Measuring Correctional Admissions of Aboriginal Offenders in Canada: A Relative Inter-jurisdictional Analysis

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Il est bien connu que les peuples autochtones sont surreprésentés dans le système de justice pénale canadien. Un examen des statistiques récentes qui documentent l'ampleur de cette surreprésentation dans la population condamnée à la détention au Canada, a mené la Commission de vérité et réconciliation à demander aux gouvernements fédéral, provinciaux et territoriaux d'agir. Afin de se préparer à répondre à ces « appels à l'action » de la Commission, il est important d'avoir de l'information de base complète qui servira à mesurer le progrès à l'avenir. Au-delà des statistiques de base qui documentent la surincarcération, peu de recherche explore les dynamiques de représentation des personnes contrevenantes autochtones dans d'autres parties du système correctionnel. Il n'en demeure pas moins qu'il s'agit d'un domaine d'étude important. Le nombre d'admissions à la détention est souvent utilisé pour décrire le problème de surreprésentation. Par ailleurs, les sanctions communautaires telles que la peine d'emprisonnement avec sursis et la probation sont perçues comme des alternatives positives à la détention. La présente étude utilise différentes techniques des mesures pour documenter les dynamiques récentes d'admission de personnes contrevenantes autochtones à ces trois parties des systèmes correctionnels provinciaux et territoriaux. Bien que les mesures habituelles telles que le dénombrement et le pourcentage soient utiles pour rendre compte d'un seul type d'admission, elles sont moins efficaces pour en comparer plusieurs, dans différentes juridictions. Nous considérons une autre technique des mesures plus utile pour ce genre d'enquête. Plus particulièrement, une technique de mesurage relatif a démontré que certaines juridictions au Canada sont représentées de manière disproportionnée en ce qui concerne leur utilisation de la détention et de différentes formes de supervision correctionnelle communautaire, relativement aux personnes contrevenantes autochtones. Bien que le Québec soit relativement sous-représenté quant à son utilisation de la détention, cette province est aussi surreprésentée quant à son utilisation de la probation et de peines d'emprisonnement avec sursis. À l'inverse, l'Alberta est surreprésentée dans son utilisation de la détention et sous-représentée dans celle des sanctions communautaires. L'étude décrit les conséquences de ces résultats pour la recherche et le développement des politiques futurs.

It is widely recognized that Aboriginal peoples are overrepresented in Canada's criminal justice system. A review of recent statistics documenting the extent of overrepresentation in Canada's sentenced custody population, prompted the Truth and Reconciliation Commission to call upon federal, provincial, and territorial governments to take action. In anticipation of advancement toward the Commission's "Calls to Action", it is important to have comprehensive baseline information to which progress may be measured against in the future. Aside from basic statistics that document over-incarceration, however, little research has explored patterns of representation among Aboriginal offenders in other

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segments of the correctional system. Nevertheless, this is an important area of study. Admissions to sentenced custody are commonly used to describe the overrepresentation problem but community-based sanctions such as the conditional sentence and probation have been viewed as positive alternatives to custody. The current study employs a variety of measurement techniques to document recent patterns of admissions among Aboriginal offenders to these three segments of provincial/territorial correctional systems. While conventional measures such as the count and percent are found to be useful for reporting on a single admission type, they are deemed to be less effective at comparing multiple admission types across jurisdictions. An alternative measurement technique proves more useful for this line of inquiry. Specifically, a relative measurement technique demonstrated that certain jurisdictions in Canada are disproportionately represented with respect to their use of custodial and community-based forms of correctional supervision among Aboriginal offenders. While 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, Alberta was found to be overrepresented for its use of sentenced custody and underrepresented for community-based sanctions. Implications of these findings for future research and policy development are discussed.

CANADA HAS REVEALED A CONCERNING PATTERN with respect to the overrepresentation of Aboriginal[1] peoples in its criminal justice system.[2] The issue of over-incarceration of Aboriginal

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[1] The term "Aboriginal" is used throughout the remainder of this paper as that is the term documented in the *Criminal Code* and in the data retrieved from the Adult Correctional Services survey.

[2] Gillian Balfour, "Do Law Reforms Matter? Exploring the Victimization-Criminalization Continuum in the Sentencing of Aboriginal Women in Canada" (2013) 19:1 Intl Rev Victimology 85 at 98; Canada, *The Report of the Royal Commission on Aboriginal Peoples: Volume 3- Gathering Strength* (Ottawa: Canada Communication Group – Publishing, 1996) at 100; Truth and Reconciliation Commission of Canada, *Honouring the Truth, Reconciling for the Future: Summary of the Final Report of the Truth and Reconciliation Commission of Canada* (Ottawa: McGill-Queen's University Press, 2015) at 132, online: <nctr.ca/reports.php> [perma.cc/WTX9-2PL3]; House of Commons, Standing Committee on Justice and Solicitor General, *Taking Responsibility: Report of the Standing Committee on Justice and Solicitor General on Its Review of Sentencing, Conditional Release and Related Aspects of Corrections* (Ottawa: Queen's Printer for Canada, 1988) at 236; Samantha Jeffries & Christine EW Bond, "The Impact of Indigenous Status on Adult Sentencing: A Review of the Statistical Research Literature from the United States, Canada, and Australia" (2012) 10:3 J Ethnicity in Crim Justice 223 at 224; Samantha Jeffries & Philip Stenning, "Sentencing Aboriginal Offenders: Law, Policy, and Practice in Three Countries" (2014) 56:4 Can J Criminology & Crim Justice 447 at 450; Carol LaPrairie, "The Role of Sentencing in the Over-Representation of Aboriginal People in Correctional Institutions" (1990) 32:3 Can J Crim 429 at 429; Carmela Murdocca, *To Right Historical Wrongs: Race, Gender, and Sentencing in Canada* (Vancouver: UBC Press, 2013) at 9; Renée Pelletier, "The Nullification of Section 718.2 (e): Aggravating Aboriginal Over-representation in Canadian Prisons" (2001) 39:2/3 Osgoode Hall LJ 469 at 470; *R v Gladue*, [1999] 1 SCR 688 at para 64 [*Gladue*]; Julian V Roberts & Andrew A Reid, "Aboriginal Incarceration in Canada since 1978: Every Picture Tells the Same Story" (2017) 59:3 Can J Criminology & Crim Justice 313 at 318-333; Julian V Roberts & Ronald Melchers, "The Incarceration of Aboriginal Offenders: Trends from 1978 to 2001" (2003) 45:2 Can J Criminology & Crim Justice 211 at 212; Jonathan Rudin, "There Must be Some Kind of Way Out of Here: Aboriginal Over-Representation, Bill C-10, and the Charter of Rights" (2013) 17:3 Can Crim L Rev 349 at 350; Andrew Welsh & James Ogloff, "Progressive Reforms or Maintaining the Status Quo? An Empirical Evaluation of the Judicial Consideration of Aboriginal Status in Sentencing Decisions" (2008) 50:4 Can J

peoples was first officially recognized in a published document by the federal government in 1984 and since then, a number of efforts have been made to reduce the amount of Aboriginal offenders admitted into correctional facilities.[3] The clearest example of such an effort came in 1996 with the enactment of Bill C-41. The legislation added s 718.2(e) into the *Criminal Code*, stating 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."[4] This provision led to several Supreme Court of Canada judgments such as *Gladue*[5] and *Ipeelee*[6] which interpreted s 718.2(e) in a way that could address the problem of Aboriginal overrepresentation.

