

Extending a Relative Methodological Perspective to Sentencing Outcome Analysis

by

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Thesis Submitted in Partial Fulfillment of the
Requirements for the Degree of
Doctor of Philosophy

in the
School of Criminology
Faculty of Arts and Social Sciences

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SIMON FRASER UNIVERSITY
Summer 2017

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Abstract

The mood and temper of the public in regard to any issue ought to be informed by up to date, comprehensive, valid, and reliable information. With respect to sentencing, the Canadian public has never been well-informed. This thesis suggests that introducing alternative methodological perspectives may hold the key to unlocking new findings in existing data sources. This is particularly true for descriptive comparison procedures where the goal is to identify meaningful patterns across factors related to the sentencing process. In order to supplement direct comparative procedures that have been used in previous research, this thesis uses a relative methodological perspective to develop new measurement techniques. A compilation of three studies employs the new techniques with existing data available in Canada to study critical areas of inquiry that have long plagued sentencing in the country. Study 1 introduces an analytic method to explore national patterns of sanction use across a series of offence categories. The new technique serves as an important supplement to conventional measures by uncovering patterns that had previously gone undetected. Study 2 uses the general approach proposed in Study 1 to advance a more complex analytic technique to detect jurisdictional consistency in sentencing outcomes. The technique is found to identify new forms of sentence consistency and disparity that had been neglected in previous research. Study 3 uses the strategy employed in Study 2, to study the sentencing patterns of Aboriginal offenders, specifically. By employing conventional measures alongside the newly developed technique, the study demonstrates that certain provinces and territories are disproportionately represented in their patterns of correctional program use with Aboriginal offenders. Collectively, the results of this thesis highlight the importance of adopting a relative perspective in sentencing outcome analysis.

Keywords: sentencing; criminal sanctions; consistency; disparity; Aboriginal peoples; location quotient

*For Ashley,
the love of my life.*

Acknowledgements

I would like to acknowledge everyone who helped me fulfill this achievement. First, I would like to thank my senior supervisor, Professor David MacAlister. I am grateful to you for many things but most of all, for your approach to supervision. I felt like your colleague and friend, more so than your student. Without you, I may have never ventured into the realm of sentencing research. You introduced me to a fascinating area of study – one that will continue to peak my curiosity for years to come.

I am also greatly appreciative for the support and mentorship from my supervisors, Professor Martin Andresen and Professor Neil Boyd. You encouraged my creativity when I wanted to take my own direction, yet were always there when I needed guidance and support. I am especially grateful for all the opportunities you offered me during my doctoral studies. You each trusted me with a great deal of responsibility in numerous research projects and for that, I cannot thank you enough.

My colleagues and friends at the Institute for Canadian Urban Research Studies (ICURS) and the School of Criminology at Simon Fraser University are also owed my sincere gratitude. I am thankful for the many years of guidance and support from Professors Paul and Patricia Brantingham, and greatly appreciative for the assistance from Dr. Graham Farrell, Wolfgang Richter, Dr. Andrew Park, and Amir Ghaseminejad. I am especially grateful for all of the friendships that I have formed in the School over the years, and for the support that has come with them. In particular, I would like to thank Katie Wuschke, Richard Frank, Farzana Kara-MacAlister, Ehsan Jozaghi, Tarah Hodgkinson, Bryan Kinney, Sheri Fabian, and Valerie Spicer.

Finally, there will never be a sufficient way to express thanks to my family but I will muster a few words nonetheless. Mom and Dad, thank you for your unwavering love, support, and encouragement. I continue to be forever indebted to you both for all that you have provided throughout my life. I am also grateful to my brothers and extended family. It is amazing to have so many great people in my life that I respect and admire. Most of all, I would like to thank Ashley. You have been my primary source of love, affection, happiness, humour, relaxation, support, encouragement, fun, excitement, and so much more. Thank you for sticking this out with me! You are the love of my life.

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Chapter 1.

Introduction

“The mood and temper of the public in regard to the treatment of crime and criminals is one of the most unfailing tests of the civilisation of any country.”

Winston Churchill, 1910, col. 1354

Churchill’s (1910) quote has marked the beginning of many historic documents because simply put, it is heartwarming.¹ It is a statement that many would wish to say very proudly when reflecting on the criminal justice policies of their country. It is a statement that many would like to smile and nod about in recognition of their feelings toward fellow citizens. It is a statement that many have chosen to use in order to set an optimistic tone before delivering an important message. In the context of this thesis, however, Churchill’s (1910) statement is used for a very different purpose. Here, the historic quote is used to raise concern: it is suggested that at the present time, Canada should not be held to the proverbial test of civilization.

To be clear, this assertion is not meant to imply that the Canadian public is uncivilized. To a great extent, Canada provides a free, safe society where citizens treat each other with great respect. Nor is the assertion meant to insinuate that Canadian criminal justice policies are unduly punitive toward crime or criminals. In fact, in many ways, Canada strikes a fair balance between crime control and due process in its criminal justice system. Instead, the assertion is intended to suggest that it would be inappropriate to hold Canada to the test of civilization because, currently, there is no way for the Canadian public to be adequately prepared to participate in such a critical assessment.

¹ In Canada (1977), the quote was used to open the Report to Parliament by the Sub-Committee on the Penitentiary System in Canada. Seven years later Mark MacQuigan (in Canada, 1984), Minister of Justice and Attorney General of Canada, again referenced the Churchill (1910) quote, stating that: “[i]t is my belief that the proposals I am now making with respect to the legislative foundation for sentencing in Canada both reflect that mood and temper, and meet the test of civilization” (Preface). The proposals MacQuigan (in Canada, 1984) was referring to were developed by the Government of Canada, ahead of the Canadian Sentencing Commission’s (1987) final report.

The mood and temper of the public on any given issue ought to be informed by up to date, comprehensive, valid, and reliable information. With respect to sentencing, the Canadian public has never been well-informed. Several decades ago, basic sentencing statistics were disseminated in the country via the Statistics Canada Courts program. Statistics reporting on court processes in 1973, however, marked the last of that practice until nearly two decades later (Canada, 1987). In fact, in 1987, a “lack of systematic information about sentencing” was identified as “[o]ne of the most basic failings” of the sentencing system in Canada (Canada, 1987, p. 60). A watershed moment toward the end of the 1980s prompted the return of annual publications reporting sentencing statistics by Statistics Canada.² To a great extent, however, the vision of the Canadian Sentencing Commission, which included a more transparent court system, was never fully achieved (Doob, 2011).

In fact, many would argue that the “lack of systematic information about sentencing” facing Canadians in 1987 is very much the same reality today (Canada, 1987, p.60). Annual *Juristat* reports that document statistics concerning case processing in Canada’s criminal courts are very limited and have recently become more sporadic.³ In this regard, Professor Doob (2011) noted a concerning irony about the relationship between available information and the public’s knowledge of sentencing:

The irony, of course, is that every five years or so, Statistics Canada asks members of the public (in its victimization survey), “In general, would you say that sentences handed down by the courts are too severe, about right or not severe enough?” (Statistics Canada 2005: 91) Unfortunately, one of the alternative responses that is not offered or recorded is the quite reasonable, “How the [expletive deleted] am I supposed to know? You folks don’t make these data available to anyone.” (Doob, 2011, p. 282)

The impact of the public’s detachment from sentencing has been demonstrated numerous times. Doob and Roberts (1984) for example, provided evidence to show that

² The watershed moment referenced here was a period during the mid-to-late 1980s when several major sentencing research initiatives were undertaken in Canada to help structure future sentencing reforms. These included the Government of Canada’s (1984) report *Sentencing*, the formation and subsequent report of the Canadian Sentencing Commission (see Canada, 1987), and the Report of the Standing Committee on Justice and Solicitor General on its Review of Sentencing, Conditional Release, and Related Aspects of Corrections (see Canada, 1988).

³ Increasing publication delays have impacted recent Adult Criminal Court Statistics in Canada *Juristat* reports. Just five years ago, annual reports were being published approximately one year following the end of the data collection cycle (see for example Dauvergne, 2012). The most recent report (Maxwell, 2017), however, was published near two years following the end of the data collection cycle.

limited information about cases led to greater dissatisfaction with sentencing decisions. Although other factors such as one's level of fear for victimization may play a role in his or her view of sentencing (Sprott & Doob, 1997), studies have repeatedly shown that the majority of Canadians view sentencing as too lenient (Doob, 2000; Doob, 2014; Doob, Sprott, Marinos & Varma, 1998; Doob & Webster, 2008; Roberts, Crutcher & Verbrugge, 2007; Roberts & Doob, 1989; Roberts & Doob, 1990; Sprott & Doob, 1997; Varma & Marinos, 2013; Webster & Doob, 2015). This is concerning as research has also demonstrated links between public opinion and criminal justice policies, which may impact incarceration rates (Hough, Jacobson, & Millie, 2003). Even more concerning is that the lack of information about sentencing has not been limited to the Canadian public. Professor Doob (2011) recently noted that "[a]n interested, intelligent member of the public or an interested, intelligent judge cannot, apparently, get systematic information about what is happening in Canada's courts" (p. 281). Without basic information on sentencing patterns and trends in the country, court participants – including judges – may not be able to fulfill their responsibilities.

Although there are likely many factors that have contributed to a lack of information about sentencing, there are two principal components at the core of the problem: 1) limited access to good data; and 2) limited use of available data. Solutions to the former are well beyond the scope of this thesis. Access to data is largely governed by those who have ownership of it (i.e., the courts) and there has been a longstanding tendency to deny greater access. In fact, some have remarked that "[v]ery little can be done to resolve this problem besides expressing our disappointment for the perpetuation of such practices despite the substantial progress in open data in other domains" (Pina-Sánchez & Linacre, 2016, p. 70). The second factor contributing to the lack of information about sentencing, however, may be addressed by anyone with access to available data, and the means to invest time and energy.

This is where the primary contribution of this thesis lies: this thesis extends an alternative methodological perspective that may be used with existing court data available in Canada to offer new insights into several critical areas of inquiry that have long plagued sentencing in the country. The overarching goal of the thesis; therefore, is to expand the methodological perspectives that are used in sentencing research to better inform the public, criminal justice practitioners, and policy leaders on key issues so that Canada may one day be prepared to meet Churchill's (1910) test of civilization.

1.1. Data Structure and Analytic Constraints

It is important to recognize that the structure of data available to researchers ultimately determines the types of analytic methods that may be used which, in turn, impact the validity and reliability of findings. Consequently, it is the data structure that ultimately dictates the types of questions that may be asked and the conclusions that may be formed. Recently, much of the mainstream sentencing research in criminology has turned to advanced quantitative techniques such as multi-level modelling (see Ulmer & Johnson, 2004 for an early example). These types of approaches are well-recognized for their statistical sophistication; however, they require complex hierarchical data structures with a comprehensive set of variables related to the problem under study. In Canada, no such data are currently available but researchers have obtained a variety of less sophisticated data structures by drawing from different sources of court information.

1.1.1. Hypothetical Data

Researchers seeking the highest levels of internal validity to pinpoint the causes of a phenomenon have, on occasion, compiled hypothetical data to employ controlled experiments. Experiments are often considered the gold standard in research design because they have the potential to eliminate virtually all rival causes that could contribute to explaining the results observed (Sherman, Gottfredson, MacKenzie, Eck, Reuter, & Bushway, 1997).

Palys and Divorski (1986), for example, developed an experimental approach to study sentencing disparity between judges in Canada. Because different cases can never be exactly alike, sharing all legally relevant and legally irrelevant factors that could influence a judge's decision, it was impossible to conduct the study in real courtroom environments. Instead, information on five hypothetical cases was provided to a sample of 206 Provincial Court judges. The judges were then asked to decide on appropriate dispositions and detail rationales for their decisions. Given the detailed structure of their data, Palys and Divorski (1986) were able to employ inferential statistical analyses to attribute differences in the outcome measures to a series of independent variables. Results of the study indicated that disparities in sentencing decisions were largely attributable to judge-related factors. This provided evidence that sentencing decisions were, at least in part, dependent on the judge assigned to the case.

While highly-regarded for the robust quantitative approaches that may be used with hypothetical data, a major weakness with such studies is the nature of the data itself. Hypothetical data must be either fabricated, or real but necessarily incomplete. Consequently, there is no way to know if the results of an experiment would be replicated in a real-life situation. In other words, hypothetical data are often selected for the sophistication of the analyses that are possible (i.e., by improving internal validity) but the results of the analyses may be critiqued for a lack of generalizability (i.e., reduced external validity).

1.1.2. Observational Data

To improve external validity and ensure that research findings are relevant to real-life situations, observational data may be employed. As its name implies, collecting this form of data requires researchers to attend court and document the events that they observe. One of the advantages of this approach is that researchers may decide, a priori, the level of detail that they collect. This may include variables that cannot be accounted for in hypothetical data sources such as social behaviour and influences of the courtroom environment. Importantly, if researchers are able to collect data on a comprehensive selection of variables that are related to the problem under study, it will be possible to conduct advanced statistical analyses. Consequently, it should be possible to produce research that has strong internal validity and is relevant to real-life situations.

Although rare in sentencing research – and in particular, sentencing research in Canada – Myers (2017) collected observational data to study the use of pre-trial detention and conditional release on bail in Canada. By attending 11 adult bail courts Myers (2017) was able to collect comprehensive information on 4,817 accused appearances in court. Specifically, her dataset included information on bail hearing decisions, types of release and supervision in the community, and conditions of releases. This level of detail was not readily available from any other source. By employing such a wide range of variables, however, Myers (2017) was able to demonstrate a concerning trend whereby the number of accused individuals given restrictive conditions with criminal consequences had been increasing overtime.

There is great value in obtaining detailed data such as that collected by Myers (2017); however, there are some notable limitations of observational datasets. Unlike hypothetical data, it is not possible to make comparisons across the exact same cases because there are necessarily going to be differences from case-to-case. In addition, the validity of the data are dependent on the accuracy of the observations made by the individual or individuals participating in the collection process. The greatest limitation, however, is that considerable resources are required to collect observational data. Myers (2017) for example, attended court for 152 days over more than seven years to obtain her dataset on 11 courts. Due to inevitable resource limitations, observational data are generally confined to local jurisdictions, short time periods, and small sample sizes. Consequently, results of studies employing observational data may face similar criticisms to those that use hypothetical datasets – their external validity may be called into question.

1.1.3. Data from Records Management Systems

While hypothetical and observational data have obvious strengths in terms of the sophistication of research designs that they may be paired with, their limitations have prevented widespread use. The vast majority of Canadian sentencing research has employed data from existing records management systems (e.g., the Integrated Criminal Court Survey, the Youth Custody and Community Services Survey, and the Adult Correctional Services Survey). Records management systems provide a convenient source of data because they are generally maintained by existing organizations and; therefore, do not require additional collection efforts. The greatest strength of these sources, however, is that records management systems typically maintain large samples, across many jurisdictions, and over extended time periods. This allows researchers to focus on problems that may impact an entire country, and track trends over many years or decades.

This source of data also includes weaknesses that impact research design. First, records management systems are not usually designed for research purposes. Instead, they primarily serve a storage function for future reference of event records. For this reason, they typically maintain only the most necessary details in each event record. Consequently, important information that may be of interest to researchers will often be missing. Second, it can be difficult to gain access to data that are available in records

management systems. Owners of data are often very protective of their property and unless they are convinced they will receive a benefit from releasing data to researchers, they are more likely to restrict access. Withholding data reduces the potential for harmful findings to be released in public arenas. Third, even with access to records management systems, the data may be incomplete, inconsistent, or aggregated to large units of analysis. It is not uncommon to have centralized data collection systems to which some jurisdictions fail to report. In the case of multiple reporting sites, there may also be inconsistencies in reporting practices. When maintaining large datasets, it is also common to amalgamate smaller event records into larger aggregate units to simplify the data structure.

All of these limitations present challenges to researchers who employ data retrieved from records management systems. The greatest challenge is often finding suitable analytic methods to employ the data in a meaningful way. Given the prevalence of studies that have drawn data from records management systems, it is not surprising that much of the research on sentencing in Canada has depended on simple measurement strategies. In fact, the vast majority of Canadian sentencing research has relied on basic descriptive statistics such as counts, percentages, and measures of central tendency, or simple analytic techniques such as correlations, and measures of association. These reporting mechanisms are able to offer useful insights, but in the absence of more detailed data structures to employ advanced quantitative analyses, they will necessarily be incomplete.

1.2. Direct-Comparison Procedures

Within the broad category of research methodologies that employ descriptive measurement strategies are direct-comparison procedures. Direct comparisons are commonly used to identify similarities and differences across key variables of interest. In Canadian sentencing research, this approach has been used extensively. In annual Statistics Canada *Juristat* publications, for example, it has been common to compare various types of criminal sanctions by their frequency of use, the use of custody by geographic jurisdiction, lengths of custodial sentences by their frequency of use, and type of criminal sanction by offence category (see for example Maxwell, 2017). Although methodologically very simple, these types of comparisons help to inform the public about basic sentencing patterns in the country.

Direct comparisons have also be used to contribute to a greater understanding of more complex issues such as the relationship between sentencing policies and imprisonment trends (Doob & Webster, 2006; Doob & Webster, 2016), sentence severity and confidence in the criminal justice system (Sprott, Webster & Doob, 2013), public attitudes towards sentencing policies (Dioso & Doob, 2001; Doob, 2000; Webster & Doob, 2015), and trends in sentencing among particular offending groups (Gartner, Webster & Doob, 2009; Roberts & Doob, 1997; Roberts & Melchers, 2003; Roberts & Reid, 2017), or across jurisdictions and time periods (Boyd, Loman & Mosher, 1986; Reid, 2014; Sprott & Doob, 1998; Webster & Doob, 2011). Although descriptive in nature, direct comparisons have led to important findings that have influenced policy development and reform. When adopting a comparative approach, however, it is important to recognize that multiple perspectives may be available.

It is suggested here, that introducing alternative methodological perspectives may hold the key to unlocking new findings in existing data sources. This is particularly true in comparative research designs where the goal is to identify and describe meaningful patterns across factors related to the sentencing process. In order to supplement direct-comparative procedures that have been used in previous research, this thesis proposes a relative methodological perspective.

1.3. A Relative Methodological Perspective

A relative perspective offers a different approach to comparative analyses. Commonly used in geographic research, relative comparisons focus on how the patterns in a local area differ from patterns in a broader, global area. In other words, a relative perspective adds an additional level of complexity. Rather than making a direct comparison of one variable across multiple units of analysis, a relative perspective encourages a comparison of multiple variables within each unit, and a subsequent comparison of the within-unit patterns, across multiple units of analysis.

With a simple example, it is possible to contrast the direct-comparative method with a relative-comparison approach. Figure 1.1 provides a hypothetical example of three measurements taken across three jurisdictions. In a direct comparison of Measure 1 across the three jurisdictions, one would be able to conclude that Jurisdiction 1 is greatest, followed by Jurisdiction 2, and then Jurisdiction 3. This is evident by the

numerical values shown in the blue sections of the pie charts. Jurisdiction 1 reveals a value of 100, Jurisdiction 2 shows a value of 80, and Jurisdiction 3 has a value of 10.

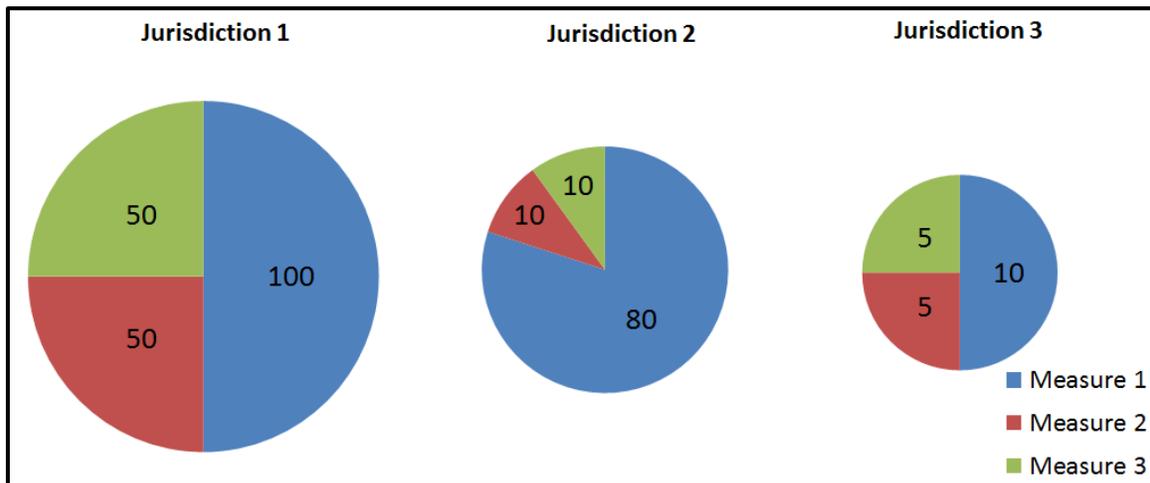


Figure 1.1. Hypothetical example: Direct and relative comparison strategies.

From a relative perspective, however, one would also be concerned with the total of measurements in each jurisdiction under study. This may be found by summing the values of Measurement 1, Measurement 2, and Measurement 3 for each jurisdiction, individually. Jurisdiction 1 has a total value of 200, Jurisdiction 2 has a total value of 100, and Jurisdiction 3 has a total value of 20. This is also depicted in the difference in physical size (i.e., area) of the three pie charts. If these individual jurisdictional totals are accounted for in the comparative procedure, measurements across jurisdictions may appear very different.

In a relative cross-jurisdictional comparison on Measurement 1, Jurisdiction 2 would be identified as greatest. This is depicted by the proportion of the pie chart represented by Measurement 1, 80% (i.e., 80 out of a total of 100). Jurisdiction 1 and Jurisdiction 3, on the other hand, have identical proportions for Measurement 1, 50% (i.e., Jurisdiction 1 = 100 out of a total of 200; and Jurisdiction 3 = 10 out of a total of 20). In other words, a relative perspective accounts for the local conditions of each jurisdiction, and then compares the jurisdictions using the local patterns. This perspective adds an additional layer of analysis to comparative procedures which may provide important information in the specific context of the research problem under study. With respect to Canadian sentencing, there are a many research areas that could benefit from this alternative perspective.

1.4. Longstanding Concerns in Canadian Sentencing

To date, the most comprehensive reviews of problems in Canadian sentencing were published in the mid-to-late 1980s by the Government of Canada (Canada, 1984) the independent Canadian Sentencing Commission (Canada, 1987), and the Standing Committee on Justice and Solicitor General (Canada, 1988). Problems and corresponding recommendations made by the groups were extensive. In fact,

[a]fter conducting a thorough review, the Commission concluded that there are serious problems with sentencing in Canada and that these problems cannot be eliminated by tinkering with the current system or exhorting decision-makers to improve what they are doing. The system is in need of fundamental changes in its orientation and operation. (Canada, 1987, p. xxi)

Among the problems identified by the groups, it was noted that the public had an incomplete understanding about the use of penalties in the country. Specifically, the public tended to under-estimate the severity of maximum penalties and have little awareness about offences that carried minimum penalties (Canada, 1987). In addition, the majority of Canadians believed that sentences in the country were more lenient than they actually were (Canada, 1987). Another concern identified by each of the groups included the presence of unwarranted sentencing disparities. Sentencing disparity may emerge in a number of different forms including substantive (i.e., outcome) differences and procedural (i.e., process) differences. Considerable evidence of both forms of disparity was cited by each of the groups (Canada, 1984; Canada, 1987; Canada, 1988). A more specific example of substantive disparity that was also identified was the overrepresentation of Native/Aboriginal Canadians in prison populations (Canada, 1984; Canada 1987; Canada 1988).

It was not until 1996 that any notable reforms were made to sentencing following the reports in the 1980s. 1996 marked the enactment of *Bill C-41: An Act to Amend the Criminal Code (Sentencing) and Other Acts in Consequence Thereof (Bill C-41)*. While viewed as a major milestone in Canadian sentencing history, many have been critical of the scope of substantive reforms included in the Bill. In fact, some have gone so far as to say that “nothing changed” (Doob, 2011, p. 287). At least in terms of some of the most pressing concerns identified in the 1980s, this sentiment has been corroborated by others.

In a recent article, Roberts and Reid (2017) identified several major problems concerning sentencing in Canada. Their list included disparity, little transparency, and the overrepresentation of Aboriginal peoples in prison populations. While it is acknowledged that a complete understanding of these issues will only come from greater access to comprehensive data, a relative perspective to comparative analytic procedures may offer new insights using existing data that are currently available in the country.

1.5. Overview of Thesis

1.5.1. Central Objective

The aim of this thesis is to extend a relative measurement perspective to sentencing outcome analysis. By developing and employing relative measurement techniques alongside methods currently used in three core areas of sentencing inquiry, the central objective of this composition is to uncover new patterns with respect the use of criminal sanctions, consistency in sentencing, and sentencing outcomes of Aboriginal offenders in Canada. The goal in meeting this objective is to contribute new knowledge to three substantive problems in Canadian sentencing to better inform the public, criminal justice practitioners, and policy leaders.

1.5.2. Outline

This thesis presents three distinct, but related studies that develop and employ relative measurement techniques. Chapter 2 extends a relative measurement strategy to uncover patterns of criminal sanction use across a series of offence categories. Chapter 3 uses the general approach proposed in Chapter 2 to develop a more complex relative measurement technique. The technique is then used to offer a novel way of detecting patterns of geographic sentencing consistency/disparity. Chapter 4 applies the technique developed in Chapter 3 to study sentencing patterns of a particular offending group. The study identifies inter-provincial patterns of correctional sanction use with Aboriginal offenders in Canada. Finally, Chapter 5 summarizes the scholarly contributions of the three studies, discusses limitations of the findings, and identifies directions for future research.

Chapter 2.

Study 1: The Relative Utilization of Criminal Sanctions in Canada: Toward a Comprehensive Description of Sentencing Outcomes

2.1. Abstract

Canada's national statistics agency relies solely on counts, percentages, and measures of central tendency to report on sentencing outcomes in the country. While these techniques are familiar, simple to calculate and easy to interpret, they each offer just one perspective. Consequently, important information may go unreported. This study proposes an alternative statistical approach – a relative utilization quotient – to offer an additional perspective. The technique is employed to calculate the extent to which criminal sanctions are used for a particular offence category, relative to their general use across all offence categories. Data from the adult component of the Integrated Criminal Court Survey (2013-14) are used to operationalize the technique in analyses covering six key categories of offences and a subset of detailed offence groupings. Results demonstrate that the relative utilization quotient reveals important patterns of sanction use and, when considered alongside conventional measurement strategies, a more complete understanding of sentencing outcomes may be obtained. Because of its valuable contribution and ease of calculation, it is argued that the strategy should be more widely adopted in studies of sentencing and criminal case processing.

Key words: sentences, criminal sanction, criminal justice statistics, punishment, location quotient

2.2. Introduction

In Canada, sentencing has been said to attract greater public attention than any other area of the criminal justice system (Jones & Kirkby, 2011; Roberts, Crutcher, & Verbrugge, 2007). Yet research has shown that people obtain most of their knowledge on the subject from media sources (Hough & Roberts, 2005; Roberts & Doob, 1990). Consequently, sentencing scholars have suggested that “part of the reason for public

disenchantment with sentencing is public ignorance of actual sentences” (Roberts & Doob, 1989, p. 495). This paradox characterizing an unequivocal interest in, and desire for information, yet minimal knowledge on the subject, has long been attributed to a “lack of systematic information about sentencing” (Canada, 1987, p. 60).

Unfortunately, the impact of this historical dearth of information has not been limited to the public and has not dissipated over time. In fact, just six years ago Professor Doob (2011) observed that criminal justice practitioners – including judges – cannot obtain regular information about the events taking place in Canada’s courts. Unlike many other jurisdictions, Canada no longer has a sentencing commission to provide systematic analysis, research, or guidance (Jones & Kirkby, 2011). Consequently, Canadians must rely on *Juristat* reports published by the national statistical agency (Statistics Canada) to obtain accurate information on case processing in the country’s criminal courts.

The statistical measures reported in annual *Juristat* publications such as “Youth Court Statistics in Canada”⁴ and “Adult Criminal Court Statistics in Canada”⁵ are, however, limited to a small number of basic measures. In fact, these publications rely solely on counts, percentages, and measures of central tendency to report on sentencing outcomes. While these techniques are familiar, simple to calculate, and easy to interpret, it is important to recognize that each provides just one perspective. Consequently, our understanding of sentencing outcomes may be incomplete. The purpose of this study is to introduce an additional perspective that is slightly different from these traditional approaches – one that highlights the prevalence of a phenomenon in a specific context relative to the same phenomenon in a broader context.

This form of relative measurement has been used in the social sciences for nearly a century and in spatial crime analyses since the early 1990s. Despite this extensive use, relative measures have yet to be employed without a geographic focus in

⁴ Youth Court Statistics in Canada “highlights youth court key indicators, including the number of completed charges and cases, characteristics of youth who appear in court, case decisions, sentencing outcomes, and the length of time it takes to complete youth court cases” (Alam, 2015, p. 4).

⁵ Adult Criminal Court Statistics in Canada is an annual publication that “presents several key indicators of the adult criminal court process, and focuses on the number of completed cases (including the most common types of offences), the decisions made in cases, as well as the types of sentences that are imposed on accused persons who are found guilty” (Maxwell, 2015, p. 4).

other areas of criminal justice research. The demonstrated ability for relative measures to detect meaningful patterns in a wide range of spatial crime issues, however, suggests that the approach could provide a useful perspective in other research areas.

Recognizing this potential, the current study employs a measurement strategy similar to the location quotient technique commonly applied in spatial crime analysis. Here, however, the strategy is modified from the detection of crime patterns across spatial units, to the detection of sanction use across offence categories. More specifically, measurements of relative sanction use are conducted alongside traditional measures of sanction prevalence to provide a broader lens from which criminal justice decision-makers, practitioners, and the public may view sentencing practices in the country.

2.3. Relative Measurement Strategies

The use of relative measures has a long history in social science research. The location quotient is an example of a simple relative measurement technique that has been used by researchers in economic geography and regional planning since the first half of the 20th century (Miller, Gibson, & Wright, 1991). Primarily used as a method to determine how well represented a particular industry is in a local area, relative to a larger reference area (Miller et al., 1991), the location quotient was later proposed for use in criminology as an alternative method to explore spatial crime patterns (Barr & Pease, 1990).

First used in this capacity by Brantingham and Brantingham (1993; 1995; 1998), the technique proved to be a useful supplement to conventional measures of crime patterns. Brantingham and Brantingham (1998) were interested in comparing violent crime incidents among cities in British Columbia, Canada. Crime counts were found to easily detect large, populous urban centres because they had experienced the largest quantities of violent crime. In comparison, crime rates detected municipalities that had the greatest risk for victimization because they had large crime-to-population ratios. Offering a very different perspective, location quotients identified municipalities that had a disproportionate share of violent crime relative to the broader reference area. In other words, after controlling for the proportion of violent crime that all municipalities had experienced, the location quotient was able to detect those areas that had a disproportionate share of that particular crime type.

