University of Toronto

INF 2178H LEC0101: Experimental Design for Data Science

Midterm Project

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Introduction

"In the case of Canadian policing, strip searching refers to when an arrested or detained person is compelled by police officers to expose their most intimate body areas" (Lemke, 2022a). In the other words, a strip search is an act that is enforced when a person is arrested by the police without the consent of the person concerned. The purpose of the strip search is that in order to maintain the safety and health of the society, the judicial practice of the police on those who have potential threats.

However, whether it is necessary to conduct such frequent strip searches is a question we need to consider. "Supreme Court of Canada's recognition of the fact that strip searches are intrinsically humiliating, degrading, and dehumanising, and bring up racial and sexual trauma in the process" (Lemke, 2022a). Toronto has a much higher rate of strip searches than other provinces. "The Toronto police had strip searched 37% to 43% of all arrestees between 2014 and 2016, whereas other large Ontario police forces reported strip-search rates of under 1% of people arrested" (Lemke, 2022a).

In our research, we found that demographic factors such as race, age group and gender influence police's decisions on strip search significantly. From a sociological perspective, we are interested in examining the impact of three demographic factors (gender, age and race) on the number of strip searches. The main purpose of this report is to identify how those factors influence disparities in the number of strip searches and how to make improvement on judiciary policies in an acceptable way.

The code can be seen in the link of colab.

Literature review

The article, *Policing Toronto: Strip Searching in a Divided City,* reveals that the high frequency of strip searches is strongly associated with racial disparities. "The recent race-based statistics on strip searches confirm the over-policing of Black people relative to the rest of the population. Even though Black people make up around 10 percent of Toronto's population, they made up one in every three people who were strip-searched" (Lemke, 2022a). It seems that black racial identity is more likely to be strip searched after getting arrested. Therefore, that evidence indicates that racial disparities would influence police strip search decisions.

In addition, there are differences in the likelihood of strip searches by offence types. "Search rates and items found rates were highest for drug-related offences, followed by break & enter and weapons and homicide-related offences. While search rates were 6 lowest for arrests related to robberies & thefts, when they did occur items found tended to be higher than average" (Toronto Police Service, n.d.). We found that most of the strip searches related to drugs and crimes are effective, and the police have a high probability of finding harmful items.

Original raw dataset

The dataset we used for this paper is *Arrests and Strip Searches* which is from Toronto Police Service. This dataset records a series of information about each arrest over the period January 2020 to December 2021. It contains 65276 arrest cases by 25 factors, among which there are 7,801 strip searches and 34,483 booked cases. This dataset records basic information such as the gender, race and age group of individuals, and also contains details about situations and reasons for the arrest. During our research, after a person was arrested, they may be subject to a strip search. They must also be booked into custody at a police station as an intermediate outcome in the pathway to a strip search. We are researching demographic factors such as race and age that would influence the likelihood of strip searches. Then, in the following sections we would utilise those factors to discover their relationships with strip searches. This report provides EDA, methodologies, findings and discussions of the data analysis of this dataset.

Research Objectives and Questions

We are interested in figuring out which kinds of factors are leading to strip search decisions. Based on our research, we would focus on the following research questions for our study. The core question is what is the effect of demographic factors on the number of strip searches? Based on some common sense, we choose some attributes to sort the cases into different groups based on demographic factors such as gender, age and race that influence disparities in the probability of strip searches.

1. Are there Gender disparities in reported strip search incidents? Gender disparities (comparisons between male and female): To what extent, if any, are certain racial groups more likely than others to experience a strip search?

2. Are there age group disparities in reported strip search incidents? Racial disparities (comparisons between different racial groups such as youth, adult, and middle-aged): To what extent, if any, are certain racial groups more likely than others to experience a strip search?

3. Are there racial disparities in reported strip search incidents? Racial disparities (comparisons between different racial groups): To what extent, if any, are certain racial groups more likely than others to experience a strip search?

4. Are there any interactions between the two factors listed in above that lead to disparities strip search incidents? The interaction disparities: To what extent, if any, are certain combinations more likely than others to experience a strip search?