In *Gladue*, the Court made it clear that a different approach was appropriate when sentencing an Aboriginal offender: "[s]ection 718.2(*e*) directs sentencing judges to undertake the sentencing of aboriginal offenders individually, but also differently, because the circumstances of aboriginal people are unique."[7] The importance of community-based options at sentencing was highlighted as one of the key considerations that should be made when forming a sentence:

> … one of the unique circumstances of aboriginal offenders is that community-based sanctions coincide with the aboriginal concept of sentencing and the needs of aboriginal people and communities. It is often the case that neither aboriginal offenders nor their communities are well served by incarcerating offenders, particularly for less serious or non-violent offences. Where these sanctions are reasonable in the circumstances, they should be implemented. In all instances, it is appropriate to attempt to craft the sentencing process and the sanctions imposed in accordance with the aboriginal perspective.[8]

More than a decade later in *Ipeelee*, the sentencing principles applicable to Aboriginal offenders were further clarified. Recognizing that sentencing judges play an important role in remedying injustice against Aboriginal peoples in Canada, the Court held that:

> [t]he role of a sentencing judge in remedying such injustice may most effectively be carried out through alternative sentencing. However, this requires that they be presented with viable sentencing alternatives to imprisonment that may play a stronger role 'in restoring a sense of balance to the offender, victim, and community, and in preventing future crime' (*Gladue*, at para. 65).[9]

Criminology & Crim Justice 491 at 492; Toni Williams, "Punishing Women: The Promise and Perils of Contextualized Sentencing for Aboriginal Women in Canada" (2007) 55 Clev St L Rev 269 at 271.

[3] Government of Canada, *Sentencing*, (Ottawa: 1984) at 9.

[4] *Criminal Code*, RSC 1985, c C-46.

[5] *Gladue*, *supra* note 2 at para 93.

[6] *R v Ipeelee*, 2012 SCC 13 [*Ipeelee*].

[7] *Gladue*, *supra* note 2 at para 93.

[8] *Ibid* at para 74.

[9] *Ipeelee*, *supra* note 5 at para 128.

Fortunately, s 718.2(e) came at the same time that the conditional sentence of imprisonment was created to provide an important non-custodial option for judges at sentencing.[10]

Despite these initiatives, overrepresentation persists as a major problem today.[11] In fact, the *Final Report of the Truth & Reconciliation Commission of Canada* 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.[12]

This prompted the Truth and Reconciliation Commission 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.[13]
> 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.[14]

In light of the Commission's "Calls to Action," 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. This task presents many challenges. As identified by Roberts and Reid:

> Ideally, the over-incarceration of Aboriginal Canadians (or any other group) would be established by comparing annual population statistics to correctional statistics such as annual admissions or average prison or community-supervision populations. This research strategy has been adopted in the limited comparative analyses of national trends (e.g., Walmsley 2015). However, the absence of reliable, annual Aboriginal population statistics precludes such an approach in Canada.[15]

As a result, researchers must use alternative methods to measure overrepresentation. Aside from basic statistics that document the proportion of Aboriginal offenders within Canada's

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[10] *Criminal Code*, RSC 1985, c C-46, s 742.1 states that "If a person is convicted of an offence and the court imposes a sentence of imprisonment of less than two years, the court may, for the purpose of supervising the offender's behaviour in the community, order that the offender serve the sentence in the community, subject to the conditions imposed under section 742.3…".
[11] Government of Canada, *supra* note 3.
[12] Truth and Reconciliation Commission of Canada, *supra* note 2 at 170.
[13] *Ibid* at 172.
[14] *Ibid* at 324.
[15] Roberts & Reid, *supra* note 2 at 317.

correctional population, very little research has explored the representation of Aboriginal peoples in different segments of the correctional system. This is largely a consequence of limited access to crime and justice data that reliably record Aboriginal identity.[16] As a result, many important questions remain unanswered in the extant literature. It is unknown, for example, the extent to which custody, probation, and conditional sentences are used when sentencing Aboriginal offenders. Further, the percentage of Aboriginal offenders admitted into custody after sentencing is commonly used as a key indicator of the overrepresentation problem,[17] and probation and conditional sentencing options are viewed as positive alternatives, but these are generally considered separately in academic research. Little attention has been given to the relationship between patterns in the use of these sanctions.

Consequently, a province/territory may show a concerning (*i.e.*, high) percentage of Aboriginal offenders admitted into sentenced custody, but the province/territory may also have a high percentage of Aboriginal offenders admitted into community-based correctional sentences. Such a pattern might indicate problems at earlier stages of the criminal justice system (*e.g.*, decisions to arrest, charge, etc.) leading to high rates of sentencing for Aboriginal offenders, in general.[18] Conversely, a provincial/territorial jurisdiction may reveal a relatively high percentage of Aboriginal admittees into sentenced custody but a low percentage of Aboriginal admittees into community-based correctional sentences. Such a pattern could indicate that judges are over-relying on custody as a sentence, rather than non-custodial alternatives.[19] In the absence of any detailed examination of these relationships, confounding information is all that will be available to criminal justice policymakers 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 (including the key sentencing outcomes of incarceration, conditional sentence, and probation) need to be tracked and compared in order to understand the complete picture.

Conventional descriptive statistics, such as counts and percentages, provide important information, but these reporting techniques are limited in what they are able to reveal. Specifically, counts and percentages offer measures of admissions for individual types of correctional sentences that may then be used to make *direct* inter-jurisdictional comparisons. For example, the number of custodial admissions may be compared directly between two provinces. Direct measures do not, however, account for patterns in the local use of *multiple* sanction types (custody, conditional sentences, or probation) within a particular jurisdiction, *relative* to other jurisdictions. For example, direct measures are not able to compare the (dis-)proportionate use of a particular sanction between two provinces. Fortunately, previous research has demonstrated the utility of

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[16] The only consistent sources of data that document Aboriginal identity are the Adult Correctional Services survey (ACS), the Youth Custody and Community Services survey, and the Homicide Survey. Like the ACS, the latter two data are very limited in their scope. The ACS, for example, only provides the total number of offenders sentenced to custody, admitted into remand custody, or entered into community corrections (*i.e.* either probation or a conditional sentence). The only data linked to these variables in the ACS are provincial/territorial jurisdiction and the offender's identity ("Aboriginal" or "non-Aboriginal").

[17] Roberts & Reid, *supra* note 2 at 320; Roberts & Melchers *supra* note 2 at 211.

[18] This could also simply be indicative that a province/territory has a population with a large proportion of Aboriginal peoples.

[19] Philip Stenning & Julian V Roberts, "Empty Promises: Parliament, The Supreme Court, and the Sentencing of Aboriginal Offenders" (2001) 64 Sask L Rev 137 at 142-143. The authors noted that further indication of a problem at sentencing could be demonstrated if Aboriginal offenders were found to be overrepresented in correctional admissions, relative to convictions.

relative measurement approaches. What is needed is a simple measurement strategy that can highlight the relative use of multiple correctional sanctions among Aboriginal offenders across provincial/territorial jurisdictions.

Using this argument as a departure point, the current study employs an alternative measurement technique designed to compare local patterns of correctional sentenced admissions to national patterns of correctional sentenced admissions. More specifically, a double-complex fraction is employed to detect the relative utilization of sanctions resulting in admissions to Canada's provincial/territorial sentenced custody, probation, and conditional sentences for Aboriginal offenders across nine provinces and three territories. The double-complex relative utilization quotient (DRUQ) quantifies the extent to which provinces and territories are (dis)proportionately represented for their patterns of correctional sanction use with Aboriginal offenders. Together, alongside 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. The overarching goal of this endeavour is to identify provincial/territorial jurisdictions that exhibit the least and most concerning patterns of sanction use among Aboriginal offenders. This will serve to provide new information on the issue of Aboriginal overrepresentation in the criminal justice system so that future research may focus on identifying what has contributed to these differences. It may then become possible to develop more effective social policy to address the overrepresentation of Indigenous peoples in the criminal justice system.

