation area sampled (Table 2).

Furthermore, the interviews revealed that more than half of the 25 service users sampled were unemployed, reliant on social security benefits, and experiencing a range of additional socio-economic problems including accommodation problems. Two became homeless as the study progressed. The service users' circumstances are similar to the adverse socioeconomic circumstances of many service users who are undertaking penal orders in England and Wales (Wood et al., 2015).

Of the 25 service users sampled, the case records held in respect of 15 service users were analyzed. The 15 service users were selected because they had served their orders for at least 6 months and it was envisaged that information about their compliance patterns would be available. An analysis of the 15 case records revealed demographics that were consistent with the information provided by the other service users—in terms of their offense type and socio-economic circumstances. Most of the 15 were serving their orders for offenses of violence linked to substance misuse. Most were experiencing adverse socioeconomic problems including accommodation problems. Further analysis of the 15 case records revealed the risk classifications set out in Table 3.

Table 3. The 15 Service Users' Risk Profile.

Risk profile	<i>n</i>	(%)
Low-risk reoffending/low-risk harm	4	27
Medium-risk reoffending/low-risk harm	7	46
Medium-risk reoffending/high-risk harm	1	7
High-risk reoffending/medium-risk harm	3	20
Total	15	100

Table 4. 15 Service Users' offense Type.

Offense type	<i>n</i>	(%)
Robbery	—	—
Indictable motoring offenses	—	—
Other indictable offenses	—	—
Violence against the person (fueled by substance misuse)	10	67
Theft and handling	3	20
Criminal damage	2	13
Total	15	100

As Table 3 indicates, 12 of the 15 service users whose records were assessed were classed as posing a “low risk of reoffending” or a “medium risk of reoffending.” The 15 service users' offending profile is set out in Table 4.

The study utilized a semi-structured interview schedule that comprised interview questions about compliance mechanisms. The questions were derived from the extant literature on compliance, including the commonly cited theoretical frameworks on compliance (Bottoms, 2001; Robinson & McNeill, 2008). Once theoretical sampling commenced, the interview schedules were reconstructed to include questions that would inform the development of the concepts and categories that were emerging from the data.

Data analysis consisted of coding the initial data into concepts. Groups of concepts pointing to the same phenomena were synthesized into categories. A category that emerged from the interviews with service users was: service users' descriptions of compliance dynamics or probationer defined mechanisms of compliance. The dimensions (underpinning concepts) of this category were “the practitioner's relative capabilities,” “the practitioner's therapeutic and welfarist roles”, and “prioritizing measurable compliance”. The category, service users' descriptions of compliance dynamics, and its dimensions or underpinning concepts, depicted the service users' descriptions of compliance mechanisms. They illuminated the dynamics of service user participation in efforts to achieve compliance.

As already noted, probation officers within the probation area in Wales recruited the service users. Therefore, similar to other studies that employ this sampling method, there was a risk of selection effects; the selected service users might have been more committed than others or might have possessed other attributes that made them different from other service users. The possibility of selectivity, the use of a small convenience sample, and the reliance on theoretical sampling techniques are some of the key factors that pose implications for the generalizability of the study. Another factor is the small sample size. However, the study was a qualitative study that aimed for theoretical, not empirical generalizability. The main objective was to develop insights that could be theoretically generalizable to other sites of human interaction where the objective of interaction is to produce compliance.

Setting the Scene: A Description of Bourdieusian Habitus, Capital, and Field

This article employs concepts from Bourdieu's (1990, 1994) field theory to analyze the interview data that were generated from the participating service users. Here, a description of these concepts is provided. According to Bourdieu (1990, p. 53, 1994), habitus constitutes: "systems of durable, transposable dispositions, structured structures predisposed to function as structuring structures." The notion of "structured structures" implies that habitus represents long-standing and deep-rooted dispositions that are "structured" or produced by the social world. These dispositions are transposable from one social context to another. They influence a social actor's beliefs, perceptions, interpretations, and so forth. The dispositions are transmitted and consolidated through the internalization of social norms (including the normative power structures) that prevail in diverse social contexts. In Bourdieu's definition of habitus, the term "structuring structures" depicts habitus as generative; its underlying dispositions also serve as the tools with which social actors structure or shape the social world through their actions and practices (Bourdieu, 1990, p. 53, 1994).

