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Plagues in Our Criminal Justice System An Analysis of Wrongful Conviction in Canada and other Countries

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[See table of contents](#)

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Article abstract

This study compared the causes of wrongful convictions in Canada, the United States, the United Kingdom, Australia, and New Zealand to a) determine the main causes of wrongful convictions in different countries, b) determine if the cause(s) of wrongful convictions significantly differ between each country, c) determine what, if any, recommendations arose from these cases, and d) if any of these recommendations could be implemented in a Canadian setting. The main causes were witness perjury, forensic error, and procedural error (Canada), witness perjury (US), witness perjury and police misconduct (UK), police misconduct (Australia), and procedural error (New Zealand). Kruskal-Wallis tests indicated significant differences in distribution between these countries for medicolegal death investigations, bitemark analysis, procedural error, police misconduct, inadequate legal defence, eyewitness misidentification, and witness perjury. Objectives c and d were addressed through a content analysis resulting in the following five themes emerging: lack of accountability, education, accessibility, discrimination, and post exoneration.

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Plagues in Our Criminal Justice System: An Analysis of Wrongful Conviction in Canada and other Countries

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This study compared the causes of wrongful convictions in Canada, the United States, the United Kingdom, Australia, and New Zealand to a) determine the main causes of wrongful convictions in different countries, b) determine if the cause(s) of wrongful convictions significantly differ between each country, c) determine what, if any, recommendations were made in these countries, and d) if any of these recommendations could be implemented in a Canadian setting. The main causes were witness perjury, forensic error, and procedural error (Canada), witness perjury (US), witness perjury and police misconduct (UK), police misconduct (Australia), and procedural error (New Zealand). Kruskal-Wallis tests indicated significant differences in distribution between these countries for medicolegal death investigations, bitemark analysis, procedural error, police misconduct, inadequate legal defence, eyewitness misidentification, and witness perjury. Objectives c and d were addressed through a content analysis resulting in the following five themes emerging: lack of accountability, education, accessibility, discrimination, and post exoneration.

- I. Introduction
- II. Background Information
 - A. Wrongful Convictions and Miscarriages of Justice
 - B. Exonerations and Exonerees
 - C. Contributing Causes of Wrongful Convictions
 - D. International Comparison
 - E. Significance
- III. Methods
 - A. Research Design
 - B. Sampling
 - a) Legal Content Analysis - Quantitative
 - b) Policy Content Analysis - Qualitative
 - C. Quantitative Component
 - D. Qualitative Component
 - E. Ethical Considerations
 - F. Quantitative Results

- a) Statistical Conclusions
- G. Qualitative Results
 - a) Theme 1: Lack of Accountability
 - b) Theme 2: Education
 - c) Theme 3: Accessibility
 - d) Theme 4: Discrimination
 - e) Theme 5: Post Exoneration
- IV. Discussion 33
 - A. Policy Recommendations for Canada
 - B. Future Research Recommendations

I Introduction

Criminal justice systems around the world depend on their ability to accurately convict the guilty, yet wrongful convictions still occur regularly. Wrongful convictions have occurred throughout the entirety of history and have been coming to light more in recent decades largely due to advances in DNA testing and analysis (Huff & Killias, 2013; Gould, 2007). Furthermore, the contributing causes of wrongful convictions are also being increasingly studied. Comparative scholarship and policy transfer has potential to allow countries to borrow and learn from one another. This can allow for changes in criminal policy, procedure, and evidence when necessary (Benson & Jordan, 2011; Delcour & Tulmets, 2019; Gould, 2007; Jones et al., 2021).

The current study analyzes the causes of wrongful convictions in Canada and other countries including the United States (US), the United Kingdom (UK), Australia, and New Zealand. These countries were chosen because they have established Innocence organizations as well as public legal databases that allow for a retroactive legal analysis of criminal cases in each of these countries. This study utilizes both quantitative and qualitative methods with a greater focus on quantitative methods. Data were collected through a content analysis coding sheet, allowing for themes to emerge throughout the data collection process. The data were then analyzed quantitatively to determine the most common causes of wrongful convictions in the various countries. Secondly, recommendations related to wrongful convictions in the countries were analyzed. The goal of this second portion was to see if any successful recommendations could be implemented in the Canadian criminal justice system. The ultimate objectives of this research were to a) determine the main causes of wrongful convictions in the countries being analyzed, b) determine if the cause(s) of wrongful convictions significantly differ between each country, c) determine what, if any, recommendations were made in these countries, and d) lastly, if any of these recommendations could be implemented in a Canadian setting to reduce the number of wrongful convictions and miscarriages of justice in the future.

II Background Information

A. Wrongful Convictions and Miscarriages of Justice

The definitions of wrongful conviction and miscarriage of justice vary across jurisdictions. According to the US National Institute of Justice (2021), a wrongful conviction occurs under one of two circumstances. Firstly, when a person convicted of a given crime is “factually innocent,” or

secondly, when there were “errors that violated the convicted person’s rights” (National Institute of Justice, 2021, para. 2). The Canadian Parliament has described a miscarriage of justice as a situation in which “new, credible evidence emerges that could have affected the verdict” (Mason, 2020, p. 1). A miscarriage of justice can include police harassment, poor legal representation, or any other unlawful action on behalf of the justice system (Bohm, 2005). For this study, wrongful convictions (according to the US definition) will be focused on to limit the data collection and provide a clear inclusion criterion for cases during the data collection and analysis portion. However, the recommendations provided at the end may also be applicable to other miscarriages of justice.

B. Exonerations and Exonerees

According to the US National Registry of Exonerations (2021), “an exoneration occurs when a person who has been convicted of a crime is officially cleared based on new evidence of innocence” (para. 1). A person can be exonerated for one of two reasons. Firstly, if they have been “declared to be factually innocent by a government official or agency” with the power to make such a decision (National Registry of Exonerations, 2021, para 1). Secondly, an individual may be exonerated if they were “relieved of all the consequences of a criminal conviction” by an authority with the power to act (National Registry of Exonerations, 2021, para. 2). The subsequent action may include “a complete pardon, ... an acquittal of all charges, ... or a dismissal of all charges” (National Registry of Exonerations, 2021, para 1). Further, these actions must have resulted in part from evidence that either “was not presented at the trial” when the individual was convicted, or “if the person pled guilty, was not known to the defendant or the defense attorney, and to the court, at the time the plea was entered” (National Registry of Exonerations, 2021, para. 1). Thus, while the terminology may vary amongst jurisdictions, the word ‘exoneree’ in this study describes an individual who was wrongfully convicted of a crime and later exonerated. Exoneration is not a legal term in many jurisdictions and may instead be called an acquittal, withdrawal, stay of proceedings, pardon, or dismissal of charges.

C. Contributing Causes of Wrongful Convictions

The growth of the innocence movement has allowed scholars to begin asking why wrongful convictions occur (Bell et al., 2008; Roach, 2012; Roberts, 2003). The causes of these wrongful convictions have been considered by many scholars and legal professionals (Roach, 2012). Wrongful convictions may be caused intentionally (with, for example, malice) or accidentally (Grunewald, 2023; Naughton, 2018). In 2018, the Public Prosecution Service of Canada (PPSC) published a report on wrongful convictions, outlining some of the main causes of wrongful convictions. In this publication, they list eyewitness misidentification, false confessions, jailhouse informers, forensic evidence, expert testimony, and false guilty pleas as being recognized hallmarks of wrongful convictions by many scholars in the field (Campbell, 2018; Bell et al., 2008; Poyser et al., 2018; PPSC, 2018; Roach, 2023; Roberts, 2003).

D. International Comparison

The literature on wrongful convictions is growing rapidly, and more authors are considering international comparisons (Huff & Killias, 2013; Roach, 2015; Sangha et al., 2010; Shapiro, 2020). Organizations such as the Innocence Network (2021) provide examples of why global collaboration of innocence organizations is highly important. International participation

allows countries to learn from one another, improve resource accessibility for exonerees, and advocate for policy change when necessary. Roach (2015) states that comparative scholarship is one of the best ways to “understand the causes of and remedies for wrongful convictions” (p. 381). Shapiro (2020) also notes that more research is needed on these topics and that cross-national analysis is highly important for “overcoming the wrongful conviction problem” (p. 934). For these reasons, this study chose to take an international approach to see what can be learned from other systems.

E. Significance

We chose to analyze Canada, and compare it with the US, the UK, Australia, and New Zealand for several reasons. The first reason is accessibility. All these countries have Innocence organizations and legal databases available to the public which allow for increased transparency and accessibility. This is significant as wrongful convictions research is a unique topic and thus accessible, transparent data are important. Secondly, these systems have different approaches to legal procedure and policy. Thus, each country has considered the causes of wrongful convictions differently. As these countries’ policies, procedures, and processes vary, it allows for greater consideration of different methods when addressing potential remedies. Lastly, there is no current literature that compares rates of wrongful convictions between these countries using a similar mixed methods approach.

II Methods

A. Research Design

To address the research questions, two separate content analyses were employed. The first used legal cases and was analyzed quantitatively. The second used documents containing recommendations for remedying wrongful convictions. This second content analysis was approached qualitatively allowing for themes to emerge during analysis.