While largely abandoned as a statistical tool in criminology toward the end of the 1990s (Andresen, 2009), the technique has recently become very popular. In just the last few years, researchers have employed the measure in studies of land use characteristics and crime (Beconyté, Eismontaitė, & Romanovas, 2012; Breetzke, Landman, & Cohn, 2014; Groff & McCord, 2012; McCord & Tewksbury, 2012; Pridemore & Grubestic, 2012), the crime prevention effectiveness of closed-circuit television cameras (Caplan, Kennedy, & Petrossian, 2011; Lim, Kim, Eck, & Kim, 2016; Piza, Caplan, & Kennedy, 2014), connections between unemployment and crime specialization across geographic regions (Andresen & Linning, 2015), and the identification of crime specialization in rural communities (Carleton, Brantingham, & Brantingham, 2014).

Hailed as a useful tool in studies that focus on crime across spatial units of analysis (Block, Clarke, Maxfield, & Petrossian, 2012), it is important to recognize that the location quotient is not limited to use in geographic contexts (Carroll, Reid, & Smith, 2007). In fact, as observed by Ratcliffe (2010), “the [location quotient] is not inherently spatial because it does not reflect relationships between spatial neighbors” (p. 30). Despite this assertion, the relative measurement strategy achieved via the location quotient has never been used outside the geographic realm in criminal justice studies. Further, Brantingham and Brantingham (1998) suggested that it could prove useful for research in sentencing but it has never been used for that purpose.

Recognizing its versatility in studies on a wide range of topics and its potential to be adapted in non-geographic contexts, the current study employs a statistical measurement strategy that adopts a similar approach to the location quotient technique. Specifically, this study proposes a relative utilization quotient (RUQ). Presented alongside conventional measures of prevalence, the RUQ is used to offer an additional perspective on the frequency of sanction use across several broad categories of offences and detailed offence groupings. The technique calculates the extent to which criminal sanctions are used for a particular offence category, relative to their general use across all offence categories.

2.4. Hypotheses

It has been widely recognized that judges' sentencing decisions may reflect an extensive set of both legally relevant and legally irrelevant factors (Spohn, 2009). It is not within the scope of this study to detail all of these factors, however, it is pertinent to recognize that offence seriousness and prior criminal record have been identified as the "key determinants of sentences" (Blumstein, Cohen, Martin, & Tonry, 1983, p. 83). In other words, "[o]ffenders who commit more serious crimes or who repeat their crimes are *legally eligible* for more punishment than first offenders or those who commit less serious crimes" (Spohn, 2009, p. 86, emphasis in original).

This study focuses on the relationship between a basic indicator of offence seriousness: offence category – and a basic indicator of sentence severity: sanction type. Therefore, notwithstanding the relevance of prior criminal record and other factors that may influence sentencing decisions, two hypotheses may be extended here:

1. More serious offence categories (such as offences against the person, administration of justice offences, and drug offences) should draw disproportionately greater use of relatively severe sanctions (such as custody and conditional sentences⁶), and lesser use of relatively lenient sanctions (such as fines and restitution); and
2. Less serious offence categories (such as property or traffic offences) should draw disproportionately greater use of relatively lenient sanctions, and lesser use of relatively severe sanctions.

⁶ Custody and conditional sentences are identified here, as relatively severe sanctions because they typically entail the greatest restrictions on an individual's freedom. This is, however, a general statement that may not hold true for all sentencing dispositions. When other components of sentences – such as the quanta of sanctions – are considered, it may be that a very short period of incarceration is considered less severe than a large fine or lengthy non-custodial sentence.

2.5. Methods

2.5.1. Data

Data employed in this study were retrieved from the adult component of the Integrated Criminal Court Survey (ICCS). The ICCS is a comprehensive database that maintains the most detailed information on sentencing information across Canada's provincial/territorial jurisdictions. For the purposes of the analyses completed below, the case outcome and sanctions associated with guilty cases were retrieved for all cases concluded in the 2013-14 fiscal year. The unit of count reported in the ICCS is the case.

A case is one or more charges against an accused person or company, which were processed by the courts at the same time (date of offence, date of initiation, date of first appearance, or date of decision), and received a final decision. (CANSIM, 2016, Table 2520056, footnote 2)

Because cases may include more than one charge, it is important to note that analyses conducted for specific offences or broader offence categories, follow a procedure that reports on the most serious offence.⁷ It is also important to recognize that sentences for guilty cases can include more than one sanction. While data that document the most severe sanction are available in the ICCS, collapsing sentencing outcomes into a single measure has been discouraged for research that seeks to better understand the use of qualitatively different options at sentencing (Blumstein, et al., 1983). For this reason, both single and multiple-sanction sentences were included in the analyses to follow.

⁷ The ICCS includes the following footnote regarding the most serious offence: "A case that has more than one charge is represented by the charge with the "most serious offence" (MSO). The most serious offence is selected using the following rules. First, court decisions are considered and the charge with the "most serious decision" (MSD) is selected. Court decisions for each charge in a case are ranked from most to least serious as follows: (1) guilty, (2) guilty of a lesser offence, (3) acquitted, (4) stay of proceeding, (5) withdrawn, dismissed or discharged, (6) not criminally responsible, (7) other, and (8) transfer of court jurisdiction. Second, in cases where two or more charges result in the same MSD (for example, guilty), Criminal Code sanctions are considered. The charge with the most serious offence type is selected according to an offence seriousness scale, based on actual sentences handed down by courts in Canada (The offence seriousness scale is calculated using data from both the adult and youth components of the Integrated Criminal Court Survey from 2006/2007 to 2010/2011). Each offence type is ranked by looking at (1) the proportion of guilty charges where custody was imposed and (2) the average (mean) length of custody for the specific type of offence. These values are multiplied together to arrive at the final seriousness ranking for each type of offence. If, after looking at the offence seriousness scale, two or more charges remain tied then information about the sentence type and duration of the sentence are considered (for example, custody and length of custody, then probation and length of probation, etcetera)". (CANSIM, 2016, footnote 32)

Although comprehensive in its scope, the ICCS includes some notable limitations. Superior Court data was not available for the following provinces: Ontario, Quebec, Prince Edward Island, Manitoba, and Saskatchewan. Because Superior Court cases accounted for less than 1% of Canada's total adult criminal caseload in 2013-14 (Maxwell, 2015), these provinces were retained in the current sample.⁸ Cases completed in a Superior Court are, however, known to be more severe (Maxwell, 2015) so results presented here are likely to underestimate the severity of sanctions handed down in that subset of provinces. There were also considerable limitations to the data available from Quebec and Northwest Territories. Quebec did not report offences documented in the *Controlled Drugs and Substance Act*, nor any cases that resulted in a conditional sentence. In Northwest Territories, the number of custody orders has been under-reported and the number of probation orders has been over-reported "by unknown amounts due to clerical procedures" (CANSIM, 2016, footnote 26). In addition, Northwest Territories did not report cases that resulted in a conditional sentence. Due to these major limitations, the two jurisdictions were not included in the analyses conducted below. Consequently, the analyses report on the combined sentencing patterns for Canada's remaining nine provinces and two territories.

2.5.2. Analytic Strategy

Given the prevalence of "simple unit of count programmes" and the need to provide information that is digestible for a broad readership, the United Nations (2003) has encouraged the use of simple descriptive measurements in dissemination reports of criminal justice statistics (p. 34). It has been suggested that counts, percentages, rates, and rates of change are capable of providing answers to many basic questions regarding crime and criminal justice systems. Indeed, areas of inquiry such as the number of persons brought before a court, the percent of guilty cases that receive a particular sanction, the rate of custody, and annual change in rate of case completion, provide essential information to the most senior criminal justice decision-maker, and the layperson in search of a basic understanding of the prevalence of crime and criminal justice processes. In addition, basic descriptive statistics serve as a foundation for exploratory data analysis used by criminological researchers and criminal justice

⁸ It should be noted that the statistic reporting less than 1% of Canada's total adult criminal caseload does not include Superior Court cases that were completed in the provincial jurisdictions where data were unavailable.

practitioners. Using these rationales, the current study employs the use of three simple descriptive statistics to report on sanction use across offence categories.

Percentage and Count

First, percentages are “simple to calculate and are useful for showing the relative proportions of each category within a given class” (United Nations, 2003, p. 33). Recognizing this assertion and maintaining consistency with annual “Adult Criminal Court Statistics in Canada” *Juristat* reports, the percentage of sanctions handed down for each offence category is used to document the prevalence of sanction use. The percent is calculated by dividing the count of sanctions used with a particular offence category by the count of guilty cases for that same offence category. Second, for transparency and to provide an additional measurement for the interested reader, raw counts of sanction use are reported alongside percentages.

Relative Utilization

Third, to provide an additional perspective, a variant of the location quotient is proposed. In its standard form, the location quotient may be evaluated by the following equation:⁹

$$LQ = \frac{E_{in}/E_{tn}}{\sum_{n=1}^N E_{in} / \sum_{n=1}^N E_{tn}}$$

Where, in an example of industry employment concentration, n represents a single area under study, N represents all areas under study, E_i is the count of employment in industry i , and E_t is the count of total employment in all industries.

In the context of sentencing, a similar technique may be employed to calculate how well represented each sanction is for an offence category, relative to its overall use across all offence categories. In order to control for differences in the number of guilty cases sentenced in each offence category, however, an additional variable must be introduced. Here, a measurement of relative utilization is proposed. The RUQ may be evaluated with the following equation:

⁹ Adapted from Brantingham and Brantingham (1998, p. 268).

$$RUQ = \frac{S_{ij} / GC_j}{\sum_j S_{ij} / \sum_j GC_j}$$

Where S_{ij} is the count of sanction i for offence type j ; GC_j is the count of guilty cases for offence j ; $\sum_j S_{ij}$ is the count of sanction i in all offence categories, and $\sum_j GC_j$ is the count of guilty cases for all offence categories. In other words, the RUQ may be evaluated via a series of simple division calculations:

1. The count of a particular sanction in an offence category (the dividend) is divided by the number of guilty cases in that same offence category (the divisor) to produce a (local) quotient;
2. The count of the same sanction in all offence categories (the dividend) is divided by the number of guilty cases in all offence categories (the divisor) to produce a (global) quotient; and
3. The (local) quotient obtained from step one (1) is divided into the (global) quotient obtained from step two (2) to produce the RUQ.

2.5.3. Hypothetical Example

In order to demonstrate the ease of calculation and interpretation of the three measures, a simple example using hypothetical data is in order. Table 2.1 presents the count of five sanction types used for a particular offence category (Row 1) and the count of guilty cases corresponding to the same offence category (Row 2). In addition, the count of each sanction type and the count of guilty cases are documented for all offence categories, combined (Row 3 and Row 4, respectively).

Table 2.1. Hypothetical example: Sanction and guilty case counts by offence category.

		Custody	Conditional	Probation	Fine	Restitution
Row 1	Offence 1: Sanction Count	25	10	40	20	5
Row 2	Offence 1: Guilty Cases	100	100	100	100	100
Row 3	All Offences: Sanction Count	250	50	500	150	50
Row 4	All Offences: Guilty Count	1000	1000	1000	1000	1000

Note: This figure employs hypothetical data.

To calculate the percentages of sanction use for Offence Category 1, the count of each sanction in Row 1 is divided by the corresponding count of guilty cases in Row 2. The count of sanction use may also be included by reporting the raw values from Row 1. Results of the percentage and count calculations are presented in Figure 2.1. Custody = 25% with a count of 25; conditional sentences = 10% with a count of 10; probation = 40% with a count of 40; fine = 20% with a count 20, and restitution = 5% with a count of 5.

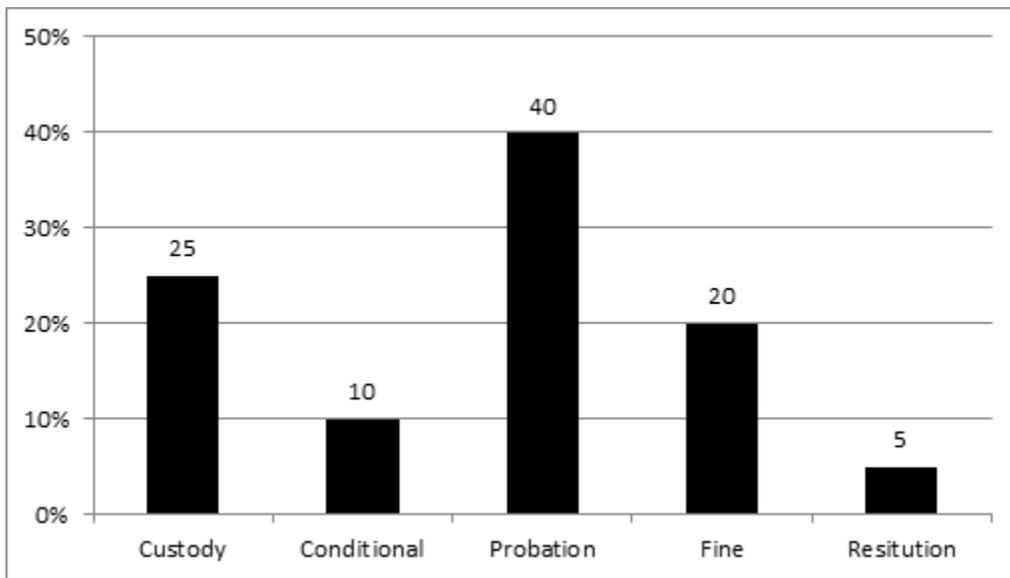


Figure 2.1. Hypothetical example: Percent and count for Offence Category 1.

In order to calculate the relative utilization of sanction use for Offence Category 1, the same procedure used to calculate the percentage of sanction use is repeated. Then, the percentage of sanction use for all offence categories is calculated by dividing the count of each sanction in Row 3 by the corresponding count of guilty cases in Row 4. Custody = 25%; conditional sentences = 5%; probation = 50%; fine = 15%, and restitution = 5%. Finally, the percentage of sanction use for Offence Category 1 is divided by the percentage of sanction use for all offence categories: for custody, 25% is divided by 25%; for conditional sentences, 10% is divided by 5%; for probation, 40% is divided by 50%; for fine, 20% is divided by 15%; and for restitution, 5% is divided by 5%.

Results of the relative utilization calculations are presented in Figure 2.2. With quotient values of 1.0, custody and restitution may each be said to exhibit perfect proportionality between their use in Offence Category 1, and their general use in all offence categories (combined). Because conditional sentences are used twice as frequently for Offence Category 1 compared to all offence categories, its quotient value is 2.0. Probation reveals a quotient value of 0.8 (i.e., underrepresented), while fine has a quotient value of 1.33 (i.e., overrepresented). In other words, although conditional sentences are used quite infrequently (10%) for Offence Category 1, the RUQ highlights the fact that they are used more frequently for that particular category, compared to their general use across all offence categories. The same is also true for the use of fines. Probation, on the other hand, is used very frequently (40%) for Offence Category 1, yet it is found to be used relatively infrequently for that category when compared to its frequency of use across all offence categories.

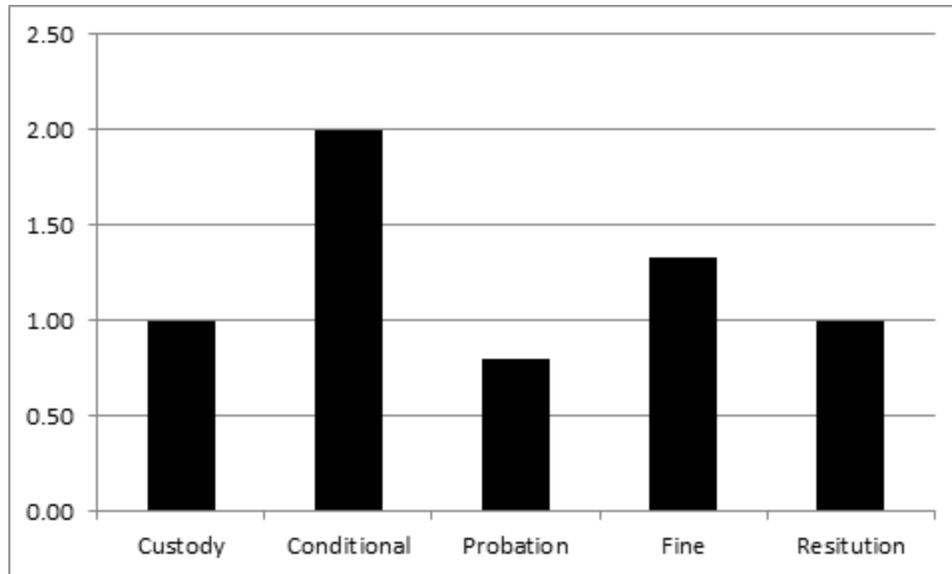


Figure 2.2. Hypothetical example: Relative utilization for Offence Category 1.

2.6. Results and Discussion

This section presents results of the three measurement strategies for sanction prevalence across six broad categories of offences, and a subset of detailed offence groups. Five criminal sanction options are included in these analyses:

1. Custody: this sanction includes provincial imprisonment sentences under two years in length and federal imprisonment sentences of two years or greater in length;
2. The conditional sentence of imprisonment: this is an alternative sanction to custody that was brought into force 1996 under *Bill C-41*. Although classified as a custodial sanction, conditional sentences are served in the community under a series of mandatory conditions¹⁰ that may be supplemented by optional

¹⁰ As specified in section 742.3(1) of the *Criminal Code*, mandatory conditions of a conditional sentence of imprisonment include that the offender keep the peace and be of good behaviour, appear before the court when required to do so, report to a supervisor after the making of a conditional sentence order and thereafter when required by the supervisor, remain within the jurisdiction of the court, and notify the court or supervisor in advance of any change of name or address, or change of employment or occupation.

conditions¹¹. The use of conditional sentences is relatively restricted compared to other sanction options. As described by Reid (2017a):

In order for a judge to impose a conditional sentence, four key criteria [have] to be met: 1) the offence committed by the offender must not include a minimum term of imprisonment; 2) a custodial sentence of less than two years must be the only suitable sanction; 3) the public must not be put in danger by allowing the offender to serve the term in the community; and 4) the sentence must be consistent with the purposes and principles stated in sections 718 through 718.2. (p. 2-3)

Another defining characteristic of the conditional sentence of imprisonment is that it may be used to serve a number of purposes. Judges are granted the discretion to draw from a range of sentencing objectives including deterrence, denunciation, and rehabilitation. Therefore, the sanction may be used for restorative purposes while maintaining a punitive element (Roberts and Healy, 2001a; Roberts and Healy, 2001b).

3. Probation: this sanction involves a period of supervision in the community under a series of conditions.¹² Notably different from the conditional sentence of imprisonment, probation orders are “a rehabilitative sentencing tool...[i]t is not considered punitive in nature” (Epstein in *R. v. Rawn*, para. 35). Probation is, however, a mandatory sanction for cases where the accused is given a conditional discharge or suspended sentence (CANSIM, 2016, Table 2520056, footnote 45).
4. Fine: this sanction is a form of financial punishment that involves the payment of a sum of money to the court.
5. Restitution: this sanction is a form of compensation that involves a payment to the victim.

¹¹ Lamer in *R. v. Proulx* noted that: “[i]n the case of a conditional sentence, s. 742.3(2)(f) provides that the court may order that the offender comply with such other reasonable conditions as the court considers desirable ‘for securing the good conduct of the offender and for preventing a repetition by the offender of the same offence or the commission of other offences’”. (para. 26)

¹² As specified in section 732.1(2) of the *Criminal Code*, compulsory conditions of a probation order include that the offender keep the peace and be of good behaviour, abstain from communicating with victims and witnesses, and refrain from going to specified places, appear before the court when required, and notify the court or probation officer of any change to name, address, or employment or occupation.

2.6.1. Offences against the Person

Figures 2.3 and 2.4 present column charts for the measures of sanction use with offenders guilty of an offence against the person. Considering the percent and count of guilty cases that resulted in each of the five available sanction types (Figure 2.3), there are several findings that are readily apparent. First, the percentages do not sum to a total of 100. This is because it is possible for multiple sanctions to be used to form a single disposition. For this particular offence category, there was an average of 1.2 sanctions per guilty finding in the 2013-14 fiscal year. A second observation that is apparent is that there is considerable variation in the prevalence of sanctions. Specifically, probation is used far more frequently than any other sanction at 71%. The next most frequently used sanction accounts for approximately half of that figure; custody is used in 36% of cases. The remaining three sanctions are used very infrequently. Together they account for a total of 13%. Conditional sentences and fines are each used in 6% while restitution is used in just 1% of guilty cases.

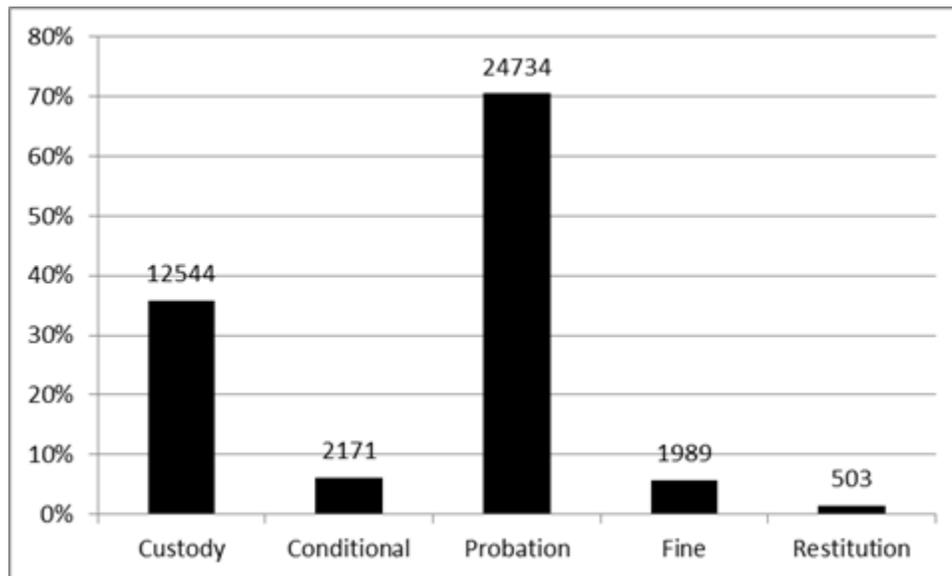


Figure 2.3. Offences against the person, 2013-14: Percent and count.

After considering this presentation of the data, it might be tempting for readers to form an opinion about the way sentencing judges respond to offenders who have been found guilty of an offence against the person. Those who are aware that this offence category includes a variety of serious offences (such as homicide, attempted murder, robbery, common assault, major assault, sexual assault, and harassment) might be troubled by the relatively low proportion of cases that receive custody and; therefore,

come away with the conclusion that judges are unduly lenient. This would certainly be consistent with many of the findings of public opinion research over the last several decades (see for example Roberts & Doob, 1989). Others, however, who recognize that sanctions restricting a person's freedom (e.g., custody and the conditional sentence of imprisonment) are considerably more prevalent than sanctions requiring a monetary payment (i.e., fine and restitution), might feel as though the judicial response is suitably punitive.

For an alternative perspective, Figure 2.4 presents results of the relative utilization analyses for offences against the person. Although sanctions such as probation, custody, and fine appear to have a very similar depiction to that shown by the standard percent and count measures, there are several notable differences in this representation of the data. Most apparent is the change for conditional sentences. Specifically, the conditional sentence of imprisonment has gone from one of the lowest ranked sanctions to second highest. Also noticeable is that restitution has gone from the lowest ranked sanction to second lowest, clearly above fines. What is the explanation for these changes between measurement types? In addition to measuring their direct use for offences against the person, the relative utilization measurements account for the use of each sanction across all other offence categories. In other words, conditional sentences are found to be overrepresented (i.e., a quotient greater than 1) in this offence category because they are used in greater proportion compared to their general use.

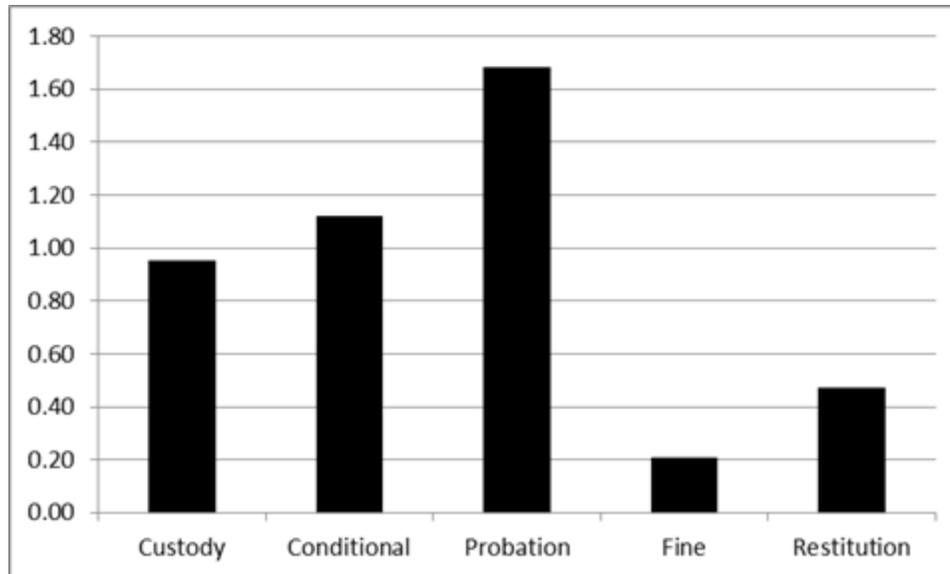


Figure 2.4. Offences against the person, 2013-14: Relative utilization.

How overrepresented is the conditional sentence of imprisonment? There is no analytic technique to determine the statistical significance of a relative measurement such as the RUQ. Miller, et al. (1991), however, provided a useful categorization that may be used to interpret the location quotient, and it may be used here as well. Specifically, values of 0.70 or less may be interpreted as very underrepresented, values between 0.71 and 0.90 are moderately underrepresented, values between 1.11 and 1.30 are moderately overrepresented, and values of 1.31 or greater are very overrepresented. In other words, with a value of 1.12, conditional sentences are moderately overrepresented for offences against the person. Custody reveals a relative utilization statistic of 0.95 meaning it is slightly underrepresented while probation has a value of 1.68 meaning it is very overrepresented. Conversely, restitution is shown to be greater than fines but its relative utilization value is just 0.47. With these low values, both restitution and fines may be characterized as very underrepresented for this offence category.

These results show moderate support for the first hypothesis set out earlier. Offences against the person are generally considered serious criminal matters and here, they were found to draw a higher relative use of conditional sentences. In addition, lower relative use was found for both fines and restitution. Not all of the findings, however, support the hypothesis. Custody was expected to be overrepresented for this offence category, yet its lower relative use contradicts that expectation. This finding suggests

that although offences against the person may be considered serious, there are other categories of offences that draw custodial sentences in greater proportion.

This added information may change the way readers view the sentencing of offenders found guilty of offences in this category. For those who believe custody is the only meaningful benchmark for severity in sentencing, the relatively lower use of that sanction might suggest a lenient approach to punishment. On the other hand, the relative utilization technique revealed a large gap between the most severe penalties (i.e., custody and conditional sentences) and those considered less severe (i.e., fines and restitution). In fact, the gap was far more pronounced by this representation of the data than was detected by the conventional percent and count measures. Specifically, the heightened relative use of conditional sentences, and the lower relative use of fines and restitution, contributed to the difference between patterns. For those who resonate with this interpretation of sanction use, the results might signal a more pronounced punitive sentencing response.

2.6.2. Property Offences

Figures 2.5 and 2.6 present results for the measures of sanction use with offenders found guilty of property offences. This category reveals a slightly greater proportion of sanctions per case with an average of 1.3. The percentages shown in figure 2.5 reveal a similar pattern to that presented for offences against the person (Figure 2.3) with probation ranked first (56%), custody second (42%), and the remaining sanctions considerably less prevalent (conditional sentence = 8%, fine = 13%, and restitution = 11%). By this presentation alone, many readers might be inclined to conclude that sanction use for property offences is very similar to that for offences against the person. Although there are differences in the magnitudes of the percentages, the general pattern is not markedly different.

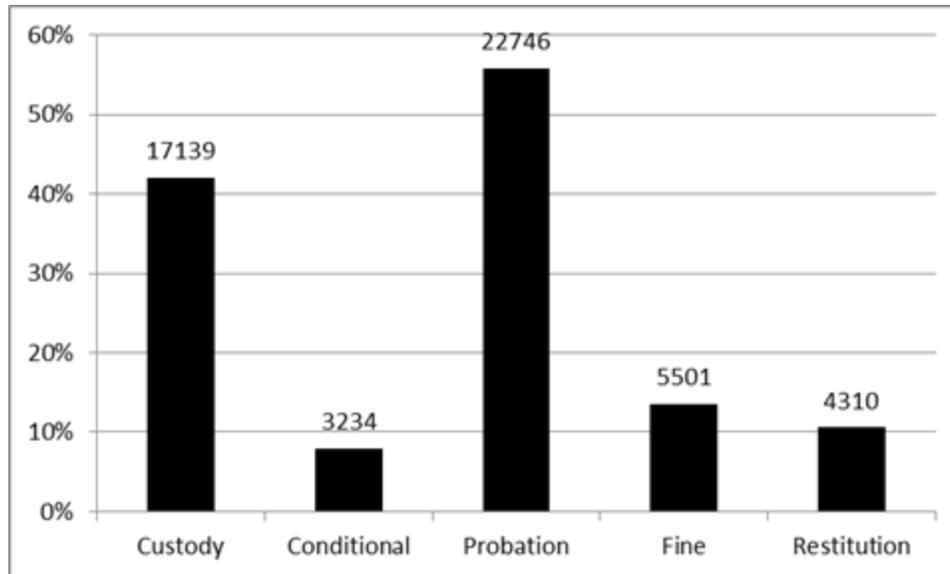


Figure 2.5. Property offences, 2013-14: Percent and count.

A very different depiction is revealed, however, by the relative utilization analyses shown in Figure 2.6. Unlike any of the other charts, restitution stands out as most prominent with a quotient value of 3.50. This value indicates that restitution is very overrepresented in sentencing offenders guilty of property crimes. Many readers might be prompted to ask why that particular sanction is so greatly overrepresented. Posing such a question highlights the value in offering a relative perspective on sanction use; it challenges us to seek a deeper understanding of patterns that are revealed. In this case, we may turn to the *Criminal Code* for clarification. As defined in section 738(1), restitution involves:

- (a) in the case of damage to, or the loss or destruction of, the property of any person as a result of the commission of the offence or the arrest or attempted arrest of the offender, by paying to the person an amount not exceeding the replacement value of the property as of the date the order is imposed, less the value of any part of the property that is returned to that person as of the date it is returned, where the amount is readily ascertainable.