Next, a brief review of relative measurement strategies is presented. This includes discussion of advantages and disadvantages for the available metrics. Following that, the data and analytic strategy employed in the current study are described. Subsequently, the "Results and Discussion" section compares and contrasts common metrics used to describe correctional admissions with a promising alternative metric, the double-complex relative utilization quotient (DRUQ). The DRUQ is able to identify provincial/territorial jurisdictions that are over or underrepresented with respect to custodial and community-based correctional admissions, relative to the national average. Finally, the implications for the results of this study are discussed and areas for future research identified.

II. RELATIVE MEASUREMENT STRATEGIES

A. LOCATION QUOTIENT

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.[20] In traditional use, the location quotient quantified the concentration of employment in a particular manufacturing, exporting, or service-based industry in a region, compared to its concentration in the broader nation. More recently, the location quotient has proven to be a useful technique for identifying patterns of concentration in a wide range of issues related to crime and justice. In spatial crime analysis, for example, the technique

[20] Mark M Miller, Lay James Gibson & N Gene Wright, "Location Quotient: A Basic Tool for Economic Development Analysis" (1991) 9:2 Economic Development Rev 65 at 65.

has been used to detect geographic areas where a particular crime type is overrepresented, compared to other locations.

Barr and Pease originally proposed the use of the location quotient for spatial crime analysis, but Brantingham and Brantingham were the first to employ it in an empirical study.[21] In Brantingham and Brantingham's study of violent crime patterns in cities across the province of British Columbia, they compared the relative ranking of jurisdictions across three different measurement techniques. 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 those identified by crime counts and crime rates. The location quotient identified cities where violent crimes were overrepresented compared to the combined set of jurisdictions.[22] Even though a particular jurisdiction may have had relatively low violent crime (by count or rate measures), it may have also exhibited disproportionately low crime across the remaining categories of offences. In the case of Kitimat, for example, the jurisdiction was not ranked among the top fifteen cities for its violent crime count nor its violent crime rate. Yet, by the location quotient, it was ranked second. This suggested a low risk for victimization in the local area, in general, but a greater likelihood for violent victimization if a crime occurred. Use of the technique in this context 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.[23] Few, however, have employed relative measures in the socio-legal realm. In fact, the existing literature contains only two examples. Benson, Cullen, and Maakestad conducted a study that focused on the relationship between community context and the prosecution of white-collar offenders. To measure "community context," the authors needed to operationalize population size, crime rate, region, economic strength, and economic

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[21] Robert Barr & Ken Pease, "Crime Placement, Displacement, and Deflection" (1990) 12 Crime & Justice 277; Patricia L Brantingham & Paul J Brantingham, "Location Quotients and Crime Hot Spots in the City" in Carolyn R Block & Margaret Dabdoub, eds, *Workshop on Crime Analysis Through Computer Mapping: Proceedings* (Chicago: Criminal Justice Information Authority, 1993) 175; Patricia L Brantingham & Paul J Brantingham, "Mapping Crime for Analytic Purposes: Location Quotients, Counts and Rates" in David Weisburd & Tom McEwen, eds, *Crime Mapping and Crime Prevention,* (Monsey, New York: Willow Tree Press, 1998) 263 [Brantingham & Brantingham, "Mapping Crime"].

[22] Brantingham & Brantingham, "Mapping Crime," *supra* note 21 at 275.

[23] Martin A Andresen, "Crime Specialization Across the Canadian Provinces" (2009) 51:1 Can J Criminology and Crim Justice 31; Martin A Andresen et al, "Cartograms, Crime, and Location Quotients" (2009) 2:1 Crime Patterns & Analysis 31; Eric Beauregard, Maria Francisca Rebocho & D Kim Rossmo, "Target Selection Patterns in Rape" (2010) 7:2 J Investigative Psychology & Offender Profiling 137; Giedrė Beconytė, Agnė Eismontaitė & Denis Romanovas, "Analytical Mapping of Registered Criminal Activities in Vilnius City" (2012) 38:4 Geodesy & Cartography 134; Gregory D Breetzke & Ellen G Cohn, "Seasonal Assault and Neighborhood Deprivation in South Africa: Some Preliminary Findings" (2012) 44:5 Environment & Behavior 641; Rebecca Carleton, Patricia L Brantingham & Paul J Brantingham, "Crime Specialization in Rural British Columbia" (2014) 56:5 Can J Criminology & Crim Justice 595; Elizabeth Groff & Eric S McCord, "The Role of Neighborhood Parks as Crime Generators" (2012) 25:1 Security J 1; Jerry H Ratcliffe & George F Rengert, "Near-Repeat Patterns in Philadelphia Shootings" (2008) 21:1 Security J 58; Jennifer B Robinson, "Crime and Regeneration in Urban Communities: The Case of the Big Dig in Boston, Massachusetts" (2008) 34:1 Built Environment 46.

specialization to estimate prosecutorial activity.[24] While standard descriptive techniques could produce measures for the first four variables, economic specialization required a more complex approach. By employing the location quotient, the authors. were able to estimate economic specialization by identifying areas that had a concentration in manufacturing activity. This provided a more comprehensive measurement of economic structure. Economic strength was found to exhibit a positive, although indirect, relationship on prosecutorial activity, while economic specialization was found to exhibit a negative relationship. Despite playing an important role in this study, the location quotient was used by its traditional application—as a method to assess the specialization of local economies.

In a different context, Selya took a geographical approach to study temporal patterns of human rights abuses around the world.[25] By mapping the total number of human rights violations, the percentage of total abuses, and rate of abuses by population across five different time periods (between 1986–2006), Selya found that the temporal pattern was one of considerable stability. However, those measures failed to capture the local context of abuses within the broader global population. By producing a location quotient map for the entire time period, Selya revealed that thirty-two countries were underrepresented on the global scale, "including China (which by the sheer number of citations can be considered a major rights abuser)."[26] The remaining eighty-eight countries had location quotients in excess of 1.00, meaning that they accounted for more than their share after accounting for their relative population size. In other words, the location quotient was able to offer a different lens to the issue of human rights abuses—one that described the relative geographical patterns for each country compared to the world as a whole.

B. RELATIVE UTILIZATION QUOTIENT

After Ratcliffe recognized that "the [location quotient] is not inherently spatial because it does not reflect relationships between spatial neighbors,"[27] Reid demonstrated that the relative measurement approach could be used to detect patterns across non-geographic phenomena.[28] Specifically, Reid introduced a measurement strategy to detect the relative use of criminal sanctions across a series of different offences involving adult offenders in Canada. Results of that study revealed informative patterns about the use of sanctions at sentencing. Some sanctions, such as the conditional sentence of imprisonment and restitution, were used very infrequently. Yet, conditional sentences were greatly overrepresented in drug offences. Even though conditional sentences were only used in 15% of drug offence cases, that figure was more than two and half times the rate of conditional sentences handed down in other offences. These results provided an important perspective on the use of conditional sentences that had previously gone undetected.

C. DOUBLE-COMPLEX RELATIVE UTILIZATION QUOTIENT (DRUQ)

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[24] Michael L Benson, Francis T Cullen & William J Maakestad, "Community Context and the Prosecution of Corporate Crime" in Kip Schlegel & David Weisburd, eds, *White Collar Crime Reconsidered* (Northeastern University Press, 1992) at 279.
[25] Roger Mark Selya, "A Geography of Human Rights Abuses" (2012) 34:4 Human Rights Q 1045.
[26] *Ibid* at 1055.
[27] Jerry H Ratcliffe, "The Spatial Dependency of Crime Increase Dispersion" (2010) 23:1 Security J 18 at 30.
[28] Andrew A Reid, "The Relative Utilization of Criminal Sanctions in Canada: Toward a Comprehensive Description of Sentencing Outcomes" (2017) 59:4 Can J Criminology & Crim Justice 429.