**EDA**

Descriptive statistics

Raw dataset

From figure 1 to 4, it is obvious that more male got arrested by the Toronto Police Service than females. White people and Black people account for most arrest cases, compared to other race groups. As for the age group, the adult group (25 - 44 years old) got arrested much more than other age groups, and the least age group is the elderly. Lastly, according to figure 4, the most arrests happen when people are committed in assault and other crimes against a person, which is followed by Robbery & theft and FTA/FTC, Compliance Check & Parollee crime groups. Crimes against children and homicide got the least arrest cases.
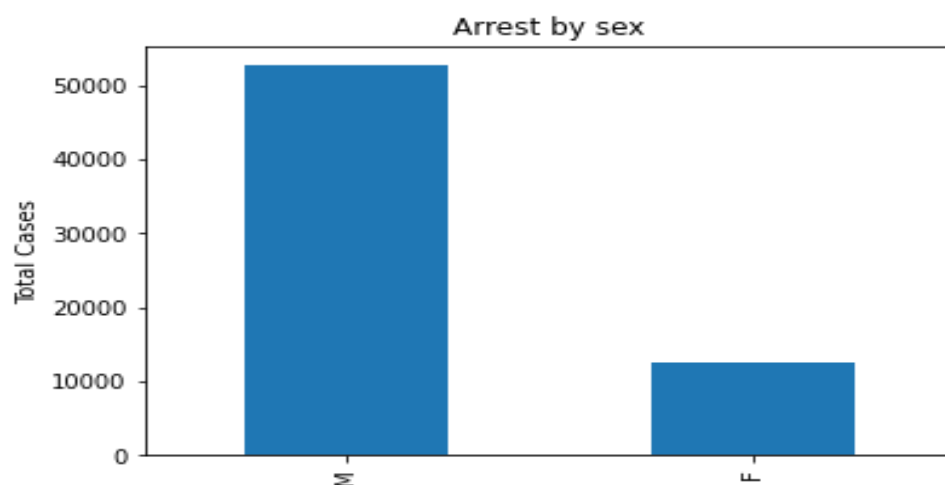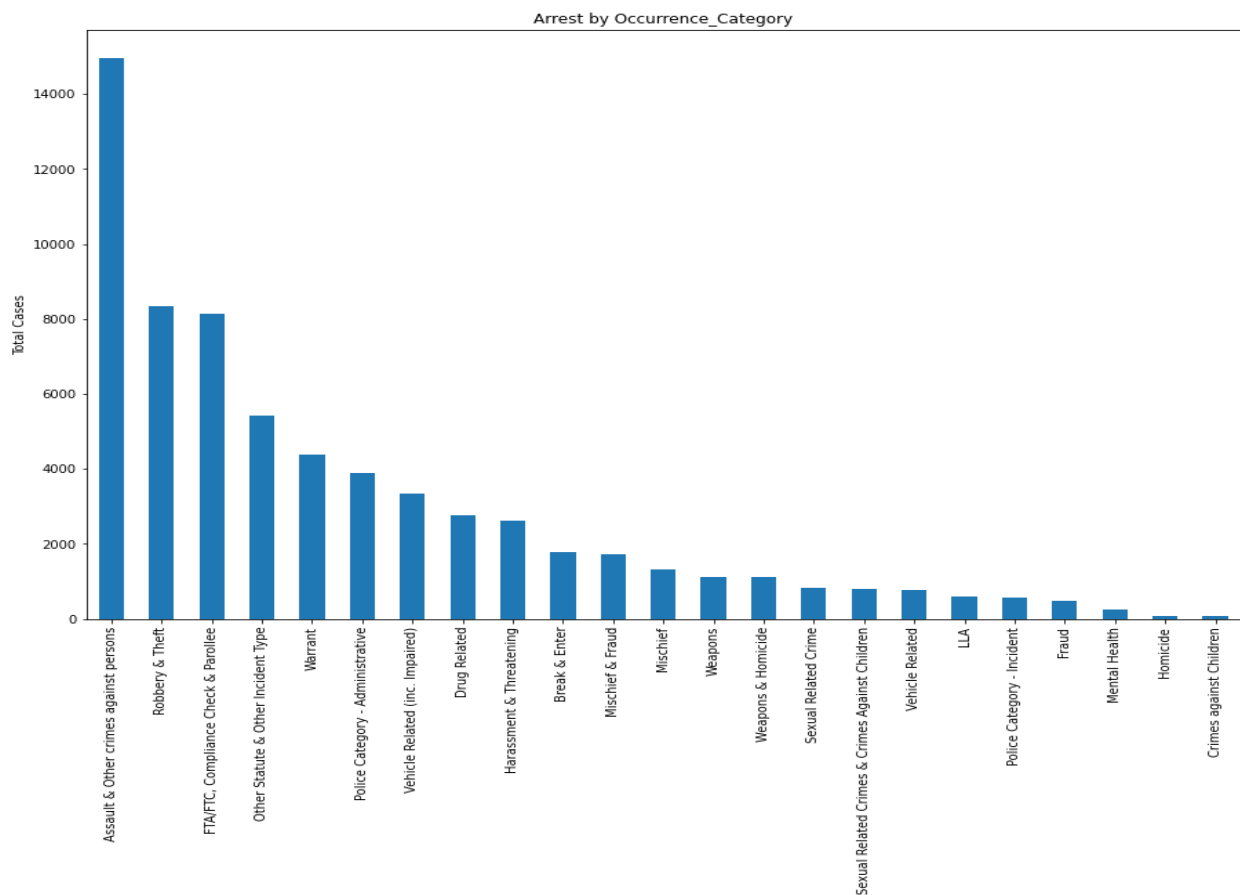
*Figure 1* *Arrest cases by gender*
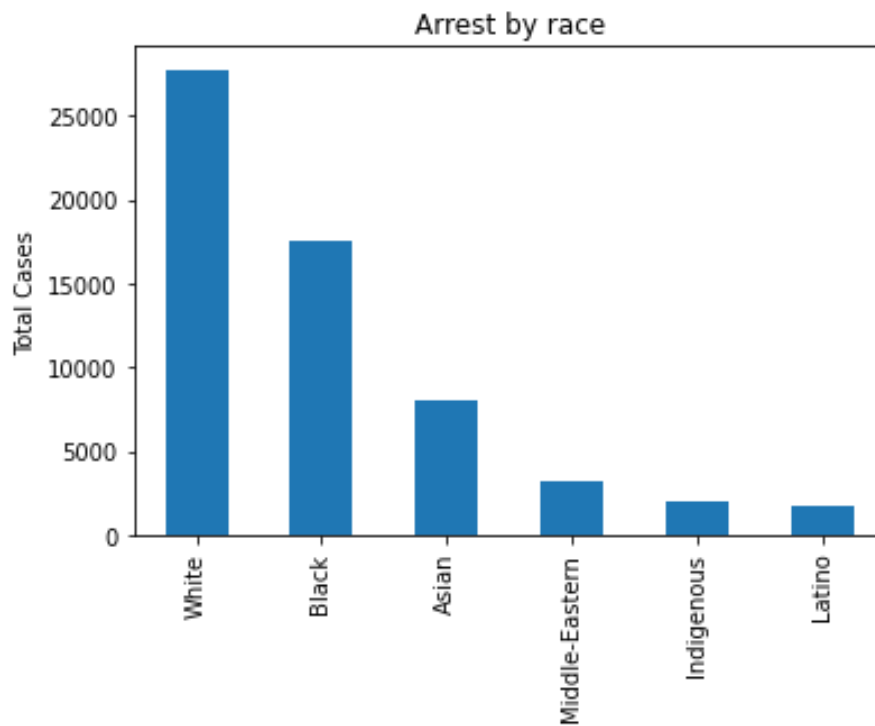
Figure 2 *Arrest cases by races*
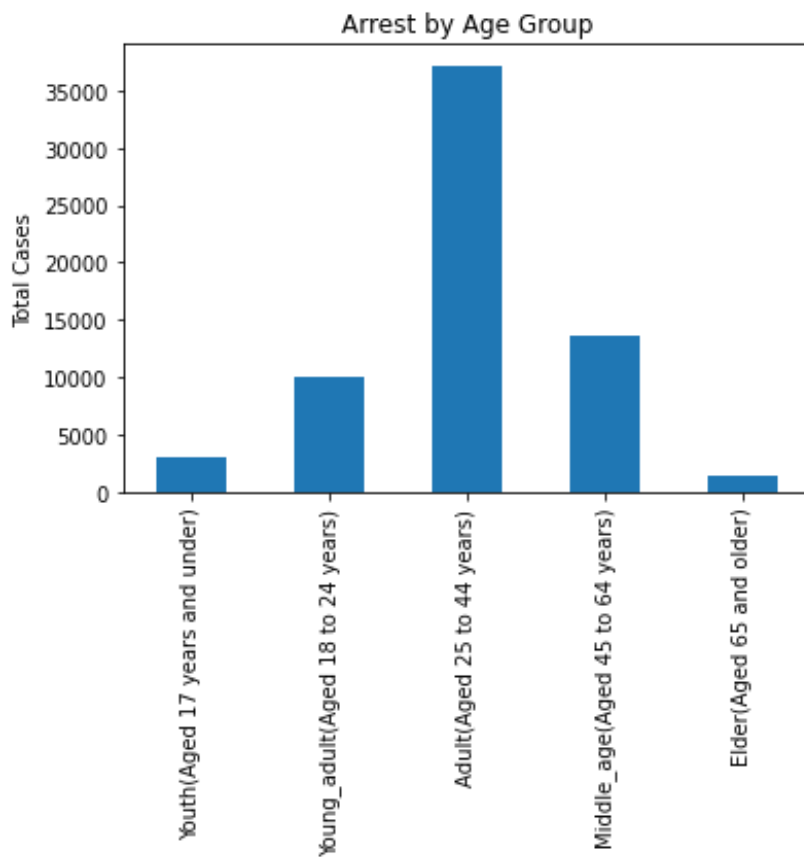
Figure 3 Arrest cases by age group