Within Bourdieu's conceptual framework, fields or social fields represent different networks or connections of social practice in which social actors occupy specific positions. Penal supervision in community justice settings can be described as a field of social practice. According to Bourdieu, social fields: "externally constrain perception and action" (Wacquant, 2013, p. 275). Therefore, the features of a social field (e.g., the power differential that characterizes the penal supervision field) can impact on the dispositions or habitus of social actors, with implications for their actions within that field.

Bourdieu's concept of capital illustrates how differences in social, cultural, and economic status determine an individual's position in any social field and frame their habitus (Bourdieu & Wacquant, 1992). Those who occupy positions of power in a social field possess greater economic (wealth), cultural ("educational qualifications," knowledge, taste, etc.), and social (social ties or "connections") capital (Bourdieu, 1986, p. 47; footnote). They also possess high levels of symbolic (status) capital, which bestow on them the prestige accorded to the three forms of capital⁵ in that social field. Social actors internalize and unconsciously legitimize the hierarchical structures created by these forms of capital. They automatically assume positions and allocate positions to others based on the hierarchical structures (Bourdieu, 1990). Thus, social actors who lack sufficient capital occupy relatively subordinate positions in the field. They internalize and view the norms that govern power relations within that field as common sense or what Bourdieu refers to as *doxa* (Bourdieu, 1989). The latter, according to Bourdieu, is constructed by social actors with sufficient symbolic capital to impose their will on others and can be described as symbolic violence (see also Fleetwood, 2016). Given their capital deficit and concurrent subordinate position, the norms entrench in the social actors on the lower rungs of the hierarchical ladder, dispositions of powerlessness that coalesce to form their habitus. Similar to habitus, capital is also transposable across diverse social fields.

In most contexts of public sector service delivery involving service users who are mandated to undertake interventions (e.g., in criminal justice contexts and some social work settings), the practitioners typically occupy more powerful positions given their statutory status, level of education, and other attributes (Calder, 1995). By contrast, service users are statutorily subject to the authority of the practitioners. Most service users also possess relatively low levels of capital compared with the practitioners. Shapland and colleagues (2014, p. 41) note that, "service users undertaking penal orders tend, on average, to have low human⁶ and social capital . . ." Official statistics reveal that many service users undertaking community and custodial orders also lack cultural and economic capital; for example, they are affected by low educational attainment, poverty, unemployment, and other adverse sociostructural circumstances (Wood et al., 2015).

Therefore, many service users lack symbolic capital, and this is exacerbated by the social stigma associated with the label of "offender" that is attached to them. Consequently, they are likely to

internalize structures of power and dominance that foment their habitus which as noted earlier is likely to be one of powerlessness. As transposable attributes, this entrenched habitus and the accompanying capital deficit could structure their experiences, perceptions, and actions in several social fields, particularly in the fields where they occupy subordinate positions.

Notwithstanding the power imbalance within the penal supervision field, there is evidence that many probation practitioners embody a humanistic, professional habitus of welfarism rather than a habitus of punitiveness and control (Annison, Eadie, & Knight, 2008; Grant, 2016; Robinson et al., 2014). Studies suggest that many practitioners would prefer to engage in participatory practices that produce outcomes such as substantive compliance and longer term change, in the contexts of good working relationships (see also Phillips, 2011; Robinson et al., 2014; Ugwudike, 2010). That said, this article argues that the dimensions of the aforementioned power inequality that characterizes the field of penal supervision cumulatively undermine the potential for participatory co-productive practices.

Service Users' Descriptions of Compliance Dynamics

What follows below is an elaboration of the key themes that emerged from the semi-structured interviews with service users who participated in the study of compliance. The themes reflect the participants' descriptions of their role in achieving compliance, and the type of compliance that was typically achieved. Insights from Bourdieu's field theory serve as useful heuristic devices for interpreting the service users' accounts.

Prioritizing the practitioner's relative capabilities. An analysis of how the service users perceived their position in the penal supervision field in relation to the practitioners revealed that most perceived the practitioners to be the more sensible agents (compared with the service users) with greater ability to accomplish supervision goals. Below, a female service user who was interviewed midway through her order describes her supervising officer's capabilities:

He's [my probation officer's] the sensible one, he's the one with this job who's talking to me, this is his job and he knows all that don't he? He knows what to do and stuff. P18F

Here, the service user alludes to the practitioner's superior capabilities; she depicts the practitioner as more sensible and knowledgeable with a professional status that equips him with the capabilities required for achieving supervision goals. From a Bourdieusian perspective, it could be argued that this service user has subconsciously internalized the intersection of capital and the hierarchical structure that governs the penal supervision field. As such, he believes that the officer's professional status acquired through educational qualifications which imbue him with relatively greater cultural and symbolic capital, automatically locates him in a position of comparatively greater proficiency. This is evident in the service user's reference to the practitioner as the "sensible one" with a professional status (or "job") that equips him with relevant knowledge and renders him the more knowledgeable and capable agent. Most of the service users espoused this view which from a Bourdieusian perspective would have structured their habitus.