Most recently, Reid and MacAlister introduced a more complex measurement strategy that returned the measurement of relative sanction use to a geographic focus.[29] In their study, the authors identified two limitations of traditional (*i.e.*, conditional comparative) strategies for measuring differences in sentencing outcomes between jurisdictions: 1) they were unable to account for sentencing practices in local jurisdictions; and 2) they were unable to detect the degree to which sentence outcomes were proportional between different jurisdictions. While the location quotient seemed like a viable solution to those limitations, the authors identified an important methodological impediment to that approach:

> [i]n its standard form, however, the location quotient is inadequate 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.[30]

By proposing a double-complex fraction to compare local patterns of sentencing within provinces and territories to national sentencing patterns in Canada, the authors overcame weaknesses of the traditional approach. Reid and MacAlister demonstrated that in some cases, the double-complex quotient produced results that differed little from conventional measurement techniques. In other cases, the DRUQ approach provided a very different perspective. For example, when comparing the use of prison sentences for fail to comply with order offences, the authors noted that Prince Edward Island had the second highest custody rate.[31] That rate was, however, found to be underrepresented. The difference between Prince Edward Island's use of custody for fail to comply with order offences and the use of custody for all other offences was less than the difference for the country as a whole. Therefore, this lends support to the conclusion that Prince Edward Island's rate of custody use would be greater for Failure to Comply offences. In other words, the authors produced a measurement technique that allowed for the same type of analysis as the standard location quotient, while accounting for the additional complexities associated with measuring the final stage of case processing.

D. SUMMARY OF STRATEGIES

The location quotient, relative utilization quotient, and DRUQ approach are all designed to accomplish the same goal; to provide a measurement strategy that highlights variation between jurisdictions. The only differences between the three approaches are the number of variables and the method by which they are operationalized. In order to study variation in the use of correctional sanctions among Aboriginal offenders across the Canadian provinces and territories, three variables are involved: 1) correctional admission type; 2) identity of the offender; and 3) jurisdiction. Recognizing that Reid and MacAlister used the same number of variables in their analysis,[32] this study extends the same DRUQ technique. By adopting this approach, the goal of

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[29] Andrew A Reid & David MacAlister, "Extending a Geographical Perspective to the Study of Jurisdictional Consistency in Sentencing Outcomes" (2018) 58:5 Brit J Crim 1147.
[30] *Ibid* at 1149.
[31] *Ibid* at 1163-64.
[32] Reid & MacAlister, *supra* note 29.

this study is to identify the extent of interprovincial variation of admissions to custodial and community-based correctional sentences among Aboriginal offenders in Canada.

III. METHODS

A. DATA

This study draws from the Adult Correctional Services survey (ACS).[33] The ACS maintains the most comprehensive information concerning correctional populations across Canada's provincial/territorial jurisdictions. Data for admissions into custodial and community correctional settings in the most recent year (2016–17) were retrieved for available provinces and territories. All ten provinces and three territories are included in the analyses to follow.

The unit of analysis used in this study is admissions into provincial/territorial correctional settings: custody, probation, and conditional sentences. Although some researchers favour the use of stock data (*i.e.*, actual levels or *counts* of populations in correctional settings on an average day of the year), the ACS only maintains data on *admissions* into correctional settings (*i.e.*, flow data).[34] Webster and Doob explain that correct interpretation is essential when using either stock or flow data due to the dramatic difference between the two types. With respect to correctional 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.)."[35] Consequently, these data must be interpreted within the context of *admissions* alone and do not represent a count of offenders in a correctional setting on an average day in the year.

There are important limitations of these data that should be noted. In order to provide measures for admissions of Aboriginal offenders for the three types of sentences, 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 sentences. 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 plethora of other factors are known to play a role in the type of sentence that an Aboriginal offender receives, 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.[36] This

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[33] Statistics Canada, *Adult Correctional Services Survey*, for fiscal year 1 April 2016 to 31 March 2017 (Ottawa: Statistics Canada, 19 June 2018), online:
<23.statcan.gc.ca/imdb/p2SV.pl?Function=getSurvey&SDDS=3306> [perma.cc/7GST-NVEG].

[34] Cheryl Marie Webster & Anthony N Doob, "Punitive Trends and Stable Imprisonment Rates in Canada" (2007) 36:1 Crime Justice 297 at 307-09. The authors note that they favour the use of stock data; Rosemary Gartner, Cheryl Marie Webster & Anthony N Doob, "Trends in the Imprisonment of Women in Canada" (2009) 51:2 Can J Criminology & Crim Justice 169 at 174. Note that they favour the use of both measures if available.

[35] Webster & Doob, *supra* note 34 at 308.

[36] 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 noted by Statistics Canada, the survey is only conducted every five years. Consequently, populations must be estimated for the years between surveys. In addition: "1. Some Indian reserves and settlements did not participate in the 2011 National Household

limitation is also true for data that report on case and offender characteristics of the underlying crimes, or differences in involvement at other stages of the criminal justice system (*e.g.*, arrests, charges, convictions, etc.). [37] Because Aboriginal identity is not available in data that document this type of information, it is not possible to control for the influences of these factors.

B. ANALYTIC STRATEGY

This study adopts three measures of correctional admissions among Aboriginal offenders; two are conventional measures commonly adopted in previous research, and one provides an alternative perspective that measures the relative utilization of correctional sanctions.[38]

1. COUNT OF ADMISSIONS

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

2. PERCENTAGE OF ADMISSIONS

Percentages are calculated to provide another basic, yet familiar comparison between the representation of Aboriginal and non-Aboriginal offenders for admissions into each correctional setting. The percentage reflects the proportion of Aboriginal admittees into a specific correctional sanction out of the total (Aboriginal and non-Aboriginal) offender population. An advantage of this measure is that it allows comparisons to known (yet imprecise) estimates of proportions of

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Survey (NHS) as enumeration was either not permitted, it was interrupted before completion, or because of natural events (*e.g.*, forest fires). These reserves are referred to as 'incompletely enumerated reserves.' There were 36 reserves out of 863 inhabited reserves in the 2011 NHS that were incompletely enumerated. Data for these 36 Indian reserves and Indian settlements are not included in the 2011 NHS tabulations. While the impact of the missing data tends to be small for national-level and most provincial/territorial statistics, it can be significant for some smaller areas. Most of the people living on incompletely enumerated reserves are First Nations Registered Indians, and consequently, the impact of incomplete enumeration will be greatest on data for First Nations people and for persons registered under the *Indian Act*." Statistics Canada, *Aboriginal Peoples in Canada: First Nations People, Métis and Inuit: National Household Survey, 2011* (Minister of Industry, 2013) at 6, online: <12.statcan.gc.ca/nhs-enm/2011/as-sa/99-011-x/99-011-x2011001-eng.pdf> [perma.cc/5BFE-L4XR].

[37] In fact, Carol LaPrairie distinguished between three cases of Aboriginal overrepresentation in correctional institutions, specifically: "*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]." LaPrairie, *supra* note 2 at 430.

[38] See *e.g.* Roberts & Melchers, *supra* note 29 at 217-19.