Figure 4 Arrest cases by Occurrence category

Stripsearch distribution

From figure 5, we can find that the percentage indigenous people who got strip research is the highest, compared with the strip search distribution of other race groups, especially the nearly 17.5% of indigenous male got strip searched. The percentage of black male got strip searched followed by nearly 15%, but just under 10% of black females got strip search. A few Asian females and latino females got strip searched, the number is around 3%. As for figure 6, apparently around 13% of male adults and young adults experienced strip searched, which is higher than other groups. And the number of elderly people who are strip searched was the least, only account for 3% for male and 2% for female.

Distribution of stripSearch based on race and Gender
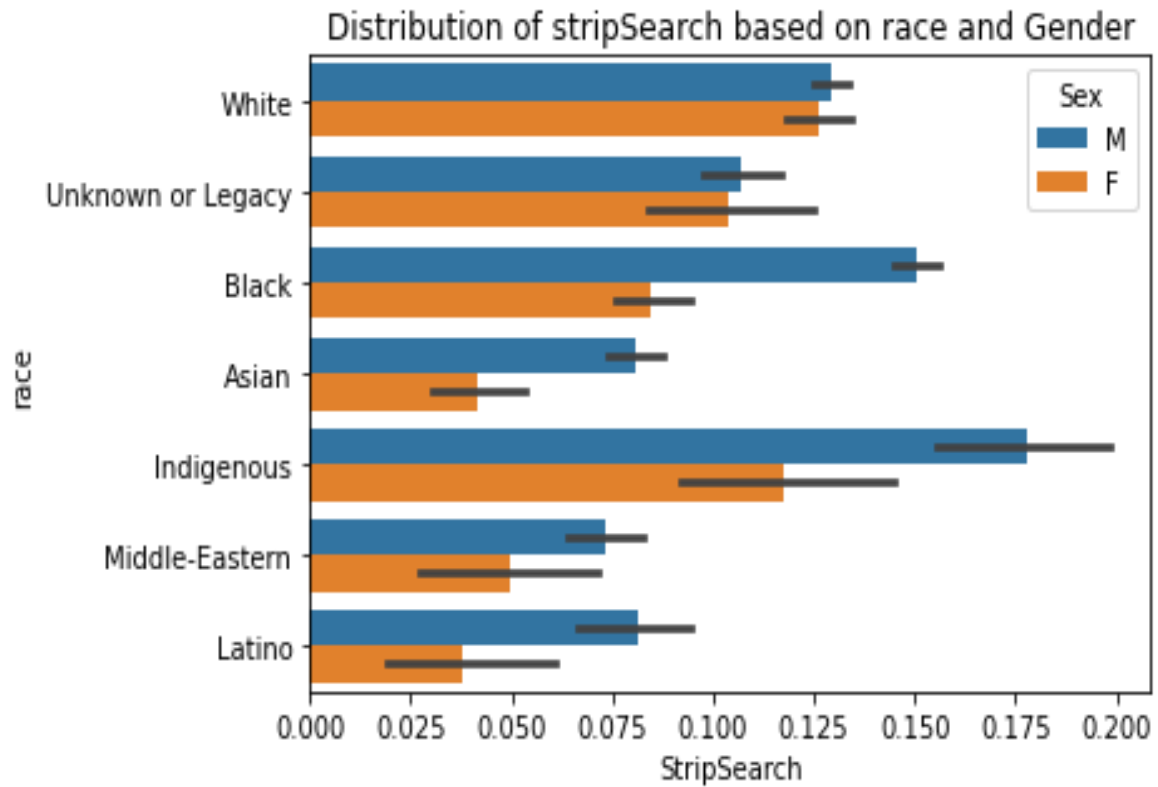
Figure 5 strip search distribution based on gender & race