Although restitution may also involve payment for pecuniary damages or other monetary losses that could be associated with different offence types, property offences (such as theft, break and enter, fraud, mischief, or possession of stolen property) are very likely to attract restitution orders because by their definition, they involve some form of loss or damage to property.

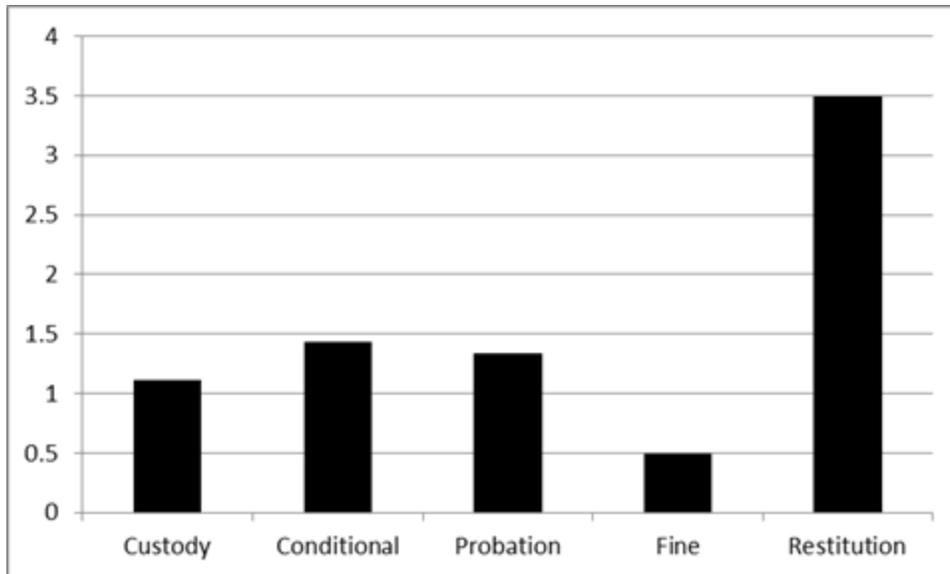


Figure 2.6. Property offences, 2013-14: Relative utilization.

Interestingly, fine is the only sanction that is found to be underrepresented for property offences. In fact, custody is moderately overrepresented (RUQ=1.12), and both conditional sentence (RUQ=1.44) and probation (RUQ=1.33) are found to be very overrepresented. These findings provide partial support for the second hypothesis set out earlier. It was expected that, being a less serious offence category, property offences would draw greater use of lenient sanction types. This is upheld by the overrepresented use of restitution but is contradicted by the heightened relative use of severe sanction options such as custody and conditional sentences. Based on these findings, readers may come away with a very different view of sentencing. Specifically, if a person was to receive a restitution order, it is highly likely to be a judicial response to a property crime. Equally, however, custody, conditional sentence, and probation are also more likely sanctions under this particular category compared to other offence groupings. These conclusions are not readily apparent from the count and percent measures.

2.6.3. Administration of Justice Offences

Turning to administration of justice offences, Figures 2.7 and 2.8 present results of the percent, count, and relative utilization analyses. There was an average of 1.06 sanctions per case in this category revealing a tendency for judges to use fewer sanctions for each sentenced offender. Figure 2.7 reveals a very different illustration of percentage sanction use compared to the previous two offence categories (shown in

Figures 2.3 and 2.5). Specifically, custody (51%) is used most frequently followed by probation (29%), fine (22%), conditional sentence (3%), and restitution (less than 1%). While probation, conditional sentence, and restitution reveal lower percentages than found in person or property-related offences, fine is notably greater. From this presentation, it is likely that readers would conclude that judges have taken a severe approach to sanctioning offenders who have committed an administration of justice offence. Irrespective of the greater use of fines, custody is the dominant sanction and relative to previous offence groupings, it stands out as markedly greater.

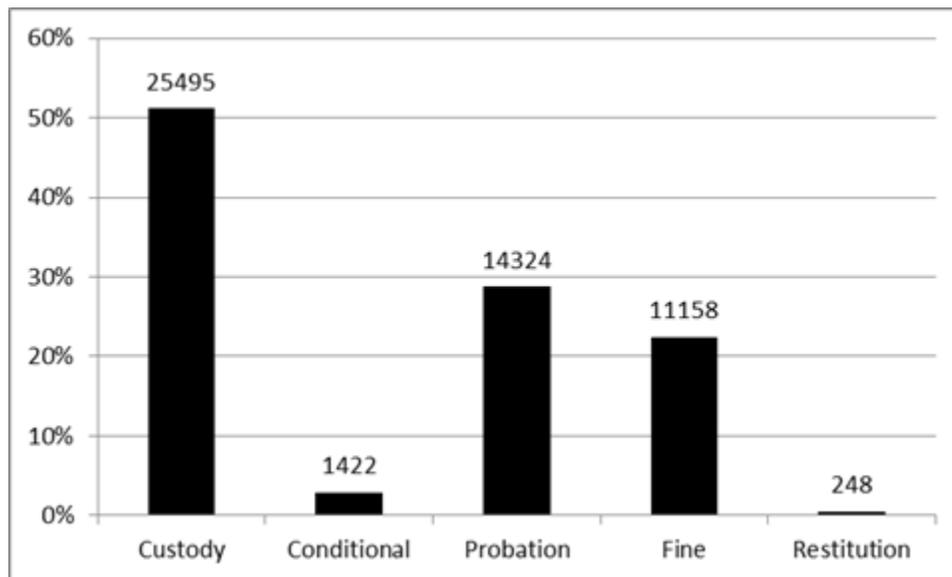


Figure 2.7. Administration of justice offences, 2013-14: Percent and count.

The relative utilization analyses reported in Figure 2.8 appear to confirm this sentiment. In fact, custody is the only sanction that is found to be overrepresented with a value of 1.36. While the greater percentage of fines is apparent in a relative utilization value that is ranked second to custody, it is still considered moderately underrepresented with a value of 0.82. Interestingly, this set of analyses is the first to reveal an underrepresentation for probation. In other words, relative to the overall use of probation across all offence categories, it is less likely to be used as a sanction when responding to offenders found guilty for an offence such as failing to appear in court, breach of probation, or being unlawfully at large. These results provide moderate support for the first hypothesis of the study. Although the relative utilization of conditional sentences is not consistent with expectations, custody is very overrepresented, and both

fine and restitution are underrepresented. These patterns are consistent with the first hypothesis.

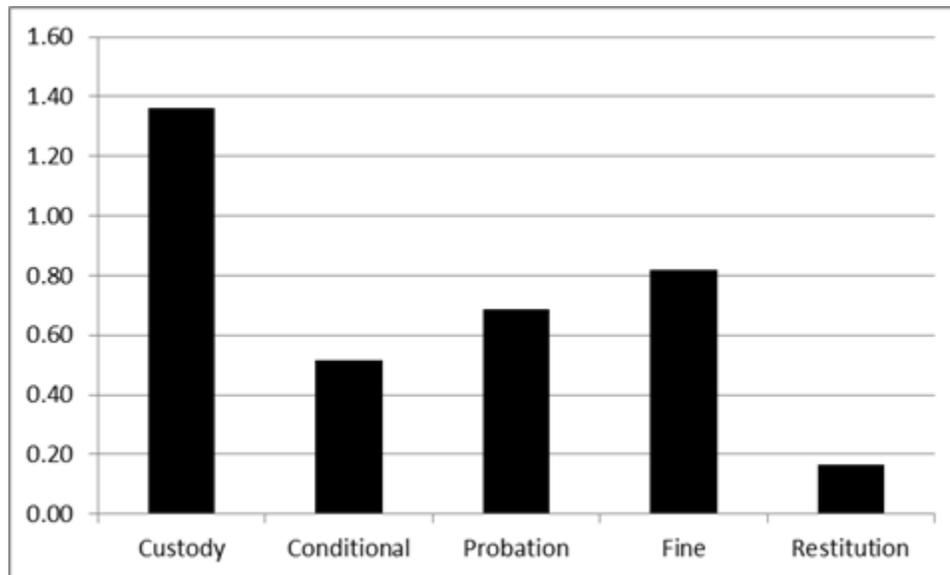


Figure 2.8. Administration of justice offences, 2013-14: Relative utilization.

Once again, readers may be compelled to ask why these patterns are found by the relative utilization analyses. An explanation may be located in the literature associated with criminal court responses to this particular offence category. In a qualitative study that focused on the use of imprisonment for administration of justice offences, Marinos (2006) found that judges use custody to fulfil a wide range of purposes including denunciation and general deterrence. In fact, the majority of judges included in the study noted that a period of custody is often needed “to communicate the seriousness of court orders and reinforce respect for the criminal justice system” (Marinos, 2006, p. 158). From the perspective of Crown attorneys, it was found that many take administration of justice offences more seriously than other categories such as property offences. More specifically, “according to Crown attorneys, a sentence of imprisonment for administration of justice offences serves a purpose for later management of the offender, and a reliance on documentation ensures management of offenders who may return” (Marinos, 2006, p. 164).

2.6.4. Other *Criminal Code* Offences

Figure 2.9 and 2.10 present results for other *Criminal Code* offences where there was an average of 1.13 sanctions handed down per case. This category includes

offences documented in Canada’s key criminal legislative document that are not easily categorized into other main groupings. An offence such as disturbing the peace, weapons-related crimes, and offences associated with prostitution are some of the crimes included in this category. Similar to both offences against the person and property crimes, the percentages presented in Figure 2.9 show probation as the most frequently used sanction (47%), custody ranked second (40%), fine third (19%), and conditional sentences and restitution lower with 7% and 1%, respectively. In fact, although the magnitudes of the percentages are somewhat different, the general pattern is very consistent across those three offence categories. Consequently, readers might be inclined to conclude that sanction use is similar among these offence groupings.

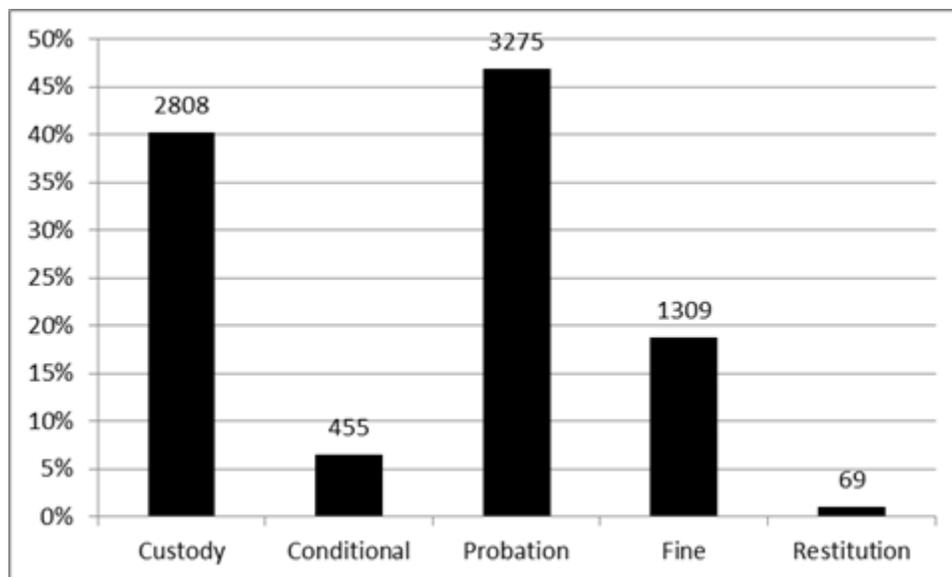


Figure 2.9. Other *Criminal Code* offences, 2013-14: Percent and count.

The relative utilization analyses presented in Figure 2.10, however, reveal a very different pattern of sanction use. Specifically, custody (RUQ=1.07), conditional sentence (RUQ=1.18), and probation (RUQ=1.12) are all overrepresented. While the ranking of the sanctions is somewhat similar to that shown in the property crime category (Figure 2.6), restitution exhibits a notable change. Restitution is suppressed in these results and is ranked last among the other sanctions. Conditional sentences emerged as the most overrepresented sanction in this crime category. From this representation, it is suitable to conclude that judges tend to use conditional sentences, custody, and probation in greater proportions for other *Criminal Code* offences than they do on average elsewhere.

Given that this particular category includes offences that are not easily grouped into the other available classes, it is difficult to evaluate the two hypotheses set out earlier. That said, the category includes several serious criminal offences including weapons-related crimes. Consequently, it might be expected that relatively severe sentencing options, such as custody and conditional sentences, would be used in greater proportion for these cases. The results presented here seem to support this assertion. Custody (RUQ=1.07), conditional sentences (RUQ=1.18), and probation (RUQ=1.12) are all found to be overrepresented in the relative utilization analyses. Conversely, fine (RUQ=0.68) and restitution (RUQ=0.33) are underrepresented.

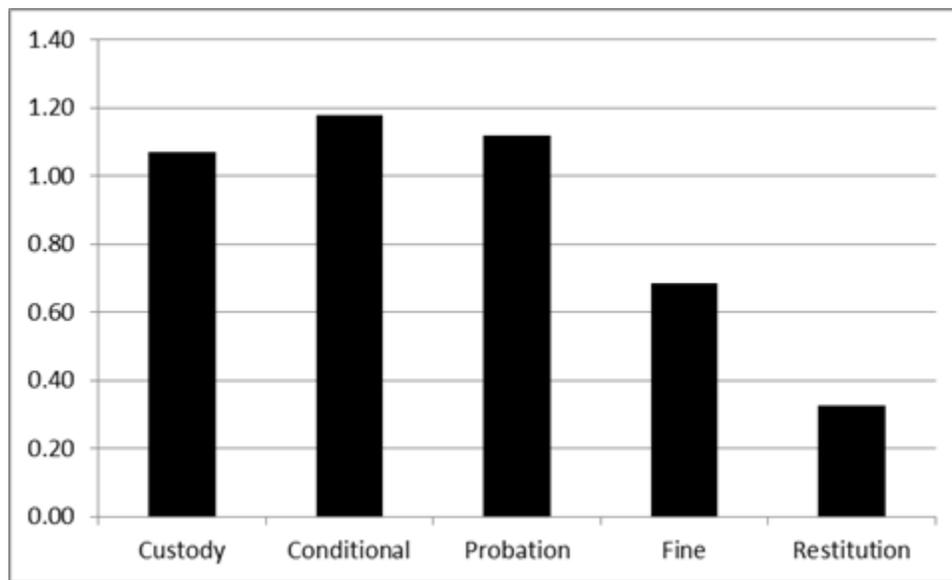


Figure 2.10. Other *Criminal Code* offences, 2013-14: Relative utilization.

2.6.5. *Criminal Code* Traffic Offences

Figures 2.11 and 2.12 present results for the three measures of sanction use with offenders guilty of *Criminal Code* traffic offences. Here, an average of 1.13 sanctions per case was handed down. As is evident in Figure 2.11, fine is the most frequently used penalty with nearly 70% of cases receiving that sanction. Contrary to all previous offence groupings, no other sanction is found to be used in greater than 17% of cases. This serves to set fines well apart from other sanction options.

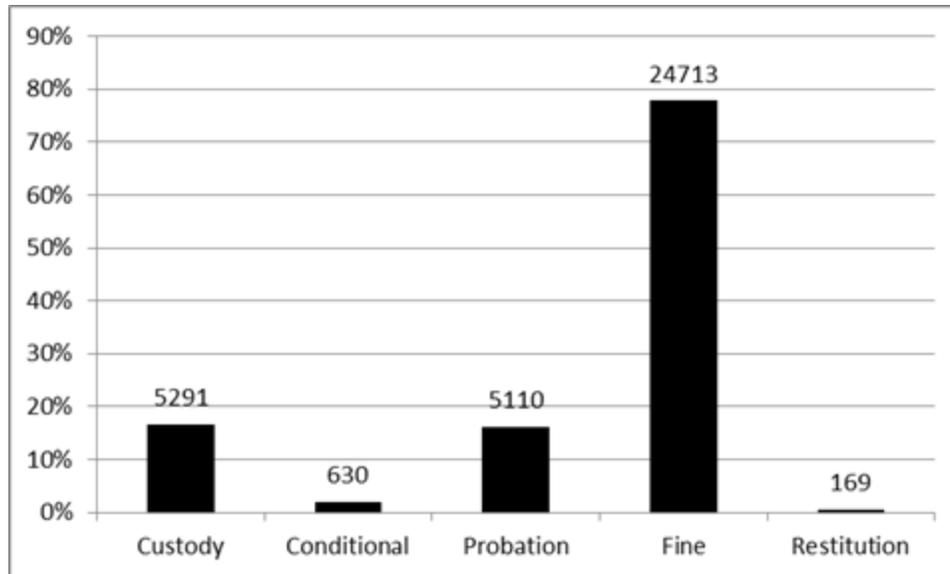


Figure 2.11. Criminal Code traffic offences, 2013-14: Percent and count.

After controlling for the general use of each sanction, Figure 2.12 reports the relative utilization statistics. Perhaps surprisingly, there is little distinguishable difference between the results presented in the two charts. Fine remains the dominant sanction group – very overrepresented with a quotient value of 2.84. In fact, similar to the administration of justice offences category, only one sanction emerges as overrepresented. In this case, however, all other sanctions are very underrepresented with no value greater than 0.44. These results show reasonable support for the second hypothesis of the study. Although restitution is found to be quite underrepresented, custody, conditional sentence, and fine are all in the expected direction for this less serious offence category.

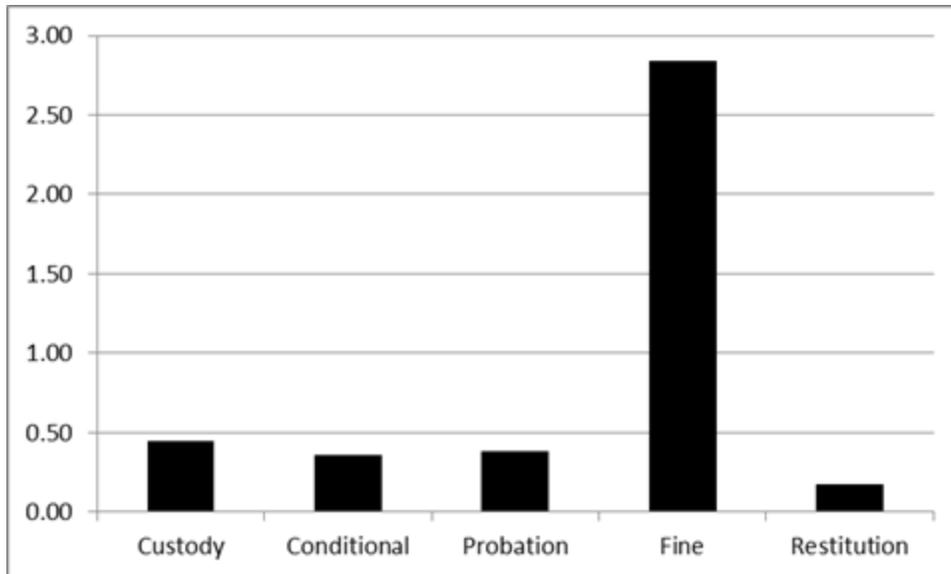


Figure 2.12. Criminal Code traffic offences, 2013-14: Relative utilization.

From this perspective it is possible to conclude that fines are more likely to be used for traffic-related criminal offences than any other offence category. Equally, when compared to their average use across other offences, custody, conditional sentence, probation, and restitution are less likely to be used for traffic offences. Historically, judges have used fines as a key response to criminal offenders (Marinos, 1997). In fact, up to 2000-01, fines were used more frequently than any other sanction type (Thomas, 2001). In recent years, however, the use of fines has declined and probation and custody have become more frequently used overall (Maxwell, 2015). As the relative utilization analyses revealed here, this is not the case for all offence types. Fines are used far greater than other sanctions for traffic-related criminal offences. This is revealed by the count, percent, and relative utilization analyses. Given that fines have been underrepresented in all previous offence categories, it appears that they may now be considered a less versatile sanction by sentencing judges.

2.6.6. Drug Offences

The final category of offences presented in this study is for drug crimes documented in Canada's *Controlled Drugs and Substances Act*. Judges handed down an average of 1.03 sanctions per case in this grouping. Figure 2.13 shows that the percentages of custody, conditional sentence, probation, and fine are far more similar than found in other categories with a range of just 16%. Restitution, however, remains

very low at less than 1%. This presentation of the data suggests that sentencing judges find a wide range of sanctions appropriate for responding to offenders found guilty of a drug offence. Probation is used in 31% of cases, fine is used in 30%, custody is used in 26% and conditional sentences are used 15%.

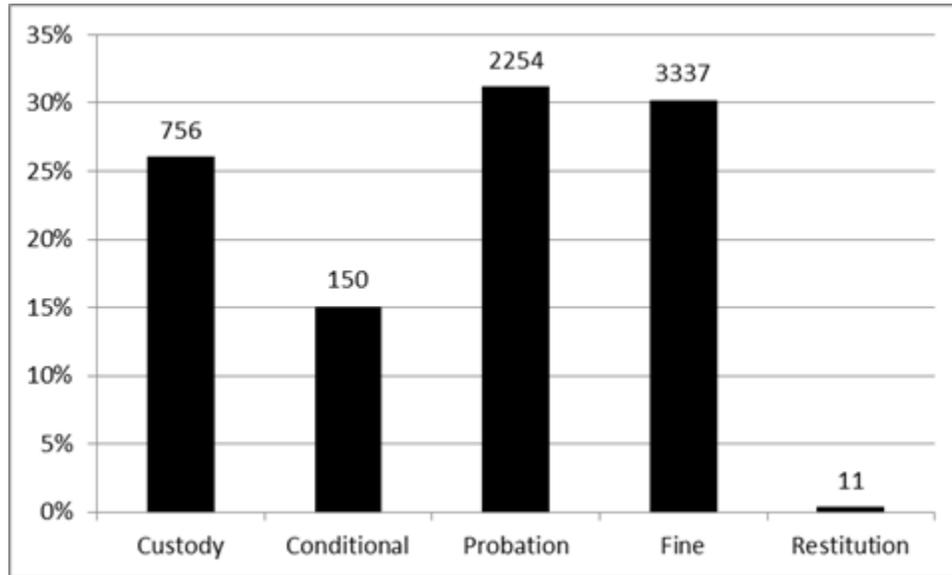


Figure 2.13. Drug offences, 2013-14: Percent and count.

Figure 2.14, however, reveals a considerably different pattern. Although probation was found to be most prevalent by percentage use (31%), the relative utilization technique reveals that it is underrepresented (RUQ=0.74). In fact, conditional sentence is the only sanction found to be very overrepresented with a relative utilization value of 2.73. This is in stark contrast to the representation of this sanction in all other offence categories. Although conditional sentences were overrepresented for offences against the person and property offences, its RUQ values in those groupings were at least 1.29 less than what is found here. In other words, if a person found guilty of a criminal offence was to receive a conditional sentence, they are far more likely to receive it for a drug crime than any other offence category.

These results show minimal support for the first hypothesis of the study. Conditional sentences (RUQ=2.73) are greatly overrepresented while custody (RUQ=0.69) is very underrepresented. In addition, restitution (RUQ=0.11) is very underrepresented while fine (RUQ=1.10) is slightly overrepresented.

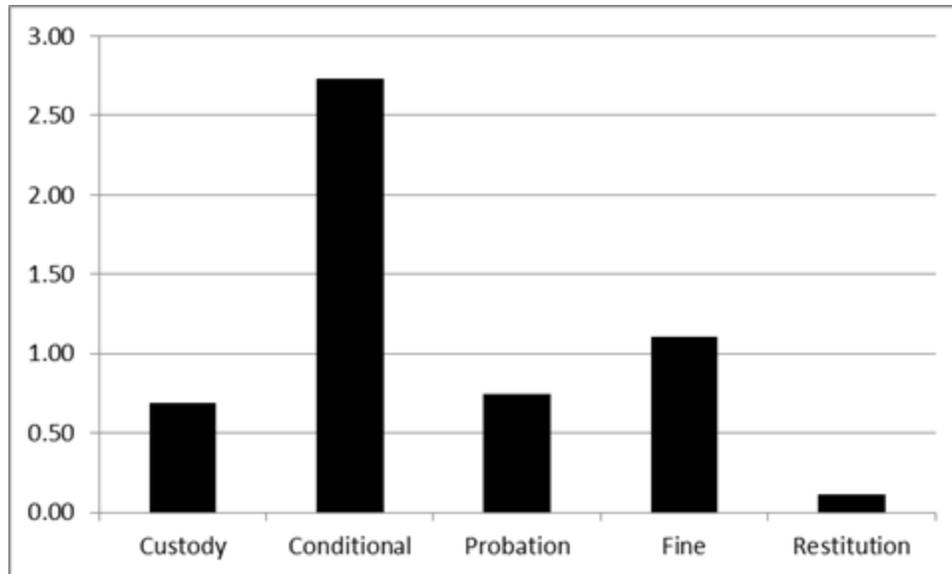


Figure 2.14. Drug offences, 2013-14: Relative utilization.

These findings may come as somewhat of a surprise to readers. Members of the public have historically viewed conditional sentences as a relatively lenient sentencing option. In fact, in a survey that explored public attitudes toward conditional sentences, Marinos and Doob (1999) found that many people were unable to distinguish the sanction from probation. Because the Supreme Court of Canada has held that conditional sentences are capable of serving both punitive and restorative objectives (*R. v. Proulx*), however, it may be that sentencing judges view the sanction as an important tool for responding to offenders found guilty of more serious offence types including drug-related crimes.

2.6.7. Detailed Offence Groups

So far, the relative utilization analyses have offered a very different perspective of sanction prevalence across most offence categories. Importantly, they have highlighted several patterns that may have been missed when considering counts or percentages alone. It is important to recognize, however, that broad offence categories may mask variation in sentencing patterns between specific offences. For this reason, percent and relative utilization analyses were conducted for a series of refined offence groupings. These are presented in Table 2.2 and Table 2.3, respectively. Relative utilization values greater than 1.10 are highlighted in grey to facilitate interpretation of offences that are at least slightly overrepresented in a particular offence group. Some

offences such as homicide, common assault, breach of probation, and impaired driving have very similar sanction rankings across both measurements. Other offences reveal very different patterns. With respect to property crimes, relative measures show that restitution is overrepresented for theft (RUQ=2.24) and break and enter (RUQ=3.03), but substantially more so for fraud (RUQ=7.60). With a percentage of only 23%, and sanctions such as custody and probation used more frequently, these results indicate that offenders are far more likely to receive restitution for fraud than any other offence documented here.

This finding may, at least in part, be due to a provision in the *Criminal Code* that required judges to consider restitution in cases of fraud. Specifically, s. 380.3(1) specified:

When an offender is convicted, or is discharged under section 730, of an offence referred to in subsection 380(1), the court that sentences or discharges the offender, in addition to any other measure imposed on the offender, shall consider making a restitution order under section 738 or 739.

And, “[i]f a victim seeks restitution and the court decides not to make a restitution order, it shall give reasons for its decision and shall cause those reasons to be stated in the record” (*Criminal Code*, s. 380.3[5]). Given that this provision was repealed in 2015, it may change the relative utilization of sanction use for this particular criminal offence.

Revisiting drug-related offences, data coverage only allowed for more refined analyses of drug possession and ‘other drug offences’. Interestingly, the relative utilization analyses for drug possession reveal that fine was the only sanction overrepresented (RUQ=1.71). In contrast, conditional sentences were exceedingly overrepresented for ‘other drug offences’ (RUQ=5.82). Given that serious crimes such as drug trafficking, production, importing and exporting are included in this grouping, this finding may come as a surprise for many readers. It is important to recognize, however, that custody is ranked first in terms of its overall use for this offence group (45%). Consequently, it is only because conditional sentences are used in greater proportion for this offence category compared to all other categories that it is found to be overrepresented by the relative utilization analyses. This example demonstrates how relative measures can offer important information on sentencing patterns but they should be used to supplement, rather than replace conventional measurement techniques.

Table 2.2. Detailed offence group, 2013-14: Percentage of sanction use.

	Homicide	Robbery	Sexual Assault	Major Assault	Common Assault	Criminal Harassment	Theft	Break and Enter	Fraud	Fail to Appear	Breach Probation	Prostitution	Impaired Driving	Drug Possession	Other Drug Offences
Custody	69.4	82.7	51.5	48.9	16.6	31.1	43.0	59.8	35.7	41.9	60.8	22.4	8.9	11.0	45.4
Conditional Sentence	1.7	2.4	15.6	11.1	3.7	6.1	6.3	11.5	16.2	1.9	3.8	7.9	0.6	2.2	31.7
Probation	7.4	46.3	62.7	62.9	77.0	87.3	52.4	60.2	58.8	25.3	30.0	42.8	11.6	32.7	29.2
Fine	2.5	0.8	1.6	5.0	6.9	2.8	17.0	3.2	10.1	30.1	19.1	31.6	88.7	48.5	6.8
Restitution	0.0	3.4	0.4	2.0	1.4	1.3	6.6	9.0	22.5	0.4	0.8	0.0	0.4	0.2	0.6

Notes: Homicide includes first-degree murder, second-degree murder, manslaughter and infanticide; Major assault is an offence category that includes assault with a weapon (Level 2, *Criminal Code of Canada*, section 267), aggravated assault (Level 3, *Criminal Code of Canada*, section 268) and other assaults (assaults against police officers, and unlawfully causing bodily harm). Common assault (Level 1 Assault, *Criminal Code of Canada*, section 266) is the least serious of the three types; A common assault has been committed when an individual intentionally applies force or threatens to apply force to another person, without that person's consent. The seriousness of physical injury is what distinguishes this type of assault from other, more serious assaults; Theft includes theft over and under \$5,000 as well as motor vehicle theft; Other Drug Offences includes drug trafficking, production, importing and exporting.

Table 2.3. Detailed offence group, 2013-14: Relative utilization of sanction use.

	Homicide	Robbery	Sexual Assault	Major Assault	Common Assault	Criminal Harassment	Theft	Break and Enter	Fraud	Fail to Appear	Breach Probation	Prostitution	Impaired Driving	Drug Possession	Other Drug Offences
Custody	1.88	2.24	1.39	1.32	0.45	0.84	1.17	1.62	0.97	1.14	1.65	0.61	0.24	0.30	1.23
Conditional Sentence	0.30	0.43	2.88	2.04	0.68	1.12	1.15	2.11	2.97	0.35	0.70	1.45	0.11	0.40	5.82
Probation	0.18	1.13	1.53	1.53	1.87	2.13	1.28	1.46	1.43	0.62	0.73	1.04	0.28	0.80	0.71
Fine	0.09	0.03	0.06	0.18	0.25	0.10	0.60	0.11	0.36	1.06	0.68	1.12	3.13	1.71	0.24
Restitution	0.00	1.15	0.13	0.69	0.46	0.44	2.24	3.03	7.60	0.14	0.28	0.00	0.13	0.05	0.20

Grey shading indicates relative utilization quotients greater than 1.10.