Aboriginal peoples in each of the geographic jurisdictions to understand the degree of representation.[39]

3. RELATIVE MEASUREMENT OF ADMISSIONS

To offer an alternative perspective to the conventional measures, the DRUQ technique proposed by Reid and MacAlister is employed to explore the relative utilization of sanctions resulting in admissions involving Aboriginal offenders into each of the three correctional settings.[40] The DRUQ is calculated by a series of four consecutive fractions: two in the numerator that calculate the relative measurement of admissions involving Aboriginal offenders to a correctional sentence in one province (local); and two in the denominator that calculate the relative measurement of admissions involving Aboriginal offenders to that same sentence in all provinces (global).[41] Broken down into successive steps:

(1) The count of admissions into a particular correctional sentence that involve an Aboriginal admittee in one province/territory is divided by the count of all (Aboriginal and non-Aboriginal) admissions into the same correctional sentence in the same province/territory;
(2) The count of admissions into all correctional sentences that involve an Aboriginal admittee in one province/territory is divided by the count of all (Aboriginal and non-Aboriginal) admissions into all correctional sentences in the same province/territory;
(3) The count of admissions into a particular correctional sentence that involve an Aboriginal admittee in all provinces/territories is divided by the count of all (Aboriginal and non-Aboriginal) admissions into the same correctional sentence in all provinces/territories;
(4) The count of admissions into all correctional sentences that involve an Aboriginal admittee in all provinces/territories is divided by the count of all (Aboriginal and non-Aboriginal) admissions into all correctional sentences in all provinces/territories;

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[39] Estimates of Aboriginal population sizes are imprecise because they are only conducted every five years during the country's federal census.

[40] Reid & MacAlister, *supra* note 28.

[41] $$DRUQ = \frac{\left(\frac{C_{ghpt}}{\frac{\sum_g C_{ghpt}}{\sum_h C_{ghpt}}{\sum_{gh} C_{ghpt}}}\right)}{\left(\frac{\sum_p C_{ghpt}}{\frac{\sum_{gp} C_{ghpt}}{\sum_{hp} C_{ghpt}}{\sum_{ghp} C_{ghpt}}}\right)}$$

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

(5) The quotient obtained from step 1 is divided into the quotient obtained from step 2;
(6) The quotient obtained from step 3 is divided into the quotient obtained in step 4; and
(7) The (local) quotient obtained from step 5 is divided into the (global) quotient obtained in step 6.

In other words, the local ratio (calculated in step 5) produces a measure of the extent to which Aboriginal offenders are represented in admissions for a particular correctional sentence in one province. The global ratio (calculated in step 6) produces a measure of the extent to which Aboriginal offenders are represented in admissions of a particular correctional sentence across all provinces and territories.[42] By dividing the local quotient into the global quotient, a measure of representation that compares each province to the provincial/territorial average is produced. This measure will determine whether a province or territory has a higher or lower proportion of admissions that involve an Aboriginal admittee into a particular correctional sentence, compared to the national proportion of admissions that involve an Aboriginal admittee to that correctional sentence.

Although there is no statistical test to determine the significance of a relative measurement value, Miller, Gibson, and Wright delineated a useful framework for assessing ratio values.

(8) Values less than 0.70 may be interpreted as very underrepresented;
(2) Values between 0.70 and 0.90 may be interpreted as moderately underrepresented;
(3) Values between 1.10 and 1.30 may be interpreted as moderately overrepresented; and
(4) Values greater than 1.30 may be interpreted as very overrepresented.[43]

IV. RESULTS AND DISCUSSION

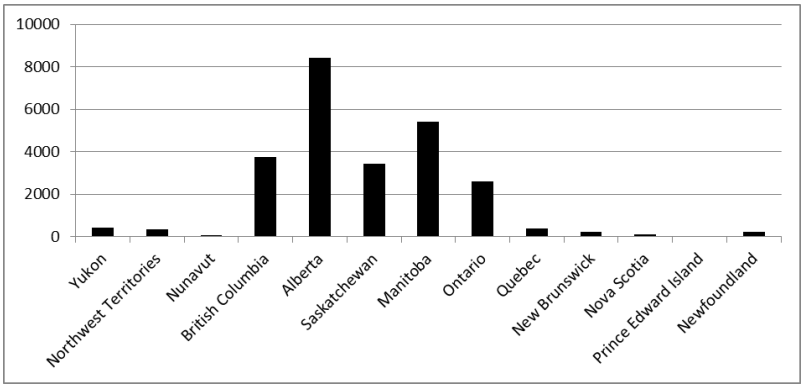
A. SENTENCED CUSTODY

Figure 1 presents the three measures assessing Aboriginal offender representation in provincial/territorial sentenced custody admissions in 2016/17. The results are presented in column charts with the thirteen 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 admissions is reported in Figure 1a. By itself, the count reveals that Aboriginal representation among those admitted into custody after sentencing varies considerably across Canada's provinces/territories. The count ranges from a low of fourteen in Prince Edward Island to a high of 8,426 in Alberta. Without further context, the count is of little value in assessing differences in representation between Aboriginal and non-Aboriginal offenders.

Figure 1. Admissions to Provincial/Territorial Sentenced Custody that involve Aboriginal Admittees, 2016/17

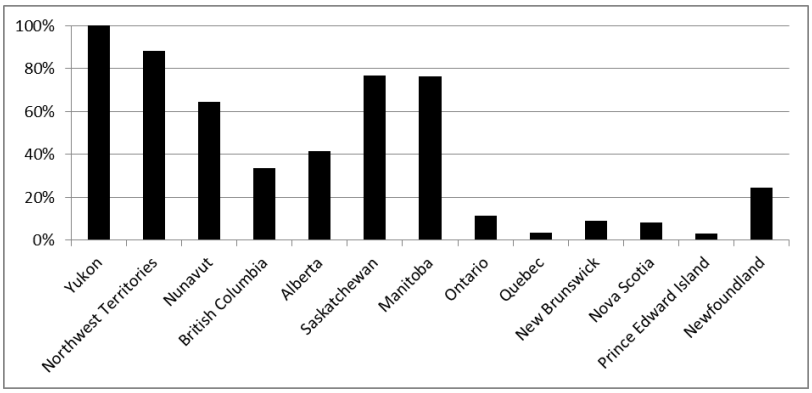
a) Count

[42] This particular quotient remains constant for all calculations of a particular correctional sentence.
[43] Miller, Gibson & Wright, *supra* note 19 at 67.



For a different perspective, Figure 1b shows the percentage of total sentenced custody admissions that Aboriginal offenders represent in each jurisdiction. This measure provides further context to the issue of overrepresentation, as provinces such as Prince Edward Island, Quebec, Nova Scotia, New Brunswick, and Ontario are relatively low compared to Yukon, Northwest Territories, Nunavut, Saskatchewan, and Manitoba. A province such as Ontario, which had the fifth most admissions that involved an Aboriginal admittee by count, is eighth in terms of its percent because it also has a large count of admissions for non-Aboriginal admittees to sentenced custody.

b) Percent



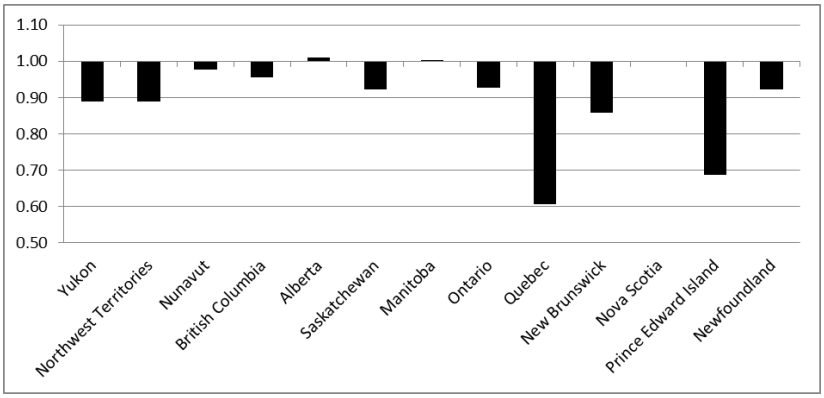
It is important to note that this percentage only accounts for the total admissions to custody for Aboriginal and non-Aboriginal offenders. It does not account for differences in the residential populations of Aboriginal peoples in the corresponding jurisdictions. A province such as Ontario, which is found to have a relatively low percent of admissions into sentenced custody that involve an Aboriginal admittee (compared to seven other provinces), would still be considered greatly overrepresented if accurate Aboriginal population figures were available for the 2016–17 fiscal year. To provide an imperfect comparison, Aboriginal peoples accounted for approximately 2.4%

of the total population of Ontario in 2011, while sentenced custody admissions involving an Aboriginal admittee accounted for 11% of the total offender population in 2016–17.[44]