Distribution of stripSearch based on age and Gender
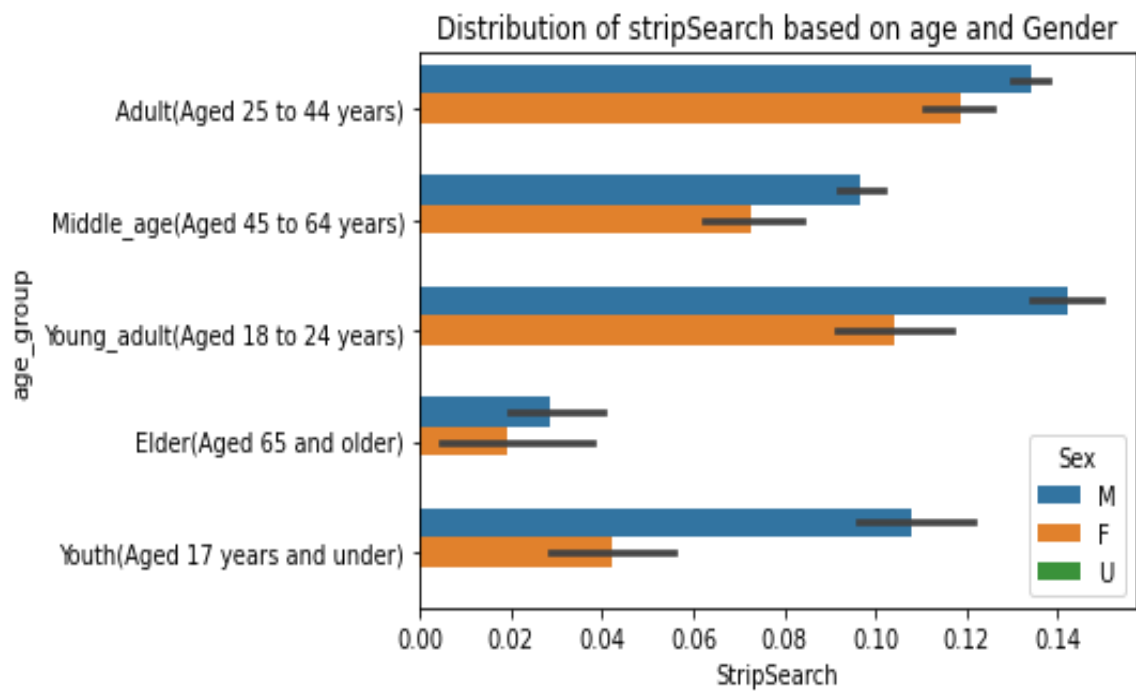
Figure 6 strip search distribution based on gender & age_group

Dataset using for further analysis

We assume the rate of stripsearch for a certain offence behaviour in a certain time would be the same for all arrests, so we calculate the strip search ratio by using the number of strip searches divided by the number of arrests that have happened. Also, since the stripsearch happened after the person is booked in the policy office, the cases of people who are not in custody was removed from the original dataset.
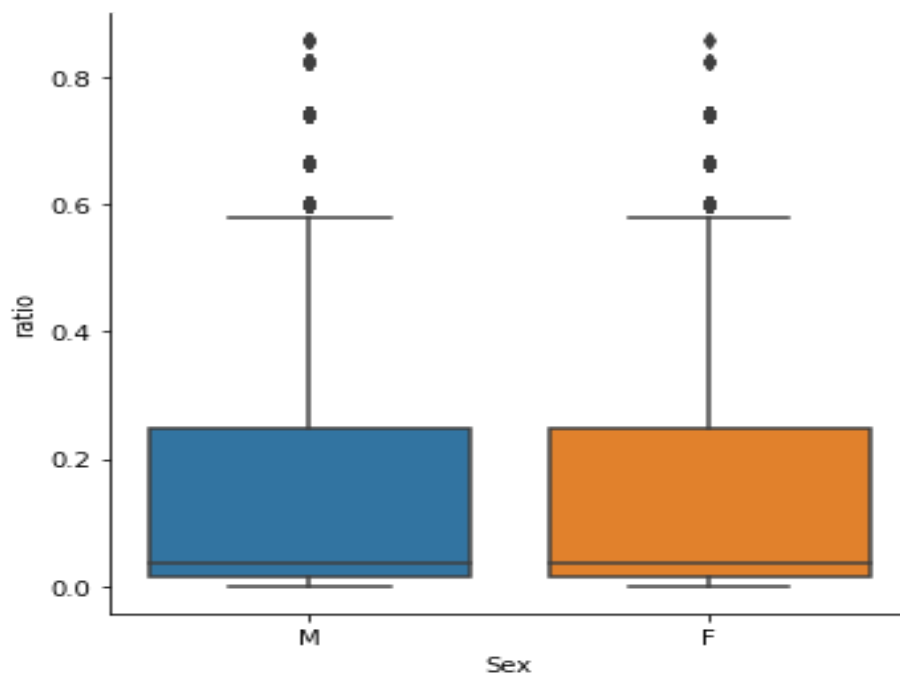
Figure 7 *strip search ratio by gender*
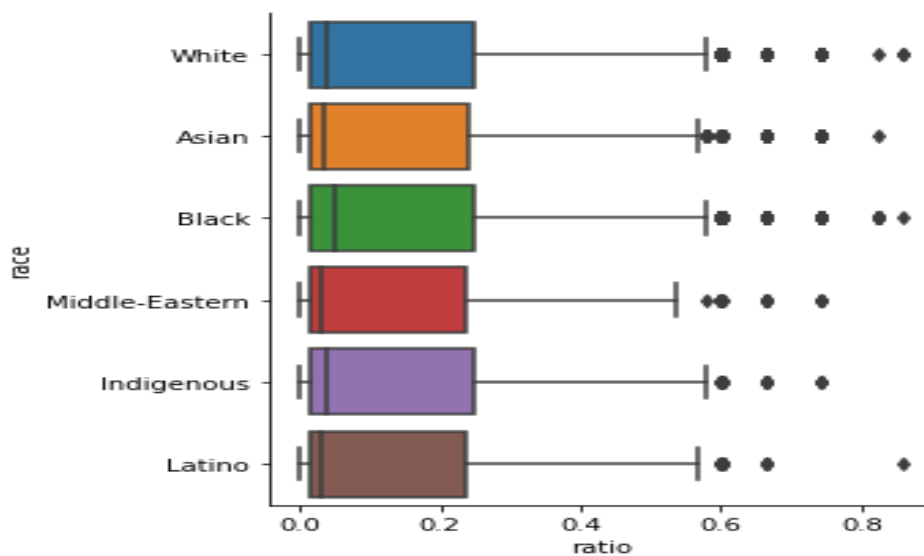
Figure 8 *strip search ratio by race*
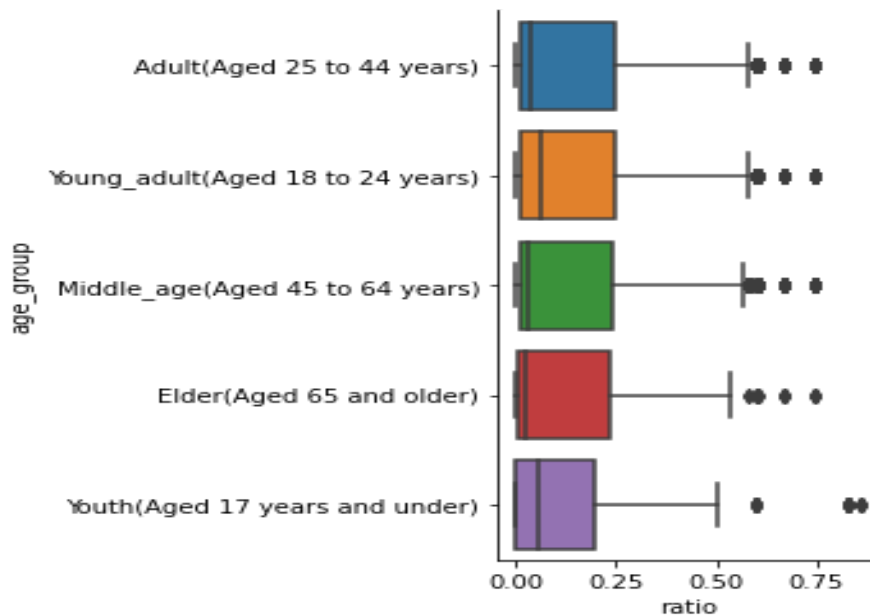
Figure 9 strip search ratio by age_group