A total of 440 court cases (100 from the US, 100 from the UK, 95 from Canada, 91 from Australia, and 54 from New Zealand) were collected and coded. The UK cases included all jurisdictions in the broader UK. These cases were analyzed in Microsoft Excel[®] and SPSS[®] Statistics. The quantitative portion of this study used these cases to answer the first two research questions (a) what the main causes of wrongful convictions in each country are and (b) do these causes significantly differ between each country?

The qualitative component of the study utilized a non-numeric policy content analysis to identify themes in documents containing recommendations provided to reduce or address concerns surrounding wrongful convictions. A total of 22 documents were collected (five from the US, six from Canada, five from Australia, four from the UK, and two from New Zealand). These documents included public inquiries, royal commissions, judicial reports, and academic studies. This portion of the study was used to answer the second two research questions which were to (c) determine what, if any, recommendations were made in these countries, and d) if any of these recommendations could be implemented in a Canadian setting to reduce the number of wrongful convictions and miscarriages of justice in the future. While these samples are by no means exhaustive of all cases and recommendations in these jurisdictions, they were chosen through a

random sampling method to limit the quantity and analysis of data. Additionally, while there is much to learn from policy transfer research methods, scholars have also outlined certain associated risks (James & Lodge, 2003). It may be best to consider the transferability of these recommendations as comparative “lesson drawing” than absolute policy transfer (Dolowitz & Marsh, 2012; James & Lodge, 2003; Jones et al., 2021; McFarlane & Canton, 2014; Rose, 1991).

B. Sampling

a) Legal Content Analysis - Quantitative

Court cases were selected using non-probability purposive sampling. Purposive sampling allows for fast and relevant data collection. Additionally, purposive sampling allows the researcher to collect data based on a set criterion specific to the area of interest which permits a narrow, systematic search. Thus, this sampling method allowed cases to be chosen that directly related to the research question. Specifically, cases were chosen that were known wrongful conviction cases (i.e., the individual had been formally exonerated/acquitted/pardoned, although the term varies amongst jurisdictions) in which the individual spent some time wrongly incarcerated.

Cases were taken from various online platforms. The primary sources were legal databases including WorldLii (for the US), CanLii (for Canada), BaiLii (for the UK), AustLii (for Australia), and NzLii (for New Zealand). These sources were chosen because they contain extensive libraries of cases from nearly all jurisdictions. Secondary sources included news articles, academic papers, and Innocence organization websites. These sources were used for supplementary information when the legal case did not contain enough context, or when legal cases were referenced but did not appear in any of the legal databases when searched.

b) Policy Content Analysis - Qualitative

Documents that contained recommendations for reducing miscarriages of justice were collected through online sources. These were collected using non-probability purposive sampling for the same reason that the cases were collected using this method. These documents included public inquiries, commissions, reports, and academic studies. All documents were collected using a Google search using the search phrases “wrongful conviction” + “recommendation” + “name of country.” The 22 sources collected are by no means exhaustive of the documents available. The recommendation(s) from these documents were then analyzed and coded for themes relating to the causes and consequences of wrongful convictions.

C. Quantitative Component

The data collection process differed slightly depending on the country as the resources in each country are slightly different. Generally, the country’s Innocence Project, exoneree database, or Criminal Conviction Review Group (CCRG) website was used first to identify the names of known wrongful conviction cases. After, their cases were searched in that country’s legal database. Because each country, jurisdiction, and level of court use different key words to identify wrongful convictions, this process allowed for mainstreamed collection and ensured that only wrongful conviction cases were being collected. For the US specifically, the National Registry of Exonerates was used. Thus, beginning with Innocence organizations or CCRG websites allowed relevant cases to be identified early on, and their official court cases were subsequently collected. Occasionally,

the legal cases were not accessible in the public legal databases, possibly because many exonerees change their names following exoneration, which may make their cases harder to locate and, depending on the jurisdiction or level of court, the case may never have been made publicly available. As well, cases involving minors would have pseudonyms, so their cases were difficult to locate. Regardless of the reason, in situations where the actual court case was not available, supplementary information was searched for. This included both academic and news articles. A basic Google search with the exoneree's name, the country, and year of crime (if known) was done. In cases where nothing relevant came up, the terms “wrongful conviction” and “miscarriage of justice” were also included in the search.

For the coding phases, initially a total of fifteen primary coding groups were created. However, once coding was completed, an additional four groups emerged resulting in nineteen overarching coding groups. These primary codes related to causes of wrongful convictions as they are relevant to the research question. Nine of these coding groups related to the forensic sciences and the rest related to professional misconduct, human error, human bias, procedural error, or a combination of these. In addition to these primary codes, other relevant contextual and demographic information was collected (Table 1).

Table 1. Final Coding Groups

Primary coding groups (causes of WC)	Other relevant contextual and demographic information collected
Forensics: Medicolegal Death Investigation, DNA Analysis, Hair Analysis, Fiber Analysis, Firearm/Toolmark Analysis, Fingerprint Analysis, Blood Pattern Analysis, Fire Investigation, Bitemark Analysis	Contextual Information: Year of Crime, Year of Conviction, Year of Exoneration, Sentence Received, Status of Case, Judge or Jury
Other: Expert Witness Testimony, Witness Perjury, Eyewitness Misidentification, Jailhouse Informants, False Confession, False Guilty Plea, Inadequate Legal Defence, Police Misconduct, Prosecutorial Misconduct, Procedural Error	Demographic Information: Sex/Gender, Race, Age, Educational Level, Religion, Immigration Status, Mental Disability, Physical Disability, Financial Status, Children, Single Parent, Physical Appearance, Traumatic Brain Injury

Each of the primary coding groups had specific inclusion and exclusion criteria (Table 2). The additional contextual and demographic information was noted down whenever made apparent in the data being coded.

Table 2. Inclusion and Exclusion Criteria for Primary Coding Variables

Primary Coding Variable	Inclusion Criteria	Exclusion Criteria
Medicolegal Death Investigation	If mentioned in relation to faulty autopsy results, inaccurate estimated time of death, or inaccurate estimated cause or manner of death.	If not mentioned

Primary Coding Variable	Inclusion Criteria	Exclusion Criteria
DNA Analysis	If mentioned in relation to inaccurate conclusions about a DNA sample such as a false positive, or misidentification	If not mentioned
Hair Analysis	If mentioned in relation to an inaccurate hair “match”	If not mentioned
Fiber Analysis	If mentioned in relation to an inaccurate fiber “match”	If not mentioned
Firearm/Toolmark Analysis	If mentioned in relation to an inaccurate firearm or tool mark “match”	If not mentioned
Fingerprint Analysis	If mentioned in relation to an inaccurate fingerprint “match”	If not mentioned
Blood Pattern Analysis	If mentioned in relation to some blood pattern analysis in which the analyst drew inaccurate conclusions about the nature or recreation of the crime	If not mentioned or if mentioned in relation to DNA (if so, would have been coded as DNA Analysis)
Fire Investigation	If mentioned in relation to some type of faulty arson/fire/explosion investigation	If not mentioned
Bitemark Analysis	If mentioned	If not mentioned
Expert Witness Testimony	If related to an “expert” testimony, either in relation to their own bias/improper training (i.e., if the “expert” is discussing an established field such as DNA Analysis but was found to overstate their findings or ignored other important facts etc.) or if they are discussing a scientifically invalid field, claiming that it is accurate (i.e., bitemark analysis)	If not mentioned
Witness Perjury	If the witness is lying about some aspect of the case other than identifying an individual, unless it was explicitly stated that the witness purposely misidentified a suspect	If not mentioned or if related to lying about identifying a suspect (would then be coded as Eyewitness Misidentification)
Eyewitness Misidentification	In cases where the witness accidentally misidentifies the suspect due to factors such as the weapon focus effect, racial cross identification, or human bias/error	If not mentioned or if proven that the individual purposely misidentified the individual (would then be coded as Witness Perjury)
Jailhouse Informant	If mentioned	If not mentioned
False Confession	If mentioned	If not mentioned

Primary Coding Variable	Inclusion Criteria	Exclusion Criteria
False Guilty Plea	If the wrongfully convicted individual formally pled guilty	If not mentioned
Inadequate Legal Defence	If mentioned that the wrongfully convicted individual's lawyer provided poor legal representation (i.e., poor cross examination of witnesses, not raising exculpatory evidence, providing poor advice such as encouraging them to take a guilty plea)	If not mentioned
Police Misconduct	If the police participated in some form of misconduct (i.e., police brutality, poor investigation/interrogation techniques, destroyed evidence, withheld evidence etc.)	If not mentioned
Prosecutorial Misconduct	If the prosecution/Crown participated in some form of misconduct (i.e., failure to disclose, overzealous behaviour etc.)	If not mentioned
Procedural Error	If related to some type of procedural error, usually in relation to the judges conduct (i.e., misapplication of legal tests, inaccurate instructions to jurors etc.)	If not mentioned

In addition to the primary coding groups, secondary coding groups (contextual and demographic data) were also created. These variables were collected to situate the rest of the data and ensure that any patterns were identified. Similar to the primary coding groups, these additional codes followed specific inclusion and exclusion criteria throughout the coding process (Table 3).