Based on the 2011 population figures, all thirteen jurisdictions would be found to have an overrepresentation of Aboriginal offenders in sentenced custody. At the low end of the spectrum, Prince Edward Island was found to have 2.9% of its sentenced custody admissions involve an Aboriginal admittee. In 2011, however, just 1.6% of its residential population identified as Aboriginal.[45] At the opposite end of the spectrum, Yukon was found to have the highest percent of admissions to sentenced custody involving Aboriginal admittees (100%). In 2011, its population identifying as Aboriginal accounted for just 23.1%.[46]

Together, the count and the percent provide useful, yet limited ways of comparing Aboriginal offender representation in sentenced custody across provincial/territorial jurisdictions. In order to better understand how the use of sentenced custody compares to other correctional sanctions, relative measurement analysis can offer a different perspective. Figure 1c presents results of the relative measurement analyses. Compared to the count and the percent, there is much less variation among the jurisdictions, with most provinces/territories hovering close to the value of 1. One major exception to this is the province of Quebec.

c) Relative Measurement



Quebec has a DRUQ value of 0.61, meaning its use of sentenced custody is highly underrepresented compared to its use of probation and conditional sentences, and the use of the three sanctions in the other jurisdictions. Prince Edward Island is also highly underrepresented with a DRUQ value of 0.69, and Alberta is just slightly overrepresented with a DRUQ value of 1.01.

These findings demonstrate the advantage of relative measurements in comparative analyses. Notwithstanding the lower counts of custodial admissions in the Northwest Territories, Nunavut, New Brunswick, Nova Scotia, and Newfoundland and Labrador, and a very similar percentage of custodial admissions to Prince Edward Island, Quebec's proportion of Aboriginal offenders admitted to custody is noticeably underrepresented compared to the listed provinces.

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[44] Statistics Canada, *Number and Distribution of the Population Reporting an Aboriginal Identity and Percentage of Aboriginal People in the Population, Canada, Provinces and Territories, 2011* (2015) at Table 2, online: <12.statcan.gc.ca/nhs-enm/2011/as-sa/99-011-x/2011001/tbl/tbl02-eng.cfm> [perma.cc/BJ6M-SKSK].

[45] *Ibid*.

[46] *Ibid*.

This is because Quebec's use of probation and conditional sentences were factored into the analysis. Conversely, although Nova Scotia has a relatively low count (127) and percentage (8.1%) of Aboriginal offenders admitted into custody, the DRUQ analyses reveal that custody use with Aboriginal offenders is comparable to the national average after taking into account its use of the other two correctional sanctions.

B. PROBATION

Figure 2 shows the results of the three measures assessing the representation of Aboriginal offenders in provincial/territorial probation. The counts reported in Figure 2a provide the count of Aboriginal offenders on probation, where count represents the most basic context for the representation of Aboriginal offenders. The counts reveal considerable variation among the provinces/territories but here, they also serve as a useful comparison to the counts reported in Figure 1a. Many jurisdictions report greater counts of admissions to custody after sentencing than admissions to probation. In some jurisdictions, the differences between counts for the two correctional sentences are not inconsequential. In Yukon, for example, there were close to five times as many admissions to custody (435) than there were admissions to probation (88) for Aboriginal offenders.

Figure 2. Commencements of Probation that Involve Aboriginal Offenders, 2016/17

a) Count

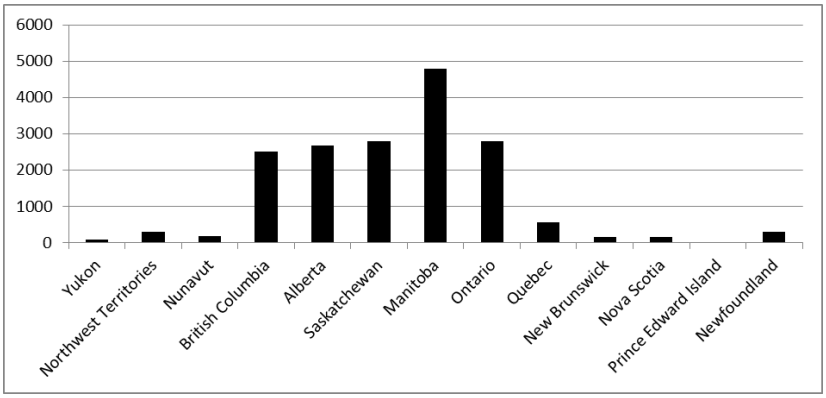
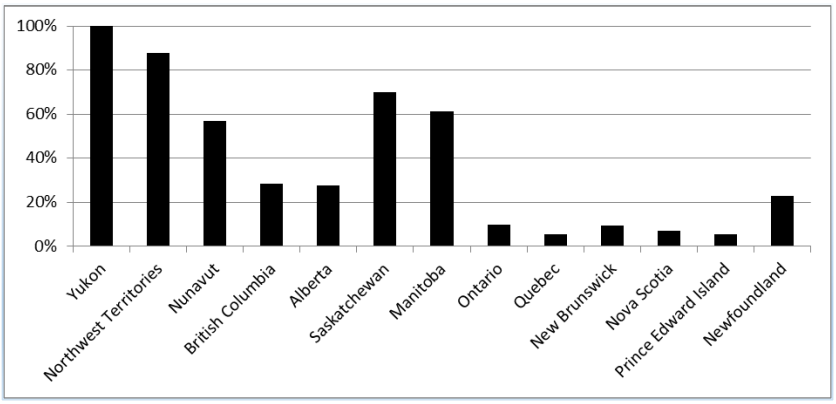


Figure 2b reports the percent of admissions to provincial/territorial probation involving Aboriginal admittees. Despite differences in the magnitudes of the percentages reported, the general pattern across the jurisdictions is very similar to that of sentenced custody depicted in Figure 1b. In fact, with the exception of British Columbia and Alberta switching from six to seven and seven to six, respectively, the rank order of the provinces is the same. Once again, Yukon is found to have the greatest percentage of Aboriginal offenders admitted into probation, at 100%, meaning all people getting probation are Aboriginal. Prince Edward Island and Quebec are found to have the lowest percentage, with less than 6% of its admissions into probation involving Aboriginal offenders. Again, without accurate residential population figures to contextualizes these percentages, it is difficult to know the extent to which Aboriginal offenders are overrepresented for this sentence relative to their corresponding provincial populations. These data