According to figures 7 to 9, we can detect that the ratio is close to 0, which means most people are not easily strip searched. However, in some cases, people got a higher ratio to be strip searched. To be specific in certain figures, figure 7 shows there are no obvious differences between male and female, both groups experience some outliers. The similar pattern happens in people grouped by race, but white people, Black people and Asian people would come out with some higher ratios. As for age groups, the youth group will have a higher ratio possibility, but the ratio of other groups is close to the 0, especially the middle age and elderly people.

T-tests

We conducted t-tests to compare the mean probability of strip searches for two sample groups and to confirm if there is a significant difference between the means of two groups and how they are correlated with each other. The p-value can be calculated to determine the likelihood of observing the observed difference or a more significant difference if the null hypothesis were true. If the p-value is below the significance level (usually 0.05), then the null hypothesis can be rejected, and it can be concluded that a significant difference exists in the number of strip searches between the two groups.

Gender

Null hypothesis: There is no difference between males and females in the likelihood of strip

searches.

Alternative hypothesis: There is a difference in the likelihood of strip searches between males and females.

The results indicate that the mean of the number of strip searches for males (M=0.139, SD=0.169) is lower than for females (M=0.145, SD=0.171). With alpha established at 0.05, this is a statistically significant difference as the p-value (0.02) is less than 0.05, 95% CI [-0.01, -0.0007]. Therefore, we can reject the null hypothesis that there is no difference in the probability of strip searches for males and females.

Table 1. Results of T-test by Gender

Variables	Mean	SD	t	p-value
Gender			-2.27	0.02 *
Male	0.139	0.169		
Female	0.145	0.171		

Source: The *Arrests and Strip Searches* dataset from Toronto Police Service

*** p < 0.001; ** p < 0.01; * p < 0.05.

Age group: *Adult v.s. Other age group*

Null hypothesis: There is no difference in the probability of strip searches between adults and other age groups.

Alternative hypothesis: there is a difference in the probability of strip searches between adults and other age groups.

The results indicate that the p-value (0.98) is greater than 0.05. Therefore, we cannot reject the null hypothesis that there is no difference in the ratio of strip searches for adults and other age groups.

Age group: *Young adult v.s. Other age group*

Null hypothesis: There is no difference in the probability of strip searches between young adults and other age groups.

Alternative hypothesis: there is a difference in the probability of strip searches between young adults and other age groups.

The results indicate that the mean of the ratio of strip searches for young adults (M=0.13975, SD=0.16969) is lower than for other groups (M=0.13979, SD=0.16965). With alpha established at 0.05, this is a statistically significant difference as the p-value is much less than 0.05, 95% CI [-0.0036, 0.00368]. Therefore, we can reject the null hypothesis that there is no difference in the ratio of strip searches for young adults and other age groups.

Table 2. Results of T-test by Age group

Variables	Mean	SD	t	p-value
Age group			-0.02	0.98
Adult	0.13975	0.16969		
Other Group	0.13977	0.16966		
Age group			6.79	1.19e-11 ***
Young adult	0.13975	0.16969		
Other Group	0.13979	0.16965		

Source: The *Arrests and Strip Searches* dataset from Toronto Police Service

*** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$.

Race: *White v.s. Other racial groups*
Null hypothesis: There is no difference in the probability of strip searches between white and other racial groups.
Alternative hypothesis: there is a difference in the probability of strip searches between white and other racial groups.
The results indicate that the mean of the ratio of strip searches for white (M=0.144, SD=0.172) is higher than for other groups (M=0.136, SD=0.167). With alpha established at 0.05, this is a statistically significant difference as the p-value is much less than 0.05, 95% CI [0.0039, 0.0114]. Therefore, we can reject the null hypothesis that there is no difference in the ratio of strip searches for white and other racial groups.

Race: *White v.s. Black*
Null hypothesis: There is no difference in the probability of strip searches between white and black.

Alternative hypothesis: There is a difference in the probability of strip searches between white and black.

The results indicate the p-value (0.185) is much greater than 0.05. Thus, we cannot reject the null hypothesis that there is no difference in the ratio of strip searches for white and black.

Table 3. Results of T-test by Race

Variables	Mean	SD	t	p-value
Race			4.01	0.00 ***
White	0.144	0.172		
Other race	0.136	0.167		
Race			-1.331	0.183
White	0.144	0.172		
Black	0.147	0.175		

Source: The *Arrests and Strip Searches* dataset from Toronto Police Service

*** p < 0.001; ** p < 0.01; * p < 0.05.

Methods

Since most of the raw data contained in the original dataset are categorical variables, they are difficult to conduct a precise t-test and ANOVA. Thus, the raw data are processed based on multiple categorical groups to generate a new dataset with a continuous variable. We make the assumption that the frequency of strip searches for a particular offense during a certain period is consistent for all arrests. Thus, we determine the strip search ratio by dividing the number of strip searches conducted by the total number of arrests made. Additionally, we eliminated cases of individuals who were not in custody from the original dataset since strip searches are only conducted on individuals who have been booked in the policy office.