Bourdieu (2000) asserts that internalizing the relationship between the forms of capital and one's hierarchical position in the field, structures the habitus. The latter embodies the subjective representations of social actors, including their estimation of their capabilities. In the current study, the service users' habitus embodied a low estimation of their personal qualities and capabilities. To illustrate this further, in the extract above, by depicting the practitioner as the more sensible change agent, P18F reveals a degree of self-stigmatization. Similarly, by referring to the practitioner as the more capable agent, the service user exhibits low self-efficacy. Most of the service users revealed a

similar orientation toward self-stigmatization, low self-efficacy and a sense of powerlessness. Below another service user who was also interviewed midway through his order remarks that:

They [probation officers] know best really don't they? I've gotta do what they tell me to do, do you know what I mean? So maybe some things I'll be thinking what's the point what's the point of me doing this? But at the end of the day you know, I've committed the crime, so it's understandable like. P19M

Viewed through the lens of Bourdieusian analyses, this service user's remarks indicate that he has internalized the hierarchical structure of the penal supervision field and this has shaped his habitus of relative powerlessness. It is a habitus that orientates him toward submissiveness; he implies that given his stigmatized status as an offender who has "committed [a] crime," his submissiveness or deference to the practitioner's directives, even when he sometimes questions the directives, is "understandable." He also believes that the practitioners "know best," implying that they are better equipped to implement the order while he, the service user, lacks similar capability.

Below, yet another service user explains why the practitioner possesses relatively superior capabilities:

They are the probation officers and that's their job. And they know better you know? Because they have been trained as a probation officer. P5F

The foregoing extracts from the interviews with service users reflect Bourdieu's (1990) contention that the features of a social field (e.g., the status differential between the practitioners and service users) are objective structures that impact upon the subjectivities (perceptions and interpretations) embodied in habitus of the social actors within that field. Reflecting this, the extracts indicate that within the normative hierarchical structure that governs the penal supervision field, the practitioners are allocated a higher status position not least because of their professional status. In the current study, most of the service users internalized this hierarchical structure with implications for their habitus. The latter orientated them toward attributing superior capabilities to the practitioners, and their remarks that the practitioners know best or "know better" demonstrate this.

Bourdieu's analysis of the habitus also suggests that the service users' habitus in the penal supervision field would have already been deeply entrenched, given that their capital deficit would typically constrain them to positions of perceived powerlessness and limited capability in many other social fields, particularly in formalized or institutional settings. Recall that Bourdieu describes habitus as deep-rooted dispositions that are transmitted and consolidated through the social actor's experiences in various social fields (Bourdieu & Wacquant, 1992). Thus, the habitus is structured by past experiences and is transposable across diverse social fields. Therefore, in the penal supervision field, the service users' relatively low-status position compared with the practitioners is likely to consolidate their pre-existing habitus of powerlessness. Following on from this, it is clear that Bourdieusian analysis of the connections between field, capital, and habitus also draws attention to the reproduction of power structures in social fields. His analysis illuminates the way in which the normative power structures of the penal supervision field are internalized by the service users who then reproduce these structures through their habitus. The latter embodies dispositions that orientate them toward the perception or belief that the practitioners possess superior capabilities.

Where service users believe that the practitioners are the more capable change agents, they are unlikely to possess the levels of self-efficacy required for participating actively and engaging with supervision objectives. It is not possible to conclude from the accounts of the service users who participated in the study, that the practitioners were domineering and did not permit participation. Rather, what the service users' accounts denote is how they interpreted the practitioners' capabilities. Viewed from a Bourdieusian perspective, the features of the penal supervision field (the

service users' relatively low-status position) structured their subjective habitus which embodied their low estimation of their capabilities.

Below, this article explores the service users' descriptions of how they complied with their orders and assesses whether as Bourdieu's (1990, p. 53) analysis would propose, their habitus operated as a 'structuring structure' that fueled their actions. The article also examines the implications of the service users' actions for achieving co-production in the penal supervision field.