Notes: Homicide includes first-degree murder, second-degree murder, manslaughter and infanticide; Major assault is an offence category that includes assault with a weapon (Level 2, *Criminal Code of Canada*, section 267), aggravated assault (Level 3, *Criminal Code of Canada*, section 268) and other assaults (assaults against police officers, and unlawfully causing bodily harm). Common assault (Level 1 Assault, *Criminal Code of Canada*, section 266) is the least serious of the three types; A common assault has been committed when an individual intentionally applies force or threatens to apply force to another person, without that person's consent. The seriousness of physical injury is what distinguishes this type of assault from other, more serious assaults; Theft includes theft over and under \$5,000 as well as motor vehicle theft; Other Drug Offences includes drug trafficking, production, importing and exporting.

2.7. Conclusion

The routine publication of accurate and informative justice statistics is an essential exercise that serves important functions for countries around the world.

According to the United Nations (2003):

The collection of reliable and comprehensive criminal justice statistics in countries is of immense importance to everyone involved with criminal justice, especially to the criminal justice administrator. Each component of the criminal justice system inevitably creates large quantities of records, but it is only when such raw information is transformed through purposeful collection and organization into statistical form that these records provide information valuable for criminal justice decision-making. (p.1)

It has also been recognized that accurate and timely information about sentencing practices is necessary in order to evaluate the operations of courts (Canada 1987). Further, research has demonstrated that members of the public who are better informed react differently to criminal justice issues (Roberts, 2005). In fact, those with the least knowledge about the criminal justice system are known to have the least confidence in its operation (Doob, 2014). It is for these rationales that countries invest considerable resources into the publication of data and statistics that report on criminal victimization, law enforcement, case processing, and correctional populations.

Due to a distinct lack of data on sentencing in Canada, it is important to present the limited data that are available from a variety of perspectives. This study introduced an alternative perspective that has not been used to study case processing, nor any other criminal justice issue outside of its traditional geographic focus. Specifically, the measurement of relative utilization employed here, offered a perspective on sentencing that revealed how well represented each sanction was for a particular offence category, compared to its average use across all offence categories. Many important findings emerged from this approach.

First, relative measures offered comparisons that identified weaknesses in conventional measures of sanctions use. Specifically, percentages and counts were not found to be very useful for describing the relative prevalence of lesser used sanctions. In fact, even after careful consideration of all percentage charts, most readers would only be able to conclude that conditional sentences and restitution are used relatively infrequently; it would be difficult to determine for which offences judges tended to select

these sanctions in greater proportion. In a similar way, conventional measures were not particularly helpful in distinguishing between the prevalence of the most frequently used sanctions across offence categories. Probation for example, was used most frequently in three of the five offence categories. Just because it was used most frequently, however, did not mean that judges relied on it to a similar degree in different contexts. In fact, probation was the most frequently used sanction for sentencing offenders of drug crimes, yet judges were less likely to use the sanction for that offence category compared to several other categories.

Second, relative measures were able to detect a number of important patterns in sanction use. Restitution, for example, was used for sentencing offenders of property crimes more so than in any other category. This may not come as a surprise to criminal justice professionals who are familiar with available sentencing options, and the purposes and principles of sentencing. For the layperson that may not have direct knowledge of the sentencing process, however, this information might be quite informative. In a more specific example, the greater relative utilization of restitution for fraud compared to other property crimes, might even inform experienced sentencing scholars. The same might also be true for the relative utilization of conditional sentences. Conditional sentences were found to be overrepresented in sentencing of offences against the person, property offences, and especially drug offences. Because they are used less frequently than probation, custody, and fine, relatively little has documented about the use of this particular sanction. Consequently, these findings might help to better inform readers about their relative use.

Third, moderate support for the hypotheses was found across most of the broad categories of offences that were analysed. Although there were some findings that conflicted with the hypotheses, these were relatively rare. In fact, only drug offences were found to show minimal support; offences against the person, property offences, administration of justice offences, other *Criminal Code* offences, and other *Criminal Code* traffic offences all revealed moderate or partial support for the hypotheses.

Notwithstanding these contributions, caution should be exercised when interpreting the findings reported here. This study measured outcomes on just one dimension of criminal sentences (i.e., sanction type). Sentencing dispositions are, however, known to be very complex. Several recent studies that have explored patterns

in sanction use have adopted multiple measures to account for both the type and quantity of dispositions (Doob & Webster, 2008; Reid, 2014; Sprott, Webster, & Doob, 2013). In addition, factors such as plea bargaining and offender criminal history are known to impact the sentencing process, yet they could not be accounted for in the analyses. These factors may have contributed to the incomplete support that was found for the two hypotheses connecting offence seriousness to sanction severity. Further, this study explored sentencing patterns for a combined set of jurisdictions. Because sentencing practices are known to vary by jurisdiction (Sprott & Doob, 1998), the results presented here are unlikely to be representative of those in each provincial/territorial jurisdiction, nor the jurisdictions excluded from these analyses due to data limitations (i.e., Quebec and Northwest Territories).

Still, another important feature of the approach taken in this study was the simplicity by which the analyses were able to be conducted. The relative utilization statistics were calculated via a series of simple fractions, without the aid of external statistical expertise or specialized analytic software. As a result, this approach may be suitable for use in jurisdictions with even the most basic count data programmes and resource limitations. Its ease of interpretation also renders the approach a favourable measurement option. By reporting relative measures alongside conventional measurement strategies, a more complete depiction of sentencing outcomes was shown to be possible.

Finally, relative measures may also prove to be useful for studying other criminological or socio-legal issues. Because relative measures are able to be employed anytime a phenomenon is recorded across multiple variables, they offer great versatility. The relative approach may prove useful in future studies of complex sentencing issues such as discrimination in sentencing practices or changes to sentencing patterns over time. In addition, the technique could produce measures for use as independent or dependent variables in more advanced quantitative models. Further, the approach may be employed to offer new insights into other areas of criminal justice case processing research.

Chapter 3.

Study 2: The Relative Utilization of Custody: A Geographic Perspective on Jurisdictional Consistency in Sentencing Outcomes

3.1. Abstract

Consistency in sentencing has long been regarded a fundamental principle of justice. Yet despite its universal importance, the advancement of research in this area has been hindered by methodological challenges. This study identifies a new concern with strategies used to measure jurisdictional consistency in sentencing outcomes. Direct measures commonly used in conditional comparisons, exact matching strategies, and experimental simulations, fail to account for sentencing patterns developed at the local level. The objective of this study is to assess the utility of applying a geographic perspective – one concerned with relative comparisons between jurisdictions. This is achieved by proposing a variant of a common metric applied in geographic research: the location quotient. Employing adult criminal court data with a conditional comparative design, a series of analyses use the new strategy to compare custodial sentence outcomes for three high-volume offence categories across provincial/territorial jurisdictions in Canada (2014-15). The new technique was found to identify patterns of both consistency and inconsistency that would otherwise have gone undetected. Importantly, the strategy is not limited to sentencing analysis. The technique should prove useful for future studies in a variety of realms of criminological inquiry.

Key words: sentences, consistency, disparity, imprisonment, punishment, location quotient

3.2. Introduction

Consistency in sentencing has long been regarded a fundamental principle of justice. Commonly described as the treatment of like cases alike and the treatment of different cases differently, it has been suggested that consistency gives rise to a number of desirable effects.

For example, consistency promotes the legitimacy of the criminal justice system, fosters public confidence in sentencing (Council of Europe 1993) and helps to establish a common understanding of the consequences of criminal activity, which may be desirable from the point of view of law and order, and to victims of crime. (Pina-Sánchez & Linacre, 2013, p. 1118)

Perhaps equally important, consistency helps to protect against undesirable effects such as unwarranted disparities including forms of discrimination. Yet despite its universal importance, the study of consistency in sentencing has presented many methodological challenges. At a fundamental level, researchers have struggled with how to define consistency. Does it refer to the *approach* taken in order to arrive at a final disposition or is it reflected in the *outcome* of the final disposition (Holo, 2012; Krasnostein & Freiberg, 2013)? Further, there are multiple dimensions of consistency. Should we be concerned about the degree of consistency between different *jurisdictions* or different *time periods* (Thomson & Zingraff, 1981)? Even after establishing a clear conceptual definition and reaching a decision on the dimension of interest, researchers have proposed numerous operational definitions and strategies for measuring consistency in sentencing.

In a recent methodological review that took stock of available quantitative strategies, Pina-Sánchez and Linacre (2016) identified 11 approaches that have been used to study consistency in sentencing outcomes. Of those, three were deemed to be amenable to study the jurisdictional dimension: experimental simulations, conditional comparisons, and exact matching approaches were found to have a comparative advantage in across-jurisdiction comparisons. While much of the recent mainstream research in criminology has encouraged the use of advanced quantitative techniques such as multi-level modelling procedures (see Ulmer & Johnson 2004 for an early example), these approaches do a better job of identifying the presence of disparities due to legal and extra-legal factors, rather than making actual across-jurisdiction comparisons. Another barrier to the use of these advanced analytic strategies is that they require complex hierarchical data structures with a comprehensive collection of variables. Most countries do not maintain sentencing databases that provide the level of refinement that is required by such approaches. However, as observed by Pina-Sánchez and Linacre (2016):

[A]lmost all [Organization for Economic Co-operation and Development] jurisdictions make available observational data covering at least sentence

outcome and type of offences. Using this data we can obtain a blunt assessment of consistency by comparing the variability of sentence outcome conditional on the type of offence. (p. 79)

To date, studies employing conditional comparative designs have relied solely on direct comparisons. In other words, consistency has only been assessed by comparing measures of sentence outcome for an offence type/category across a series of jurisdictions. As the next section of this study demonstrates, direct measures offer a limited perspective on the issue of jurisdictional consistency. Consequently, important information about the type and extent of consistency may go undetected. The objective of this study is to assess the utility of applying a geographic perspective – one not concerned with direct comparisons, but rather, one focused on relative comparisons between jurisdictions. This is achieved by proposing a variant of a common metric employed in geographic research: the location quotient.

A location quotient quantifies the concentration of an activity in a local jurisdiction relative to the combined jurisdiction average. As a result, the measure offers a unique approach to comparative research – one that highlights the specialization of a particular activity in a local setting within the broader, global context. In its standard form, however, the location quotient is not well-suited for comparing sentencing outcomes across jurisdictions. In order to control for factors that affect measures taken at the final stage of case processing, a double-complex fraction is required. This study proposes a new technique – a multi-level relative utilization quotient (MRUQ) – as an alternative measure of sentence outcome consistency. Using Canada as a case study, the MRUQ is used to assess jurisdictional consistency in sentencing outcomes across provinces and territories for three high-volume offence types. By employing two conventional measures of sentence severity alongside two corresponding measures adopting the MRUQ technique, strengths and weaknesses of the four measures are assessed.

3.3. Limitations of Direct Measures

Although measures of dispersion and variability may produce statistically accurate indicators of consistency, their application in direct comparisons renders them limited in two important respects. First, they fail to account for general sentencing practices that may have been adopted in the local jurisdictions under study. It may be the case, for example, that judges in a particular jurisdiction tend to use custody or

longer custodial sentences more frequently in general (i.e., across many or even all offences). Direct measures of sentencing outcomes for individual offence types will not control for, nor detect those general patterns of sanction use. Direct measures will only allow for the comparison of jurisdictions by each offence type, individually.

A simple hypothetical example of this is presented in Table 3.1, and Figures 3.1 and 3.2 where the percent of cases receiving a custodial sentence is used as the measure of sentence outcome. In this example, data were created to show sentence outcomes for five offences across three jurisdictions. Figure 3.1 provides a direct comparison of sentence outcomes for Offence Type 1. Jurisdiction A may be identified as the most severe (with 30% of its cases receiving a prison sentence), followed by Jurisdiction B (25%), and Jurisdiction C (20%).

Table 3.1. Hypothetical example 1: Direct comparison strategy with different local sentencing patterns – percentages of custody use.

	Offence 1	Offence 2	Offence 3	Offence 4	Offence 5
Jurisdiction A	30	60	60	60	60
Jurisdiction B	25	25	25	25	25
Jurisdiction C	20	10	10	10	10



Figure 3.1. Hypothetical example 1: Direct comparison strategy with different local sentencing patterns – Cross-jurisdiction comparison of the percent of cases receiving a prison sentence for Offence 1.

Note: This figure employs hypothetical data.

What this direct comparison masks, however, is the pattern of sentence outcomes across offence types within each jurisdiction. As shown in Figure 3.2, Offence

Type 1 accounts for the most lenient sentencing outcome in Jurisdiction A. Conversely, the same offence represents the most severe sentencing outcome for Jurisdiction C. In other words, the sentencing outcomes of Offence Type 1 are uncharacteristic of both Jurisdiction A and C, while they are perfectly characteristic of the general pattern in Jurisdiction B. Consequently, any conclusions based on direct comparisons of individual offences will be largely dependent on the specific offence types chosen for analyses.

In order to avoid spurious results that may be found by direct comparisons of individual offences, Pina-Sánchez and Linacre (2014) recently proposed a solution. By weighting measures based on the frequency of cases for each offence type, it is possible to aggregate the results to obtain a combined-offence measure. While this approach helps to improve the measurement of general (i.e., overall) sentencing consistency, the strategy foregoes offence-level sentencing results in favour of a single measurement. Consequently, offence-level details which may be of value in explaining patterns of consistency become lost.

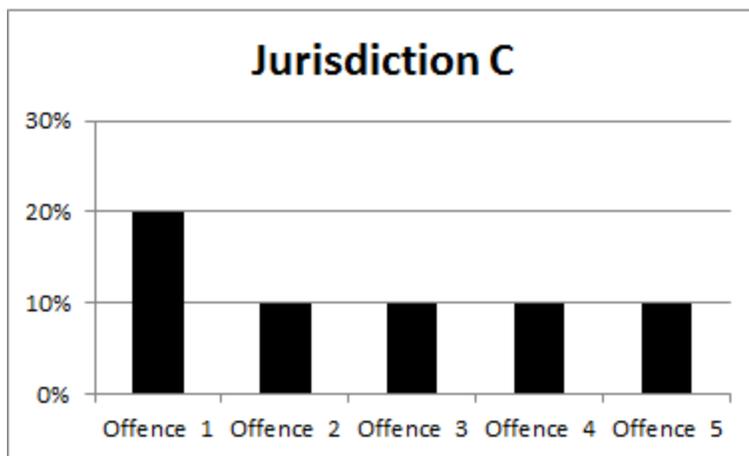
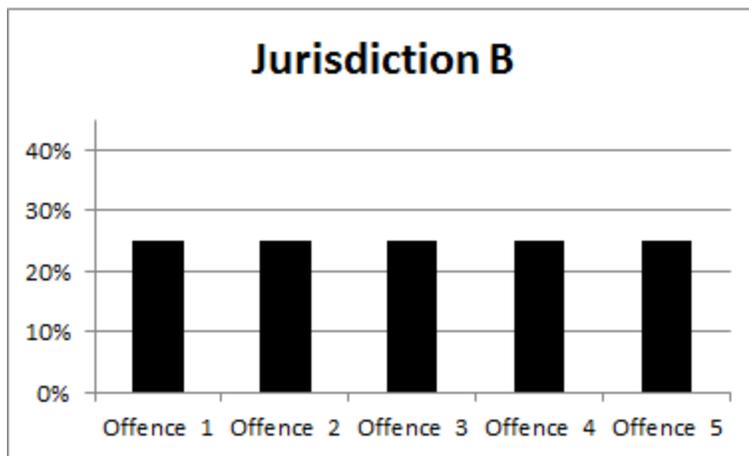
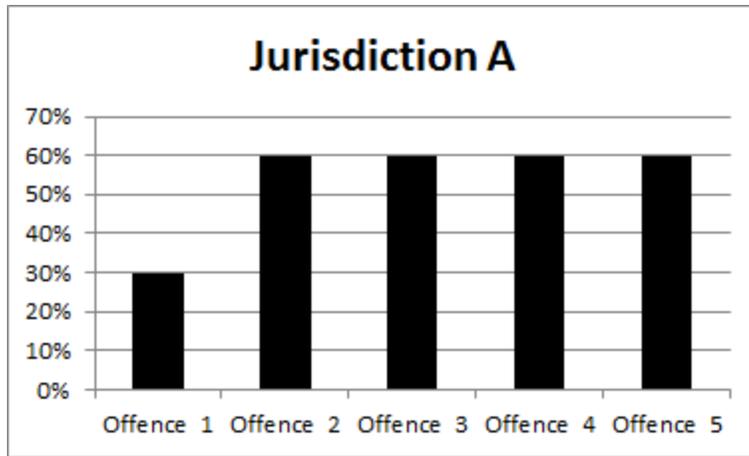


Figure 3.2. Hypothetical example 1: Direct comparison strategy with different local sentencing patterns – Cross-offence comparison of the percent of cases receiving a prison sentence.

A second limitation of direct-comparison strategies is they fail to consider the extent to which sentencing outcomes are proportional between jurisdictions. In other words, they do not assess how the sentencing outcomes for a particular offence type within the context of a local jurisdiction’s general sentencing patterns, compare to the sentencing outcomes for the same offence type in the context of the remaining (comparator) jurisdictions’ general sentencing patterns.

A hypothetical example of this is presented in Table 3.2, and Figures 3.3 and 3.4 where once again, the percent of cases receiving a custodial sentence is used as the measure of sentence outcome. Figure 3.3 shows that in a direct comparison of Offence Type 1, Jurisdiction A would be considered to be most severe (with 50% of its cases receiving a prison sentence), followed by Jurisdiction B (40%), and Jurisdiction C (20%). In addition to masking the local pattern of sentence outcomes across the offence types in each jurisdiction, the direct comparison also conceals the global pattern of sentence outcomes in all jurisdictions.

Table 3.2. Hypothetical example 2: Direct comparison strategy with proportional local sentencing patterns – percentages of custody use.

	Offence 1	Offence 2	Offence 3	Offence 4	Offence 5
Jurisdiction A	50	25	25	25	25
Jurisdiction B	40	20	20	20	20
Jurisdiction C	20	10	10	10	10

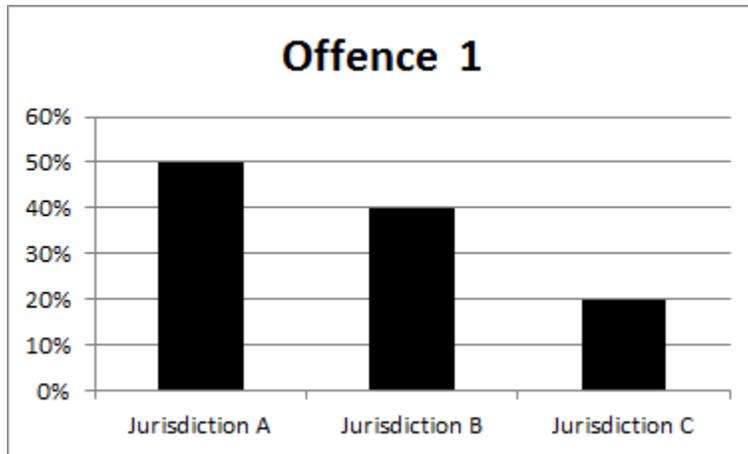


Figure 3.3. Hypothetical example 2: Direct comparison strategy with proportional local sentencing patterns – Cross-jurisdiction comparison of the percent of cases receiving a prison sentence for Offence Category 1.

Note: This figure employs hypothetical data.

Figure 3.4 reveals that all three jurisdictions maintain the same proportionate pattern of sentence outcomes across the offence types. Consequently, although it would be accurate to conclude that Jurisdiction A has a more severe sentencing pattern for Offence Type 1, the relative difference between sentencing outcomes for Offence Type 1 and the four other offence types is no different in Jurisdiction A compared to the remaining jurisdictions. In fact, the relationships are perfectly proportionate between Jurisdiction A, B, and C.

The ability to account for local geographic sentencing patterns and identify these alternate forms of consistency would provide additional information beyond what is possible to detect by direct measurement strategies. In order to operationalize such an approach, a geographic perspective offered by a new statistical technique is required.

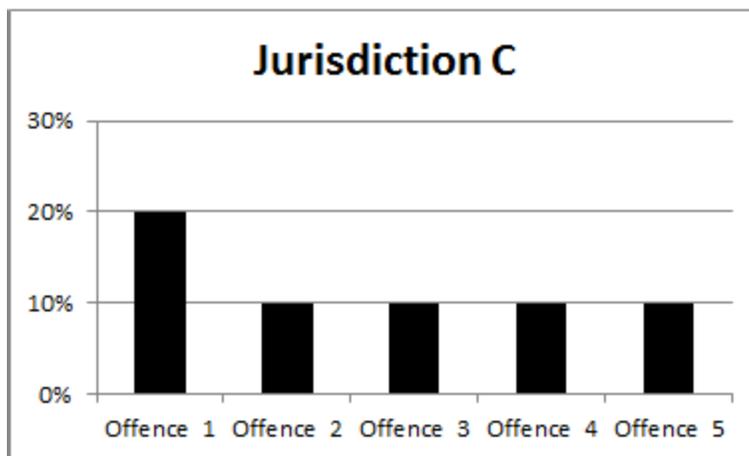
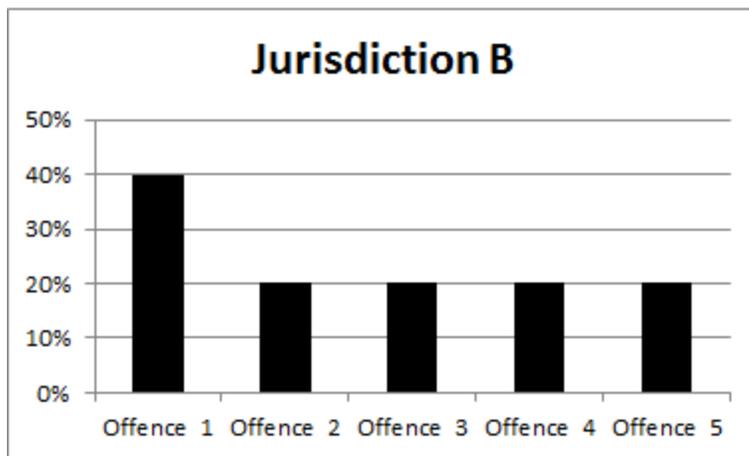
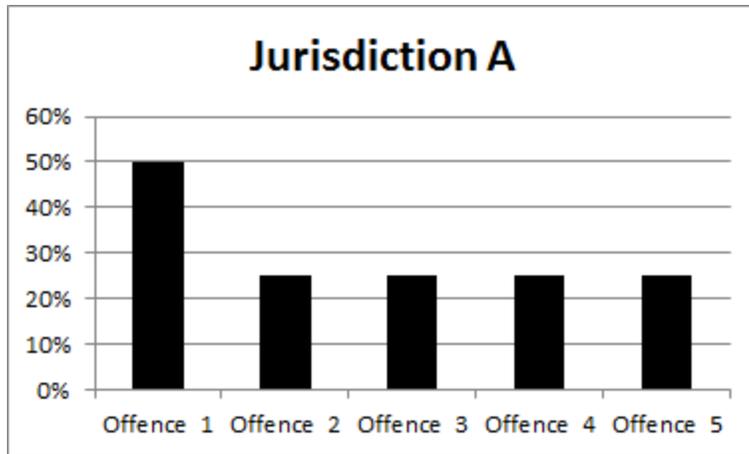


Figure 3.4. Hypothetical example 2: Direct comparison strategy with proportional local sentencing patterns – Cross-offence comparison of the percent of cases receiving a prison sentence for Offence Category 1.

3.4. The Location Quotient

The location quotient is not a new quantitative approach. In fact, according to Miller et al. (1991), the location quotient “has been widely used by researchers in economic geography and regional economics since the 1940s” (p. 65). For much of the last century, utilization of the technique was confined to these fields. In the early 1990s, however, the location quotient emerged in criminological research as a new way to study geographic concentrations of crime.

First proposed by Barr and Pease (1990) and later employed by Brantingham and Brantingham (1993; 1995; 1998), the crime location quotient was originally used to study victimization patterns in urban areas for crime prevention purposes. Brantingham and Brantingham (1998) compared three measures of victimization (crime counts, crime rates, and crime location quotients) across municipalities in British Columbia, Canada. They found that raw crime counts tended to identify large urban municipalities as the most pronounced hot spots for crime. After accounting for differences in population size, crime rates identified a different set of municipalities – those where the population had the greatest risk for victimization. Interestingly, location quotients produced results greatly different from either of these measures. Crime location quotients identified municipalities where a specific type of crime was disproportionately overrepresented. In some cases, municipalities that had a great risk for violent victimization (by the standard crime rate) maintained their high ranking, while other lower ranking municipalities emerged as relatively overrepresented for violent crime. As a result, Brantingham and Brantingham (1998) concluded that “[crime location quotients] provide a measure that helps identify whether a specific crime pattern is disproportionately high or low in a particular place or location” (p. 280).

Following this initial use in criminology, several researchers have gone on to demonstrate the utility of the crime location quotient. While most have used the metric as a descriptive tool for identifying crime patterns (Andresen, 2009; Andresen et al., 2009; Beauregard et al., 2010; Beconyté et al., 2012; Breetzke & Cohn, 2013; Carleton et al., 2014; Groff, 2011; Groff & McCord, 2012; McCord & Ratcliffe, 2007; Pridemore & Grubestic, 2012; Ratcliffe & Rengert, 2008; Robinson, 2008), others have used it to measure association in experimental studies (Caplan et al., 2011) or employ it as a dependent variable in inferential analyses (Andresen, 2007; Zhang & Peterson, 2007).

Still, use of the location quotient has been less than prolific in criminal justice studies. As observed by Andresen (2009):

[t]hough the location quotient appears to have become somewhat popular in very recent years, its general lack of adoption in criminological research is surprising because the interpretation of the location quotient allows it to measure specialization of an activity, providing a supplement to conventional crime measurements. (p. 37)

The lack of adoption has been particularly pronounced in research that focuses on case processing in the criminal justice system. In fact, a canvass of the extant literature returned only three studies where a relative comparison approach was applied in this realm. Benson, Cullen, and Maakestad (1992) used the location quotient to assess the influence of community context on the prosecution of white-collar offenders. In that study, however, the researchers employed the metric by its original use: to assess the specialization of local economies. In contrast, Selya, (2012) used the location quotient as one method to identify countries that were overrepresented for human rights violations. Most recently, Reid (2017b) demonstrated that the location quotient could be adapted for use in non-geographic contexts. Offering a new perspective on the use of criminal sanctions in Canada, Reid (2017b) compared the frequency of sanction use for a particular offence category, to the general frequency of sanction use across all offence categories. That approach revealed several interesting patterns including the overrepresentation of lesser-used sanctions for some offences, and the underrepresentation of frequently-used sanctions for other offences.

Although Brantingham and Brantingham (1998) speculated that it could prove useful in sentencing research, the location quotient has never been adapted to study geographic sentencing patterns. Its demonstrated utility in revealing important patterns of relative representation in other contexts, however, lends it as a promising metric for studies of consistency in sentencing. Using this argument as a departure point, the current study introduces a variant of the location quotient – the MRUQ – to employ a variety of context-specific measures of sentence outcome consistency. Using Canada as a case study, the MRUQ is used to advance two measures that offer alternatives to conventional methods adopted in comparative sentencing research.

3.5. Methods

3.5.1. Case Study: Canada

Canada represents a valuable case study for research of jurisdictional consistency in sentencing as a broad literature has amassed that documents sentencing variation across its provincial and territorial jurisdictions. In the youth justice system, several studies have found variation in the proportion of cases receiving custodial sentences (Bala, 1992; Carrington & Moyer, 1994; Corrado & Markwart, 1992; Doob, 1992; Doob & Spratt, 1996). Similarly, inter-provincial variation in sentencing outcomes for cases involving adult offenders has been documented by numerous scholars (Birkenmayer & Besserer, 1997; Boyd, Loman, & Mosher, 1987; Doob & Webster, 2008; Roberts, 1999; Roberts & Melchers, 2003; Scanlon & Beattie, 1979; Turner, 1993). These findings have led to a longstanding debate concerning the presence of unwarranted sentencing disparity. Following a review of provincial variation in sentencing outcomes, Roberts (1999) observed that “data remain highly suggestive that unwarranted disparity exists across Canada. They also underscore the necessity of developing a national database that would permit unequivocal attributions about the source of such variations” (p. 154). Because no such database has yet become available and the issue of disparity remains a pressing concern (Roberts, as cited in Bronskill, 2016; Roberts & Reid, 2017), it is important that researchers continue to refine measures of consistency to further examine the issue.

It is also important to advance alternative methodologies for studying comparative sentencing patterns as the Canadian public, criminal justice practitioners, and academics rely on the accuracy of metrics used in empirical research. Canada’s national statistics agency – Statistics Canada – has historically released annual *Juristat* articles that report on the practices of the criminal courts, yet these are no longer released on a regular schedule. A considerable portion of the reports that do get published is consistently devoted to making provincial/territorial comparisons by employing the (un)conditional comparative approach identified by Pina-Sánchez and Linacre (2016). Despite these periodic publications, information about sentencing patterns in Canada is greatly insufficient. Doob and Webster (2008) articulated a harsh reality about the public’s knowledge concerning sentencing. Specifically, they noted that:

[f]ew people (if any) could have a clear idea of the actual sentences handed down in their region. Indeed, the current reality of sentencing – that is, the difficulty in obtaining actual sentencing data in Canada; their tendency to be incomplete; and the complexity as well as the inconsistent nature of sentencing patterns across measures and offences) – precludes any real ‘knowledge’ of actual sanctions, particularly in terms of inter-jurisdictional comparisons. (Doob & Webster, 2008, p. 22)

From a methodological perspective, Canada also provides a useful case study of jurisdictional consistency as its criminal justice system is structured in such a way that inter-provincial/territorial comparisons may be made with relative ease. While many cross-jurisdictional studies must overcome challenges such as differences between types of national legal systems (e.g., common law vs. civil law), inconsistencies in legal definitions, and variations in available types and quanta of punishments, Canada’s substantive and procedural criminal law applies across the entire country.¹³ This alleviates many complications that may arise when making comparisons between offence types, or different forms of punishment because the statutory laws that define them are uniform across the entire country.