In our case study, in addition to One-Way ANOVA to compare the means of the individual groups, we also use Two-Way ANOVA to investigate combinations of factors that may be statistically significant. This will provide a more thorough analysis of the data and help us identify any significant differences or patterns between the groups.

The alpha value is set prior to performing the hypothesis test and determines the acceptable level of error. In this report, a common alpha value of 0.05 will be used. If the consequences of making an error are insignificant, a higher alpha value may be acceptable, whereas a lower alpha value should be used for cases where errors can have severe consequences, such as medical diagnoses or criminal sentencing.

Also, we process the p-value to measure the significance of evidence against the null hypothesis. The smaller the p-value, the stronger the evidence in favour of rejecting the null hypothesis. The p-value is then compared to the alpha value set for the statistical test. If the p-value is less than the alpha value we set, then the null hypothesis is rejected, whereas if the p-value is greater than it, the null hypothesis cannot be rejected.

RQ1-3: Based on our research and statistically significant t-tests results, our preliminary analysis on the dataset is that demographic factors, especially age and race are correlated with the likelihood of strip search. In order to explore our research question 1-3, we will conduct One-Way ANOVA to test whether there is a significant difference in the mean of the probability of strip search between different groups. If the results are statistically significant, Post hoc comparisons would be used to examine the means of which specific groups are different from each other.

RQ4: For research question 4, we intend to investigate the interactive effect between two independent variables, namely race and age. Then, we will run Two-Way ANOVA. If the results are statistically significant, post hoc comparisons would be used again to see which groups are different from one another.

Results and Findings

One-Way ANOVA

Race

Null hypothesis: There are no significant ratio differences between different racial groups who are in custody of the policy office.
Alternative hypothesis: There are significant ratio differences between racial groups who are in custody of the policy office.

At 95% confidence interval, f statistics is 26.76 and the p value is much less than 0.05. Thus, the results are statistically significant. We can reject the null hypothesis and accept the

alternative hypothesis that there is significant difference between racial groups in the probability of strip searches.

In addition, we ran post hoc tests to confirm where the differences occurred between groups. Table 3 presents that there are 9 pairs of groups which have significant differences in the ratio of strip search, especially between Asian and Black/White, Black and Latino/Middle Eastern, White and Latino/Middle Eastern, and Indigenous and Middle Eastern.

Table 4. Results by Race of One-Way ANOVA

Variables		sum_sq	df	F	p-value
Race		3.824	5.0	26.759	4.3E-27 ***
Asian	Black				0.001 ***
Asian	Middle-Eastern				0.0128 *
Asian	White				0.001 ***
Black	Latino				0.001 ***
Black	Middle-Eastern				0.001 ***
Indigenous	Latino				0.0018 *
Indigenous	Middle-Eastern				0.001 ***
Latino	White				0.001 ***
Middle-Eastern	White				0.001 ***

Source: The *Arrests and Strip Searches* dataset from Toronto Police Service

*** p < 0.001; ** p < 0.01; * p < 0.05.

Age Group

Null hypothesis: there are no significant ratio differences between age groups who are booked in the policy office.

Alternative hypothesis: there are significant ratio differences between age groups who are booked in the policy office.

At 95% confidence interval, f statistics is 31.61 and the p value is much less than 0.05. Therefore, we reject the null hypothesis and significant differences in the likelihood of being strip searched do exist between age groups. By running the Post Hoc test, we can see that pairwise differences exist in 8 combinations. There are 5 groups with the most significant difference, namely, adult and young adult/youth, and young adults and elder/middle aged/youth (Table 5).

Table 5. Results by Age group of One-Way ANOVA

Variables		sum_sq	df	F	p-value
Age group		3.628	4.0	31.613	2.5e-26 ***
Adult	Elder				0.0068 *
Adult	Middle_age				0.0024 *
Adult	Young_adult				0.001 ***
Adult	Youth				0.001 ***
Elder	Young_adult				0.001 ***
Middle_age	Young_adult				0.001 ***
Middle_age	Youth				0.015 *
Young_adult	Youth				0.001 ***

Source: The *Arrests and Strip Searches* dataset from Toronto Police Service

*** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$.

Two-Way ANOVA

Table 6. Results of Two-Way ANOVA

Variables	sum_sq	df	F	p-value
Age group	3.372526	4.0	29.63	1.23E-24 ***
Race	4.068	5.0	28.59	4.91E-29 ***
Race: Age group	1.365	20.0	2.399	4.32e-04 ***

Strip Search ratio & age_group

Null hypothesis: There is no difference in the ratio of Strip Search for arrested persons who are in different age groups.

Alternative hypothesis: There is a difference in the ratio of Strip Search for arrested persons who are in different age groups..

At 95% confidence interval, f statistic is 29.63 and p value (1.23e-24) is less than 0.05. Therefore, we can reject the null hypothesis and support the alternative hypothesis. There is a difference in the probability of strip search for people arrested and in custody grouped by age.

Strip Search ratio & Race

Null hypothesis: There are no differences in strip search ratio for arrest and custody cases grouped by races.

Alternative hypothesis: There is a difference in strip search ratio for arrest and custody cases by races.

At 95% confidence interval, f statistics is 28.59 and p value is much less than 0.05. Then, we reject the null hypothesis and conclude that the differences in the likelihood of strip search exist for cases grouped by race.

Interaction between Age group & Race

Null hypothesis: There is no interaction effect between age group and race in determining the strip search decisions. That is the effect of either age group or race is independent of the levels of each other.

Alternative hypothesis: There is an interaction effect between age group and race for police in making the strip search decision.

At 95% confidence interval, f statistics is 3.573 and p value is much less than alpha level of 0.05, and thus, we reject the null hypothesis and accept the alternative hypothesis. There is an interaction effect between age group and race in making the strip search decision.

According to Table 7, there are 51 groups with significant differences.