Compliance strategies: The practitioner's therapeutic and welfarist roles. As noted earlier, studies and models of supervision reveal that service user participation and engagement are vital for substantive compliance. By contrast, formal compliance does not require similar commitment; simply attending supervision appointments is its clearest manifestation (Robinson & McNeill, 2008). The study found that for most of the service users, compliance consisted mainly of fulfilling the minimum requirements of the order (attendance) and was motivated by instrumental considerations to do with the practitioner's actions in helping to address needs. Thus, most service users engaged in formal compliance (attendance) and instrumental compliance (attendance to access help). Below, a female service user explains how and why she complies with her order:

I enjoy *coming into* probation, it's like having somebody *sensible and straight to talk to*. Somebody that I know I can trust as well, I can tell them whatever I need to tell them and I know [my probation officer] will try and *help* me as well . . . P17F

For this service user who was interviewed toward the end of her order, compliance consisted of "coming into probation" (attendance) and the primary motivating factor was the opportunity to "talk to" the practitioner and possibly access some "help." A Bourdieusian interpretation of P17F's comments would indicate that her perception of the officer as sensible, trustworthy, and capable of providing help reflects her habitus. The latter embodies her perception of her officer's status or position in the penal supervision field. It is a habitus that leads her to attribute superior qualities and capabilities to the practitioners. Her description of the officer as "someone sensible and straight" further demonstrates this. It is therefore a habitus that would render the service user more likely to rely on the practitioners' actions, rather than her personal capabilities, to produce compliance. Indeed, most service users implied that the practitioners' actions in listening to their problems and in doing so, providing therapeutic relief, motivated the compliance that was achieved (mainly attendance). In the extract below, a user exemplifies this by describing how and why he complies with his order:

I can come here and know that I walk away from here feeling a lot better. I know that when I talk about the things I need to talk about I can walk away from here and feel brilliant and feel whoa! That's better now! and I'm happy again, and that's important. I'd rather be at the appointment because there are things I probably need to talk about, things I need to get out of my system. P1M

Echoing this, in the extract below, a service user similarly remarks that her compliance amounts to attending appointments (formal compliance) to access therapeutic and welfarist help (instrumental compliance), rather than active participation and engagement with supervision goals (substantive compliance):

If I've got a problem and I need to talk about it, I can always talk to [my probation officer] about it. I can't always talk to my mum about it, it's stuff I need to get off my chest and if I've got any problems then perhaps [my probation officer] can help me with that. That's what makes me come in. I look forward to coming in. [My probation officer] is there to help. I had a few problems with some debt and everything

like that and she [my probation officer] did make some phone calls for me and she did get things sorted out. Like emm I was behind on my fines and she managed to get them taken off my benefits which was a hell of a weight off my shoulders, it really was. And emm I was a bit behind on my rent, she sorted that out for me yeah. P6F

This service user was interviewed midway through her order and her remarks indicate that for her, compliance was a matter of attending appointments to access therapeutic benefits or relieve mental stress by talking to her supervising officer in order to get “stuff off [her] chest.” She also revealed that her compliance involved accessing welfarist help and she described how her supervising officer provided this help by addressing her problems. Thus, the service user implied that her position in the field was one of dependency; she relied on the practitioner’s actions in providing therapeutic and welfarist help. Indeed, the practitioner’s actions in providing this help motivated her to “come in” (attend appointments).

These reflections concerning the practitioner’s ability to provide therapeutic and other help, and the service user’s position of dependency, encapsulate the views of most of the service users. They appeared to overlook their personal attributes, including their capabilities as agents of change, to participate and actively engage with the effort to achieve compliance and other change goals. Instead, they placed greater emphasis on external factors, namely, the practitioners’ capabilities and actions in producing compliance.

If these findings are analyzed in the light of the Bourdieusian concepts of field, capital, and habitus, it could be argued that in the penal supervision field studied, most of the service users possessed a habitus that fueled their perception that the practitioners were more capable of providing the help needed to address their needs. In turn, their perception of the practitioners’ ability to help them, motivated passive compliance in the form of attending appointments (formal compliance) to access that help (Robinson & McNeill, 2008). Thus, the compliance achieved appeared to stem more from the service users’ perceptions of the practitioners’ capabilities and the practitioners’ actions in providing help, than the service users’ participation and engagement as capable agents.