3.5.2. Data

Data included in this study were drawn from the adult component of the ICCS. The ICCS represents Canada’s most comprehensive source of criminal court processing information and the most reliable source of sentencing data across provincial/territorial jurisdictions. For the comparative analyses conducted here, the offence type, case outcome, type of sentence, and length of custodial sentence were retrieved for all cases with a single guilty finding completed in 2014-15. Of these, the three highest-volume criminal offence categories were selected for focused analyses:

1. Impaired driving: this offence category includes charges for impaired driving and driving with a blood alcohol level which exceeds eighty milligrams of alcohol in one hundred millilitres of blood (.08);

¹³ Sections 91 and 92 of Canada’s Constitution Act (1867) delineate the responsibilities of the federal and provincial/territorial governments, respectively. With respect to the criminal justice system, section 91(27) assigns the responsibility for establishing substantive and procedural criminal law to the federal government. As a result, criminal law is consistent throughout all provinces and territories. Section 92 assigns matters of administration of justice (including establishing provincial police, most courts, and some corrections) to each province.

2. Theft: this offence category includes theft over \$5000, theft under \$5,000, and motor vehicle theft; and
3. Fail to comply with order: This offence category includes failure to comply with condition of undertaking or recognizance, failure to comply with summons, failure to comply with appearance notice or promise to appear, failure to comply with conditions of undertaking.

The data retrieved from the adult component of the ICCS included two important limitations. First, the length of custodial sentences was not available from the province of Manitoba. As a result, it was not included in the current study. This resulted in 12 of Canada's 13 provincial/territorial jurisdictions being maintained in the sample. Second, Superior Court data was not available for Saskatchewan, Ontario, Quebec, and Prince Edward Island. Because Superior Court cases make up less than 1% of Canada's total adult criminal caseload, these provinces were retained in the current sample (Maxwell, 2015). The impact of this limitation is that the results presented here are likely to underestimate the severity of sanctions handed down in those provinces because sentences for cases completed in a Superior Court are known to be more severe (Maxwell, 2015).

Summary statistics for the data are presented in Table 3.3. There was considerable variation in the number of completed cases between jurisdictions and offence types. Together, the three selected offences accounted for 44,384 of the total 116,168 single guilty finding cases completed in 2014-15. The proportion of total guilty cases accounted for by the three offences in each jurisdiction ranged between 21% and 53% with a combined-jurisdiction average of 38%.

Table 3.3. Summary Statistics for Single-Guilty Finding Cases by Provincial/Territorial Jurisdiction, 2014-15.

Province/Territory	Impaired Driving	Theft	Fail to Comply with Order	Total Offences
Yukon	110	10	27	362
Northwest Territories	30	9	74	418
Nunavut	69	8	44	573
British Columbia	774	2,311	1,574	15,313
Alberta	4,494	1,279	3,050	17,642
Saskatchewan	2,655	380	677	8,359
Ontario	8,911	3,178	3,359	39,519
Quebec	3,528	1,753	1,394	23,825
New Brunswick	852	291	248	2,993
Nova Scotia	1,195	333	434	4,364
Prince Edward Island	215	87	25	614
Newfoundland	470	350	186	2,186
Combined-Jurisdiction Total	23,303	9,989	11,092	116,168

3.5.3. Measures of Jurisdictional Consistency in Sentence Outcomes

In keeping with the approach taken in recent research on consistency of sentencing in Canada, this study adopts a conditional comparative approach. Consistency is assessed by comparing the variability of sentencing outcomes conditional on the type of offence. Although a case study of one country that has a uniform set of statutory criminal laws may present a relatively simple comparative scenario, there are still many challenges in selecting appropriate measures. Here two measures commonly used in comparative studies of sentence severity in Canada are employed alongside two variations of these measures designed to detect local patterns of relative utilization.

Custody Rate

In Canada, judges generally have considerable discretion in the type and quanta of sanctions that they may impose, and as a result, outcomes must be distinguished accordingly. As Lynch (1988) observed, “[s]everity has many dimensions. At minimum, a distinction should be made between incarceration and other sanctions that do not deprive citizens of their liberty. Incarceration is a more severe sanction than non-

custodial alternatives” (p.183).¹⁴ Adopting a metric such as the rate of custody per 100,000 residents, however, may not account for differences attributable to earlier stages of criminal case processing (Blumstein, Tonry, & Van Ness, 2005). In all likelihood, regions with higher offending frequencies might also have greater arrest, charge, conviction, and ultimately, sentencing rates. Consequently, such regions might reveal inflated rates of custody use simply because the frequency of crime is greater in those locations. A common solution for this problem is to account for differences in case processing by employing the total number of convictions as the denominator.¹⁵ In the Canadian context, Spratt et al. (2013) recently employed the percentage of all guilty cases that received a prison sentence. When adopting a conditional comparative approach focused on individual offence types, it is essential to further refine that measure to the offence level of analysis. This delineates the first measure of sentence outcome: the percentage of guilty cases that received a prison sentence for a particular offence.

Custody Length

Using a single metric in studies of outcome consistency might end up leading to spurious results because the use of custody is only one dimension of severity. The length of imprisonment sentences is a related but distinct component. If for example, one jurisdiction uses imprisonment less frequently than another yet the lengths of imprisonment handed down are relatively long, would it be accurate to conclude that the jurisdiction is less punitive? Many would argue ‘no’. As a result, multiple measures are generally encouraged to provide the most comprehensive and transparent comparisons.

In the Canadian context, several researchers have recently adopted a metric that accounts for the length of custodial sentences while avoiding shortcomings associated

¹⁴ This is, however, a general statement. It is possible to argue that a very short period of incarceration may be less punitive than a large fine or lengthy non-custodial sentence.

¹⁵ Even the use of convictions to control for earlier case processing differences has considerable limitations. As Frase (2001) noted, differences in screening practices are likely to lead to differences in sentencing outcomes. If for example, a particular jurisdiction used diversion for many of its less-serious offence cases, while another jurisdiction proceeded with litigation, it ought to be expected that the former jurisdiction would have a greater custody-conviction rate. As a solution, Frase (2001) suggested the use of offender-based transaction statistics (OBTS) that follow a case from an early stage through to sentencing. He also cautioned, however, that “even the OBTS ‘idea’ is based on the largely unverifiable assumption that groups of cases identified by arrest charge are similar in different jurisdictions” (p. 19).

with measures of central tendency.¹⁶ Specifically, Doob and Webster (2008), Reid (2014), and Sprott et al. (2013) employed the proportion of guilty cases that receive a relatively long (greater than six-month) custodial sentence. As explained by Sprott et al. (2013), the metric “largely captures the degree to which judges – across jurisdictions – are willing to impose a relatively long provincial prison sentence on those found guilty” (p. 282). This defines the second conventional metric of consistency for the analyses to follow: the proportion of guilty cases that received a sentence of greater than six months for a particular offence.

Multi-level Relative Utilization Quotient

To offer an alternative perspective to these conventional measures, a variant of the crime location quotient may be employed to detect relative patterns in sentencing outcomes. The standard crime location quotient is calculated by the following equation:¹⁷

$$LQC = \frac{C_{in}/C_{tn}}{\frac{\sum_{n=1}^N C_{in}}{\sum_{n=1}^N C_{tn}}}$$

Where C_{in} is a count of crime i in local area n , C_{tn} is the count of all crimes in local area n , and N is all areas under study. In its standard form, however, the crime location quotient is not suitable for cross-jurisdictional sentencing analyses. Because the quotient comprises just two ratios (the numerator capturing the local context of an activity and the denominator capturing the global context of that same activity), it is not able to control for additional factors such as earlier stages of case processing. By failing to account for these earlier stages, the technique would largely be influenced by differences in offending frequency, arrest rates, charging practices, and so on between jurisdictions. Consequently, a multi-level ratio is required. The MRUQ is a double-complex fraction and in the specific context of sentencing consistency, it may be calculated as follows:

¹⁶ As noted by Doob and Webster (2008), measures of central tendency are greatly influenced by extreme scores. This is particularly true with respect to the mean. As a result, very short or very long prison sentences may have a great impact on mean scores.

¹⁷ Adapted from Brantingham and Brantingham (1998, p. 269).

$$MRUQ = \frac{\left(\frac{C_{ijpt} / \sum_i C_{ijpt}}{\sum_j C_{ijpt} / \sum_{ij} C_{ijpt}} \right)}{\left(\frac{\sum_p C_{ijpt} / \sum_{ip} C_{ijpt}}{\sum_{jp} C_{ijpt} / \sum_{ijp} C_{ijpt}} \right)}$$

Where, in the numerator of the double-complex fraction: C_{ijpt} is the count of sanction i for offence type j in province p and time t ; $\sum_i C_{ijpt}$ is the count of all sanctions in offence type j in province p and time t ; $\sum_j C_{ijpt}$ is the count of sanction i in all offence types in province p and time t ; $\sum_{ij} C_{ijpt}$ is the count of all sanctions in all offence types in province p and time t . And, in the denominator of the double-complex fraction: \sum_p is the sum of all provinces.

Although complex in appearance, the MRUQ is simply a series of four successive fractions: two in the numerator that calculate relative sanction use for an offence type in one jurisdiction (local); and two in the denominator that calculate relative sanction use for the same offence type in all jurisdictions (global). Broken down into each fraction, individually:

- a) The numerator in the local portion of the double-complex fraction evaluates the proportion of cases that receive a particular sanction out of the total (guilty) cases for an offence type, within a province/territory;
- b) The denominator in the local portion of the double-complex fraction evaluates the proportion of cases that receive a particular sanction out of the total (guilty) cases for all offence types (combined), within a province/territory;
- c) The numerator in the global portion of the double-complex fraction evaluates the proportion of cases that receive a particular sanction out of the total (guilty) cases for an offence type, within all provincial/territorial jurisdictions (combined); and
- d) The denominator in the global portion of the double-complex fraction evaluates the proportion of cases that receive a particular sanction out of the

total (guilty) cases for all offence types (combined), within all provincial/territorial jurisdictions (combined).

This technique produces a measure that quantifies the under or overrepresentation of sanction use in a particular jurisdiction compared to all jurisdictions. In order to offer alternatives to the conventional measures of consistency defined above, this study employs MRUQs that correspond to those same two measures. To summarize, this study employs the following four metrics to assess relative sentence consistency for three high-volume offence categories across 12 of Canada's provinces/territories:

1. The percent of guilty cases for a particular offence type that receive a custodial sentence;
2. The percent of guilty cases for a particular offence type that receive a custodial sentence of greater than six months;
3. The MRUQ for guilty cases for a particular offence type that receive a custodial sentence; and
4. The MRUQ for guilty cases for a particular offence type that receive a custodial sentence of greater than six months.

3.6. Results and Discussion

3.6.1. Impaired Driving

Figures 3.5 through 3.8 present column charts for the four measures of jurisdictional consistency with impaired driving offences. Considering first, the metric revealing the percent of cases that received a custodial sentence (Figure 3.5), it is readily apparent that there is considerable variation among the provincial/territorial jurisdictions. 11 of the jurisdictions vary between 5% and 17%. Prince Edward Island, however, stands out among all others with a custody percent of 87%. The high percent of custody for this particular offence is a well-documented pattern in Prince Edward Island. In fact, annual *Juristat* reports have long attributed the province's high percent of

overall custody use to the sentencing practices for impaired driving offences (Maxwell, 2015).

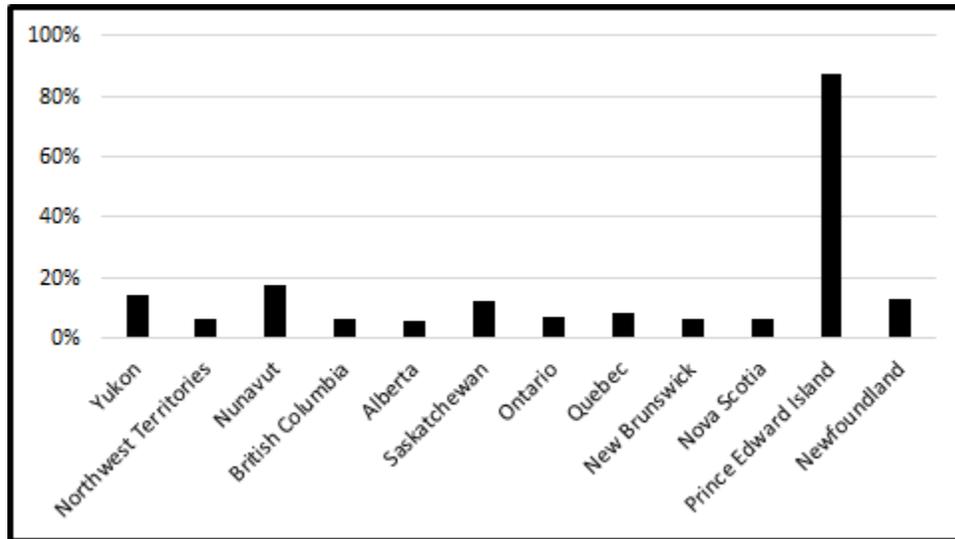


Figure 3.5. Impaired Driving, 2014-15: Percent custody.

Turning to the percent of cases that received custodial sentences of greater than six months (Figure 3.6), a very different pattern is revealed. By this measure, Saskatchewan exhibits the most severe sentencing outcomes (11%), followed by Yukon (10%), Newfoundland (5%), and Quebec and Nova Scotia (each 3%). Northwest Territories, Nunavut, and Prince Edward Island reveal 0% use of custody because no sentences greater than six months were handed down.

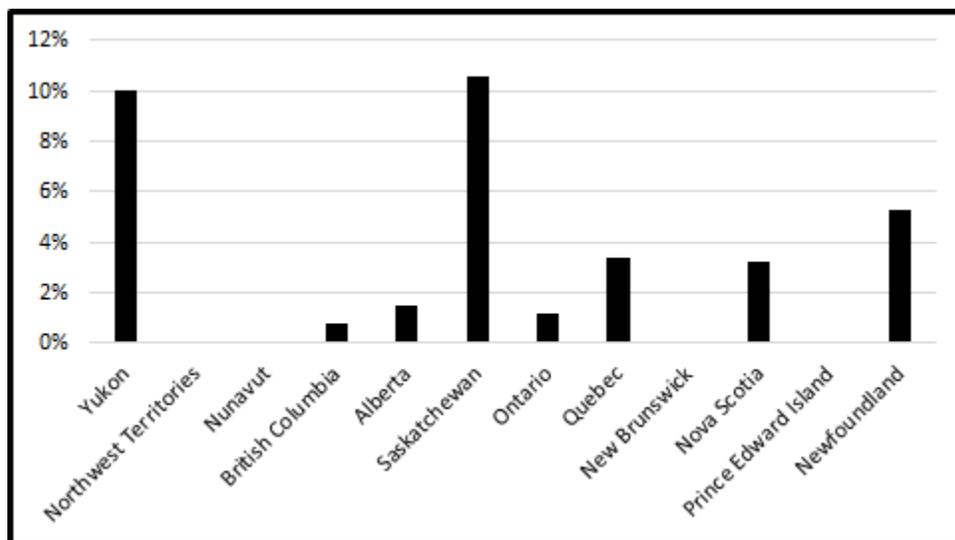


Figure 3.6. Impaired Driving, 2014-15: Percent custody longer than 6 months.

Considering the two conventional metrics together (Figures 3.5 and 3.6), it becomes clear why multiple measures of sentence consistency are necessary. By the percent custody measure alone, it would be easy to conclude that Prince Edward Island maintained the most severe sentencing pattern for impaired driving; its custody rate is 70% greater than any other jurisdiction. By percent long custodial sentences, however, Prince Edward Island would be regarded as among the most lenient jurisdictions with a percent of zero. Together, the two measures provide a more comprehensive understanding about the degree of (in)consistency between jurisdictions but the assessment is still incomplete.

Figures 3.7 and 3.8 provide alternative perspectives to the two conventional measures by reporting results using the MRUQ technique. Figure 3.7 reveals that while Prince Edward Island remains higher (MRUQ = 4.21) than any other jurisdiction for its overall custody use, seven other jurisdictions have MRUQ statistics greater than 1. Similar to the interpretation of standard location quotient statistics, a value of less than 1 indicates underrepresentation while a value of greater than 1 indicates overrepresentation. In other words, a total of eight jurisdictions are found to use custody with impaired driving offences disproportionately more frequently than other offences, compared to the combined 12-jurisdiction average sentencing pattern. More specifically, the relative utilization quotients reveal that Nunavut (MRUQ = 2.13), Newfoundland (MRUQ = 2.06), Saskatchewan (MRUQ = 1.79), Quebec (MRUQ = 1.28), New Brunswick (MRUQ = 1.05), Nova Scotia (MRUQ = 1.03), and Yukon (MRUQ = 1.03) are all found to be overrepresented with respect to their use of custody. This is an important source of inconsistency that was not detected by simply analyzing the percent custody metric alone.

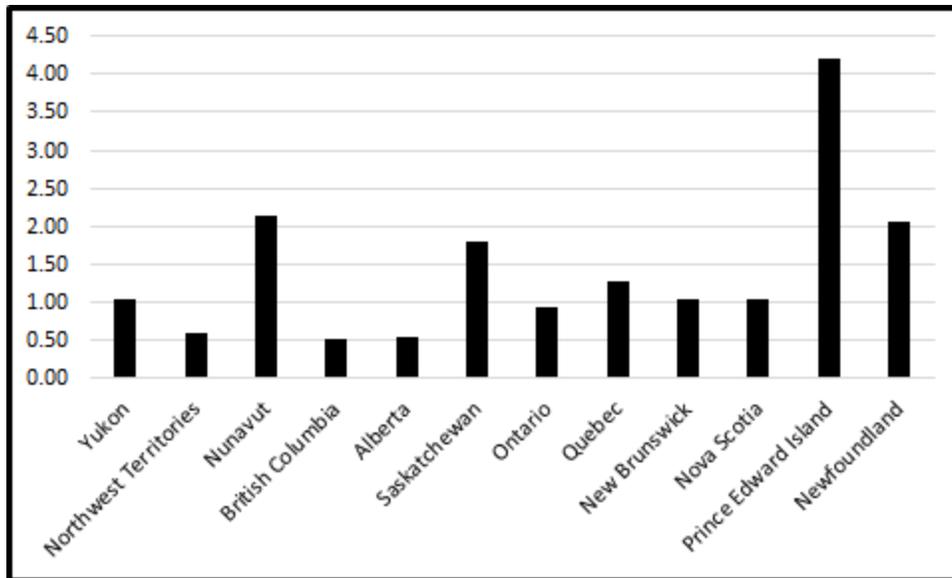


Figure 3.7. Impaired Driving, 2014-15: Relative utilization of custody.

Turning to the MRUQ analyses for longer custodial sentences, Figure 3.8 reveals a column chart that is quite similar in appearance to that shown in Figure 3.6. In fact, the relative ranking of provincial/territorial jurisdictions nearly mimics that detected by the conventional measurement strategy. Nevertheless, the MRUQ technique provides a quantitative measure for the degree of concentration of longer custodial sentences. Specifically, Yukon (MRUQ = 3.76), Newfoundland (MRUQ = 2.77), and Saskatchewan (MRUQ = 2.36) are found to be overrepresented with respect to their use of custodial sentences greater than six months. How overrepresented are they?

Although there is no statistical test that may be used to determine the significance of a relative utilization quotient value, Miller et al. (1991) note that location quotient values less than 0.70 may be interpreted as very underrepresented, values between 0.70 and 0.90 moderately underrepresented, values between 1.10 and 1.30 moderately overrepresented, and values greater than 1.30 very overrepresented. Because the variant of the standard location quotient proposed here is also comprised of a series of ratios, it may be interpreted in the same manner. In other words, Yukon (MRUQ = 3.76), Newfoundland (MRUQ = 2.77), and Saskatchewan (MRUQ = 2.36) all reveal values that would constitute very overrepresented jurisdictions. In contrast, British Columbia (MRUQ = 0.45), Ontario (MRUQ = 0.52), Quebec (MRUQ = 0.66), and Nova Scotia (MRUQ = 0.68) would all be classified as very underrepresented for their use of longer custodial sentences with impaired driving offences.

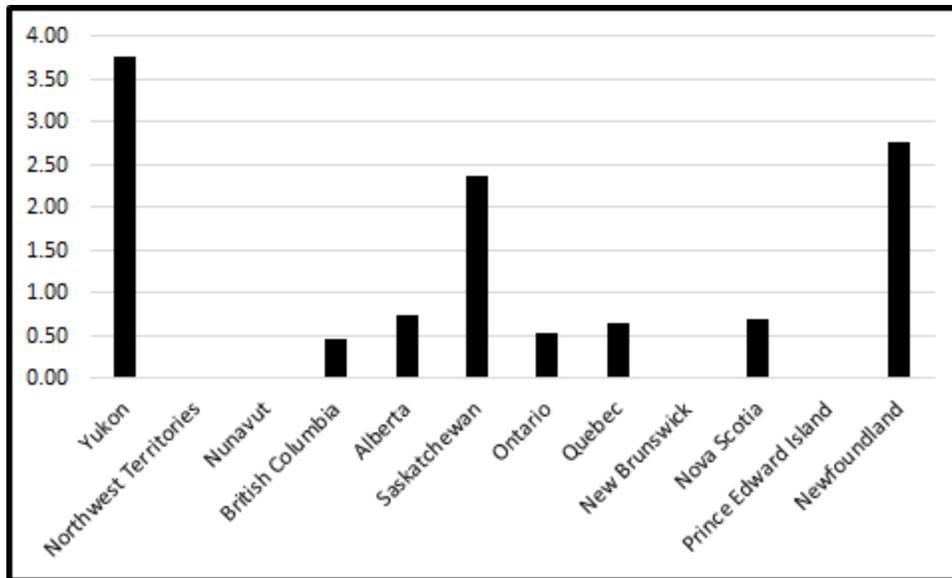


Figure 3.8. Impaired Driving, 2014-15: Relative utilization of custody longer than 6 months.

3.6.2. Theft

Figures 3.9 through 3.12 present results of the conditional comparative analyses for cases of theft completed in 2014-15. By the percent custody measure (Figure 3.9), British Columbia is shown to have the greatest use with 43%. Once again, there is considerable provincial/territorial variation with Newfoundland revealing just 7% and Nunavut 0%. Turning to the percent of cases receiving relatively longer custodial sentences, Figure 3.10 shows that Prince Edward Island is greatly overrepresented with 11%. The next most frequent use of longer custodial sentences is by Quebec (5%) and British Columbia (3%). Four jurisdictions have rates of 0%. Once again, these direct comparisons provide important information about the relative use of custodial sanctions but they fail to capture the extent to which each jurisdiction's sentencing practices are proportionate to the combined-jurisdiction average.

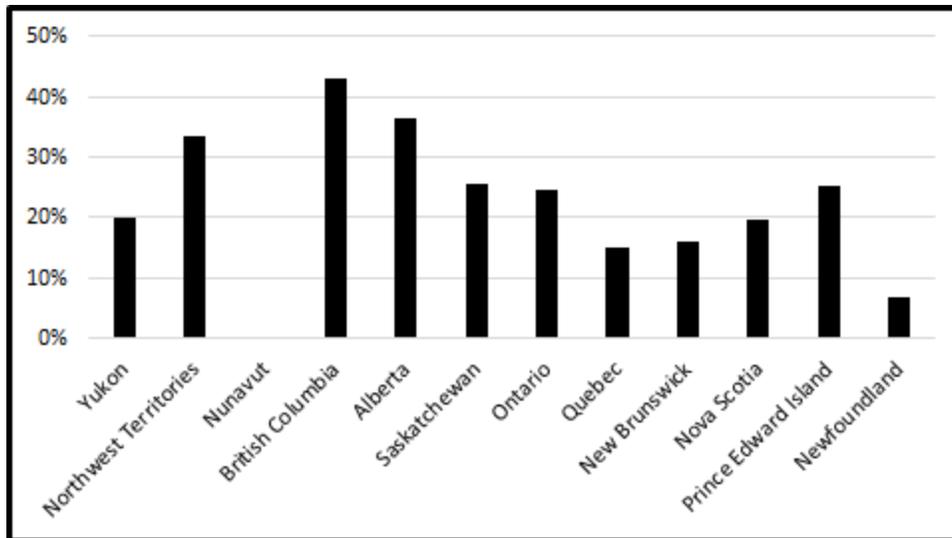


Figure 3.9. Theft, 2014-15: Percent custody.

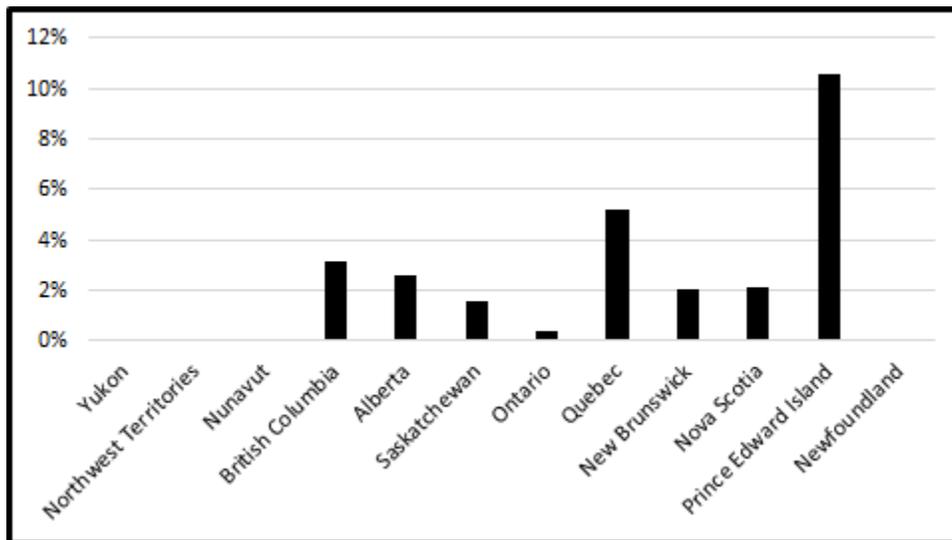


Figure 3.10. Theft, 2014-15: Percent custody longer than 6 months.

The alternative measures of custody use adopting the MRUQ technique are presented in Figures 3.11 and 3.12. Several notable findings are revealed by these calculations. While British Columbia was found to have the greatest use of custody by the direct-comparison strategy (Figure 3.9), it is found to be just slightly overrepresented by the MRUQ measure (MRUQ = 1.01 in Figure 3.11). In other words, although British Columbia may use custody more frequently than any other province/territory for theft cases, the difference between British Columbia's use of custody for theft and all other offences, is almost identical to the difference between theft and all other offences in the combined-jurisdiction average. This is an important source of consistency that would

have certainly gone undetected if it was not for the alternative measurement technique. In contrast, however, Saskatchewan (MRUQ = 1.15) and Alberta (MRUQ = 1.10) are moderately overrepresented in their use of custody, New Brunswick (MRUQ = 0.79) is moderately underrepresented, and Newfoundland (MRUQ = 0.34), Prince Edward Island (MRUQ = 0.38), Yukon (MRUQ = 0.44) and Quebec (MRUQ = 0.68) are very underrepresented. These are important sources of inconsistency that were not detected by the direct, conventional measures.

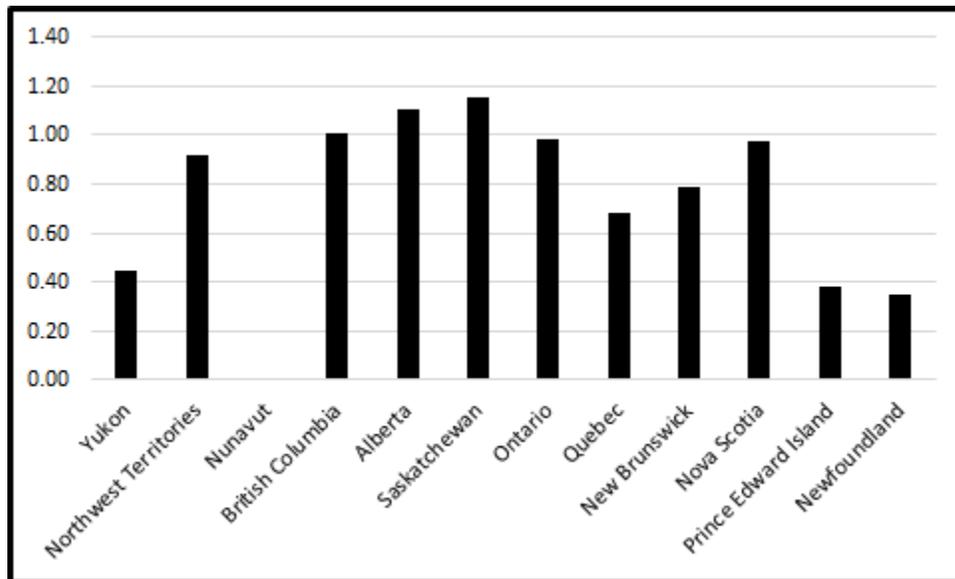


Figure 3.11. Theft, 2014-15: Relative utilization of custody.

Figure 3.12 presents results of the relative utilization quotient analyses for longer custodial sentences. Once again, the use of the MRUQ technique for this category of custodial sanction reveals a visual pattern that is not too dissimilar from the direct-comparative approach. The quantified measurements, however, are able to precisely identify the extent of relative sentence use. Prince Edward Island (MRUQ = 5.31), British Columbia (MRUQ = 1.85) and Alberta (MRUQ = 1.33) are greatly overrepresented while Ontario (MRUQ = 0.18), Saskatchewan (MRUQ = 0.36), Nova Scotia (MRUQ = 0.46) and New Brunswick (MRUQ = 0.60) are greatly underrepresented. It is important to note that without the MRUQ technique, it would not be possible to discern the relationship between each jurisdiction's local sentencing patterns and the global patterns of the combined jurisdictions; it would only be possible to conclude that there were direct differences in the relative use of longer custodial sentences for this particular offence type.