Table 7. Post HOC Comparisons of Two-Way ANOVA

Adult(Aged 25 to 44 years)Asian	Adult(Aged 25 to 44 years)Black	0.001 ***
Adult(Aged 25 to 44 years)Asian	Adult(Aged 25 to 44 years)White	0.001 ***
Adult(Aged 25 to 44 years)Asian	Middle_age(Aged 45 to 64 years)White	0.0113 *
Adult(Aged 25 to 44 years)Asian	Young_adult(Aged 18 to 24 years)Asian	0.001 ***
Adult(Aged 25 to 44 years)Asian	Young_adult(Aged 18 to 24 years)Black	0.001 ***
Adult(Aged 25 to 44 years)Asian	Young_adult(Aged 18 to 24 years)White	0.001 ***
Adult(Aged 25 to 44 years)Black	Adult(Aged 25 to 44 years)Latino	0.0033 **
Adult(Aged 25 to 44 years)Black	Adult(Aged 25 to 44 years)Middle-Eastern	0.001 ***
Adult(Aged 25 to 44 years)Black	Middle_age(Aged 45 to 64 years)Middle-Eastern	0.0212 *
Adult(Aged 25 to 44 years)Black	Young_adult(Aged 18 to 24 years)Black	0.001 ***
Adult(Aged 25 to 44 years)Black	Youth(Aged 17 years and under)Black	0.0252 *
Adult(Aged 25 to 44 years)Indigenous	Adult(Aged 25 to 44 years)Middle-Eastern	0.002 **
Adult(Aged 25 to 44 years)Indigenous	Young_adult(Aged 18 to 24 years)Black	0.0341 *
Adult(Aged 25 to 44 years)Latino	Adult(Aged 25 to 44 years)White	0.001 ***
Adult(Aged 25 to 44 years)Latino	Young_adult(Aged 18 to 24 years)Asian	0.001 ***
Adult(Aged 25 to 44 years)Latino	Young_adult(Aged 18 to 24 years)Black	0.001 ***
Adult(Aged 25 to 44 years)Latino	Young_adult(Aged 18 to 24 years)White	0.001 ***
Adult(Aged 25 to 44 years)Middle-Eastern	Adult(Aged 25 to 44 years)White	0.001 ***
Adult(Aged 25 to 44 years)Middle-Eastern	Middle_age(Aged 45 to 64 years)Black	0.0471 *
Adult(Aged 25 to 44 years)Middle-Eastern	Middle_age(Aged 45 to 64 years)White	0.001 ***
Adult(Aged 25 to 44 years)Middle-Eastern	Young_adult(Aged 18 to 24 years)Asian	0.001 ***

Adult(Aged 25 to 44 years)Middle-Eastern	Young_adult(Aged 18 to 24 years)Black	0.001 ***
Adult(Aged 25 to 44 years)Middle-Eastern	Young_adult(Aged 18 to 24 years)White	0.001 ***
Adult(Aged 25 to 44 years)White	Elder(Aged 65 and older)White	0.0247 *
Adult(Aged 25 to 44 years)White	Middle_age(Aged 45 to 64 years)Asian	0.0039 **
Adult(Aged 25 to 44 years)White	Middle_age(Aged 45 to 64 years)Latino	0.035 *
Adult(Aged 25 to 44 years)White	Middle_age(Aged 45 to 64 years)Middle-Eastern	0.0026 **
Adult(Aged 25 to 44 years)White	Young_adult(Aged 18 to 24 years)Black	0.001 ***
Adult(Aged 25 to 44 years)White	Youth(Aged 17 years and under)Black	0.0011 **
Elder(Aged 65 and older)Asian	Young_adult(Aged 18 to 24 years)Asian	0.0274 *
Elder(Aged 65 and older)Asian	Young_adult(Aged 18 to 24 years)Black	0.001 ***
Elder(Aged 65 and older)White	Young_adult(Aged 18 to 24 years)Asian	0.0053 **
Elder(Aged 65 and older)White	Young_adult(Aged 18 to 24 years)Black	0.001 ***
Elder(Aged 65 and older)White	Young_adult(Aged 18 to 18 to 24 years)White	0.0278 *
Middle_age(Aged 45 to 64 years)Asian	Young_adult(Aged 18 to 24 years)Asian	0.0036 **
Middle_age(Aged 45 to 64 years)Asian	Young_adult(Aged 18 to 24 years)Black	0.001 ***
Middle_age(Aged 45 to 64 years)Asian	Young_adult(Aged 18 to 24 years)White	0.0187 *
Middle_age(Aged 45 to 64 years)Black	Young_adult(Aged 18 to 24 years)Black	0.001 ***
Middle_age(Aged 45 to 64 years)Latino	Young_adult(Aged 18 to 24 years)Asian	0.0071 **
Middle_age(Aged 45 to 64	Young_adult(Aged 18 to 24 years)Black	0.001 ***

|		
years)Latino		
Middle_age(Aged 45 to 64 years)Latino	Young_adult(Aged 18 to 24 years)White	0.0312 *
Middle_age(Aged 45 to 64 years)Middle-Eastern	Young_adult(Aged 18 to 24 years)Asian	0.001 ***
Middle_age(Aged 45 to 64 years)Middle-Eastern	Young_adult(Aged 18 to 24 years)Black	0.001 ***
Middle_age(Aged 45 to 64 years)Middle-Eastern	Young_adult(Aged 18 to 24 years)White	0.0039 **
Middle_age(Aged 45 to 64 years)White	Young_adult(Aged 18 to 24 years)Black	0.001 ***
Young_adult(Aged 18 to 24 years)Asian	Youth(Aged 17 years and under)Black	0.001 ***
Young_adult(Aged 18 to 24 years)Asian	Youth(Aged 17 years and under)White	0.03 *
Young_adult(Aged 18 to 24 years)Black	Young_adult(Aged 18 to 24 years)Middle-Eastern	0.001 ***
Young_adult(Aged 18 to 24 years)Black	Youth(Aged 17 years and under)Black	0.001 ***
Young_adult(Aged 18 to 24 years)Black	Youth(Aged 17 years and under)White	0.001 ***
Young_adult(Aged 18 to 24 years)White	Youth(Aged 17 years and under)Black	0.0048 **