Table 3. Inclusion and Exclusion Criteria for Secondary Coding Variables

Secondary Coding Variables	Inclusion Criteria	Exclusion Criteria
Year of Crime	The year in which the crime that the person was wrongfully convicted of occurred	Always included when available
Year of Conviction	The year in which the person was wrongfully convicted (usually the end of their first trial)	Always included when available
Year of Exoneration	The year in which the individual was formally recognized as being innocent (through an exoneration/pardon/acquittal etc.)	Always included when available
Sentence Received	The length of prison sentence received	Always included when available

Secondary Coding Variables	Inclusion Criteria	Exclusion Criteria
Status of Case	The status of the case, including how many years the exoneree spent incarcerated	Always included when available
Judge or Jury	Whether the initial trial was led by a jury or judge alone	Always included when available
Gender	The gender by which the exoneree identifies	Always included when available
Race	The race of the exoneree (data available usually limited to the categories of White, Black, Hispanic, Middle Eastern, Indigenous, or Asian)	Always included when available
Age	The age of the exoneree when they were wrongfully convicted	Always included when available
Educational Level	The exoneree's level of education (i.e., elementary level, less than high school, high school graduate, university etc.)	Always included when available
Religion	The exoneree's self-identified religion	Always included when available
Immigration Status	The exoneree's immigration status in the country they were wrongly convicted	Always included when available
Mental Disability	If the exoneree has any diagnosed mental disabilities	Always included when available
Physical Disability	If the exoneree has any diagnosed physical disabilities	Always included when available
Financial Status	If mentioned	Always included when available
Children	If the exoneree has any children, including stepchildren	Always included when available
Single Parent	If the exoneree is a single parent	Always included when available
Physical Appearance	If the exoneree has any physical characteristics that were brought up in some negative way during the investigation/trial etc. (tattoos etc.)	Always included when available
Traumatic Brain Injury (TBI)	If the exoneree suffered some TBI	Always included when available

The cases were both collected and coded in Microsoft Excel[®], the name of the exoneree was written down in the first column, followed by one column for each primary code and lastly one column for each secondary code. Generally, wrongful convictions stem from multiple systemic issues, they rarely happen in isolation. Many wrongful convictions are “the perfect storm” in which a combination of situational, environmental, and systemic issues come together to create this type of injustice. Thus, many cases were assigned more than one of these primary codes. For

primary codes, 1 was assigned when the code was absent and 2 was assigned when the code was present. For secondary codes, they were written out in plain language for each exoneree.

The data were then analyzed in Excel[®] to determine the main cause(s) of wrongful conviction in each country as well as the main cause overall using the entire sample (n=440). Subsequently, the data were analyzed in SPSS[®] Statistics using independent-samples nonparametric Kruskal-Wallis tests to determine if the causes of wrongful convictions significantly differ between the countries of interest. For this second analysis, rather than using the entire sample, 54 cases were randomly selected from each country. This was done to ensure equal sample sizes for analysis as New Zealand only had 54 cases. For each Kruskal-Wallis test that indicated some significant differences, pairwise comparison tests were employed to determine where the significant differences are. These pairwise tests were performed in SPSS[®] Statistics using Bonferroni corrections as multiple independent tests were being performed at once.

D. Qualitative Component

Documents containing recommendations for reducing miscarriages of justice were collected and coded. These documents included policy, inquiries, commissions, reports, and some academic studies. A total of 22 documents were collected (five from the US, six from Canada, five from Australia, four from the UK, and two from New Zealand). The recommendation sections of these documents were coded according to the primary codes used in the quantitative component of this study (Table 1). The only difference was that this portion of the study searched for recommendations for the causes of wrongful convictions that were coded. The primary codes were considered during this analysis to determine if each country has addressed the main causes of wrongful convictions identified in this study. In addition, any themes that emerged were also noted. A total of five themes with multiple subthemes emerged.

E. Ethical Considerations

All data were taken from online sources through public databases. Additionally, all the research was conducted online and did not involve human participants. As such, no immediate or physical risk was present to the researchers. Thus, there are limited ethical concerns related to this study. Thus, an ethics proposal was not required.

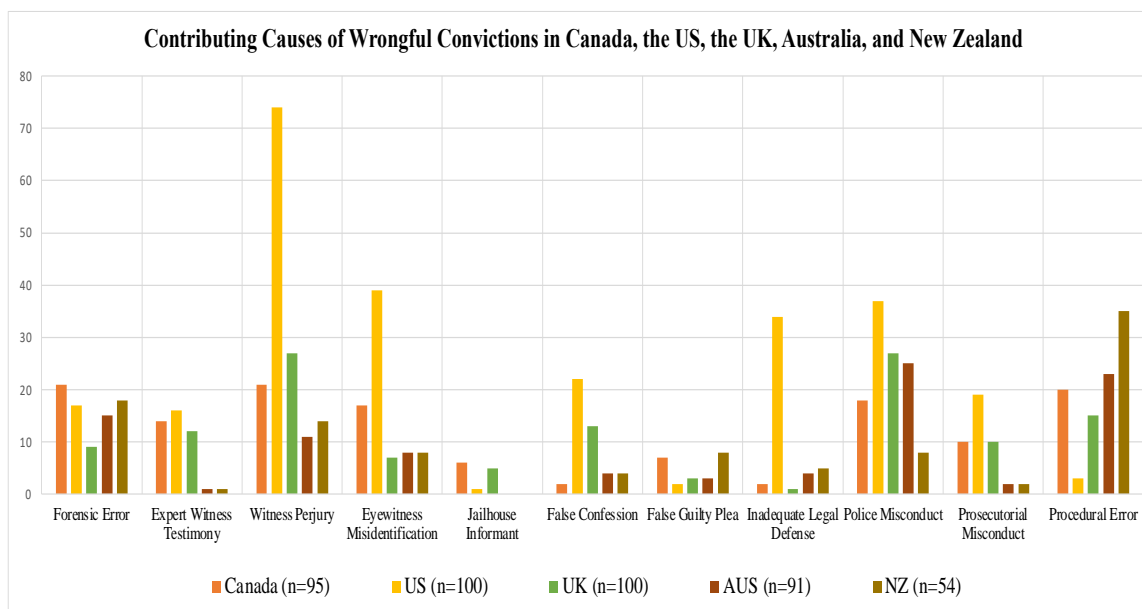
The study does address sensitive topics such as institutional and systemic issues which historically disproportionately affect marginalized communities and peoples. Thus, the researchers committed to continuously address and consider other perspectives and potential biases. Many of the topics discussed and coded for in this study, such as police misconduct, are faced by Black, Indigenous and People of Colour (BIPOC) much more regularly than able bodied, cis, heteronormative White people. Thus, it is important that any patterns that reflect systemic issues are identified and discussed in a respectful matter. One way this has been addressed in this study is by coding for additional demographics such as race and religion. Ensuring that these populations have space in research is important not only for addressing historical injustices, but also for considering how policy, procedure, and justice systems in general affects different communities.

Lastly, addressing personal biases are important to ensure proper representation and interpretation of the data. As non-probability purposive sampling was utilized, it is important to follow a strict coding inclusion and exclusion criteria to reduce bias.

F. Quantitative Results

The final sample for the quantitative component included 440 cases (n=440). Originally, the sample was intended to include 100 cases from each country. However, many of the cases did not meet the inclusion criteria. Overall, 100 cases were collected from the US (23%), 100 from the UK (23%), 95 from Canada (21%), 91 from Australia (21%), and 54 from New Zealand (12%) (Figure 1).

Figure 1. Contributing causes of wrongful convictions in Canada, the US, the UK, Australia, and New Zealand.



To address the first research question, the data were first analyzed in Excel[®]. As there were many codes for the various forensic sciences, they were grouped into “forensic error” for simplified data visualization. Firstly, the main cause of wrongful conviction was assessed in each country. In Canada, the main cause of wrongful convictions was found to be witness perjury, forensic error, and procedural error (all 15%). In the US, the main cause of wrongful convictions was found to be witness perjury (28%). In The UK the main causes of wrongful convictions were found to be witness perjury (21%) and police misconduct (21%). In Australia the main cause of wrongful convictions was found to be police misconduct (26%). Lastly, in New Zealand the main cause of wrongful convictions was found to be procedural error (41%).

To answer the second research question whether the causes of wrongful convictions significantly differ between countries, Kruskal-Wallis tests were performed in SPSS[®] Statistics. Since the number of cases collected for each country differed, only 54 cases from each country were used to ensure equal sample sizes for this analysis. These 54 cases were randomly selected from each country. Each country was assigned a number (Canada as 1, US as 2, UK as 3, Australia as 4, and New Zealand as 5) for analysis. Kruskal-Wallis tests were chosen because the means of more than two samples were being compared, and the data did not meet the assumptions of a One-Way ANOVA test. Using a significance level or alpha of 0.05, the Kruskal-Wallis tests performed indicated a significant difference amongst countries for seven of the causes of wrongful convictions (Table 4).

Table 4. Hypothesis Testing Summary (Significant results shown in bold and italics).