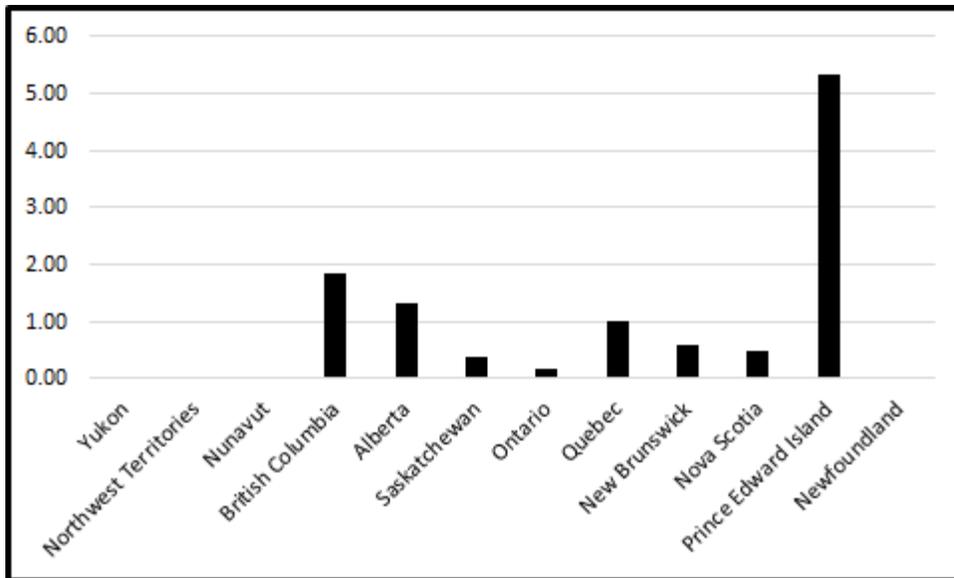


Figure 3.12. Theft, 2014-15: Relative utilization of custody longer than 6 months.

3.6.3. Fail to Comply with Order

Figures 3.13 through 3.16 present the four measures of jurisdictional consistency for fail to comply with order offences. By the standard custody percent (Figure 3.13), Yukon is found to have the most frequent use with 78%. The remaining jurisdictions vary from 32% (Nunavut) to 67% (Prince Edward Island). Figure 3.14 shows that only four jurisdictions registered longer custodial sentences. Saskatchewan had the greatest use with 2.6%, followed by Alberta (1.9%), Ontario (0.8%), and Quebec (0.03%).

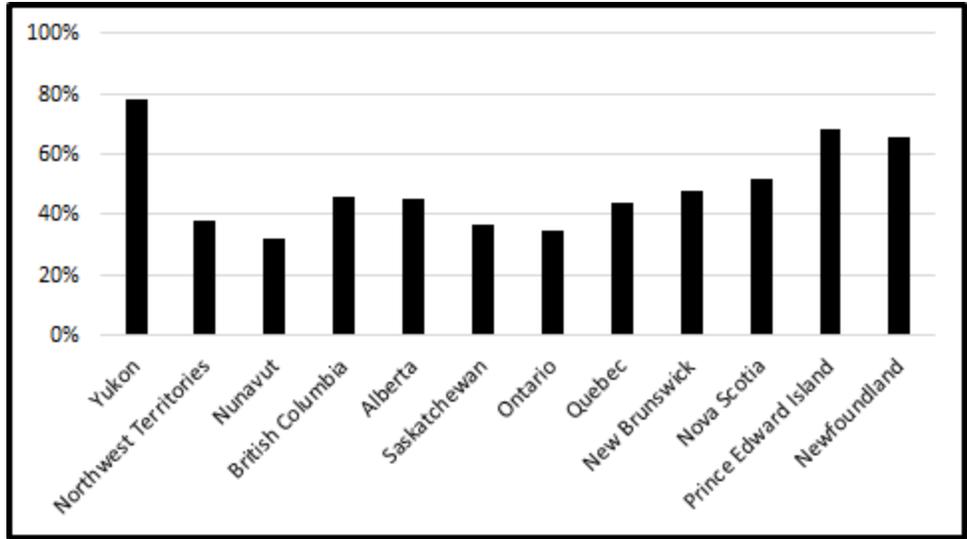


Figure 3.13. Fail to Comply with Order, 2014-15: Percent custody.

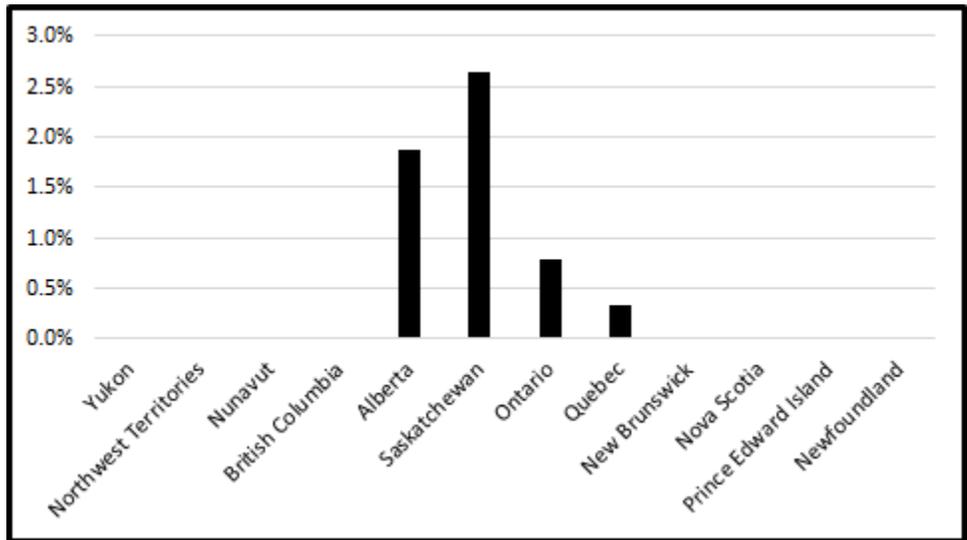


Figure 3.14. Fail to Comply with Order, 2014-15: Percent custody longer than 6 months.

With respect to the relative utilization measure of total custody use, Figure 3.15 identifies Newfoundland (MRUQ = 2.16), Nova Scotia (MRUQ = 1.69), New Brunswick (MRUQ = 1.52) and Quebec (MRUQ = 1.32) as very overrepresented. Although Yukon was found to have the greatest use of custody in a direct comparison of percentages (Figure 3.13), the MRUQ analyses show that it is only moderately overrepresented (MRUQ = 1.13) compared to the combined-jurisdiction sentencing pattern. Consequently, it provides a different conclusion about the extent of consistency found by the conventional measure alone. Also revealing from the MRUQ results is that Prince Edward Island is found to be very underrepresented (MRUQ = 0.67). Even though the

province was found to have the second greatest (67%) use of custodial sentences, that figure is well below what ought to be expected when comparing the relative difference between Prince Edward Island’s use of custody for that particular offence and all other offences, to the difference between fail to comply with order offences and all other offences in the combined-jurisdiction average. This is not only an important finding that confirms the presence of inconsistency, it in fact contradicts the direction of inconsistency likely to be interpreted by the conventional measure.

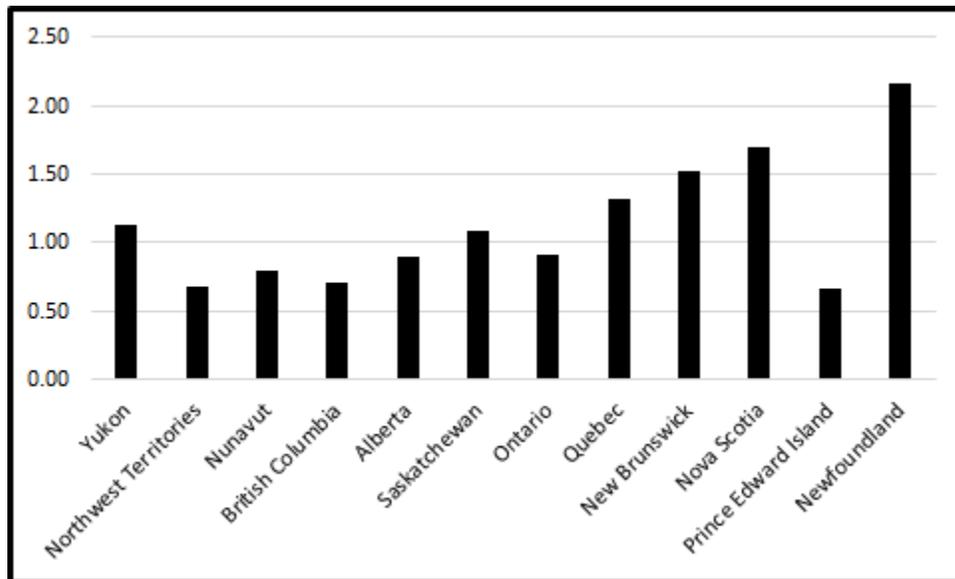


Figure 3.15. Fail to Comply with Order, 2014-15: Relative utilization of custody.

Figure 3.16 shows that Alberta (MRUQ = 3.37) and Saskatchewan (MRUQ = 2.14) are greatly overrepresented, and Ontario (MRUQ = 1.27) is moderately overrepresented for use of custodial sentences greater than six months. On the other hand, Quebec is very underrepresented with an MRUQ of just 0.23. These results once again differ from the direct-comparative measure of longer custodial sentences where Saskatchewan (2.6%) was found to have the most severe pattern, followed by Alberta (1.9%), Ontario (0.8%), and Quebec (0.3%). The MRUQ accounts for the local pattern of sentencing in each of the jurisdictions and quantifies its relative relationship to the pattern of sentencing found in the global context.

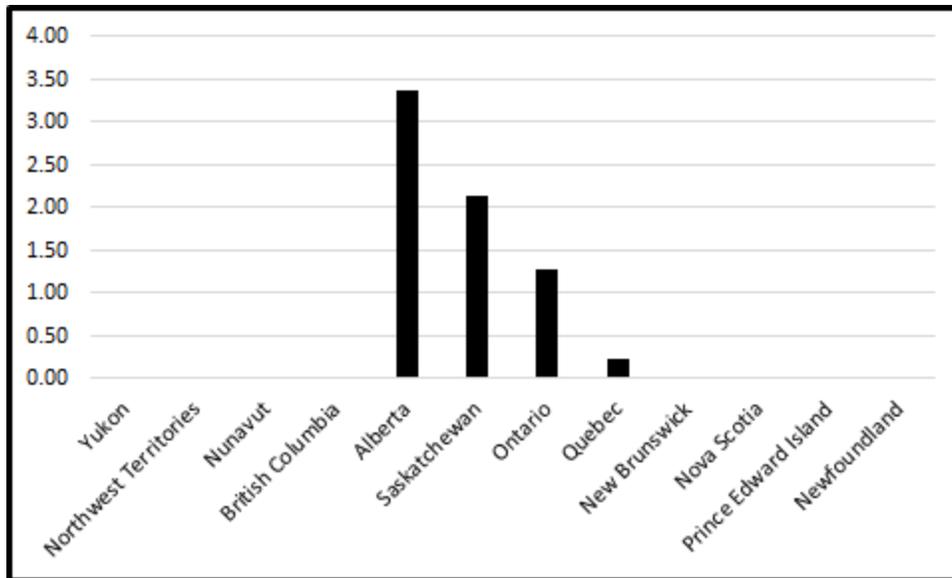


Figure 3.16. Fail to Comply with Order, 2014-15: Relative utilization of custody longer than 6 months.

3.7. Conclusion

Methodological approaches to the study of consistency in sentencing have become more sophisticated in recent years. Researchers now encourage the use of advanced quantitative techniques such as fixed effect, random intercept, and random slope prediction models. While these approaches may be useful for identifying sources of disparities in sentencing outcomes, they have not been recognized for their suitability in cross-jurisdictional comparisons (Pina-Sánchez & Linacre 2016). In addition, sophisticated statistical models rely on detailed datasets that maintain hierarchical structures. For nations with simple observational data structures (including Canada), these approaches are out of reach.

The conditional comparative approach continues to be the most amenable analytic strategy to studying consistency in sentencing outcomes. To date, however, studies employing the conditional comparative approach have been limited to direct comparisons. This study demonstrated that there are more complex patterns of jurisdictional (in)consistency in sentencing outcomes than can be detected by direct-comparative measures, alone. Specifically, direct measures mask the local sentencing patterns that may be developed across different offence types in each jurisdiction. In addition, direct measures fail to reveal how those local sentencing patterns compare to

the global sentencing patterns that form in the broader combined-jurisdiction average. By failing to detect these alternative forms of (in)consistency, an incomplete assessment of sentencing outcomes is all that may be achieved.

In an attempt to improve upon these stated limitations, this study proposed an alternative statistical technique to detect relative sentencing patterns. Specifically, the MRUQ is a derivative of the location quotient that is able to account for the influence of earlier case processing stages known to influence results of sentencing outcome measures. By employing a double-complex fraction, the MRUQ technique was shown to detect and highlight geographic patterns of relative sanction use for a series of individual offences. Importantly, the technique was able to do so without displacing offence-level results.

In some cases, the MRUQ technique revealed patterns in sentence outcomes that closely mimicked the visual depiction of conventional measures. In the impaired driving analyses, for example, the MRUQ measurement of longer custodial sentences revealed a similar relative ranking of provinces and territories to that detected by the standard percent of sentences longer than six months. In those analyses, however, the MRUQ technique was able to quantify the extent of sanction concentration. In fact, the MRUQs precisely calculated how under or overrepresented the longer custodial sentences were in each local geographic area.

In other cases, the MRUQ technique detected patterns of sentencing that provided a completely different perspective. In the analyses for completed cases of theft, British Columbia was found to have the highest custody percent (43%). That figure, however, was found to be nearly representative ($MRUQ = 1.01$) of the combined-jurisdiction average. In other words, the relationship between British Columbia's high percent of custody use for cases of theft and its percent of custody use for other offences, was nearly identical to the relationship between the use of custody in cases of theft and the use of custody in other offences in the remaining (comparator) jurisdictions. This identified an important source of consistency that would otherwise have gone undetected. Even more revealing was the extent of inconsistency that was revealed by the MRUQ technique for the frequency of custody with Fail to Comply with Order offences. In that analysis, Prince Edward Island was found to have the second highest

custody percent (67%) yet surprisingly, that figure was deemed to be very underrepresented (MRUQ = 0.67).

One might assume that the detection of relative patterns such as in the results above, might be a consequential result of the method by which the MRUQ is calculated; if a jurisdiction reveals a positive coefficient in one crime category, it will necessarily reveal a negative coefficient in another category. This, however, is not true. Similar to the location quotient, the MRUQ compares the count of a particular activity in one location to all activities and all locations. As a result, values across the analyses for a jurisdiction will not necessarily sum to a value of one.

Together, the results reported in this study demonstrated that, depending on the metric used, a very different picture concerning the type and extent of (in)consistency in sentencing may be revealed. For this reason, the approach prescribed by Doob and Webster (2008) deserves to be echoed here:

We strongly believe that what is needed to compare sentencing patterns across jurisdictions is a comprehensive picture that does not reduce overall sentencing in a jurisdiction to a single number. Hence we have suggested that there be multiple measures of sentencing patterns and that one should look at all available categories of offences. It is natural – and not necessarily inappropriate – to find that there is some variation in sentencing across jurisdictions. After all, under our current law, judges have to decide, within the context of their own jurisdictions, how serious offences are, and what the goals of sentencing should be in determining the sentence. (p. 3)

For this reason, the MRUQ should not be viewed as a replacement for conventional metrics. Consistent with the conclusions of studies that have employed the location quotient to offer a different perspective on the spatial patterns of criminal events (Andresen, 2007; Brantingham & Brantingham, 1998), the MRUQ should serve as a supplement to conventional metrics. Only by triangulating all relevant perspectives will we be able to obtain the most comprehensive understanding of the phenomenon under study.

The central goal of this study was to propose a new method for studying jurisdictional consistency in sentencing outcomes and employ it in a case study to assess its utility. Although every attempt was made to ensure the integrity of the analyses, there were some important limitations concerning the methodological

approach that deserve to be noted. As Pina-Sánchez and Linacre (2016) acknowledged, conditional comparisons are limited in their ability to account for confounding factors such as the severity of cases and socio-demographic characteristics of different jurisdictions. Consequently, inconsistencies detected between the Canadian provinces/territories may not be due to inconsistent sentencing practices, but rather, may be attributable to differences in caseloads.

In addition, this study employed data from only one fiscal year. While relative utilization quotients are able to detect variation even in the presence of small counts (Andresen, 2007), caution should be exercised in the interpretation of results. Jurisdictions with low counts may be subject to high variability in the frequencies of events. In the current study, some jurisdictions revealed no sentenced cases for a subset of the offence categories selected. Consequently, it was not possible to produce measures for those particular jurisdictions. Adopting a longitudinal approach has been recommended as a solution to small sample size issues (Andresen, 2007); therefore, in order to confirm the specific patterns of (in)consistency found by the analyses here, a longitudinal approach could prove useful in future research.

Finally, it is important to emphasize that while this study compared sentencing outcomes across provincial jurisdictions within a single country, the MRUQ is not limited to this context. The MRUQ may prove useful to researchers conducting comparative cross-national, inter or intra-court, inter or intra-judge, or any other level of spatial/temporal analysis of court processes. Applications of the MRUQ technique should also not be restricted to the fields of spatial crime analysis and legal research. Geographic perspectives offer important ways of studying social phenomena and; therefore, applications of the MRUQ should be considered in other research arenas. It is expected that researchers will find utility in the MRUQ for studying a wide range of issues including remand rates, police clearance rates, correctional release rates, and recidivism rates.

Chapter 4.

Study 3: Detecting Relative Correctional Representation among Aboriginal Offenders in Canada: An Interprovincial Analysis

4.1. Abstract

It is widely recognized that Aboriginal peoples are overrepresented in Canada's criminal justice system – especially in sentenced custody. Aside from basic statistics that document over-incarceration, however, very little research has explored patterns of Aboriginal representation in provincial/territorial correctional programs. The current study employs three measurement techniques to study interjurisdictional patterns of Aboriginal admissions to sentenced custody, probation, and conditional sentence programs. While conventional measures such as the count and percent are found to provide useful information about jurisdictional differences in the use of individual programs, they do not perform well when studying differences between multiple programs. An alternative measurement technique employed here proves more useful. A Multi-level Relative Representation Quotient demonstrated that certain jurisdictions in Canada are disproportionately represented with respect to their use of custodial and community-based forms of correctional supervision with Aboriginal offenders. Among the findings in the study, Quebec was found to be relatively underrepresented in terms of its use of custody. It was also found to be overrepresented for its use of probation and conditional sentences. Conversely, Nova Scotia, Yukon, British Columbia, and Newfoundland were all found to be overrepresented for their use of sentenced custody and underrepresented for community-based sanctions. Implications of these findings for future research and policy development are discussed.

Key words: Aboriginal peoples, sentences, imprisonment, probation, conditional sentence, location quotient

4.2. Introduction

The overrepresentation of Indigenous peoples in correctional systems has been identified in numerous Western countries. Australia, New Zealand, and the United States, for example, have all documented the over-incarceration of Indigenous populations (Australian Government & the Institute of Health and Welfare, 2013; New Zealand, 2015; United States of America, 2016). Despite a number of remedial attempts, the problems in these countries have largely persisted over many years. The Australian Government first recognized the over-incarceration of Aboriginal and Torres Strait Islanders in 1987 (Johnston, 1991). In the years following, a number of diversion programs were developed including alternative sanctions to custody (Australian Government & the Institute of Health and Welfare, 2013). Still, rates of imprisonment among Indigenous peoples rose by 64% between 2000 and 2012 (Australian Government & the Institute of Health and Welfare, 2013, p. 3). The pattern in New Zealand has been much the same. Notwithstanding efforts to reduce Indigenous over-incarceration including the development of community-based sentences and avenues to bring cultural or ethnic background factors into sentencing processes, the proportion of Māori admitted into the prison system increased from 47% to 56% between 1983 and 2013 (New Zealand, 1997; New Zealand, 2015). In the United States, the number of Native Americans in the federal prison system has increased 27% over the past five years (Frosh, 2015, para. 16).

Canada is yet another example of a nation that has revealed a concerning pattern of Aboriginal¹⁸ overrepresentation in its criminal justice system (Balfour, 2013; Canada, 1984; Canada, 1996; Canada, 1988; Jeffries & Bond, 2012; Jeffries & Stenning, 2014; LaPrairie, 1990; Murdocca, 2013; Pelletier, 2001; *R. v. Gladue*, 1999; Roberts & Doob, 1997; Roberts & Melchers, 2003; Roberts & Reid, 2017; Rudin, 2013; Truth and Reconciliation Commission of Canada, 2015; Welsh & Ogloff, 2008; Williams, 2007). The issue of over-incarceration was first officially recognized by the federal government in 1984 (Canada, 1984) and despite a number of efforts to reduce Aboriginal prison admissions, overrepresentation persists as a major problem today

¹⁸ The term 'Aboriginal' is used throughout the remainder of this study as that is the term documented in the *Criminal Code of Canada* and in the data retrieved from the Adult Correctional Services survey.

(Roberts & Reid, 2017).¹⁹ In fact, the Truth & Reconciliation Commission of Canada (2015) recently noted that:

[t]he dramatic overrepresentation of Aboriginal people in Canada's prison system continues to expand. In 1995-96, Aboriginal people made up 16% of all those sentenced to custody. By 2011-12, that number had grown to 28% of all admissions to sentenced custody, even though Aboriginal people make up only 4% of the Canadian adult population. (p. 170)

This prompted the Committee to call upon federal, provincial, and territorial governments to:

- 30) commit to eliminating the overrepresentation of Aboriginal people in custody over the next decade, and to issue detailed annual reports that monitor and evaluate progress in doing so.
- 31) provide sufficient and stable funding to implement and evaluate community sanctions that will provide realistic alternatives to imprisonment for Aboriginal offenders and respond to the underlying causes of offending. (Truth & Reconciliation Commission of Canada, 2015, p. 172-173)

With a newly elected Liberal federal government that is committed to “work[ing] alongside provinces and territories, and with First Nations, the Métis Nation, and Inuit, to enact the recommendations of the Truth and Reconciliation Commission” (Liberal Party of Canada, 2016, para. 1), it is particularly timely for academic research to lay the groundwork by providing baseline information from which progress may be measured against in the future.

Aside from basic statistics that document the proportion of Canada's correctional population that is comprised of Aboriginal offenders, however, very little research has explored Aboriginal representation in correctional programs. This is largely a consequence of limited access to crime and justice data that reliably attribute Aboriginal identity.²⁰ As a result, many important questions remain unanswered in the extant

¹⁹ The clearest example of a remedial attempt to reduce Aboriginal prison admissions came in 1996 with the enactment of Bill C-41. Specifically s. 718.2(e) was introduced into the *Criminal Code of Canada* and stated that “all available sanctions, other than imprisonment, that are reasonable in the circumstances and consistent with the harm done to victims or to the community should be considered for all offenders, with particular attention to the circumstances of Aboriginal offenders”.

²⁰ The only consistent sources of justice data that document Aboriginal identity are the Adult Correctional Services survey (ACS), the Youth Custody and Community Services survey, and the Homicide Survey. These too, however, are very limited in their scope. The ACS, for example,

literature. It is unknown, for example, the extent to which Aboriginal offenders are represented in each sector of the correctional system. Further, the percent of Aboriginal representation in custody is commonly used as a key indicator of the overrepresentation problem and community-based correctional programming options are viewed as positive alternatives, but little attention has been given to the relationship between the use of these programs.

Consequently, a province or territory may show a concerning (i.e., high) percent of Aboriginal sentenced custody, but also reveal high percentages of community-based correctional program use. Such a pattern might indicate problems at earlier stages of criminal case processing leading to high percentages of sentencing for Aboriginal offenders, in general.²¹ It could also indicate problems that extend beyond the criminal justice system entirely (LaPrairie, 1990; Quigley, 1994; Stenning & Roberts, 2001). Conversely, a provincial/territorial jurisdiction may reveal a relatively high Aboriginal sentenced custody percent, yet low percentages of community-based correctional sanctions. Such a pattern could indicate that the sentencing stage is where much of the problem rests.²² In the absence of any detailed examination of these relationships, confounding information is all that will be available to criminal justice policy-makers attempting to identify locations to focus attention for reform. Incomplete information may also make it difficult to measure the impact of reform initiatives over time because multiple variables need to be tracked and compared in order to understand the complete picture.

only provides the total number of offenders sentenced to custody, admitted into remand custody, or entered into a community corrections program (i.e., either probation or a conditional sentence). The only data linked to these variables in the ACS are provincial/territorial jurisdiction and offender identity ('Aboriginal or 'non-Aboriginal').

²¹ In fact, LaPrairie (1990) distinguished between three explanations of Aboriginal overrepresentation in correctional institutions. Specifically LaPrairie (1990) identified: "a) Differential treatment by the criminal justice system [i.e., something different is happening to aboriginal people than to non-aboriginal people in their contacts with the criminal justice system, at police, charging, prosecution, sentencing, and parole decision-making points]; b) Differential commission of crime [i.e, aboriginal people are committing more crime as they have 'non-racial attributes placing them at risk for criminal behaviour.' These attributes could be related to socio-economic marginality and, concomitantly, alcohol abuse]. c) Differential offence patterns [i.e., aboriginal people commit crimes that are more detectable (more serious and/or more visible) than those committed by non-aboriginal people]" (p. 430).

²² Further indication of a problem at this stage of criminal case processing could be demonstrated if Aboriginal offenders were found to be overrepresented in prison admissions, relative to convictions (Stenning & Roberts, 2001).

Conventional descriptive statistics provide important information but, it is argued here, that such techniques are limited in what they are able to reveal. Specifically, counts, percentages and rates offer *direct* measures of representation within individual programs that may be used to make interjurisdictional comparisons. They are not, however, useful for detecting *relative* representation within *multiple* programs in a particular jurisdiction, and comparing those figures across jurisdictions. Fortunately, previous research has demonstrated the utility of relative measurement approaches. What is needed is a simple measurement strategy that is able to highlight the relative representation of Aboriginal offenders' admissions into correctional programs, across provincial/territorial jurisdictions.

Using this argument as a departure point, the current study proposes an alternative measurement technique designed to compare local patterns of correctional program admissions to national patterns of correctional program admissions. More specifically, a double-complex fraction is employed to detect Aboriginal representation in Canada's provincial/territorial sentenced custody, probation, and conditional sentence programs across nine provinces and three territories. The Multi-level Relative Representation Quotient (MRRQ) quantifies the extent to which provinces and territories are (dis)proportionately represented for their patterns of correctional program use with Aboriginal offenders. Together, with two conventional measures (i.e., the count and percent), the technique is aimed at offering a more complete perspective on the use of correctional sanctions with Aboriginal offenders in Canada.

4.3. Relative Measurement Strategies

Relative measurement strategies are not new. In fact, one of the most common measures – the location quotient – has been employed in economic geography and regional economics since the first half of the twentieth century (Miller et al., 1991). Traditionally used to detect specialization of manufacturing/exporting and service-based industries in a region, the location quotient has also proven to be a useful technique for identifying patterns in a wide range of issues related to crime and justice.

In spatial crime analysis, for example, the technique has been used extensively to detect geographic areas where a particular crime type is overrepresented, compared to other locations. Barr and Pease (1990) originally proposed the use of the location

quotient for spatial crime analysis, and Brantingham and Brantingham (1993; 1995; 1998) were the first to employ it in an empirical study. Using crime and population data for 65 municipal police forces across the province of British Columbia, Brantingham and Brantingham (1998) compared the relative ranking of jurisdictions across three different measurements of violent crime. Crime counts tended to identify urban, populous cities as highest ranked, while crime rates tended to identify less populated cities with high crime-to-population ratios. Interestingly, the location quotient identified a set of high-ranking cities that differed from the other measures. The location quotient identified cities where violent crimes were overrepresented within their local areas, compared to the concentration of violent crime across the complete set of jurisdictions (Brantingham & Brantingham, 1998).

In other words, although a particular jurisdiction may have had relatively low violent crime (by count or rate measures), it may also have exhibited disproportionately low crime across the remaining categories of offences. The municipality of Kitimat, for example, was not identified within the top 15 jurisdictions for either count or rate measures. Its location quotient, however, was found to be ranked second. Kitimat's violent crime was detected as overrepresented by the location quotient because it exhibited a greater local concentration of violent crime, compared to the concentration of violent crime in the remaining jurisdictions. This result suggested that residents of Kitimat had an increased risk for violent victimization in their local jurisdiction, even though their general risk for victimization (for any type of crime) was relatively low. Consequently, the location quotient was found to reveal new patterns that, when considered alongside the conventional measures, provided a more complete depiction of crime in the jurisdictions under study.

Since this initial use, many others have demonstrated the value of the location quotient as an exploratory tool in criminal justice studies (Andresen, 2009; Andresen, et al., 2009; Beauregard et al., 2010; Beconyté et al., 2012; Breetzke et al., 2014; Carleton et al., 2014; Groff & McCord, 2012; Ratcliffe & Rengert, 2008; Robinson, 2008). Few, however, have employed relative measures in the socio-legal realm. In fact, only three studies were able to be located in the existing literature. In a study that focused on the relationship between community context and the prosecution of white-collar offenders, Benson et al. (1990) used the location quotient as a method to assess the specialization of local economies. In a very different context, Selya (2012) used the location quotient

as a method to identify nations that were disproportionately overrepresented for human rights violations.

In the most recent application of the relative measurement approach, Reid (2017b) introduced a measurement strategy to detect the disproportionate use of criminal sanctions among cases involving adult offenders in Canada. Modified from the traditional strategy of detecting patterns across geographic jurisdictions, the study demonstrated that the relative measurement approach could be used to detect patterns across non-geographic phenomena. Specifically, Reid (2017b) explored the relative use of sanctions across a series of offence categories. Results of the analyses revealed valuable information about the use of criminal sanctions in Canada.

In particular it was noted that some sanctions, such as the conditional sentence of imprisonment and restitution, were used very infrequently. This was identified by count and percentage measurements for both the general use of the sanctions across all offences, and when considering detailed crime categories, individually. For some specific offence categories, however, the relative measurement strategy revealed a disproportionate use of the sanctions. For example, conditional sentences were found to be greatly over-represented in drug offence cases. Even though the sanction was found to be used in just 15% of such cases, that figure was more than two and half times the general rate of use for the sanction in all other categories of offences. This provided an important perspective for the use of conditional sentences that had previously gone undetected. Similar to the conclusion reached by Brantingham and Brantingham (1998), Reid (2017b) described the relative measurement strategy as a useful addition to, but not replacement for, conventional measurement techniques.

The current study expands the application of relative measurement techniques in the socio-legal realm by returning the relative measurement strategy to a geographic focus. Specifically, this study sets out to explore patterns of Aboriginal representation in three types of correctional programs across Canada's provinces/territories. The objective of this approach is to provide a more complete understanding about interjurisdictional patterns of correctional program use with Aboriginal offenders so that reform initiatives may be developed and deployed effectively.

4.4. Methods

4.4.1. Data

This study draws from the Adult Correctional Services survey (ACS). The ACS maintains the most comprehensive information concerning correctional populations across Canada's provincial/territorial jurisdictions. Data for admissions into custodial and community correctional programs in the most recent year (2014-15) were retrieved for all available provinces and territories. Because no data were available from the province of Alberta, it was excluded from the study. The remaining nine provinces and three territories make up the 12 jurisdictions in the analyses to follow.