This is not to suggest that all service users with a habitus of powerlessness are always deterministically propelled by their habitus toward dependency. Bourdieu’s (1990) conceptualization of the habitus does recognize that for some service users, their habitus of powerlessness may generate other possible forms of action. This according to Bourdieu (1990, p. 53, 1994, p. 170) is because as a ‘structuring structure’, the habitus is generative. Social actors are conditioned by its underlying dispositions, but they are also the dispositions with which social actors may exercise their agency and formulate their actions and practices in social fields (Bourdieu, 1990, p. 53, 1994). By defining habitus as a ‘structuring structure’, Bourdieu (1990, p. 53) is able to integrate human agency into his account of the structures that influence perception and action. In doing so, he seeks to avert the risk of deterministically attributing all human action to the militating impact of structural forces.

Nevertheless, some critics aver that he did not pay sufficient attention to human agency (see, e.g., McNay, 2001). They argue that instead, he placed greater emphasis on the constraining impact of social fields on the habitus. Their contention has some merit; Bourdieu (1990, p. 53) did certainly emphasize that the concept of habitus as a ‘structured structure’ serves as a useful conceptual device for understanding how the objective structures of a social field such as a social actor’s position or status in that field might reinforce deeply embedded dispositions and inform his or her perceptions:

The representations of agents vary with their position [in social space] . . . and with their habitus as schemes of perception and appreciation of practices, cognitive and evaluative structures which are acquired through lasting experience of a social position. (Bourdieu, 1989, p. 19)

However, as noted earlier, by describing the habitus as a ‘structuring structure,’ Bourdieu (1990, p. 53, 1994) did also acknowledge that the habitus does not predetermine action; it might trigger action, but it does not necessarily determine or control action (Bourdieu, 1990; Fleetwood, 2016). Therefore, some service users with a habitus of powerlessness might play a passive role, not because their habitus disposes them toward reliance or dependency, but because they *choose* to adopt motivational postures of defiance that are also associated with formal compliance. These postures manifest across a behavioral spectrum that ranges from “capitulation,” “resistance,” to “disengagement” and “game playing” (see Robinson & McNeill, 2008, p. 437). In terms of the latter, Bourdieu does refer to the social field as a site where social actors struggle to access the resources (forms of capital) which confer advantage in the game playing that occurs in the field, as the interacting actors strive to elevate their position (Bourdieu & Wacquant, 1992; Robinson et al., 2014). Further research is required to explore the extent to which game playing occurs in penal supervision settings, the form it takes, and its outcome. Meanwhile, regardless of the motivational posture that fuels passivity in some service users, their passivity or lack of participation and engagement would nevertheless undermine the degree of co-production attainable.

Power Inequality in a Performance-Focused Policy Climate: Implications for Service User Participation

So far, the findings indicate that the service users’ habitus can trigger passive reliance or dependency and, as such, undermine their participation and engagement. What follows below is an exploration of how policy dynamics might interact with the powers vested in the practitioners to further erode opportunities for service user participation.

Service user participation and engagement represent key objectives of the penal framework that governs the supervision of community orders in England and Wales (National Offender Management Service, 2015). That said, practitioners operate within a performance-focused policy climate that places demands on them to pursue target-driven outcomes. Key examples of these outcomes are measurable proxies for compliance (e.g., attendance and completion) which do not require service user participation and engagement (McCulloch, 2013; Phillips, 2015; Robinson, 2013; Robinson et al., 2014; Robinson & Ugwudike, 2012). Some have argued that in the current penal policy climate, compliance issues are now embedded in the managerialist imperatives of efficient and cost-effective offender management. Compliance targets now form part of a repertoire of targets that are in place to monitor how efficiently services manage “risky” populations (Robinson, 2013; Robinson & Ugwudike, 2012).

Nevertheless, studies consistently show that despite the demands of the performance-focused climate, the “professional habitus” of most practitioners in England and Wales remains firmly rooted in the long-standing rehabilitative, humanistic ideals traditionally associated with probation culture (Grant, 2016; Phillips, 2015; Robinson et al., 2014, p. 136; Worrall & Mawby, 2014). These studies reveal that some practitioners employ their discretion to pursue relational strategies that encourage service user participation and engagement and to also resist punitive and target-driven policy provisions. Thus, their habitus becomes a structuring structure with which they strive to alter the field of penal supervision, so they can provide a welfarist rather than punitive service. There is limited research on the sociostructural norms and experiences that structure the practitioners’ professional habitus. But, Grant (2016) speculates that a long-standing commitment to social justice principles might underscore their habitus.