	Null Hypothesis	Test	Sig. ^{a,b}	Decision
1	The distribution of Hair Analysis is the same across categories of country.	Independent-Samples Kruskal-Wallis Test	.087	Retain the null hypothesis.
2	The distribution of Fire Investigation is the same across categories of country.	Independent-Samples Kruskal-Wallis Test	1.000	Retain the null hypothesis.
3	The distribution of Expert Testimony is the same across categories of country.	Independent-Samples Kruskal-Wallis Test	.097	Retain the null hypothesis.
4	The distribution of Witness Perjury is the same across categories of country.	Independent-Samples Kruskal-Wallis Test	.000	Reject the null hypothesis.
5	The distribution of False Confessions is the same across categories of country.	Independent-Samples Kruskal-Wallis Test	.072	Retain the null hypothesis.
6	The distribution of Eyewitness Misidentification is the same across categories of country.	Independent-Samples Kruskal-Wallis Test	.000	Reject the null hypothesis.
7	The distribution of Inadequate Legal Defence is the same across categories of country.	Independent-Samples Kruskal-Wallis Test	.000	Reject the null hypothesis.
8	The distribution of Jailhouse Informants is the same across categories of country.	Independent-Samples Kruskal-Wallis Test	.206	Retain the null hypothesis.
9	The distribution of Blood Pattern Analysis is the same across categories of country.	Independent-Samples Kruskal-Wallis Test	.251	Retain the null hypothesis.
10	The distribution of False Guilty Plea is the same across categories of country.	Independent-Samples Kruskal-Wallis Test	.080	Retain the null hypothesis.
11	The distribution of Police Misconduct is the same across categories of country.	Independent-Samples Kruskal-Wallis Test	.000	Reject the null hypothesis.
12	The distribution of Prosecutorial Misconduct is the same across categories of country.	Independent-Samples Kruskal-Wallis Test	.177	Retain the null hypothesis.
13	The distribution of Firearm and Toolmark Analysis is the same across categories of country.	Independent-Samples Kruskal-Wallis Test	.398	Retain the null hypothesis.
14	The distribution of Fiber Analysis is the same across categories of country.	Independent-Samples Kruskal-Wallis Test	.556	Retain the null hypothesis.
15	The distribution of Procedural Error is the same across categories of country.	Independent-Samples Kruskal-Wallis Test	.000	Reject the null hypothesis.
16	The distribution of Bitemark Analysis is the same across categories of country.	Independent-Samples Kruskal-Wallis Test	.017	Reject the null hypothesis.
17	The distribution of Fingerprint Analysis is the same across categories of country.	Independent-Samples Kruskal-Wallis Test	.251	Retain the null hypothesis.
18	The distribution of Medicolegal Death Investigation is the same across categories of country.	Independent-Samples Kruskal-Wallis Test	.001	Reject the null hypothesis.

	Null Hypothesis	Test	Sig. ^{a,b}	Decision
19	The distribution of DNA Analysis is the same across categories of country.	Independent-Samples Kruskal-Wallis Test	.090	Retain the null hypothesis.
	a. The significance level is .050.			
	b. Asymptotic significance is displayed.			

Kruskal-Wallis tests indicated that there is a statistically significant difference ($p < 0.05$) between the US, UK, Canada, Australia, and New Zealand for medicolegal death investigations ($p = 0.001$), bitemark analysis ($p = 0.017$), procedural error ($p = 0.000$), police misconduct ($p = 0.000$), inadequate legal defence ($p = 0.000$), eyewitness misidentification ($p = 0.000$), and witness perjury ($p = 0.000$). As this type of statistical test does not indicate exactly where these significant differences are, follow up pairwise comparison tests with Bonferroni corrections were used. Pairwise comparisons were only done on the seven causes of wrongful convictions that were found to be significantly different.

a) Statistical Conclusions

i) Witness Perjury

The distribution of witness perjury as a cause of wrongful convictions in Canada, the US, the UK, Australia, and New Zealand significantly differ (Kruskal-Wallis, $H(4) = 57.177$, $p < 0.001$). A follow-up pairwise comparison test with Bonferroni corrections for the distribution of witness perjury indicated that this significant difference is between Australia and the US ($p = 0.000$), the UK and the US ($p = 0.000$), New Zealand and the US ($p = 0.000$), and Canada and the US ($p = 0.000$).

ii) Eyewitness Misidentification

The distribution of eyewitness misidentification as a cause of wrongful convictions in Canada, the US, the UK, Australia, and New Zealand significantly differ (Kruskal-Wallis, $H(4) = 28.275$, $p < 0.001$). A follow-up pairwise comparison test with Bonferroni corrections for the distribution of eyewitness misidentification indicated that this significant difference is between Australia and the US ($p = 0.000$), the UK and the US ($p = 0.000$), New Zealand and the US ($p = 0.002$), and Canada and the US ($p = 0.032$).

iii) Inadequate Legal Defence

The distribution of inadequate legal defence as a cause of wrongful convictions in Canada, the US, the UK, Australia, and New Zealand significantly differ (Kruskal-Wallis, $H(4) = 41.722$, $p < 0.001$). A follow-up pairwise comparison test with Bonferroni corrections for the distribution of inadequate legal defence indicated that this significant difference is between Australia and the US ($p = 0.000$), the UK and the US ($p = 0.000$), New Zealand and the US ($p = 0.000$), and Canada and the US ($p = 0.000$).

iv) Police Misconduct

The distribution of police misconduct as a cause of wrongful convictions in Canada, the US, the UK, Australia, and New Zealand significantly differ (Kruskal-Wallis, $H(4) = 20.600$, $p <$

0.001). A follow-up pairwise comparison test with Bonferroni corrections for the distribution of police misconduct indicated that this significant difference is between New Zealand and Australia ($p = 0.013$), New Zealand and the US ($p = 0.001$), and Canada and the US ($p = 0.027$).

v) Procedural Error

The distribution of procedural error as a cause of wrongful convictions in Canada, the US, the UK, Australia, and New Zealand significantly differ (Kruskal-Wallis, $H(4) = 28.147$, $p < 0.001$). A follow-up pairwise comparison test with Bonferroni corrections for the distribution of procedural error indicated that this significant difference is between Australia and the US ($p = 0.006$), the US and New Zealand ($p = 0.000$), Canada and New Zealand ($p = 0.002$), and the UK and New Zealand ($p = 0.028$).

vi) Medicolegal Death Investigation

The distribution of medicolegal death investigations as a cause of wrongful convictions in Canada, the US, the UK, Australia, and New Zealand significantly differ (Kruskal-Wallis, $H(4) = 18.840$, $p < 0.001$). A follow-up pairwise comparison test with Bonferroni corrections for the distribution of medicolegal death investigations indicated that this significant difference is between Australia and New Zealand ($p = 0.007$), and the US and Australia ($p = 0.007$).

v) Bitemark Analysis

The distribution of bitemark analysis as a cause of wrongful convictions in Canada, the US, the UK, Australia, and New Zealand significantly differs (Kruskal-Wallis, $H(4) = 12.090$, $p < 0.017$). A follow-up pairwise comparison test for the distribution of bitemark analysis indicated that this significant difference is between Canada and the US ($p = 0.006$), the US and the UK ($p = 0.006$), the US and Australia ($p = 0.006$), and New Zealand and the US ($p = 0.006$). However, when these significance values were adjusted by Bonferroni corrections, none of them remained significant ($p > 0.060$).

G. Qualitative Results

A total of 22 documents including academic studies, Royal Commissions, public inquiries, reports, and academic papers were considered. Any of the relevant causes of wrongful convictions that were coded for in the quantitative portion of this study (Table 2) were noted down during analysis. In addition, the documents were analyzed for any other relevant themes. A total of five themes emerged during analysis. These themes include a lack of accountability (with two subthemes of individual and systemic), education, accessibility, post exoneration (with two subthemes of reintegration and compensation), and discrimination (Table 5).

Table 5. Documents containing recommendations and their emerging themes.