The unit of analysis used in this study is admissions into provincial/territorial programs. Although some researchers favour the use of stock data (i.e., actual levels or counts of populations in correctional programs on an average day of the year), the ACS only maintains data on admissions into correctional programs (i.e., flow data).²³ Webster and Doob (2007) explain that correct interpretation is essential when using either stock or flow data because of the dramatic difference that exists between the two types. With respect to prison populations, they noted that: "[t]he enormous difference between 'counts' and 'admissions' largely resides in the large number of offenders who are in prison for very short periods of time (e.g., short sentences, one-day admissions for failure to pay fines, remand, etc.)" (p. 308). Consequently, these data must be interpreted within the context of admissions alone and do not represent a count of offenders in a correctional program on an average day in the year.

There are a few limitations of these data that should be noted. In order to provide measures for Aboriginal admissions into the three correctional programs, it was necessary for Aboriginal identity and non-Aboriginal identity to be documented in the data. Consequently, custody, probation, and conditional sentences where the Aboriginal identity of an offender was 'unknown' were not included. This excluded approximately 2% of total admissions into adult correctional programs. Another limitation is that the ACS does not include additional variables that could allow for a more comprehensive analysis. Although residential population sizes, socio-economic conditions, and a

²³ Webster and Doob (2007) noted that they favour the use of stock data, however, Gartner et al. (2009) subsequently noted that they favour the use of both measures if available.

plethora of other factors are known to play a role in the representation of Aboriginal people in correctional programs, these are not included in the current dataset, nor are they available from another source that may be used in conjunction with the current dataset.²⁴ This limitation is also true for data that report on Aboriginal involvement in other stages of the criminal justice system (e.g., arrests, charges, convictions, etc.). Because Aboriginal identity is not available in data that document activity in these earlier stages, it is not possible to control for the influences of these factors.

4.4.2. Analytic Strategy

This study adopts three measures of correctional representation among Aboriginal offenders; two are conventional measures adopted in previous research (see for example Reitano, 2017; Roberts & Melchers, 2003; Roberts & Reid, 2017) and one provides an alternative perspective that measures the relative representation in correctional programs (i.e., the MRRQ).

Aboriginal Admission Count

In order to provide the most basic, intuitive measure and provide transparency for the analyses conducted, counts of Aboriginal admissions to the three correctional programs are reported in raw form. This serves as the simplest measure, and one that contextualizes the magnitude of Aboriginal involvement in different segments of provincial/territorial correctional systems across the country.

Aboriginal Admission Percent

Percentages are calculated to provide another basic, yet more familiar comparison between the representation of Aboriginal and non-Aboriginal offenders in each of the correctional programs. The percentages report the proportion of Aboriginal offenders that were admitted into a specific correctional program of the total (Aboriginal and non-Aboriginal) offender population. An advantage of this measure is that it allows

²⁴ Although provincial/territorial measures of Aboriginal residential populations are available from the National Household Survey, there are several weaknesses associated with that source of data. As identified by Turner, Crompton, and Langlois (2011), the survey is only conducted every five years. Consequently, populations must be estimated for the years between surveys. In addition, not all “Indian reserves” participate in the National Household Survey as enumeration is not always permitted (Turner et al., 2011, p. 6).

comparisons to known (yet imprecise) estimates of residential population percentages in each of the geographic jurisdictions to better understand the degree of representation.

Aboriginal Admission Relative Representation

To offer an alternative perspective to the conventional measures, a variant of the location quotient is calculated to explore the under and overrepresentation of Aboriginal offenders in each of the three correctional programs. The standard crime location quotient may be evaluated by the following equation:²⁵

$$LQC = \frac{C_{in}/C_{tn}}{\frac{\sum_{n=1}^N C_{in}}{\sum_{n=1}^N C_{tn}}}$$

Where C_{in} is a count of crime i in local area n , C_{tn} is the count of all crimes in local area n , and N is all areas under study. The equation may be evaluated by three simple steps:

1. The count of a particular crime type in one location is divided by the count of all crimes in the same location;
2. The count of a particular crime in all locations is divided by the count of all crimes in all locations; and
3. The quotient obtained in the first step is divided by the quotient obtained in the second step.

In its original form, however, the location quotient is unable to detect relative use of correctional sanctions across jurisdictions. Because the location quotient compares just two ratios – the numerator providing the local context of a phenomenon and the denominator providing the global context of the same phenomenon – it is not able to control for additional variables such as multiple correctional sanction types.

Consequently, in the context of the current study, a double-complex fraction is required.

The MRRQ proposed here, may be evaluated by the following equation:

²⁵ Adapted from Brantingham and Brantingham (1998, p. 269).

$$MRRQ = \frac{\left(\frac{C_{ghpt} / \sum_g C_{ghpt}}{\sum_h C_{ghpt} / \sum_{gh} C_{ghpt}} \right)}{\left(\frac{\sum_p C_{ghpt} / \sum_{gp} C_{ghpt}}{\sum_{hp} C_{ghpt} / \sum_{ghp} C_{ghpt}} \right)}$$

Where, in the numerator of the double-complex fraction: C_{ghpt} is the count of offender group g (Aboriginal offenders) in correctional program h in province p and time t ; $\sum_g C_{ghpt}$ is the count of all offenders (Aboriginal and non-Aboriginal) in correctional program h in province p and time t ; $\sum_h C_{ghpt}$ is the count of offender group g (Aboriginal offenders) in all correctional programs in province p and time t ; $\sum_{gh} C_{ghpt}$ is the count of all offenders (Aboriginal and non-Aboriginal) in all correctional programs in province p and time t . And, in the denominator of the double-complex fraction: \sum_p is the sum of all provinces.

Although complex in appearance, the MRRQ is simply a series of four consecutive fractions: two in the numerator that evaluate the representation of Aboriginal offenders in a correctional program in one province (local); and two in the denominator that evaluate the representation of Aboriginal offenders in the same correctional program in all provinces (global). Broken down for each fraction, individually:

- a) The numerator in the local portion of the equation evaluates the proportion of Aboriginal admissions into a particular correctional program of the total (Aboriginal and non-Aboriginal) admissions into that same program, for one province/territory;
- b) The denominator in the local portion of the equation evaluates the proportion of Aboriginal admissions into all correctional programs of the total (Aboriginal and non-Aboriginal) admissions into all correctional programs, in the same provincial/territorial jurisdiction;
- c) The numerator in the global portion of the equation evaluates the proportion of Aboriginal admissions into a particular correctional program of the total

(Aboriginal and non-Aboriginal) admissions into all correctional programs, for all provinces/territories; and

- d) The denominator in the global portion of the equation evaluates the proportion of Aboriginal admissions into all correctional programs of the total (Aboriginal and non-Aboriginal) admissions into all correctional programs, for all provincial/territorial jurisdictions.

Although similar to the location quotient, the additional fractions necessitate further steps for calculation. Here, seven successive steps may be followed to evaluate the MRRQ:

1. The count of Aboriginal admissions into a particular correctional program in one province/territory (dividend) is divided by the count of all (Aboriginal and non-Aboriginal) admissions into the same correctional program in the same province/territory (divisor);
2. The count of Aboriginal admissions into all correctional programs in one province/territory (dividend) is divided by the count of all (Aboriginal and non-Aboriginal) admissions into all correctional programs in the same province/territory (divisor);
3. The count of Aboriginal admissions into a particular correctional program in all provinces/territories (dividend) is divided by the count of all (Aboriginal and non-Aboriginal) admissions into the same correctional program in all provinces/territories (divisor);
4. The count of Aboriginal admissions into all correctional programs in all provinces/territories (dividend) is divided by the count of all (Aboriginal and non-Aboriginal) admissions into all correctional programs in all provinces/territories (divisor);
5. The quotient obtained from step one (1) is divided into the quotient obtained from step two (2);
6. The quotient obtained from step three (3) is divided into the quotient obtained in step four (4); and

7. The (local) quotient obtained from step five (5) is divided into the (global) quotient obtained in step six (6).

In other words, the local ratio (calculated in step five [5]) produces a measure of the extent to which Aboriginal offenders are represented in a particular correctional program in one province. The global ratio (calculated in step six [6]) produces a measure of the extent to which Aboriginal offenders are represented in a particular correctional program across all provinces and territories.²⁶ By dividing the local quotient into the global quotient, a measure of representation that compares each province to the provincial/territorial average is obtained. This measure will determine if a province or territory has a lower, equal, or higher proportion of Aboriginal offenders in a particular correctional program, than the national proportion of Aboriginal offenders in that correctional program.

To recap, the following three measures were used to calculate Aboriginal offender representation in sentenced custody, probation, and conditional sentence programs across Canada's provinces and territories:

1. The count of Aboriginal admissions;
2. The percent Aboriginal admissions of total (Aboriginal and non-Aboriginal) admissions; and
3. The relative representation of Aboriginal admissions in correctional programs in one province/territory, compared to the Aboriginal admissions in correctional programs in all provinces/territories.

4.5. Results and Discussion²⁷

4.5.1. Sentenced Custody

Figures 4.1 through 4.3 present results of the three measures assessing Aboriginal representation in provincial/territorial sentenced custody in 2014-15. The

²⁶ This particular quotient remains constant for all calculations of a particular correctional program.

²⁷ Refer to Table A.1 in Appendix A for detailed statistics of all measurements across the three correctional programs and 12 jurisdictions.

results are presented in column charts with the 12 jurisdictions aligned in geographical order from west to east, beginning with the northern territories and followed by the provinces. The first measure – the raw count of Aboriginal admissions – is reported in Figure 4.1. Counts range from a low of 19 in Prince Edward Island to a high of 4,758 in Manitoba. By itself, the count reveals that Aboriginal representation in sentenced custody varies considerably across Canada’s provinces/territories. Without further context, however, the count is of little value in assessing differences in representation between Aboriginal and non-Aboriginal offenders.

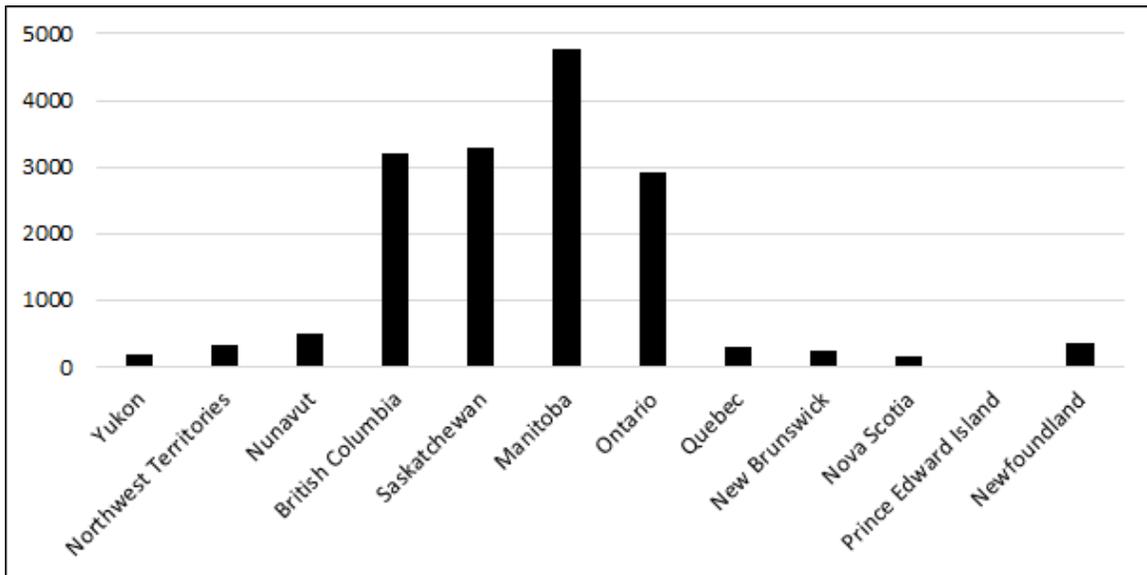


Figure 4.1. Aboriginal admissions to provincial/territorial sentenced custody, 2014-15: Count.

To a great extent, provinces shown to have elevated Aboriginal offender admissions, are the same as those that have been found to have high counts of total sentenced custody admissions (see for example Reitano, 2016; Roberts & Reid, 2017). A notable exception is the province of Quebec which had the second highest total count (10,290) of admissions to sentenced custody in 2014-15 (Reitano, 2016), yet is among the lowest in terms of its count (322) of Aboriginal admissions shown here. Also noteworthy is that Ontario has been found to have more than double the count (24,845) of total admission to sentenced custody than any other jurisdiction in Canada (Reitano, 2016), yet is found to have a count (2,922) of Aboriginal sentenced admissions that is less than Manitoba (4,758), Saskatchewan (3,304), and British Columbia (3,193).

For a different perspective, Figure 4.2 shows the percent of total sentenced custody that Aboriginal offenders represent in each jurisdiction. This measure provides further context to the issue of overrepresentation. Provinces such as Prince Edward Island, Quebec, Nova Scotia, New Brunswick and Ontario, that have relatively small ratios of Aboriginal-to-non-Aboriginal residential populations, are shown to be ranked low. Conversely, Nunavut, Northwest Territories, Yukon, Saskatchewan and Manitoba all have relatively higher ratios of Aboriginal-to-non-Aboriginal residential populations and are found to be ranked highest here. In other words, a province such as Ontario, which had the fourth most Aboriginal offender admissions by count (2,922), is found to be eighth in terms of its percent (12%) because it also has a large count of non-Aboriginal offenders admitted to sentenced custody.

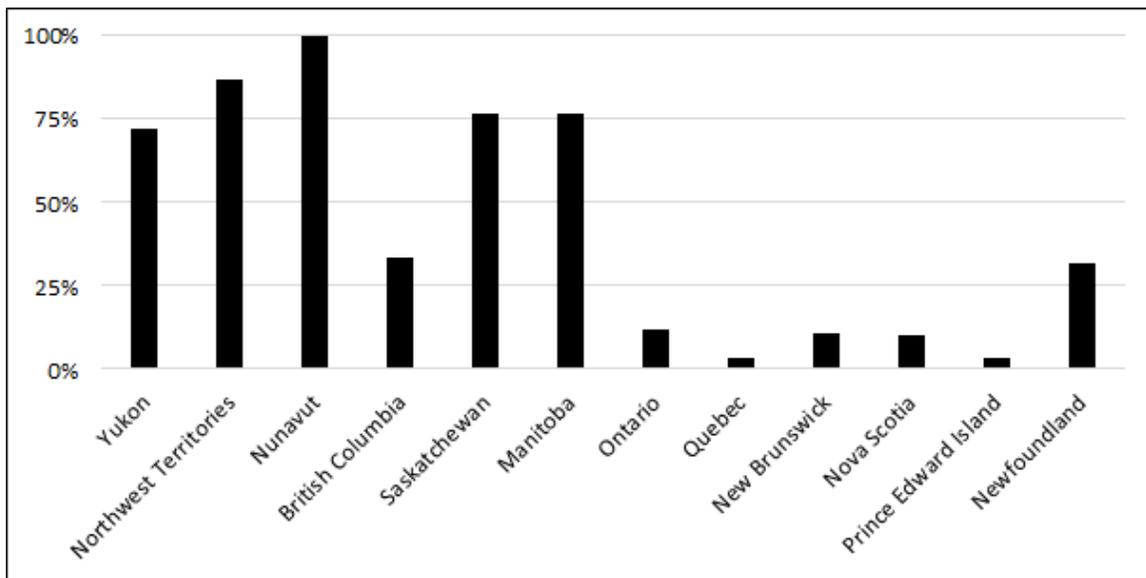


Figure 4.2. Aboriginal admissions to provincial/territorial sentenced custody, 2014-15: Percent.

It is important to note that the percentage only accounts for the total admissions to custody for Aboriginal and non-Aboriginal offenders. It does not account for differences in the residential populations of Aboriginal peoples in the corresponding jurisdictions. A province such as Ontario, which is found to have a relatively low percent (12%) of Aboriginal sentenced custody (compared to seven other provinces), would still be considered greatly overrepresented in a comparison to accurate Aboriginal residential population figures in the province. To provide an imperfect comparison, Aboriginal peoples accounted for approximately 2.4% of the total population of Ontario in 2011 while Aboriginal sentenced custody admissions accounted for 12% of the total offender

population in 2014-15 (Turner et al., 2015, Table 2).²⁸ In fact, based on the 2011 residential population figures, all 12 jurisdictions would be found to have an overrepresentation of Aboriginal offenders in sentenced custody. At the low end of the spectrum, Quebec was found to have 3% Aboriginal sentenced custody. In 2011, however, just 1.8% of its residential population identified as Aboriginal (Turner et al., 2015, Table 2).²⁹ At the opposite end of the spectrum, Nunavut was found to have the highest percent of Aboriginal sentenced custody (100%). In 2011 its Aboriginal population accounted for just 86% (Turner et al., 2015, Table 2).

Together, the count and the percent provide useful, yet limited ways of comparing Aboriginal representation in sentenced custody across provincial/territorial jurisdictions. In order to better understand how the use of sentenced custody compares to other correctional sanctions, an alternative perspective may be offered. Figure 4.3 presents results of the relative representation analyses using the MRRQ technique. Compared to the count and the percent, variation among the jurisdictions is not as pronounced with most provinces/territories hovering close to the value of 1. This indicates that local patterns of Aboriginal representation in sentenced custody are similar to national patterns of Aboriginal representation in sentenced custody.

²⁸ This is identified as an imperfect comparison because the population and sentencing data were not measured in the same year. The population data were retrieved from the 2011 federal census, while the sentencing data were retrieved from the ACS in 2014-15.

²⁹ Not all provinces have historically reported an overrepresentation of Aboriginal offenders in their prison systems. In fact, in 1995, Aboriginal offenders in Quebec represented just 1% of admissions to custody (Stenning & Roberts, 2001, p. 142). Stenning and Roberts (2001) note that the date of this provincial variation in the data coincides with the federal *Criminal Code* amendments that introduced the Aboriginal sentencing provision documented in s. 718.2(e): "all available sanctions, other than imprisonment, that are reasonable in the circumstances and consistent with the harm done to victims or to the community should be considered for all offenders, with particular attention to the circumstances of Aboriginal offenders". In other words, in 1995, there was insufficient evidence that Aboriginal over-incarceration was present in every jurisdiction of the country yet national legislation to remedy the problem was introduced.

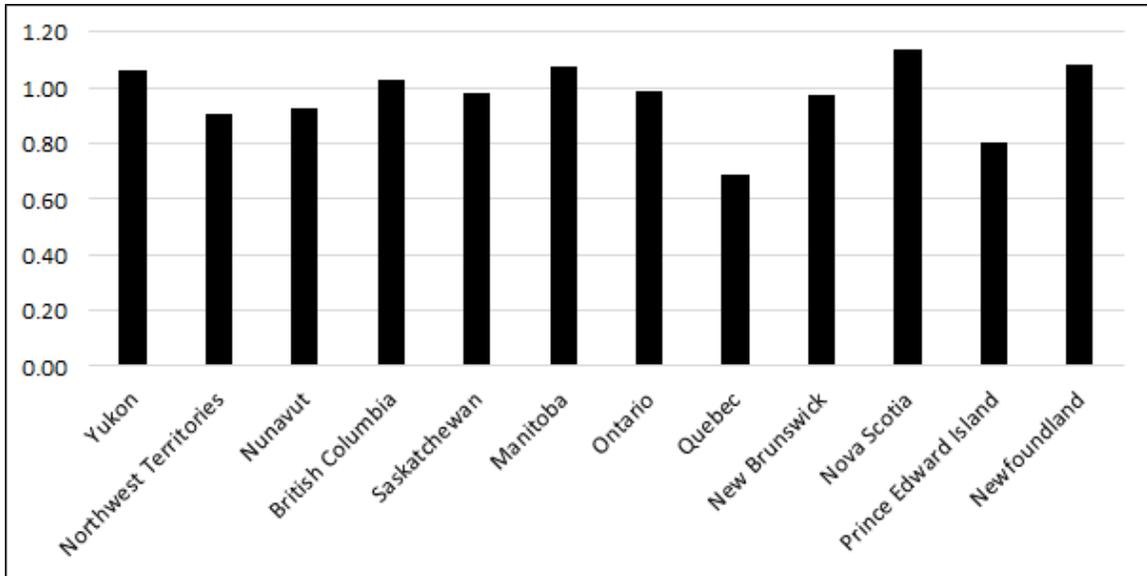


Figure 4.3. Aboriginal admissions to provincial/territorial sentenced custody, 2014-15: Relative representation.

One major exception to this is the province of Quebec. Quebec is found to be considerably underrepresented compared to the other provinces/territories. Specifically, Quebec has a MRRQ value of 0.69. Although there is no statistical test to determine the statistical significance of a relative measurement value, Miller et al. (1991) delineated a useful framework for assessing relative ratios. Values less than 0.70 may be interpreted as very underrepresented, values between 0.70 and 0.90 moderately underrepresented, values between 1.10 and 1.30 moderately overrepresented, and values greater than 1.30 very overrepresented. In other words, Quebec's value of 0.69 means its local concentration of Aboriginal representation in sentenced custody is very underrepresented compared to the degree of concentration found in the jurisdiction average. It is also worth noting that Prince Edward Island is moderately underrepresented with a value of 0.80, and Nova Scotia is moderately overrepresented with a value of 1.14.

These findings demonstrate the advantage of adopting relative measurements in comparative analyses. Notwithstanding the lower counts of custodial admissions in Yukon (185), New Brunswick (246), Nova Scotia (172), and Prince Edward Island (19), and the same percent as Prince Edward Island (3%), Quebec is found to be noticeably underrepresented. This is because the use of probation and conditional sentences are factored into the equation at both the local and global levels of analysis. Conversely, although Nova Scotia has a very low count (172) and percent (10%), the MRRQ

analyses reveal that custody use with Aboriginal offenders is disproportionately overrepresented in that province (MRRQ=1.14).

4.5.2. Probation

Figures 4.4 through 4.6 present results of the three measures assessing Aboriginal representation in provincial/territorial probation programs. Once again, the counts reported in Figure 4.4 provide the most basic context of Aboriginal representation. Here, however, they also serve as a useful comparison to the counts of sentenced custody. Consistent with the representation shown in Figure 4.1, counts reveal considerable variation among provinces and territories. Prince Edward Island exhibits the lowest count with 16 admissions, and Manitoba reveals the greatest count with 4881 admissions. There are, however, some changes to the ranked order of the remaining jurisdictions when comparing sentenced custody to probation. While Saskatchewan (3,304) was ranked second and British Columbia (3,193) third for counts of custody, Ontario (2,796) is ranked second and Saskatchewan (2,767) third for counts of probation. Many other jurisdictions also change their relative ranking between the correctional program types.

A different way of comparing the results of sentenced custody and probation, however, is by considering differences between the two counts corresponding to each jurisdiction. With the exception of Manitoba (4,881) and Quebec (463), all provinces report greater counts of admissions to sentenced custody than admissions to probation. In some provinces, the differences between counts are not inconsequential. In Nunavut for example, there was close to four times as many Aboriginal admissions to custody (504) as there were admissions to probation programs (134). That is a concerning pattern given that probation is the most frequently used sanction in the country, in general (Maxwell, 2015). For many of the provinces analysed here, that does not hold true for the sentencing of Aboriginal offenders.

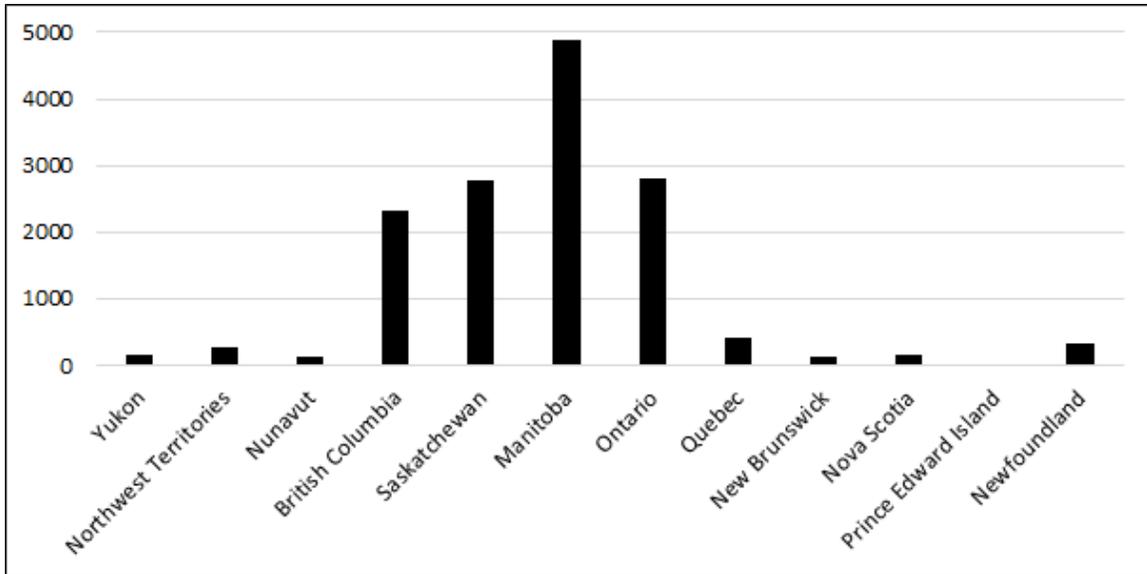


Figure 4.4. Aboriginal commencements of probation, 2014-15: Count.

Figure 4.5 reports percentages of Aboriginal representation in provincial/territorial probation programs. Although there are differences in the magnitudes of the percentages reported, the general pattern across the jurisdictions is very similar to that of sentenced custody depicted in Figure 4.2. In fact, with the exception of British Columbia and Newfoundland switching from seven to six and six to seven, respectively, the rank order of the provinces is the same. Once again, Nunavut is found to have the greatest proportion with 100% Aboriginal representation, and Quebec is found to have the lowest with just less than 5%. These results are largely consistent with previous research that has documented percentages of Aboriginal admission to probation programs in Canada (Perreault, 2009, p. 21).

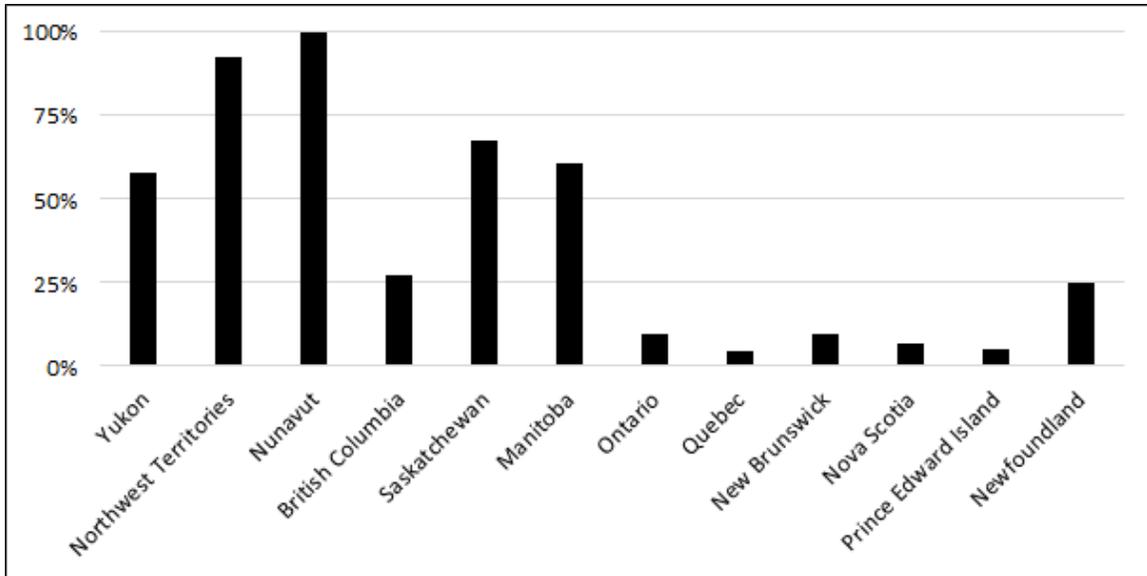


Figure 4.5. Aboriginal commencements of probation, 2014-15: Percent.

Without accurate residential population figures to contextualize the percentages, it is difficult to know the extent to which Aboriginals are overrepresented in this particular correctional program. Given the similarities between percentages reported in Figure 4.2 and 4.5, however, it is safe to conclude that Aboriginal offenders are overrepresented in each provincial/territorial jurisdictions for admissions to probation programs. Once again, the count and percent are limited in what they are able to reveal about interjurisdictional patterns of probation use with Aboriginal offenders.

For an alternative perspective, Figure 4.6 presents results of the relative representation measurement approach. Similar to the presentation in Figure 4.3, the chart reveals little variation with most values close to 1. For this correctional program, Nova Scotia is found to have the lowest value (MRRQ=0.92). With only minimal deviation from 1, however, it would not be accurate to conclude that Nova Scotia was even moderately underrepresented. In contrast, Prince Edward Island and Quebec are found to be very overrepresented and moderately overrepresented with values of 1.22 and 1.37, respectively. In other words, after factoring in the local patterns of correctional program use and comparing them to the global pattern of all jurisdictions combined, Prince Edward Island and Quebec are found to use probation disproportionately greater than any other province or territory.

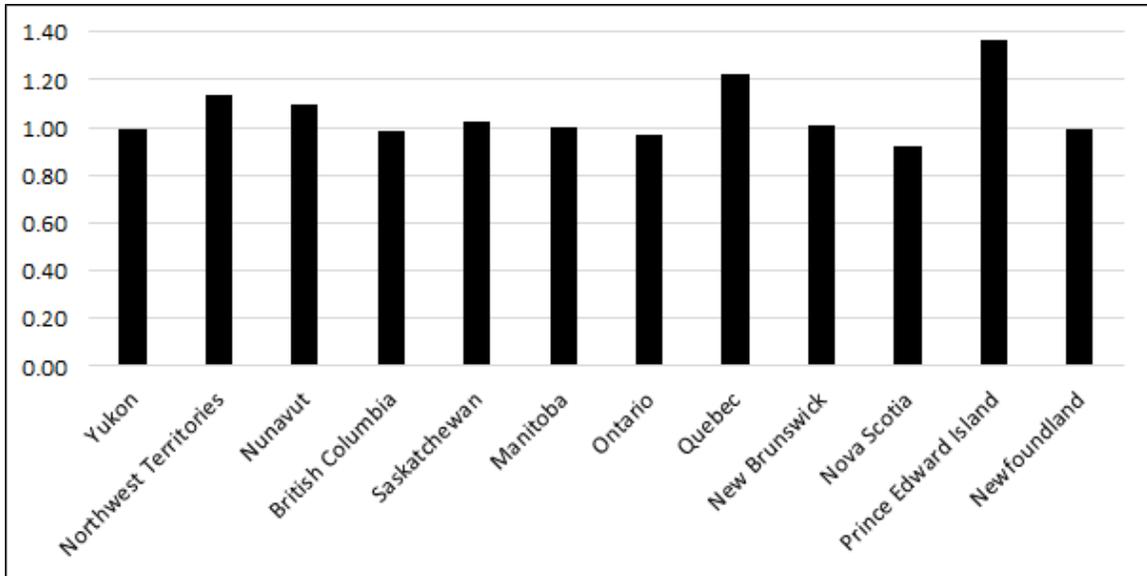


Figure 4.6. Aboriginal commencing of probation, 2014-15: Relative representation.