However, Bourdieu (1990) argues that a social actor’s entrenched habitus can be resilient but not irreversible and would generally tend to adapt to the peculiarities of a social field. Recent studies of supervision practice reinforce this. There is now evidence that the professional habitus of many practitioners has to a degree adapted to the demands of the target-focused policy climate

in the penal supervision field (Phillips, 2011, 2015; Robinson, 2013; Robinson et al., 2014). Studies suggest that some practitioners under pressure to attain set targets now prioritize non-participatory practices that produce measurable forms of compliance (primarily attendance; McCulloch, 2013; Robinson, 2013). Practitioners are statutorily empowered to implement and enforce the requirements of orders, and they therefore have the capability to pursue nonparticipatory practices that generate measurable compliance. Phillips's (2011, 2015) study of compliance in England found that the demands on practitioners to attain completion targets meant that they focused mainly on employing breach avoidance techniques and prioritizing attendance rather than service user participation and engagement (substantive compliance). One practitioner remarked that in some cases:

... all the officer is doing for the order is chasing them round and seeking to get them in and doing the basics and getting them through—actually effecting change in that circumstance is not possible. (Phillips, 2015, p. 46)

Therefore, the officers' primary objective was to "get people through" their orders.

Prioritizing measurable compliance: Key implications. Pursuing measurable compliance (e.g., attendance and completion) can instill in service users, the perception that attendance is the most important form of compliance (Ugwudike, 2010). This would, in turn, encourage formal compliance rather than substantive compliance, which relies on participation and engagement. Indeed, as already noted, most of the service users in the study reported here offered a one-dimensional definition of compliance; they defined compliance as attending statutory appointments, which as mentioned earlier has been described as the clearest manifestation of formal compliance (Robinson & McNeill, 2008). Below, a service user who was interviewed toward the end of his order espouses the one-dimensional conceptualization of compliance as he describes how he complies with the order:

I turn up. I stick to all my time and dates I know when and what time I am supposed to turn up. If I can't make it then I ring in advance and let (my probation officer) or whoever happens to be here know ... P13M

In the extract below, P13M goes on to express his belief that he is eligible to have his order terminated early for good compliance because in his view, he has complied fully with his order, primarily by meeting reporting requirements:

I think they will half it for the simple reason is I haven't breached, I've always turned up, If I had been breached for not turning up then I can understand for them to keep the full 18 months but I think it would be rather unfair for them to keep the 18 months on me considering I've been here every time. P13M

Some of the service users might have recognized that compliance also comprises other dimensions beyond attending statutory appointments. But, most did not identify additional dimensions. Moreover, other studies of compliance in community justice settings have also found that compliance is often defined as meeting reporting (primarily attendance) requirements (see for example, Farrall, 2002).

Discussion: Delabeling and Co-production to Enhance Service User Participation

What might be required is a recalibration of the field of penal supervision to facilitate participatory practices such as co-production. As we have seen, in that field, a key factor that can impair

co-production is the service users' habitus which for some, manifests as an inclination to view their supervising practitioners as the more sensible and capable agents of change. Thus, the service users' habitus denotes a degree of self-stigmatization and low self-efficacy. There is indeed substantial evidence of self-stigmatization among service users (see, e.g., Schneider & McKim, 2003). Furthermore, the desistance literature highlights the importance of self-efficacy but points out that many service users appear to lack requisite levels (McNeill, 2014). A recent systematic review of service users' views about the causes of disengagement and attrition from RNR programs identified "a perceived lack of self-efficacy" as a key factor (Sturgess, Woodhams, & Tonkin, 2015). A habitus that is characterized by self-stigmatization and low self-efficacy is more likely to foster dependency rather than active participation and engagement.

Although Bourdieu (1990, p. 53) describes habitus as "durable and transposable dispositions," as already noted, there is nothing to suggest that an individual's habitus is irreversible. Indeed, Bourdieu alludes to the concept of secondary habitus (Bourdieu & Passeron, 1977). The latter is acquirable through learning processes that can reorientate an individual's habitus toward new or alternative dispositions (Bourdieu & Passeron, 1977). The "delabeling" strategies some desistance scholars identify as useful for helping service users reverse defeatist self-perceptions to achieve desistance could serve as useful reorientation mechanisms (Maruna & Lebel, 2010). Encouraging service users to replace self-condemnatory and defeatist narratives with self-affirming alternatives is an example of a delabeling strategy that can help alter negative self-perceptions (McNeill, 2006). Indeed, a transformed identity or a "subjective reconstruction of self" is described as vital for secondary (permanent) desistance (Sampson & Laub, 2005). The desistance literature, particularly the "criminal careers" strand which explores trajectories of desistance across the developmental phases individuals are said to undergo, refers to the process through which prospective desisters divest themselves of their criminal history and identity as they attain turning points in their lives (e.g., maturation) and transition from involvement in criminality toward a prosocial lifestyle and a corresponding identity (Sampson & Laub, 2005, p. 37).