Name of Document	Country	Year	Relevant Causes Discussed	Emerging Themes
American Prison Congress Review	United States	1912		Lack of Accountability

Name of Document	Country	Year	Relevant Causes Discussed	Emerging Themes
Borchard Study	United States	1932	Eyewitness Misidentification, Procedural Error, Witness Perjury	
Franks' Study	United States	1957	Eyewitness Misidentification, Procedural Error	Lack of Accountability
Commission on Capital Punishment (Illinois)	United States	2002	Procedural Error, Forensic Error, Police Misconduct	
Predicting Erroneous Convictions – US Department of Justice	United States	2013	Eyewitness Misidentification, Prosecutorial Misconduct, Forensic Error	Lack of Accountability, Education
Kaufman Commission	Canada	1998	Forensic Error, Police Misconduct, Education	Education
Sophonow Inquiry	Canada	2001	Police Misconduct, Jailhouse Informants	Education
Lamer Commission	Canada	2006	Police Misconduct	Accessibility
MacFarlane Paper	Canada	2008	Forensic Error, Police Misconduct, Procedural Error	Education
The Path to Justice: Preventing Wrongful Convictions	Canada	2011	Forensic Error, Jailhouse Informants, False Confessions, Eyewitness Misidentification	Education
LaForme and Westmoreland-Traróé Commission	Canada	2021		Lack of Accountability, Reintegration and Compensation
Du Cann Study	United Kingdom	1960	Procedural Error	
Brandon and Davis Study	United Kingdom	1973		Accessibility, Discrimination
Report of the Royal Commission on Criminal Justice	United Kingdom	1991	Police Misconduct, False Confessions, Forensic Error	Accessibility, Education
Forensic Science Regulator	United Kingdom	2007	Forensic Error	Lack of Accountability
The Shannon Report	Australia	1984	Forensic Error	Lack of Accountability
Royal Commission on the Chamberlain Convictions	Australia	1987	Forensic Error	Lack of Accountability
The Hunt Report	Australia	1994	Forensic Error	Compensation
Mallard Inquiry	Australia	2008	Police Misconduct, Prosecutorial Misconduct	Lack of Accountability, Accessibility
Queensland Commission	Australia	2018		Compensation, Discrimination

Name of Document	Country	Year	Relevant Causes Discussed	Emerging Themes
Arthur Allan Thomas Inquiry	New Zealand	1980	Forensic Error, Police Misconduct	Compensation
Compensation Guide	New Zealand	2020		Compensation

A. Theme 1: Lack of Accountability

The first theme that emerged is a lack of accountability. Two subthemes emerged under this theme which are an individual lack of accountability and a systemic lack of accountability.

a) Subtheme: Individual Lack of Accountability

Individual lack of accountability refers to professionals in the justice system who engage in misconduct and do not face enough, if any, consequences. This is illustrated in the 1987 Australian Royal Commission on the Chamberlain Convictions. In this report, it is acknowledged that there was a great deal of forensic error that contributed to the Chamberlain's wrongful convictions, for example the authors acknowledge (Royal Commission on the Chamberlain Convictions, 1987, pp. 317-318):

Forensic science facilities for support of police in Australia were fragmented and lacked co-ordination and potential for significant research and development. It also found that facilities were generally limited by lack of liaison, that information exchange was not coordinated, and that there was no long term plan for national development and improvement.

While this report acknowledges issues with forensics in Australia, it does not provide any information regarding the individuals in this case who contributed to the forensic error, nor does it recommend any punitive measures for individuals who contribute to such errors. This subtheme also arose in the 2008 Australian Mallard Inquiry in which it was determined that two police officers and one prosecutor engaged in extreme misconduct leading to the wrongful conviction of Mr. Mallard. However, the only recommendations related to holding these individuals accountable were as follows (Mallard Inquiry, 2008, p. 165):

1. That the Commissioner of Police give consideration to the taking of disciplinary action against Assistant Commissioner Malcolm William Shervill and Assistant Commissioner David John Caporn.
2. That the Director of Public Prosecutions gives consideration to the taking of disciplinary action against Mr. Kenneth Paul Bates.

Clearly, these recommendations provide no actual consequences for the individuals who engaged in misconduct. This demonstrates again a lack of individual accountability in which misconduct is acknowledged but no punitive measures are taken.

b) Subtheme: Systemic Lack of Accountability

Systemic lack of accountability refers to systems and institutions refusing to acknowledge their role in wrongful convictions. For example, in the 1912 American Prison Congress Review, all reported unjust convictions were reviewed and they concluded that no cases of wrongful convictions existed at all.

The 1957 Franks' study from the US illustrated how the system perpetuates individual mistakes and lack of accountability. Specifically, the authors discuss how the adversarial justice system implements a "fight mentality" encouraging opposing sides to "win" their case. The following quote illustrates this issue (Frank, 1957, p. 237):

[Fight mentality is an] occupational disease [leading them to adopt a] bias in pre-trial investigations [which leads to] a habit of drifting into a chronic spirit of hostility toward each new suspect.

This quote from the Franks' study demonstrates the inherent flaws in the adversarial system. Additionally, it may shed light on why those running the adversarial justice systems have for so long ignored their role in wrongful convictions. As this mentality is so deeply entrenched, individuals who work in the system and who benefit from the system are unlikely to acknowledge any wrongdoings.

The recent 2021 LaForme and Westmoreland-Traróé Commission may be one of the only examples of a public document from this study that begins to take some responsibility on a systemic level. They note that "there are people who have been failed by our system of criminal justice" (para. 3) and that "miscarriages of justice do not occur in a social or legal vacuum" (para. 4). That said, this document is relatively progressive in comparison to the others, but the recommendations have not been formally implemented by the Canadian government yet. However, Canada recently introduced Bill C-40 to address some of the recommendations, primarily by amending the *Criminal Code* to implement an Independent Review Commission for Miscarriages of Justice (Department of Justice, 2023).

In many ways both types of accountabilities are deeply connected and can be condensed to the argument of bad apple or systemic issue. On one hand, there are individuals in the system who make either conscious or unconscious decisions that have negative consequences. This can be easily written off as a "bad apple" or individual mistake but in reality, it is much broader than that. A Canadian example of this is that of Charles Smith who was not qualified to be in the position he was and through his testimony contributed to many wrongful convictions (Goudge, 2008). While some may argue he is a "bad apple," we believe that this study has made it clear that there are no single bad apples when it comes to wrongful convictions. Individuals should be held accountable for their mistakes, but we also need to consider *who* hired these individuals, *who* allowed them to continue working, *who* admitted their testimony. The system allows for "bad apples" to operate and contribute to wrongful convictions. Thus, it is important to implement more safeguards for avoiding firstly individual mistakes but also for holding the system accountable. Although not included in the sample, the CCRC in the UK is a response to systemic issues, and has influenced other countries, including Canada. Additionally, the creation of the UK Forensic Science Regulator is a form of systemic reform as well, and was formalized in 2021 (Crown Prosecution Service,

2023). There may be other examples as well not included in this sample. Regardless, it seems clear that most systems should be doing more to address systemic issues and miscarriages of justice.

B. Theme 2: Education

Many of the recommendations in these documents related to increased education for legal professionals, especially for police and in relation to forensic evidence. One example of this comes from the 2008 Canadian MacFarlane paper which considers the importance of education for the forensic pathology community. The following quote summarizes some of the main recommendations related to education in this paper (MacFarlane, 2008, pp. 67-68):

Indeed, education should be extended beyond tunnel vision and include issues such as:

- a) distortion in the decision-making process due to irrelevant and prejudicial extraneous information;
- b) the proper role of the forensic pathologist in Canada (see below); and
- c) presentation of evidence in court, with particular emphasis on the limitations of that evidence and the need to clearly convey those limitations to the court when testifying (recognizing that work in this area was announced by the Chief Coroner in his public announcement on April 19, 2007)
- d) Additionally, the forensic pathology community should consider the following:
- e) Education on these issues should start in medical school.
- f) Education of this nature should be ongoing, and not be seen simply as a “one-shot” event.
- g) Education should be multidisciplinary in nature, drawing on psychological and legal expertise.

Education was also acknowledged in the 2013 report titled “Predicting Erroneous Convictions” from the US Department of Justice. In this report the authors discuss how judges and defence attorneys regularly misunderstand forensic and scientific evidence in courts. The following quote illustrates this issue (Predicting Erroneous Convictions – US Department of Justice, 2013, p. 83):

Judges, like defense attorneys, appeared to lack training and education in new advances in psychology, forensic science, and other related disciplines. More importantly, in a number of our cases, the judge failed to use his or her discretionary powers to closely examine the evidence, level the field between prosecution and defense, or otherwise take an active role in protecting the innocent defendant.

Evidently, there is a need to increase educational resources regarding forensic evidence so judges, lawyers, and other legal professionals can properly understand and cross-examine such evidence.

Recommendations for police are also common in these documents. The Canadian Kaufman (1998) and Sophonow (2001) Inquiries recommend ongoing training for police officers and encourage their attendance at annual lectures on tunnel vision and bias. The 1991 UK Royal Commission on Criminal Justice also addresses police training. One of the recommendations in

this commission relates to interviewing suspects and witnesses (Report of the Royal Commission on Criminal Justice, 1991, p. 189):

Police training should stress the special needs of distressed victims and witnesses and equip police officers with the necessary skills to handle such people with tact and sympathy.

The new national training in basic interviewing skills announced in Home Office Circular 22/1992, as supplemented by Home Office Circular 7/1993 should, so far as practicable, be given to all ranks of police officers.

Code C of PACE should be examined with a view to it in future specifying the minimum length of breaks between interviews. This aspect should subsequently be kept under review.

This quote relates to the issues of false confessions and false guilty pleas. Many factors can contribute to someone falsely confessing, including poor and abusive interview strategies as well as mental health issues. Police are usually the first justice system professionals that an accused individual will encounter (Garrett, 2020). The police conduct most of the investigation, interview suspects, provide their findings to the prosecution, and oftentimes testify at trial (Haberfeld, 2002; Smith & Hattery, 2011). Depending on the jurisdiction, police training varies, but seldom includes proactive or informative training about wrongful convictions and other systemic issues (Haberfeld, 2002; Marenin, 2004). This needs to be changed to reduce miscarriages of justice. Police must be properly equipped to interview individuals from a variety of backgrounds. They should also be educated on why and how wrongful convictions occur and on the different types of cognitive biases (National Academy of Sciences, 2009; President's Council of Advisors on Science and Technology, 2016). Further, this training should be ongoing. Education for all justice system professionals should be seen as a lifelong endeavour and should not end once they enter the work force.