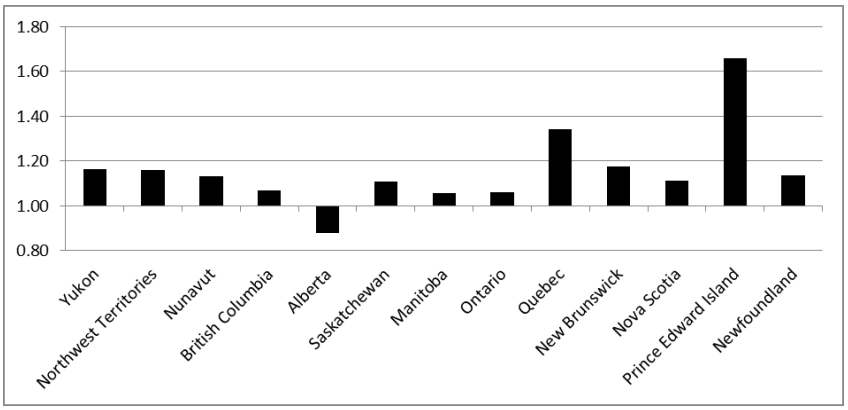
are not, however, available. Given the similarities between percentages reported in Figure 1b and 2b, however, Aboriginal offenders would likely be found to be overrepresented in all provincial/territorial jurisdictions for admissions to probation.

b) Percent



For an alternative perspective, Figure 2c presents results of the DRUQ measures for admissions to probation involving Aboriginal people. Similar to the presentation of Figure 1c, the chart reveals minimal variation, with most values close to 1. Alberta is found to be the only province with a DRUQ value of less than 1.0. With a value of 0.88, Alberta is found to be moderately underrepresented. In contrast, Prince Edward Island and Quebec are found to be very overrepresented, with DRUQ values of 1.66 and 1.34, respectively. That means after factoring in the use of the three correctional sentences across all jurisdictions, these two provinces use probation with Aboriginal offenders disproportionately more than any other province or territory.

c) Relative Measurement



Because probation is one of two community-based forms of sentenced correctional supervision in Canada, these results provide important information about the sentencing practices in these jurisdictions. When considering the results reported in Figures 1c and 2c together, for example, Quebec is underrepresented for its use of sentenced custody and overrepresented for its use of probation among Aboriginal offenders. The same is also true for Prince Edward Island. This

provides evidence that both provinces have lower tendencies to use sentenced custody, and higher tendencies to use probation, when sentencing Aboriginal offenders.

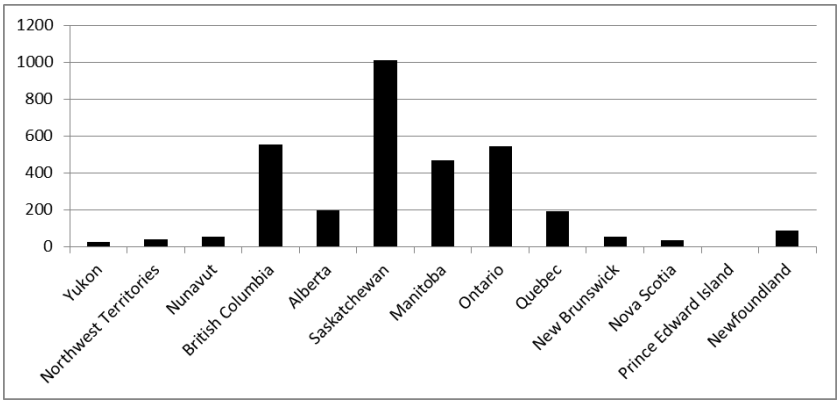
Some may criticize the interpretation of this finding, claiming that the relative measurement approach will produce results that total to a congruent value across correctional sentence types. The concern might be that a high DRUQ value in admissions into custody will necessarily produce a corresponding low DRUQ value in another set on a different type of correctional sentence. Such a critique would be invalid. Relative measurement values are not solely dependent upon the activities within a single jurisdiction—relative measurement analyses account for variation within each jurisdiction and across all jurisdictions. Therefore, although it may not be possible to find all correctional sentences within a single jurisdiction as overrepresented, the values across the sentences will not necessarily sum to a value of one.

C. CONDITIONAL SENTENCE

Figure 3 presents results of the three measures assessing Aboriginal admissions into provincial/territorial conditional sentences. Figure 3a reveals that counts of Aboriginal offenders starting conditional sentences are considerably lower than either sentenced custody or probation. In fact, over half (7) of the provincial/territorial jurisdictions reveal counts less than one hundred and Prince Edward Island is found to allocate no conditional sentences to Aboriginal offenders. There are also some notable changes to the rank order of jurisdictions when comparing Figure 3a to Figure 1a and Figure 2a. While Alberta was found to have the greatest number of admissions to sentenced custody and among the most admissions to probation for Aboriginal offenders, there were fewer conditional sentences for Aboriginal offenders than British Columbia, Saskatchewan, Manitoba, and Ontario in 2016/17.

Figure 3. Commencements of Conditional Sentences that Involve Aboriginal Offenders, 2016/17

a) Count



Despite these differences in counts, the percentages shown in Figure 3b reveal a very similar pattern to those shown for the two previous correctional sentence types, custody and probation (see Figures 1b and 2b). Yukon 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 terms of their percentages. In fact, it would be difficult to identify differences between the three charts (Figures 1b, 2b, and 3b) based on the visual representations alone. This is one of the challenges of relying on conventional measures—they may not be able to reveal important variation that exists across multiple dimensions of the problem under study.

b) Percent

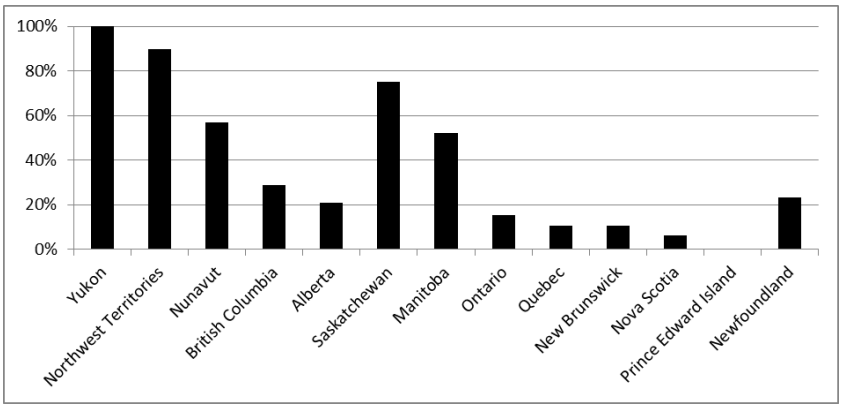
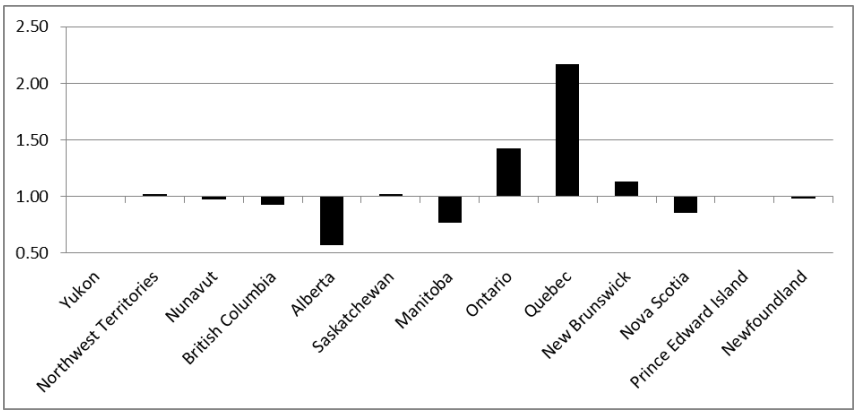


Figure 3c presents the results of the relative measurements for Aboriginal offenders starting conditional sentences. There are important differences in the results for this correctional sentence category. Ontario is found to be very overrepresented in this category (DRUQ=1.43) while it was just slightly overrepresented for probation. Interestingly, Quebec is found to have the greatest DRUQ value. It is very overrepresented for conditional sentence use among Aboriginal offenders with a DRUQ value of 2.17.

c) Relative Measurement



Considering the three relative measurement charts (Figure 1c, 2c, and 3c) together, it becomes clear that relative measurement quotients are able to detect distinct patterns in the three correctional sanction types. This is precisely the benefit of using relative measurements for this type of study: where only minor differences may be detected through conventional measures of

count and percentages, the DRUQ accentuates variation. An important finding that is revealed here is that Quebec is highly overrepresented for both probation and conditional sentences, and highly underrepresented for sentenced custody. In other words, 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. While several other jurisdictions (including New Brunswick, Saskatchewan, Yukon, and Northwest Territories) are found to hold the same pattern among the three correctional sanction types, no other is close in terms of the magnitude of the relative measurement statistics.