Source: The *Arrests and Strip Searches* dataset from Toronto Police Service

*** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$.

Interaction plot
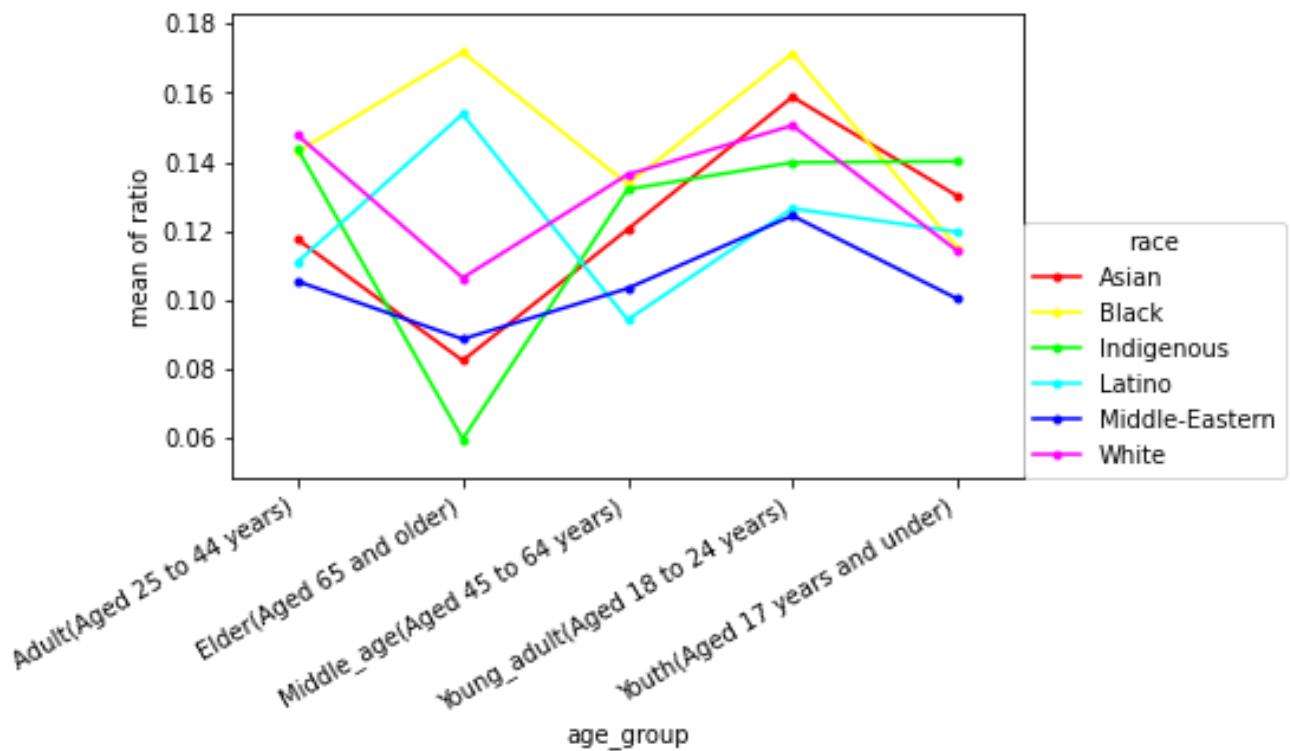
While the interaction plot does not provide any information on statistically significant difference, the plot showed: (a)generally black people face a higher ratio of strip search especially for older people and young adults, but youth can expect a lower ratio; (b) there is a big fluctuation in indigenous group; for instance, the elder indigenous would have a relatively low ratio of strip search, but the indigenous adults would have a relatively high strip search ratio; and (c) most of the racial groups follow the similar pattern that they got relatively high ratio if they are adults; on the other hand, they would have a relatively low ratio when they get older or they are youth.

Discussion

Preliminary suppositions

Through analysis, we found that differences in race and age do affect the probability that the police will conduct strip searches on arrested persons. For example, whites and blacks are more likely to be searched than other racial populations. In addition, adults are more likely to be searched than youth and elderly people. These biases are due in part to historical factors as

well as the distribution of Toronto's population, such as a higher proportion of whites and blacks than other races.

However, we have to admit that the judiciary act of strip search has caused dissatisfaction among the public. Strip searches are traumatic. Strip searches represent a significant invasion of privacy and are often a humiliating, degrading and traumatic experience. Racialized people, as well as women, can experience being strip searched as akin to a sexual assault" (Lemke, 2022). In addition to females, strip searches have a severe adverse impact on youth and children. "Further research has shown that strip searches, performed even as intended, can cause children to experience anxiety, depression, loss of concentration, sleep disturbances, difficulty performing in school, phobic reactions, shame, guilt, and other lasting emotional scars" (Shah & Fireman, 2021). At the same time, strip searches are inefficient to some extent. "In May 2014, the Toronto police chief at the time reported to the Police Services Board that only in two per cent of strip and cavity searches did police find any items, and only a fraction of those found objects posed a risk" (Lemke, 2022). The purpose of conducting strip searches is to maintain social order, but the harm caused by this practice far outweighed the benefits it brings to society.

These findings provide us with new insights into strip searches and how age group and ethnicity related to the outcomes. As a result, the Toronto Policy Service has a better understanding of search practices and is making changes to reduce disparities during controlled situations such as arrests and searches. Based on these findings, it has identified areas for improvement, including increased accountability, better supervision and coaching of officers, enhanced training, and the development of performance metrics to monitor progress transparently. The authority is committed to ongoing engagement with communities and members to identify additional areas for action.

Limitations and Conclusion

There are still limitations to our research. The analysis considers incidents of arrests, bookings, and strip searches, which could happen to the same individual multiple times. The goal is to determine whether repeated arrests increase the likelihood of experiencing strip searches, especially for offences such as drug or weapon-related crimes. It is important to note that the findings of racial disparities are not sufficient evidence of systemic racial bias. Further investigation, possibly through additional data sources and methods, is necessary to

identify the underlying causes of these differences and take effective measures for sustainable change. Furthermore, there is a majority of White and adult respondents compared to other races and age groups, which may indicate a lack of representation in our study. Also, there are some motivations beyond our knowledge and data availability to understand why police will conduct strip searches.

Through our research, we found that differences in demographic factors such as age and race will indeed make the probability of being strip searched different. At the same time, the interaction between them also affects the decisions of the judiciary. However, it is not clear whether the judgement based on such factors effectively improves the success rate of the strip search. Therefore, we call on the judiciary to treat people of every race and age equally. At the same time, the judiciary should further improve the regulations and rules for judicial execution. We know that strip searching is not only frustrating for those being frisked, it is also a waste of our judicial department's resources.

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