C. Theme 3: Accessibility

The third theme emerging relates to accessibility in the criminal justice system. One example of this comes from the 2006 Canadian Lamer Commission. This document contains recommendations for improving access to legal aid (p. 326):

- a) The Legal Aid Commission should establish an outreach program to assist prisoners in completing legal aid applications, particularly when they are incarcerated outside of Newfoundland and Labrador.
- b) A simple pamphlet should be made available to explain the legal aid program to laypersons.

In some cases, accessibility was addressed in terms of considering the needs of suspects, witnesses, and victims. For example, in the 2008 Australian Mallard Inquiry the following recommendation was made (p. 165):

That consideration is given by the Commissioner of Police to making special provision for the interviewing by investigating police of mentally ill suspects. While this recommendation is not very clear in terms of actionable routes, it does address the fact that some individuals face greater accessibility issues and systemic barriers in the justice system. Similar issues were also considered

in the recommendations of the UK report of the Royal Commission on Criminal Justice (1991, pp. 206-207):

208. The court should be responsible for providing the interpreter at the request of the defence out of central funds.

209. There should be central coordination to ensure that national and local registers exist from which interpreters of the required standard may be drawn for the courts as needed. The arrangements should be overseen by the Lord Chancellor's Department.

210. A glossary of legal terms should be prepared in all the main languages to help interpreters understand the system.

211. Whenever possible the interpreter at the court should not be the interpreter used at the police station.

These recommendations address issues of accessibility in the system. Marginalized communities including individuals with English as a second language are disproportionately affected by the criminal justice system. Ensuring that such groups have access to equal procedures is thus highly important. Increasing the accessibility and scope of legal aid could greatly assist with exonerating innocent individuals and increasing access to justice. Legal aid is important for marginalized communities especially individuals who face systemic or institutional barriers (Cunneen, 2006; Roach, 2023). This also connects to a second reoccurring accessibility recommendation, the need to provide free interpreters. Canada is a multilingual country with very diverse demographics. Many Canadian citizens and permanent residents have English as a second language (Statistics Canada, 2022). Thus, providing free, qualified interpreters at every stage of the criminal process is highly important.

D. Theme 4: Discrimination

The fourth theme that emerged is that of discrimination. This theme greatly relates to the previous theme of accessibility. Accessibility concerns address the fact that individual experiences in the justice system are all different. Different individuals require different levels and types of accessibility. Recognizing this is also recognizing that some people face greater systemic, environmental, and societal barriers than others.

Unfortunately, while many institutions and policies recognize the existence of systemic issues and oppression in our systems, very few have done anything to aid in this issue. The 2018 Australian Queensland Commission considers the overrepresentation of Indigenous peoples in wrongful convictions and recommends amendments to the Human Rights Bill. This Commission points out some flaws with the way the current bill stands (p. 1):

The wrongfully convicted in Queensland are disproportionately Indigenous, and will be denied fundamental human rights under this bill. Rather than closing the gap, this bill just opens the prison gates wider for Indigenous Queenslanders. This human rights bill does little to reduce high suicide rates for Indigenous persons in custody, a critical element of the Closing the Gap strategy.

However, the recommendations in this 2018 Commission do very little to address the root of this systemic issue (p. 2):

The Queensland Human Rights Bill should be amended to include a provision to provide restitution for judicial exonerees, as required under international Human Rights law, and to address inequality and injustice of human rights for innocent Queenslanders, particularly indigenous exonerees, who have suffered serious miscarriages of justice and served long periods wrongly in prison.

This Bill should be seen by the community as supporting in its human rights laws the reduction of indigenous incarceration rates, in particular for indigenous exonerees, who face particular challenges in having their wrongful convictions recognised and remedied.

Evidently, this document is working to address Indigenous overrepresentation in the justice system *after* the damage has already been done. The 2021 Canadian Miscarriages of Justice Commission report has in some ways begun to address actual root causes of systemic issues such as BIPOC representation. For example, they recommend that the Canadian review commission contain the following (para. 5):

We recommend that a third of the commissioners have expertise in the causes and consequences of miscarriages of justice; a third of the commissioners be qualified as lawyers; and a third represent groups that are overrepresented in prison and disadvantaged in seeking relief. There should be at least one Indigenous and one Black commissioner.

By ensuring that there is space for “one Indigenous and one Black commissioner” they are allowing for the inclusion of perspectives that have been historically left out. Regrettably, it does not appear that this is something the Canadian government has committed to in Bill C-40.

Unfortunately, few of the other documents analyzed in this portion of the study included any recommendations related to discrimination. Discrimination is an incredibly complex topic to consider when discussing wrongful convictions because some form of discrimination is usually present in all wrongful conviction cases. Each country in this study has their own, unique history. However, settler-colonialism, white supremacy, capitalism, and the patriarchy are just some of the factors that have created and maintained oppressive institutions (Johnson, 2004; Logan, 2015; Mills, 2017). Thus, we need reform that addresses not what we can do to help these people once they have entered the system but why they need help in the first place. For years, various marginalized groups have been telling colonial systems what they need to improve their standard of life and reduce their drastic overrepresentation and mistreatment in justice systems (see for example, Truth and Reconciliation Commission of Canada, 2015). Listening to the voices of those from marginalized communities is also highly important. However, we need to do more than listen, we need to ensure their voices, concerns, and perspectives are being entrenched in our legislation, criminal procedure, and policy. Any steps towards true equity and reconciliation in Canada are good steps, but we need to address the deeper roots of these issues as well.

E. Theme 5: Post Exoneration

A final theme that emerged from this analysis is related to post exoneration. In this group there are two sub themes: reintegration and compensation. In some ways, these two subthemes overlap as compensation is integral for reintegration in many cases. However, as many of the

documents being analyzed here considered them separately, they are going to be considered separately here as well.

a) Subtheme: Reintegration

Reintegration refers to an exoneree's ability to reintegrate into society following their wrongful conviction. This can be incredibly challenging and there are very few if any resources available to exonerees currently. The 2021 LaForme and Westmoreland-Traróé Commission from Canada considers reintegration (para. 50):

We recommend that the commission be enabled by statute and funding to provide support for the reintegration of applicants during the application process and after they have been released or had their conviction overturned.

Many innocence organizations are only able to assist the wrongly convicted up until exoneration. Very few resources are accessible for exonerees following their release from prison. Thus, acknowledging reintegration as a crucial part of a wrongful convictions commission is an important step. However, it is again regrettable that this does not seem to be implemented in Bill C-40. Australia has also addressed reintegration in some ways which is palpable, for example, in the 2018 Queensland Commission (p. 4):

There are no laws or guidelines in Queensland to provide restitution when a person is judicially exonerated after years in prison. There is no assistance provided for housing relief, for employment assistance, nor for counselling for the exoneree and his family. Nor is there any apology or financial restitution for the loss of the victim's income and superannuation, and for other costs, human and financial, incurred by the victim's family over those lost years.

Evidently, there is a recognition of the struggles exonerees face after being released from prison. In this same document it is also acknowledged that "existing legal remedies for exonerees in Queensland, such as they are, are hopelessly outdated and unfair" (p. 5). Unfortunately, it seems no additional recommendations have been provided or implemented to remedy this extensive issue.

b) Subtheme: Compensation

In addition to issues with reintegrating in society, exonerees are rarely guaranteed any form of compensation following their wrongful conviction. Interestingly, New Zealand seems to have the most publications, inquiries, and guidelines surrounding compensation than any of the other countries in this study. In the New Zealand Government's 2020 Compensation Guide they acknowledge the following legal limitations of compensation (p. 2):

There is no legal right to receive compensation from the Government for wrongful conviction and imprisonment. However, the Government in its discretion may decide to compensate a person who has been wrongly convicted and imprisoned by making an ex-gratia payment.

A similar limitation was brought up in the 1980 Inquiry into the case of Arthur Allan Thomas in New Zealand (p. 113):

What sum, if any, should be paid by way of Compensation to Arthur Allan Thomas Following upon the Grant of the Free Pardon?" 474. Compensation is not claimable as of right. It is in the nature of an ex-gratia payment, sometimes made by the Government following the granting of a free pardon, or the quashing of a conviction. Being in the nature of an ex-gratia payment, there are no principles of law applicable which can be said to be binding.

New Zealand specifically has addressed compensation in many of its public documents. However, while it acknowledges that there are no laws making compensation automatically available and agrees that this is problematic, they have not advanced any policy to try to make it automatic. Similarly in Australia for example, the 2018 Queensland Commission points out the following (p.

1):

The International Covenant on Civil and Political Rights (at Article 14(6)) provides for compensation in certain limited circumstances to people wrongfully convicted, where there has been a miscarriage of justice. This Queensland bill does not.