In contrast, there are some jurisdictions that reveal patterns that are more concerning. Alberta is slightly overrepresented with its use of sentenced custody (DRUQ = 1.01), moderately underrepresented for its use of probation (DRUQ = 0.88) and highly underrepresented for its use of conditional sentences (DRUQ = 0.57). In addition, Manitoba and Nova Scotia reveal DRUQ values of 1.00 (equivalent to the national average) for sentenced custody, slightly overrepresented for probation but underrepresented for conditional sentences.

V. CONCLUSION

It is widely recognized that Aboriginal peoples are overrepresented in Canada's criminal justice system, especially in its correctional population. On the international stage, the United Nations Human Rights Committee 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."[47] The Committee 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.[48]

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 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 sentencing and vice versa.

To offer a different perspective, this study employed the use of the DRUQ method. 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 sentencing 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, Alberta was found to be overrepresented for its use of sentenced custody and underrepresented for community-based sentences.

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[47] UN Human Rights Committee, *Concluding Observation on the Sixth Periodic Report of Canada* (CCPR/C/CAN/CO/6 HRC, 2015) at 6, online: <refworld.org/docid/5645a16f4.html> [perma.cc/AHA4-A36L].
[48] *Ibid* at 7.

Despite this widespread interjurisdictional variation, it is clear that sentencing outcomes for Aboriginal peoples remain a major concern in Canada. Even in a jurisdiction such as Quebec—which revealed the most encouraging results in this study in their greater use of probation and conditional sentences—imprisonment rates are well above what ought to be expected given the representation of Aboriginal peoples in the residential population. This seems to suggest that while the enactment of s. 718.2(e) of the *Criminal Code* and the provision's interpretation in subsequent Supreme Court of Canada decisions may have provided useful guidance to sentencing judges, they have not done enough to address the problem. The development of more effective social policy should therefore be a priority in addressing Aboriginal overrepresentation in correctional facilities.

In keeping with the *Gladue* and *Ipeelee* regimes, encouraging community-based sentencing options should be a primary area of focus. The introduction of the conditional sentence of imprisonment was a promising development in the mid-1990s but since then, several legislative amendments have restricted its utility. *An Act to Amend the Criminal Code (Conditional Sentence of Imprisonment)*[49] came into force in 2007 making conditional sentences unavailable for a wide range of offences (including terrorism offences, offences associated with a criminal organization, and serious personal injury offences). *The Safe Streets and Communities Act*[50] in 2012 further restricted the use of conditional sentences. The conditional sentence is not currently an option for crimes carrying a maximum penalty of fourteen years or life, drug production, trafficking, and import/export offences, and several offences involving the use of weapons. Reversing these restrictive amendments to the *Criminal Code* would be an important starting place. Lawmakers should also consider increasing the resources necessary to effectively supervise community-based sentencing options.

Most of all, it is imperative to obtain a more complete understanding of the overrepresentation problem in order to inform the development of effective social policy reform. Future research should, therefore, focus on identifying what has contributed to the interprovincial differences found in this study. It may prove beneficial to study the sentencing practices in certain provinces to try to understand why its representation of Aboriginal offenders 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 a province to understand what has contributed to the more concerning patterns of correctional representation for Aboriginal offenders.

Future research endeavors 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 the representation of Aboriginal peoples in Canada's criminal justice system, the data employed in this study were very limited. No data were available on the characteristics of the offenders (*e.g.*, criminal history) or cases (*e.g.*, number or seriousness of offences) that underlay the data employed, the involvement of Aboriginal peoples in other stages of the criminal justice system (*e.g.*, at arrest, charge, conviction), annual residential population counts, or relevant variables to supplement the correctional data such as the offence type or length of sentence. In addition, there is currently no available data documenting the differences in the severity of correctional sentences. As Lynch observed, however, this is an important area of inquiry:

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[49] *An Act to amend the Criminal Code (conditional sentence of imprisonment)*, SC 2007, c 12.

[50] *Safe Streets and Communities Act*, SC 2012, c 1.

> 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.[51]

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.[52] Gaining access to more comprehensive data that identify Aboriginal identity is key to advancing our knowledge of Aboriginal representation in the criminal justice system. Future research should also employ multi-year datasets to avoid spurious results. While relative measurement techniques such as the DRUQ are able to detect meaningful patterns even in the presence of small data counts, their results are dependent on accurate annual sampling.[53] As a result, studies employing datasets that look at correctional admission across jurisdictions and over several years are generally preferable.

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[51] James P Lynch, "A Comparison of Prison Use in England, Canada, West Germany, and the United States: A Limited Test of the Punitive Hypothesis" (1988) 79:1 J Crim L & Criminology 180 at 183.

[52] This is an important area of future inquiry as recent national statistics have shown female Aboriginal offenders to be further overrepresented than their male counterparts. It has been noted elsewhere that admissions of Aboriginal offenders to sentenced provincial/territorial custody were 38% for females and 24% for males. In the federal correctional system, percentages were 31% for females and 22% for males. Julie Reitano, *Adult Correctional Statistics in Canada, 2014/15* (Ottawa: Statistics Canada, 2016) at 5, online: <150.statcan.gc.ca/n1/pub/85-002-x/2016001/article/14318-eng.htm> [perma.cc/J8KB-WCQK].

[53] Martin A Andresen, "Location Quotients, Ambient Populations, and the Spatial Analysis of Crime in Vancouver, Canada" (2007) 39:10 Environment & Planning A: Economy and Space 2423 at 2442.

Appendix A. Correctional Admission Statistics for Admissions Involving Aboriginal Offenders by Province/Territory, 2016–17.

	Custody			**Probation**			**Conditional Sentence**		
	Count	Percent	DRUQ	Count	Percent	DRUQ	Count	Percent	DRUQ
Yukon	435	100.0%	0.89	88	100.0%	1.16	28	100.0%	1.00
Northwest Territories	363	88.1%	0.89	300	87.7%	1.16	44	89.8%	1.02
Nunavut	76	64.4%	0.98	182	56.9%	1.13	54	56.8%	0.97
British Columbia	3755	33.4%	0.96	2502	28.5%	1.07	555	28.7%	0.93
Alberta	8426	41.7%	1.01	2683	27.6%	0.88	200	20.7%	0.57
Saskatchewan	3436	76.6%	0.92	2797	70.0%	1.11	1013	75.0%	1.02
Manitoba	5433	76.4%	1.00	4796	61.3%	1.06	467	52.0%	0.77
Ontario	2590	11.3%	0.93	2799	9.9%	1.06	543	15.4%	1.43
Quebec	382	3.3%	0.61	554	5.6%	1.34	192	10.6%	2.17
New Brunswick	228	9.1%	0.86	151	9.5%	1.18	55	10.6%	1.13
Nova Scotia	127	8.1%	1.00	164	6.9%	1.11	37	6.1%	0.85
Prince Edward Island	14	2.9%	0.69	15	5.4%	1.66	0	0.0%	------
Newfoundland & Labrador	240	24.6%	0.92	305	23.1%	1.14	88	23.2%	0.98