According to Maruna and Lebel (2010, p. 76), the practitioner's recognition and explicit acknowledgment of positive behavioral and attitudinal changes represent additional delabeling strategies. These strategies could help reverse the service users' stigmatized status as offenders and empower them to view themselves as capable agents of change. As mentioned earlier, this stigmatized status undermines their symbolic capital which is already limited, given that they possess relatively low levels of the other forms of capital. Indeed, some have argued that it is important to work with service users to develop the different forms of capital, particularly their social capital and their human capital⁶ (their strengths, competencies, capabilities, and other similar attributes), so they feel able to recognize and act upon their role as capable agents of change (McNeill, 2012; Shapland et al., 2014).

Added to delabeling strategies, enabling service user participation through the co-production of supervision outcomes can empower them. By facilitating service user participation, practitioners demonstrate that they respect and believe in the service users' capabilities. Maruna and Lebel (2010, p. 76) argue quite persuasively that: "the high expectations of others can lead to greater self-belief (and subsequent performance) in individuals." They note that the expectations of others can stimulate a Pygmalion effect as individuals adapt their self-identity and behavior accordingly; performing highly if others expect them to do so and vice versa. Therefore, creating opportunities for service user participation can help elevate service users from their subordinate position in the field and positively reshape their habitus. This is a goal worth pursuing given that as the findings of the study reported here indicates, the service users' habitus of powerlessness can frame or inform their actions. This habitus is undesirable not least because it could embody the belief that the practitioners possess superior capabilities and can provide therapeutic and welfarist help. Therefore, it could trigger a form of compliance that involves attending appointments to access this help without actively

participating in implementing supervision goals. Other studies of probation supervision in England and Wales have similarly found that many service users cite the opportunity to access the therapeutic benefits of talking to supervising officers “to get things off their chest” (Mair & May, 1997; Mair & Mills, 2009) as the most important aspect of supervision. In addition, studies similarly reveal that the prospect of receiving welfarist support can motivate compliance; mainly in the form of attendance (see, e.g., Rowe & Soppitt, 2014).

It could be argued that some service users who rely on the welfarist and other forms of help provided by practitioners are self-motivated and keen to take advantage of the help available, so they can make the changes in their lives that would progress them toward long-term positive change. But, relying on external compliance mechanisms (e.g., the practitioner’s actions) can fuel passivity and dependency rather than active participation. Besides as Robinson and McNeill (2008) observe, compliance that stems primarily from external factors such as the practitioner’s actions is best described as formal compliance. This is a form of compliance that is potentially unsustainable. It is unlikely to persist when the order ends and the help provided by the practitioners is no longer available. Therefore, compliance that is motivated by external factors is limited by its:

... externality; someone or something else needs to keep on constraining, threatening or rewarding. By contrast, the efficiency and effectiveness of internalized controls rests in their (eventual) self-perpetuation. (Robinson & McNeill, 2008, p. 441)

This is not to say that formal compliance is of no value. Service users who are motivated to attend appointments to access therapeutic and welfarist support, may eventually develop the motivation to commit to the order’s objectives (or substantively comply). Robinson and McNeill (2008) acknowledge that compliance is not static behavior; service users can fluctuate between formal and substantive compliance as supervision progresses. Nevertheless, participation and engagement during supervision are more likely to trigger substantive compliance which can evolve into longer term change or desistance.

That said, it is worth noting that the desistance literature also reveals that many people who engage in offending behavior do eventually achieve desistance after a certain age (Farrington, 1986; Maruna, 2001). Paradoxically, this suggests that irrespective of the practitioners’ input during supervision or the degree to which service user participation is successfully accomplished, many service users would eventually achieve desistance. The precise mechanism/s through which this occurs has been the subject of much debate. But, Farrall, Hunter, Sharpe, and Calverley’ (2014, p. 290) longitudinal study of the impact of probation supervision on desistance did find that probation practitioners can contribute to longer term desistance by sowing “seeds” of desistance that can germinate or become “fully realized” long after the order ends.