Evidently, in both New Zealand and Australia compensation is very limited. In Canada, however, in the 2021 Miscarriages of Justice Commission report they state the following (para. 51):

We recommend that Canada enact a no-fault compensation scheme for victims of miscarriages of justice to satisfy its international law obligations under Article 14(6) of the International Covenant on Civil and Political Rights. This scheme should provide quick no fault relief but not preclude civil or Charter litigation by victims of miscarriages of justice. We also recommend that the commission be established as a matter of urgency regardless of whether this reform continues, regrettably, to be problematic.

While this Canadian example poses a great deal of potential for advancements in compensation laws, they have not yet been formally implemented, or included in Bill C-40. Overall, the documents examined in this section provided little if any recommendations for compensation. At most, they acknowledge the issues surrounding a lack of compensation laws but do not take any real steps to improving them.

Reintegration and compensation are both incredibly important factors to consider after a person is exonerated. Some necessary supports may include increasing accessibility to jobs, housing, support groups, financial literacy, counselling, and education. It should also be noted that needs will be drastically different from exoneree to exoneree depending on various factors. Some of these factors include the age at which they were incarcerated, how long they spent incarcerated, and the age at which they were released (Alberti et al., 2019; Kirshenbaum et al., 2020). Another necessary component of reintegration is access to compensation (Armbrust, 2004; Jasiński & Kremens, 2023). As discussed, compensation is rarely guaranteed and generally inaccessible, it has also proven to be quite controversial (Campbell, 2019; Ekins & Laws, 2023). Implementing required, fair, and automatic compensation would improve the exonerees chances of reintegrating and is quite honestly the bare minimum the government can offer.

IV Discussion

This study identified the main causes of wrongful convictions in Canada and compared them with the US, the UK, Australia, and New Zealand. While most literature has found eyewitness misidentification to be the number one cause of wrongful convictions (Findley, 2016; Gould & Leo, 2010; Wells, 2006; Wise & Safer, 2004), this study did not find this. While eyewitness misidentification was found to be the fourth most common cause overall (Figure 1), it was not found to be a top cause for any of the countries. This may be due to the coding differences between witness perjury and eyewitness misidentification. In this study, if a witness misidentified a suspect on purpose it was coded as witness perjury. It is possible other studies have approached coding these two causes differently. Witness perjury was found to be the main cause of wrongful convictions in the US (28%), tied for the main cause in the UK (21%) and tied for the main cause in Canada (15%). This in some ways aligns with previous research indicating that witnesses contribute the most to wrongful convictions.

Interestingly, police misconduct was found to be a major cause of wrongful convictions in the UK (21%) and Australia (26%). In 1984 the Police and Criminal Evidence Act came to force in the UK. Of the police misconduct cases in the UK revealed in this study, 42.8 percent occurred prior to 1984. Additionally, 92.8 percent occurred prior to 2000. This suggests that the Police and Criminal Evidence Act may have reduced police misconduct in the UK, even though some of its content were controversial (Jones, 1985; Ozin & Norton, 2019). In Australia, previous studies done by legal analysts have found that eyewitness misidentification is not a major cause of wrongful convictions, but police misconduct is (Department of Justice Canada, 2004, p. 15; MacFarlane & Stratton, 2016). Additionally, Indigenous peoples are disproportionately wrongfully convicted in Australia (MacFarlane & Stratton, 2016). A 2016 study by MacFarlane and Stratton claims that this “vulnerability is largely due to issues of cross-cultural communication, often negative interactions with police” (p. 303). This suggests a correlation between police misconduct and Indigenous overrepresentation in justice systems. This of course is not unique to Australia, forms of systemic discrimination and racism exist in many different countries and legal systems (Chaney & Robertson, 2015; Jackson et al., 2022; Kiedrowski et al., 2021; Laniyonu, 2021; Palmater, 2016).

The main causes of wrongful convictions in the UK were found to be witness perjury (21%) and police misconduct (21%), however, the UK CCRC and other official bodies point to disclosure problems as a major cause (HM Crown Prosecution Service Inspectorate, 2017; HM Crown Prosecution Service Inspectorate, 2020; House of Commons Justice Committee, 2018; McCartney & Shorter, 2019). This difference may be due to different procedural and methodological practices. The current study randomly selected 54 cases for equal analysis, meaning it may have eliminated some of the cases involving discretion issues. As well, this study did not include all of the possible available cases in the UK, and the CCRC has power to look into the Court Martial and Service Civilian Court, whereas this study did not consider those courts (Criminal Case Review Commission, 2021). Additionally, one report by the HM Crown Prosecution Service Inspectorate used cases that were only charged on or after August 2019, which may also account for some of the differences (HM Crown Prosecution Service Inspectorate, 2020).

New Zealand’s main cause of wrongful convictions was determined to be procedural error (41%), primarily related to trial judges either misapplying legal tests or providing improper instruction to jurors. One example of this comes from the case of James Watchorn who was

wrongfully convicted of theft in 2012 and subsequently exonerated in 2014. In this case, the trial judge improperly defined what ‘property’ was under the law (*R v Watchorn*, 2014). Interestingly, much of the literature available on procedural error in New Zealand relates to prosecutorial misconduct (Corns, 2019; Stone, 2012). However, in this study prosecutorial and procedural misconduct were clearly separated during the coding process. Thus, the current literature does not seem to have addressed issues with trial judge errors in New Zealand in a similar way (Corns, 2019; Sheehy, 1996; Stone, 2012). During the qualitative content analysis in this study as well, no recommendations from New Zealand were identified as addressing procedural error of any kind, including prosecutorial error. Thus, while scholars have identified prosecutorial misconduct as an issue in New Zealand it has not been adequately addressed in policy (Huff, 2002; Sheehy, 1996). Additionally, the main cause of wrongful convictions in New Zealand identified in this study was not addressed at length in the current literature or policy analyzed.

One final observation that is worth discussing is the difference in findings for science versus scientists contributing to wrongful convictions. In some cases, it is the science that is flawed whereas in other cases it is the scientist’s testimony that is flawed. Some scientific methods were developed under law enforcement, have not been subject to peer review, do not have enough data on error rates and so on (Girard, 2021; Goudge, 2008; National Academy of Sciences, 2009; President’s Council of Advisors on Science and Technology, 2016). In these cases, it is the science itself that is problematic. In other cases, the science may be solid, peer reviewed, and relatively uncontroversial in its field, such as DNA analysis. However, the scientist who presents the evidence may overstate the significance of their findings, lie about their results, fail to report error rates, or employ proper quality control standards (Gill, 2014; National Academy of Sciences, 2009; President’s Council of Advisors on Science and Technology, 2016). In those cases, it is the “expert’s” testimony that is flawed, not the science itself. We see both issues arise in the available literature and current study. For example, bitemark analysis is seen as a relatively unreliable, inherently flawed scientific method in which the science itself is flawed (National Academy of Sciences, 2009; President’s Council of Advisors on Science and Technology, 2016). On the other hand, an autopsy is performed using scientifically tested, peer reviewed surgical methods, but we consistently see ‘experts’ like Charles Smith provide false testimony related to the established science (Goudge, 2008). In this study, in New Zealand, and the UK, flawed expert testimony contributed to more wrongful convictions than inherently flawed scientific methods or procedures. In Canada, expert testimony was only 5% behind forensic error, and, in the US, expert testimony was only 1% behind forensic error. Australia was the only country with a significantly higher rate of forensic error than expert testimony. While addressing the issue of science versus scientist was not a part of this study’s research scope, there are implications based on the results that it is the testimony of scientists contributing more to wrongful convictions than the science itself. Often in the media, we hear of flawed science causing wrongful convictions, rarely are the specific individuals at fault discussed, except in highly publicized cases (for example, Charles Smith) (Goudge, 2008). Thus, the results from this study point towards the potential significance of researching this area further. It would be interesting to see how we redistribute blame in the media in wrongful convictions cases and how this results in a lack of accountability (Chancellor, 2019; Laporte, 2018; Zalman et al., 2012). It would also be worthwhile looking into why this isn’t addressed further in policy especially in the context of, for example, qualified immunity in the US (Baude, 2018; Schwartz, 2017). The fact that human error and biases contribute a greater amount to wrongful convictions than flawed scientific methods should be made known. Lastly, based on the results in this study it may be interesting to further investigate why Australia has less flawed expert testimony than forensic error out of all the countries analyzed in the current study. This may

suggest further policy reform that could help in reducing both flawed testimony and forensic error cross-nationally.

A. Policy Recommendations for Canada

Many policy recommendations and implications arose during this study. Firstly, from the UK, the Forensic Science Regulator Bill and the Brandon and Davis study (1973) provide interesting recommendations that may be relevant to Canada. The 2021 Forensic Science Regulator Act established a Regulator who would oversee a code of practice and standards for forensic science activities. Canada currently has no such equivalent. Having some type of regulation board for forensic sciences would hopefully increase the reliability of forensic evidence in courts. While it may be difficult to find one individual qualified enough to oversee *all* forensic science standards in a country, it may be worth considering the establishment of a forensics commission or board. There are forensic science societies that exist in Canada such as the Canadian Society of Forensic Science (CSFS) which “is a non-profit professional organization incorporated to maintain professional standards” (CSFS, 2022, para. 1). However, standards set by the CSFS are not legally required for the admissibility of scientific evidence in court. Additionally, the CSFS acts merely as an advisory group for justice systems. The UK Forensic Science Regulator Act made the forensic regulator more involved with the justice system to ensure that there is an “understanding of quality and standards by all stakeholders including... the police, the prosecuting authorities, defence and courts” (UK Government, 2022, para. 6). Implementing similar policy in Canada should be considered to improve scientific evidence in courts.