With probation being one of two community-based forms of sentenced correctional supervision in Canada, these results provide important information about the sentencing practices in these provinces. When considering the results reported in Figures 4.3 and 4.6 together, for example, Quebec is underrepresented for sentenced custody and overrepresented for probation. The same is also true for Prince Edward Island. In other words, both provinces have lower tendencies to use sentenced custody and higher tendencies to use probation among Aboriginal offenders. Conversely, British Columbia, Nova Scotia, and Newfoundland are all overrepresented for their use of sentenced custody (1.03, 1.14, and 1.08, respectively), and underrepresented for their use of probation (0.99, 0.92, and 0.99, respectively).

4.5.3. Conditional Sentence of Imprisonment

Figures 4.7 through 4.9 present results of the three measures assessing Aboriginal representation in provincial/territorial conditional sentence of imprisonment programs. Figure 4.7 reveals that counts of commencements on conditional sentences are considerably lower than either sentenced custody or probation. In fact, half (i.e., 6) of the provincial/territorial jurisdictions reveal counts less than 100 and Prince Edward Island is found to allocate no conditional sentences to Aboriginal offenders. The low frequency of this sanction has been documented in several previous studies (McLellan, 2011; Reid, 2017a; Roberts & Gabor, 2003), and may be explained by the legislative

statements that restrict its use. When it was introduced in 1996, the conditional sentence of imprisonment

was not intended to be a novel way for judges to respond to the broad pool of offenders; the conditional sentence was intended only to be used in place of a term of institutional imprisonment of less than two years when it was deemed safe and suitable to do so. (Reid, 2017a, p. 3)

Consequently, among other restrictions, the decision to imprison an offender for a period of less than two years must first be made before the option of imposing a conditional sentence becomes available to the sentencing judge.

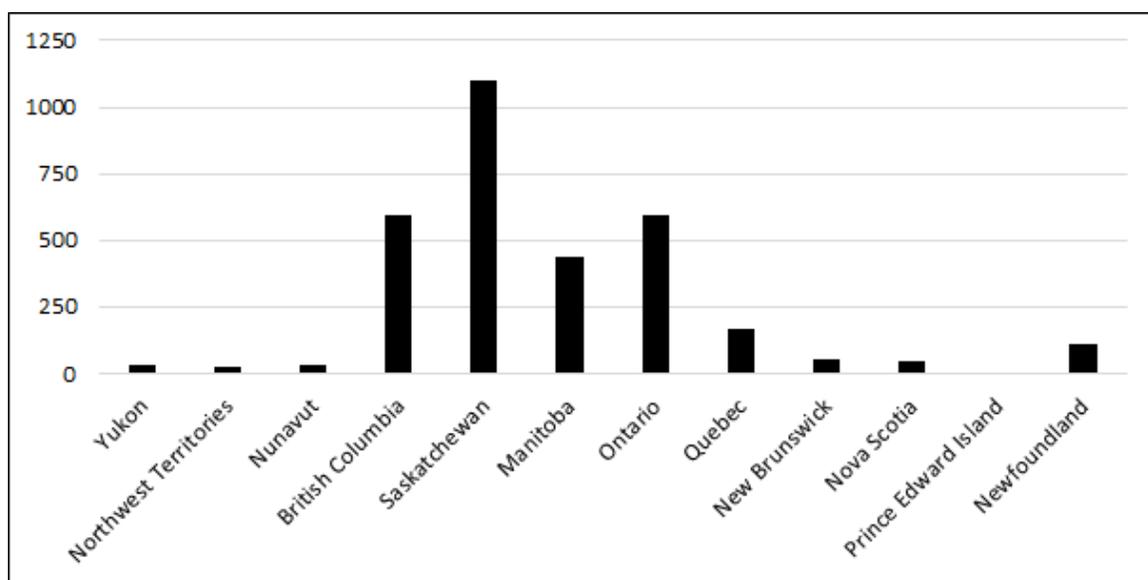


Figure 4.7. Aboriginal commencements of conditional sentences, 2014-15: Count.

There are also some notable changes to the rank order of jurisdictions when comparing counts shown in Figures 4.7, Figure 4.1, and 4.4. While Manitoba was found to have the greatest number of Aboriginal admissions to sentenced custody and probation, it used fewer conditional sentences than Saskatchewan and British Columbia in 2014-15. In addition, British Columbia and Ontario are ranked second and third for the count of conditional sentences, respectively, while they were ranked lower for counts of both sentenced custody and probation.

Despite these differences, the percentages shown in Figure 4.8 reveal a very similar pattern to those shown for the two previous correctional program types. Nunavut remains ranked first with 100% of its conditional sentences allocated to Aboriginal

offenders, and Prince Edward Island, Quebec, Nova Scotia and New Brunswick are all ranked among the lowest. In fact, it would be difficult to identify differences between the three percentage charts (Figures 4.2, 4.5, and 4.8) based on the visual representations alone. This is one of the challenges in relying solely on conventional approaches that provide direct measures – they may not be able to reveal important variation that exists across multiple dimensions of the problem under study.

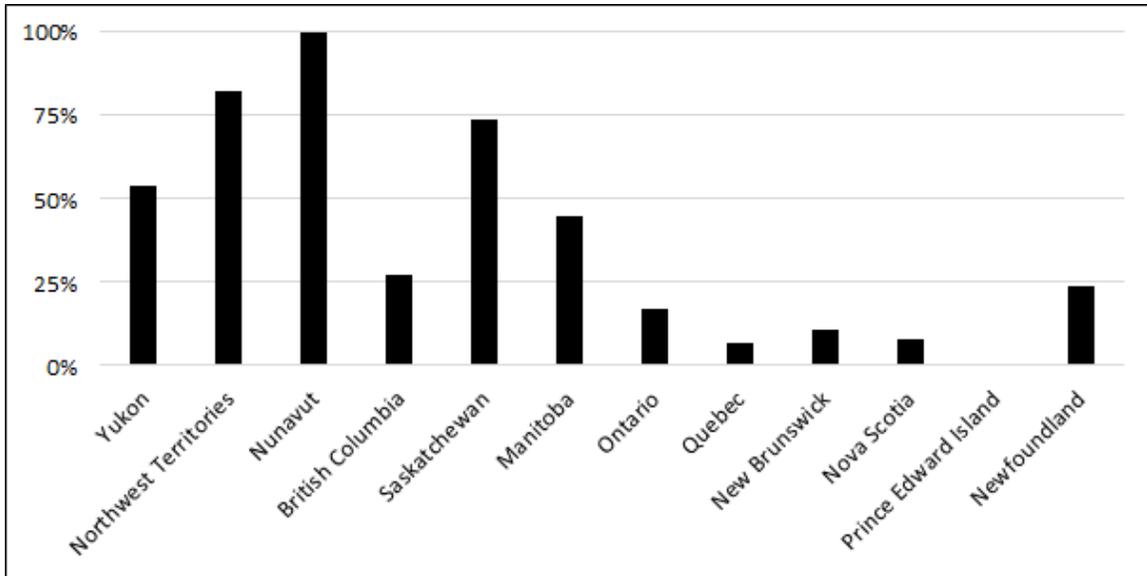


Figure 4.8. Aboriginal commencements of conditional sentences, 2014-15: Percent.

Figure 4.9 presents results of the relative representation measures for Aboriginal conditional sentences. Although somewhat similar to the pattern depicted in Figure 4.6, there are important differences in the results for this correctional program category. Specifically, Prince Edward Island is ranked lowest because it had a count of zero admissions. In addition, Ontario is also found to be very overrepresented in this category while it was underrepresented in the previous two analyses of relative representation. Interestingly, Quebec is the only other province that is found to be overrepresented. It may, however, be interpreted as very overrepresented for conditional sentence use among Aboriginal offenders as its MRRQ value is 1.56.

These results are consistent with those found in a recent analysis of trends in the use of conditional sentences across a subset of Canada’s provinces and territories. Employing a technique that calculated the differential use of conditional sentences between Aboriginal and non-Aboriginal offenders, Reid (2017a) found considerable

differences between jurisdictions. In Quebec, Aboriginal offenders consistently received conditional sentences in far greater proportion to non-Aboriginals. In fact, in 2011-12 the proportion of Quebec’s imprisonment sentences that would be served in the community was 10% greater for Aboriginal offenders compared to non-Aboriginal offenders. In 2002-03, the proportion was 24% greater for Aboriginals compared to non-Aboriginal offenders (Reid, 2017a, p. 12). In Manitoba, the opposite pattern was found. The least amount of variation in the trend was found in 2000-01 where the proportion of conditional sentences handed down for Aboriginal offenders was 9% less than that used with non-Aboriginal offenders. The greatest amount of variation in the trend was found in 2010-11 where Aboriginal offenders received 24% fewer conditional sentences compared to non-Aboriginal offenders (Reid, 2017a, p. 14).

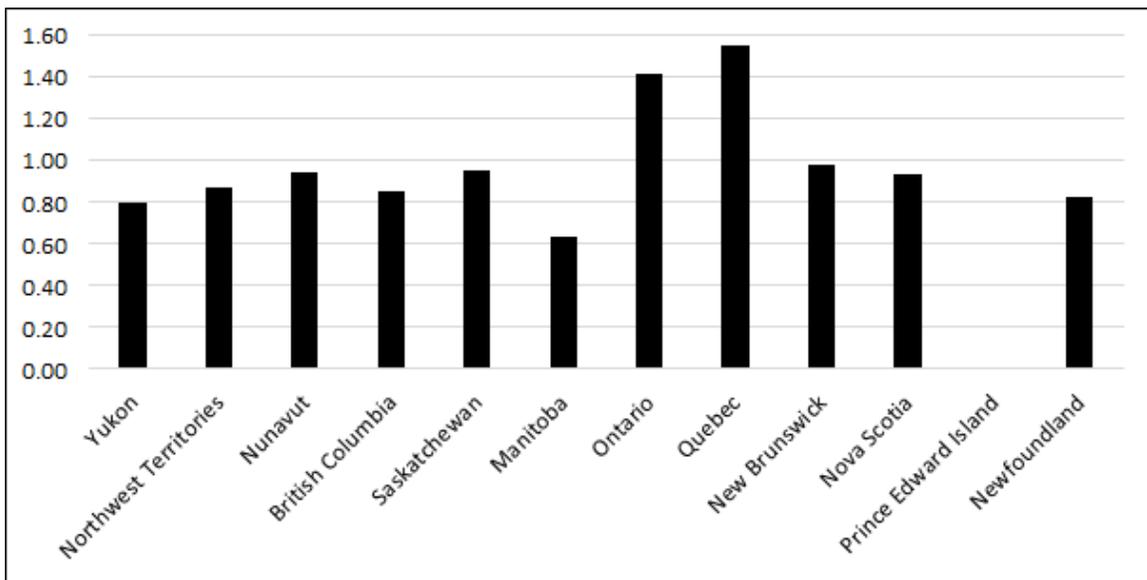


Figure 4.9. Aboriginal commencements of conditional sentences, 2014-15: Relative representation.

Considering the three relative measurement charts (Figures 4.3, 4.6, and 4.9) together, it becomes clear that relative representation analyses are able to detect distinct interjurisdictional patterns in the three correctional sanction types. This is precisely the benefit of using relative representation analysis for this type of study: where only minor differences between analyses may be detected through conventional measures, the relative representation analyses accentuate variation between the correctional program types. An important finding that is revealed here is that Quebec is overrepresented for both probation and conditional sentences, and underrepresented for sentenced custody. Said another way, relative to all other provincial/territorial jurisdictions, Quebec is most

progressive with its community-based forms of correctional sanctions and least excessive with its use of sentenced custody among Aboriginal offenders. No other jurisdiction is found to hold that pattern among the three correctional sanction types.

In contrast, however, there are some jurisdictions that reveal patterns that are far more concerning. Moderately overrepresented with its use of sentenced custody, Nova Scotia (MRRQ=1.14) is also underrepresented for its use of probation (MRRQ=0.92) and conditional sentencing (MRRQ=0.93). Yukon (custody MRRQ=1.06; probation MRRQ=0.99; conditional sentence MRRQ=0.80), British Columbia (custody MRRQ=1.03; probation MRRQ=0.99; conditional sentence MRRQ= 0.85), and Newfoundland (custody MRRQ=1.08; probation MRRQ=0.99; conditional sentence MRRQ=0.83) also reveal the same concerning pattern.

Some readers may be critical of these interpretations and claim that the MRRQ technique will produce results that total to a congruent value across correctional program types. In other words, a high MRRQ value in one set of analyses will necessarily produce a corresponding low MRRQ value in another set. Such a critique, however, would be invalid. Relative measurement values are not solely dependent upon the activities within a single jurisdiction – relative representation analyses account for variation within each jurisdiction and across all jurisdictions. Therefore, although it may not be possible to find all correctional program analyses for a single jurisdiction as overrepresented, the values across the programs will not necessarily sum to a value of one.

4.6. Conclusion

It is widely recognized that Aboriginal peoples are overrepresented in Canada's criminal justice system – especially in its correctional programs. On the international stage, the Human Rights Committee of the United Nations (2015) recently stated that it was “concerned at the disproportionately high rate of incarceration of indigenous people, including women, in federal and provincial prisons across Canada” (p. 6). The Committee (2015) went on to recommend that the Canadian government:

ensure the effectiveness of measures taken to prevent the excessive use of incarceration of indigenous peoples and resort, wherever possible, to alternatives to detention. It should enhance its programmes enabling

indigenous convicted offenders to serve their sentences in their communities. (Human Rights Committee of the United Nations, 2015, p. 7)

In order to move forward on these recommendations, it will be necessary to determine where to focus remedial action. As this study demonstrated, conventional measures of Aboriginal representation, such as the count and percent, may reveal inter-provincial/territorial patterns that vary little across the three forms of correctional supervision. Consequently, by these measures alone, it would be difficult to discern which jurisdictions were most overrepresented for custody use and underrepresented for community-based forms of correctional supervision, or vice versa.

To offer a different perspective, this study introduced the use of relative representation analyses. The relative measurement strategy showed that certain provincial/territorial jurisdictions in Canada are disproportionately represented with respect to their use of custodial and community-based forms of correctional supervision with Aboriginal offenders. While Quebec was found to be relatively underrepresented in terms of its custody use, it was also found to be overrepresented for its use of probation and conditional sentences relative to the other jurisdictions. Conversely, Nova Scotia, Yukon, British Columbia, and Newfoundland were all found to be overrepresented for their use of sentenced custody and underrepresented for community-based sanctions.

Consequently, future research should focus on identifying what has contributed to these differences. While it is acknowledged that many factors may have contributed to the patterns that were found in this study, the sentencing stage could be a useful starting place. If the current federal government is serious about following the recommendations of the Truth and Reconciliation Commission and the United Nations, it may prove beneficial to study the sentencing practices in a province such as Quebec to try to understand why its Aboriginal representation in different sectors of the correctional system is so different from that in other provinces. Equally, it may be advantageous to study the sentencing practices of provinces such as Nova Scotia, Yukon, British Columbia, and Newfoundland to understand what has contributed to the more concerning patterns of Aboriginal correctional representation in those jurisdictions.

Future research endeavors, however, face a number of difficult challenges. As many others have already recognized, access to data is one of the most pressing

concerns. Consistent with previous studies that have focused on Aboriginal representation in Canada's criminal justice system, the data employed in this study were very limited. No data were available to document Aboriginal involvement in other stages of the criminal justice system, annual residential population counts, or relevant variables to supplement the correctional data such as the offence type or length of sentence. In addition, no data that are currently available document differences in the severity of correctional sentences. As Lynch (1988) observed, however, this is an important area of inquiry:

The degree of deprivation involved in custodial sentences must also be included as a dimension of severity of sanction because five years in a maximum security institution is more arduous than the same sentence in a minimum security institution. (p. 183)

Further, with no data to distinguish between the gender or age of Aboriginal offenders, it was not possible to study the interactive effects that exist between them.³⁰ Gaining access to more comprehensive data that identify Aboriginal identity is a key step to advancing our knowledge of case processing patterns in the criminal justice system. Finally, future research should employ multi-year datasets to avoid spurious results. While relative measurement techniques such as the MRRQ are able to detect meaningful patterns even in the presence of small counts, their results are dependent on accurate annual sampling (Andresen, 2007). As a result, studies employing panel or longitudinal datasets are generally preferable.

³⁰ This is an important area of future inquiry as recent national statistics have shown female Aboriginal offenders to be further overrepresented compared to their male counterparts. Reitano (2017) noted that admissions of Aboriginal offenders to sentenced provincial/territorial custody were 38% for females and 26% for males. In the federal correctional system, percentages were 31% for females and 23% for males (p. 5).

Chapter 5.

Conclusion

There are many problems concerning sentencing in Canada today. At the most basic level, there is a lack of systematic information about sentencing practices. This has led to great confusion, and indeed, many misunderstandings about the realities of sentencing among members of the public. The lack of information has also created difficulties for judges and other criminal justice practitioners to fulfill their professional responsibilities in an effective and efficient manner. In addition, there is concern about unwarranted disparities in sentencing. This includes a particular concern regarding the overrepresentation of Aboriginal offenders in the country's correctional programming.

Unfortunately, these problems have a longstanding history in Canada; all of them were identified by the federal government more than three decades ago (Canada, 1984). Remedies will, as identified by the Canadian Sentencing Commission (Canada, 1987), only come from fundamental changes to the orientation and operation of the system. In order to move forward with changes of this magnitude, however, further research is necessary. The starting place in this regard ought to be the collection and dissemination of comprehensive data so that researchers may work toward a greater understanding of the problems and assess viable solutions. This, unfortunately, does not appear likely to be achieved anytime soon. Although there have been some concerted efforts within individual provincial/territorial jurisdictions to make detailed court data available, data at the national level remains exceedingly insufficient.³¹

In the absence of detailed, hierarchical data that may be used to employ sophisticated analytic techniques to advance complex research questions, researchers must find novel ways of working with the limited data that are available. The objective of this thesis was to do just that. By extending an alternative measurement perspective to

³¹ British Columbia, for example, recently started to publish open online data at the courthouse level. This includes summary statistics for a variety of measures including new and completed court cases, length of time to completion, and outcome/finding (British Columbia, 2017). The data are still greatly insufficient for multi-level modelling procedures, however, because they do not report at the case-level of analysis.

sentencing outcome analysis, this thesis contributed new knowledge to three core areas of inquiry that have long plagued sentencing in Canada.

5.1. Research Contributions and Implications

Together, the compilation of studies presented in this thesis has served to expand the use of relative measurement strategies into the sentencing realm. In doing so, this thesis has made a number of important scholarly contributions. First, Study 1 demonstrated that a relative measurement approach may be used in non-geographic contexts. By introducing a measurement strategy derived from the location quotient technique, national patterns of sanction use were able to be described across offence categories from a relative, rather than direct, comparative perspective. Interestingly, relative patterns were found to differ greatly from those detected by conventional measures. Most importantly, the relative measures were found to improve upon some of the shortcomings associated with traditional measures. Percentages and counts were found to have limited use in describing the relative prevalence of lesser used sanctions. In fact, in many cases it was difficult to distinguish for which offence categories a lesser-used sanction was disproportionately selected by sentencing judges. The RUQ technique proposed in the study, however, was able to highlight this form of disproportionate use.

Several important substantive findings emerged from the analyses in Study 1. Restitution and conditional sentences were two sanctions that had largely gone undetected by conventional measures of prevalence; yet by the RUQ strategy, these sanctions were found to be overrepresented in several offence categories. For example, restitution was found to be greatly overrepresented for property crimes. Even more striking was the extent of overrepresentation for restitution in the more specific category of fraud. With respect to conditional sentences, the relative measurement approach detected overrepresented use for offences against the person, property offences, and drug offences. Because these sanctions are used so infrequently (by direct measurement perspectives), they are generally afforded little attention in academic research. The patterns detected by the relative perspective proposed in the current study, however, should serve to better inform individuals about the use of these criminal sanctions in the country.

Second, Study 2 advanced the relative measurement of sentencing outcomes further, by returning the perspective to a geographic focus. Using the general approach proposed in Study 1, a more complex analytic technique was designed to detect jurisdictional consistency. The MRUQ technique evaluated the extent of jurisdictional consistency in measures of sentence severity across provinces and territories in Canada for three high-volume offences. Results of the study demonstrated the value of adding a local perspective to this form of analysis. The new method highlighted the extent to which sentencing outcomes in a local area were proportional to those of its comparators. This identified new forms of sentence consistency and inconsistency that had previously gone undetected by conventional measures.

Important substantive findings that emerged from this study included new evidence to show that British Columbia may not exhibit sentencing outcome patterns that are greatly different from those of other provincial/territorial jurisdictions – at least not across all dimensions of consistency. Although British Columbia was found to have the highest custody percent for cases of theft, the relative sentencing patterns for that offence category revealed that it was almost perfectly proportional to the jurisdiction average. In other words, once British Columbia's general pattern of more severe sentencing was accounted for, its pattern of sentencing for cases of theft was exactly what one ought to expect. A very different set of findings emerged in the analyses of Fail to Comply with Order offences. While Prince Edward Island was found to have the second highest custody rate, the MRUQ technique determined that it was, in fact, considerably underrepresented. In other words, given Prince Edward Island's general pattern of more severe sentencing, its existing pattern of relatively severe sentencing for Fail to Comply with Order offences was found to be more lenient than one ought to expect.

Third, Study 3 extended the relative geographic measurement strategy employed in Study 2, to sentencing patterns for a particular offending group. Employing the MRRQ technique, the study sought to identify geographic patterns of representation for Aboriginal offenders in various sectors of Canada's provincial correctional programming. By employing conventional measures alongside the newly developed technique, the study demonstrated that certain provinces and territories were disproportionately represented in their patterns of correctional program use with Aboriginal offenders.

Relative to the other jurisdictions, Quebec was found to be relatively underrepresented for its use of custody, and overrepresented for its use of probation and conditional sentences. As a result, it was suggested that further research should focus on the sentencing practices adopted by judges in Quebec to identify reasons for their relatively lenient sentencing patterns. Conversely, Nova Scotia, Yukon, British Columbia, and Newfoundland were all found to be overrepresented for their use of sentenced custody and underrepresented for the two community-based sanctions. Consequently, it may be prudent for researchers to focus greater attention on the sentencing practices in these jurisdictions to gain a better understanding about what has contributed to their disconcerting patterns of Aboriginal correctional representation.

5.2. Limitations

The contributions of this thesis are not without important limitations. One shortcoming that was common across all of the studies was the scope of data that was employed. Although comprehensive in coverage (e.g., nation-wide, multi-year reporting), the ICCS and ASC included data on few variables related to the topics under study. In each of the studies it would have been more informative to control for the effects of factors that are known to influence sentencing decisions. Offender criminal history and offence seriousness, for example, are among the best predictors of sentence outcomes (Blumstein et al., 1983), yet data were not available to fully account for those factors in the analyses.

Further, data included in the ICCS and ASC had been aggregated to large units of analysis across many important variables. It was, therefore, not possible to study the phenomena at more refined levels of detail. In Study 1, for example, it would have been most judicious to describe sentencing outcomes for individual offences. Because the data were aggregated to broad offence categories, however, it could be that important variation in sanction use has been masked by the aggregate categories. In Study 2, it would have been more informative to study sentence outcome consistency at the courthouse and judge levels of analysis. Because provinces/territories were the most refined jurisdictional units, however, this was also not possible. Similarly, in Study 3, admissions of Aboriginal offenders were only able to be described across provincial/territorial jurisdictions. It will become important to consider the sentencing

patterns of more refined units of analysis when moving forward with further research and remedial efforts.

In addition to the deficiencies inherent to the data sources, other limitations were introduced by the research designs employed. Each of the studies, for example, used a cross-sectional research strategy for only a single year of data. While this was deemed necessary in order to convey the proposed measurement strategies via simple analytic structures, it is important to recognize that the findings of the studies may not be characteristic of other years for which data are available. Further, sentencing is a dynamic process that is influenced by many factors (e.g., population demographics, legislative frameworks, and precedent from case law). The cross-sectional analyses used in the three studies are not able to capture the changing nature of sentencing in the country. In addition, the variables that were selected to be included in the studies presented challenges related to sample size, and this necessarily influenced some of the results. This was particularly evident from the results presented in Study 2 where a selection of provinces/territories recorded no custodial sentences greater than six months for some specific offence categories. This prevented the inclusion of these jurisdictions in a subset of the results.

5.3. Future Directions

Introducing a new perspective to sentencing outcome analysis – as this thesis has endeavoured – should be viewed as a foundation for continued research in the area. Because it was necessary to restrict the extent of analyses for each topic under study, there are important areas that should be given greater attention in the future. First, Study 1 focused on describing the use of criminal sanctions across a series of offence categories. This, however, is only one dimension of sentencing outcomes. If Statistics Canada were to follow the recommendations of the study and adopt a relative measurement approach to its statistical reports on criminal courts in the country, several other dimensions of sentencing could be more completely described. The quanta of sanctions, for example, is a related but distinct component of sentences that has never been fully described.

In addition, Study 2 reported on two measures of sentence severity related to custody to allow for measures of outcome consistency. A custodial sentence is,

however, just one option that is available to judges at sentencing. Future research should explore the degree of jurisdictional consistency in sentence outcomes for other common sanctions such as probation and fines. Further, Study 3 focused on sentenced admissions of Aboriginal offenders to provincial correctional programs. As others have noted previously, however, admission data do not reflect the actual population of offenders in correctional programs. Consequently, future research should attempt to explore patterns of correctional program representation using counts of offenders serving a sentence on any given day of the year (Webster & Doob, 2007).

It is also important to highlight that the methodological contributions made in this thesis should not be restricted to research on sentencing. In fact, it is expected that other realms of criminal justice, or perhaps more distant fields outside of criminology, will benefit from the approaches advanced in the three studies. Study 1 demonstrated that relative measurements can be made in non-geographic contexts. That should serve to broaden the possibilities that researchers consider when employing descriptive analytic techniques to other non-geographic research problems.

In addition, the double-complex fractions that were employed in Studies 2 and 3 could be used in any number of contexts where phenomena vary across more than two variables of interest. In such cases, the techniques could be used to unlock important descriptive patterns. When comparing police departments on clearance rates, for example, it may be the case that some jurisdictions are more or less effective at identifying suspects across many, or even all, offence categories (Demers & Rossmo, 2015). Employing a relative measurement approach to this type of analysis could uncover specific offences for which some departments are relatively more effective at identifying suspects compared to other jurisdictions, even when direct measures show they are less effective.

Finally, previous researchers employing the location quotient technique have found utility in using the measure as a dependent variable. Andresen (2007) for example, used location quotients to identify geographic specialization for a series of crime types across the City of Vancouver, Canada. Andresen (2007) then used the location quotients as dependent variables in an inferential test to assess the degree of support for a synthesis of social disorganization theory and routine activities theory. Andresen (2007) reported strong support for the integrated theories in the prediction of

locations of crime specialization. It is expected that the relative measurement techniques proposed in this thesis will find similar utility in inferential analyses employed in the sentencing realm.

5.4. Concluding Remarks

This thesis opened with a quote from Winston Churchill (1910) to raise concern for a lack of information about sentencing in Canada. It was suggested that it would be inappropriate to hold the Canadian public to the proverbial test of civilization because there is no way for anyone in the country to be sufficiently informed about sentencing. Consequently, there is no way that the public could have established a sound “mood and temper...in regard to the treatment of crime and criminals” (Churchill, 1910, col. 1354). In part, this may be why the vast majority of Canadians continue to hold the view that sentencing in the country is too lenient (Webster & Doob, 2015), yet research has long demonstrated that the public underestimate the severity of sentencing practices (Canada, 1987).

In addition to a lack of information, there have been several recent changes to the sentencing system that have shifted Canada further away from effectively participating in Churchill’s (1910) test. Since the landmark sentencing reforms of 1996, considerable criticism has been launched at the trajectory of sentencing reform in the country. As noted by Doob and Webster (2016), changes to legislation that took place between 2006 and 2015 were dramatically different from the longstanding, stable history of Canada’s sentencing traditions. The Conservative federal government in power during that time removed considerable discretion from judges by creating mandatory minimum penalties and restricting the availability of non-custodial sanctions for numerous offences. It appears that these efforts may have been concerted attempts to establish a tough on crime character that would resonate with a public that was misguidedly punitive.

With a newly elected Liberal government, that has expressed a strong commitment to reverse many of the mandatory minimum penalties introduced by the preceding government (Crawford, 2017, February 11), Canada may be on its way to establishing a stable mood and mild temper towards crime and criminals – at least with respect to its criminal justice policies. It will still be necessary, however, to find ways of

better informing the public about sentencing in the country. This will only be achieved by collecting and disseminating comprehensive data, encouraging and supporting research, and ensuring that knowledge is transferred effectively. These objectives will take time to achieve. It is with great hope, however, that in the meantime, this thesis will serve to better inform the public on important issues related to sentencing and provide researchers with a new set of tools that they may draw from in future research endeavours. With continued efforts in this direction, the Canadian public will one day be prepared to participate in Churchill's (1910) test and prove the country's advanced state of civilization.

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Appendix A.

Supplemental Table

Table A.1. Aboriginal correctional program admission statistics by province/territory, 2014-15.

	Custody			Probation			Conditional Sentence		
	Count	Percent	MRRQ	Count	Percent	MRRQ	Count	Percent	MRRQ
Yukon	185	72	1.06	166	58	0.99	35	54	0.80
Northwest Territories	324	87	0.91	288	92	1.13	28	82	0.87
Nunavut	504	100	0.93	134	100	1.09	33	100	0.94
British Columbia	3193	34	1.03	2321	27	0.99	598	27	0.85
Saskatchewan	3304	77	0.98	2767	68	1.02	1098	73	0.96
Manitoba	4758	76	1.07	4881	61	1.00	436	45	0.64
Ontario	2922	12	0.98	2796	10	0.97	592	17	1.42
Quebec	322	3	0.69	436	5	1.22	172	7	1.56
New Brunswick	246	11	0.97	149	9	1.01	53	11	0.98
Nova Scotia	172	10	1.14	168	7	0.92	48	8	0.93
Prince Edward Island	19	3	0.80	16	5	1.37	0	0	0.00
Newfoundland	360	32	1.08	345	25	0.99	110	24	0.83