It is therefore possible that although the practitioners’ actions in providing therapeutic and welfarist support during supervision may sometimes produce short-term formal compliance, their actions may also contribute to desistance in the long term. Similarly, studies have also found that service user participation and engagement during supervision (substantive compliance) are associated with long-term outcomes such as reductions in rates of reconviction (see, e.g., McMurrin & Ward, 2010). However, the current study identified the service users’ habitus which embodied a low estimation of their personal qualities and capabilities, as a factor that undermined their participation and impaired co-production. Several studies of supervision practice have similarly found evidence of limited service user participation, as is evidenced by, for example, the service users contributing very little (or nothing at all) to the sentence planning process (Hughes, 2012; Weaver & Barry, 2014), or lacking the self-efficacy to engage with, and implement, supervision goals (Sturgess et al., 2015).

As noted earlier, another factor that impairs co-production is the prevailing target-focused policy climate that can trigger the pursuit of measurable forms of compliance at the expense of substantive compliance which relies on participation, and engagement with longer term change goals. Alongside the constraining impact of policy priorities, co-production is dependent on the extent to which practitioners are willing to devolve power to other co-producers (e.g., the service users).

In sum, co-production relies on dialogue, negotiation, mutual trust, and reciprocal respect between the practitioners, service users, and other stakeholders⁷ (Weaver, 2014). Importantly, it facilitates service user participation, which is linked to engagement with supervision goals (substantive compliance). Therefore, it is a goal worth pursuing.

Conclusion

This article sought to illuminate the relevance of service user participation, particularly its link to compliance. It drew on insights from a study of compliance that explored the views of service users in a probation supervision context. A Bourdieusian analysis of the service users' interpretations of their role and experiences revealed that the dynamics of the penal supervision field can impair the co-production of substantive compliance. There was a generalized perception among most of the service users that the practitioners, given their professional status, possessed superior capabilities. This perception appeared to foment service user passivity and reliance on the practitioners' actions rather than active participation in the effort to achieve compliance. Indeed, from the service users' accounts, the compliance achieved was primarily motivated by the therapeutic and welfarist support provided by the practitioners.

There is nothing to suggest (from the study reported here) that the practitioners supervising the participating service users purposely set out to dominate the supervision process or assume sole responsibility for compliance. It is clear that providing therapeutic services by being a good listener, and offering a welfarist service by being responsive to socioeconomic and other obstacles to compliance, represent important aspects of a humanitarian approach to working with service users. But as the article has shown, there is evidence that participatory practice such as co-production which enables substantial input from the service users is a key dimension of substantive compliance.

There are however policy-related developments that can impair co-productive practice. One key development is the demand on services to provide measurable outcomes such as increased attendance rates. The current study found that the compliance achieved was primarily attendance focused, and this finding could reflect the quest for quantifiable outcomes such as high attendance rates. Practitioners, empowered as they are to preside over an order and its implementation, might prioritize attendance. Indeed, studies have revealed this to be the case in some probation services (see, e.g., Robinson, 2013). Unfortunately, in itself, attendance though important, is insufficient if it is not accompanied by service user participation and engagement.

This article might usefully inform future analyses of how best to ensure that service users feel empowered to exercise their agency and contribute meaningfully to processes that aim to enhance their lives. Some have argued that perhaps greater attention should now be paid to exploring how service user participation in supervision contexts can empower the service users and equip them with the human and social capital that can facilitate their social participation as full citizens (McNeill & colleagues, 2012, p. 41). A co-productive model of supervision that empowers service users to participate as active agents, in the design and implementation of supervision goals that seek to enhance their lives, can help achieve these outcomes.

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Notes

1. Engagement in this context can be defined as: The active engagement and cooperation of the offender with the requirements of his or her order. It is achieved when (for example) the offender subject to community service works hard and diligently; or when the offender on probation shows a genuine desire to tackle his or her problems (Robinson & McNeill, 2008, p. 434).
2. The term “community justice” refers to crime reduction activities that operate within the community. This article focuses on the supervision of community-based orders.
3. Please refer to Andrews and Bonta (2010) for detailed description of the theory and evidence underpinning the risk-need-responsivity (RNR) model of supervision.
4. Theoretical sampling is an iterative process that involves generating initial data, sampling/recruiting additional participants on the basis of the concepts and categories that emerge from the data, and going back to the field to generate even more data on the basis of the additional concepts and categories. It is a sampling technique that enables the researcher to generate the data required for developing emerging concepts and categories until theoretical saturation is achieved, that is, until no new information can be found to further dimensionalize the concepts and categories.
5. The forms of capital operate interactively (Bourdieu, 1986).
6. Human capital refers to the agency and capabilities of individual. It is a concept that derives from Bourdieu’s (1986) work on the concept of *capital*.
7. The key stakeholders comprise policy makers, practitioners, service users, their families, and wider social networks in the community.

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