Also from the UK, the 1973 Brandon and Davis study has additional recommendations relating to full disclosure of evidence that could be useful in a Canadian setting. Brandon and Davis recommend that the prosecution be required to disclose any evidence whether it is favourable to the defence and regardless of whether the prosecution intends to use it during trial. In Canada, the case precedent for prosecutorial disclosure comes from *R v Stinchcombe* (1991). In this case, it was determined that the Crown or prosecution has a duty to disclose all evidence that could be relevant to the case regardless of whether they intend to use it or if it is favourable for the defence. *Stinchcombe* also requires disclosure after conviction, which is significant for wrongful convictions (Montana, 2022). Evidently, the *Stinchcombe* precedent is similar to the reform proposed in the 1973 Brandon and Davis study. However, issues with full disclosure have continued in Canada even after the 1991 ruling. Specifically, the Crown determines what is and is not “relevant” when disclosing evidence. A recent example from the UK comes from the HM Crown Prosecution Service Inspectorate (2020) which recommended procedures to identify and address issues in file quality and develop strategies to improve. This could be relevant for Canadians as well.

From Australia, the 2008 Mallard Inquiry and 2018 Queensland Commission provide recommendations that could be germane in Canada. First, the Mallard Inquiry (2008) suggests taking on “special provisions” when interviewing mentally ill individuals (p. 165). While this inquiry does not provide specifics on what provisions may assist this issue, it is well known that mentally ill individuals are more likely to falsely confess and falsely plead guilty (Leo, 2009; Mogavero, 2020; Redlich et al., 2010). One Canadian example is that of Phillip Tallio – a disabled Indigenous man – who falsely confessed to the murder of a 22-month-old girl (Robinson & Fumano, 2017). There was no physical evidence tying him to the murder, no eyewitnesses, the only evidence was his false guilty plea (Robinson & Fumano, 2017). The interview was not

recorded, and Mr. Tallio provided contradictory and unclear statements (Robinson & Fumano, 2017). If the police had proper tools for interviewing disabled individuals it may be possible to reduce the rate of false confessions and false guilty pleas. Obviously, factors such as ensuring the individual's *Charter* rights under section 11 including their right to silence and council will assist in reducing false confessions. However, the Australian Mallard Inquiry points out that mentally ill suspects may require some extra support during interviews. Some recommendations may include having a psychiatrist or psychologist present during interviews and providing mental health screens.

The Australian Queensland Commission (2018) also contains relevant considerations for Canada. Specifically, it addresses the overrepresentation of Indigenous peoples being wrongfully convicted. In Canada as well, Indigenous peoples are often overrepresented in the justice system (LaPrairie, 1990; Wiley et al., 2020). The Australian Queensland Commission (2018) discusses the overrepresentation of Indigenous individuals in wrongful convictions and recommends constant consideration of their overrepresentation and unjust treatment especially when considering compensation and restitution for exonerees. In Canada, *R v Gladue* (1999) and *R v Ipeelee* (2012) provide precedent for considering the unique circumstances of Indigenous offenders during sentencing. However, there is no policy or case precedent in Canada for considering the unique circumstances of Indigenous peoples in the context of wrongful convictions. Thus, Canada should consider taking on a similar approach that was recommended in the Australia Queensland Commission. This may include considering the circumstances of Indigenous peoples when they apply for appeals, put in s.696.1 applications, and following their exoneration when providing compensation. These recommendations are aligned with the National Centre for Truth and Reconciliation (NCTR) and the Truth and Reconciliation Commission of Canada's 94 Calls to Action that were published in 2015. Part of the 55th recommendation was to provide progress reports on what the government is doing to reduce "the overrepresentation of Aboriginal people in the justice and correctional systems" (2015, p. 6). Additional calls to action in this commission include reducing Indigenous overrepresentation in custody. Thus, ensuring unique consideration of Indigenous exonerees would assist in reconciliation efforts. Additionally, providing support for Indigenous peoples who encounter the system in any way could assist in reducing overrepresentation as well.

Lastly, all recommendations in the 2021 Canadian LaForme and Westmoreland-Traoré report on miscarriages of justice commission in Canada should be implemented. Canada does not yet have an independent commission to investigate claims of miscarriages of justice whereas other countries such as the UK do. Having a properly funded commission to investigate miscarriages of justice would drastically improve accessibility to resources for exoneration. The LaForme and Westmoreland-Traoré report goes beyond this to include support for exonerees regarding reintegration and compensation. This is significant for two reasons. Firstly, in Canada, compensation is not automatic and usually requires the exoneree to go through another legal process. Secondly, most wrongful conviction organizations only assist exonerees up until exoneration. They have few if any resources to support exonerees after release. The commission proposed by LaForme and Westmoreland-Traoré would fill this gap by providing exonerees with support after they have been exonerated.

While all the countries in this study have adversarial justice systems, they are still different in many ways. Although there are some similarities amongst these countries, they differ in their policy, procedure, legislation, and case law. Due to the way in which different laws and policies

are applied, there may be different outcomes. Beyond this, each country has a unique history that may impact both routine administration in the system and biases that professionals in these systems hold. For example, colonialism and slavery has affected these countries in different ways. While there is obviously the overarching trend of racism in all colonial systems, the specific history connected to each of these systems will be different in some ways. This may affect the way that justice system professionals approach investigations and cases depending on the type, severity, and history of biases they may carry with them. This also may affect what groups are overrepresented in varying systems. The current environment and nature of colonialism, racism, sexism, and other isms are also important to consider. Current and historic events will affect the ways in which systemic injustices manifest and how the system operates daily. Regardless, these differences can affect comparative analysis and complicate policy transfer between countries. Nevertheless, these can still be incredibly valuable for several reasons. Analyzing differences between systems may be beneficial to identify which systems handle different situations or procedures better. This may point towards certain areas of necessary reform, which was the goal of the qualitative content analysis in this study. Essentially, identifying which systems have better procedures can help inform other countries that are lacking in certain areas. Overall, this can improve the way policy is reformed by making informed decisions from other countries that have had success with addressing injustices and systemic issues. As mentioned previously, we should consider this from the perspective of “lesson drawing” rather than absolute policy transfer (Rose, 1991).

B. Future Research Recommendations

Research on the causes of wrongful convictions is constantly changing and growing. Comparative scholarship has proven useful when trying to understand the major causes of wrongful convictions and for implementing change (Huff & Killias, 2013; Roach, 2015; Sangha et al., 2010; Shapiro, 2020). Thus, a general recommendation for future research is to continue adding to the literature on wrongful convictions from a cross-national and domestic perspective. This will continue to push legal professionals to ask questions, contemplate biases, and advocate for policy change when necessary.

A second recommendation relates to the UK Forensic Regulator Act. Research should be employed regarding the success of this act through the lens of wrongful convictions. Studies should be done to assess both the validity of implementing a similar regulator in Canada, and to look into the current role of forensic societies in Canada. Specifically, it should be determined if it is possible to give institutions such as the CSFS more legal powers. This may include deeper involvement and consultation with legal professionals, providing required seminars/training on forensics for legal professionals, or developing a required set of standards under the CSFS that need to be present for scientific evidence to be admitted at all. This analysis would also require some research into how this could fit in with the existing *Mohan* framework for admitting expert evidence.

Thirdly, studies on compensation laws in differing countries should be performed. This may include a cross-national comparison of rates of wrongful convictions in countries/jurisdictions with automatic/required compensation compared to countries with no compensation guarantees. It would be interesting to see if the rates of wrongful convictions differ based on compensation laws and how this relates to accountability. Further, this may lead to inquiries regarding tunnel vision specifically police and prosecutorial misconduct. As state actors, they may be more hesitant to engage in misconduct if they know compensation is automatic for exonerees and thus they may be

costing the government large amounts of money. This also may suggest the importance of considering how investigative thoroughness and compensation laws correlate in different jurisdictions.

Additionally, the validity of implementing more Innocence organizations and independent criminal review commissions globally should be assessed. These types of organizations are one of the only resources available for individuals who have exhausted all appeals. Unfortunately, these organizations are also incredibly over worked, short staffed, and do not have unlimited funds or resources. Each country should consider how they could redistribute funds to implement more of these initiatives.

Lastly, research regarding education accessibility for justice system professionals should be studied in the context of miscarriages of justice. Generally, it would be interesting to see how jurisdictions differ in *required* education for police, prosecution, defense, judges, and juries. It may be possible that jurisdictions with more rigorous, required, and ongoing training would correlate with lower rates of wrongful convictions. Additionally, the type and quality of education provided should be considered. During the qualitative component of this study education emerged as a theme. Two major points concerning education in this analysis related to police training and forensics. Thus, research should be done on what training police receive in different jurisdictions especially regarding proper interview techniques, performing lineups, dealing with unique suspects, and on the nature of false confessions and false guilty pleas.

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