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# Young drivers' injuries in Saskatchewan

Katarina Michalyshyn, supervised by Professor Rose Anne Devlin  
University of Ottawa

## Introduction

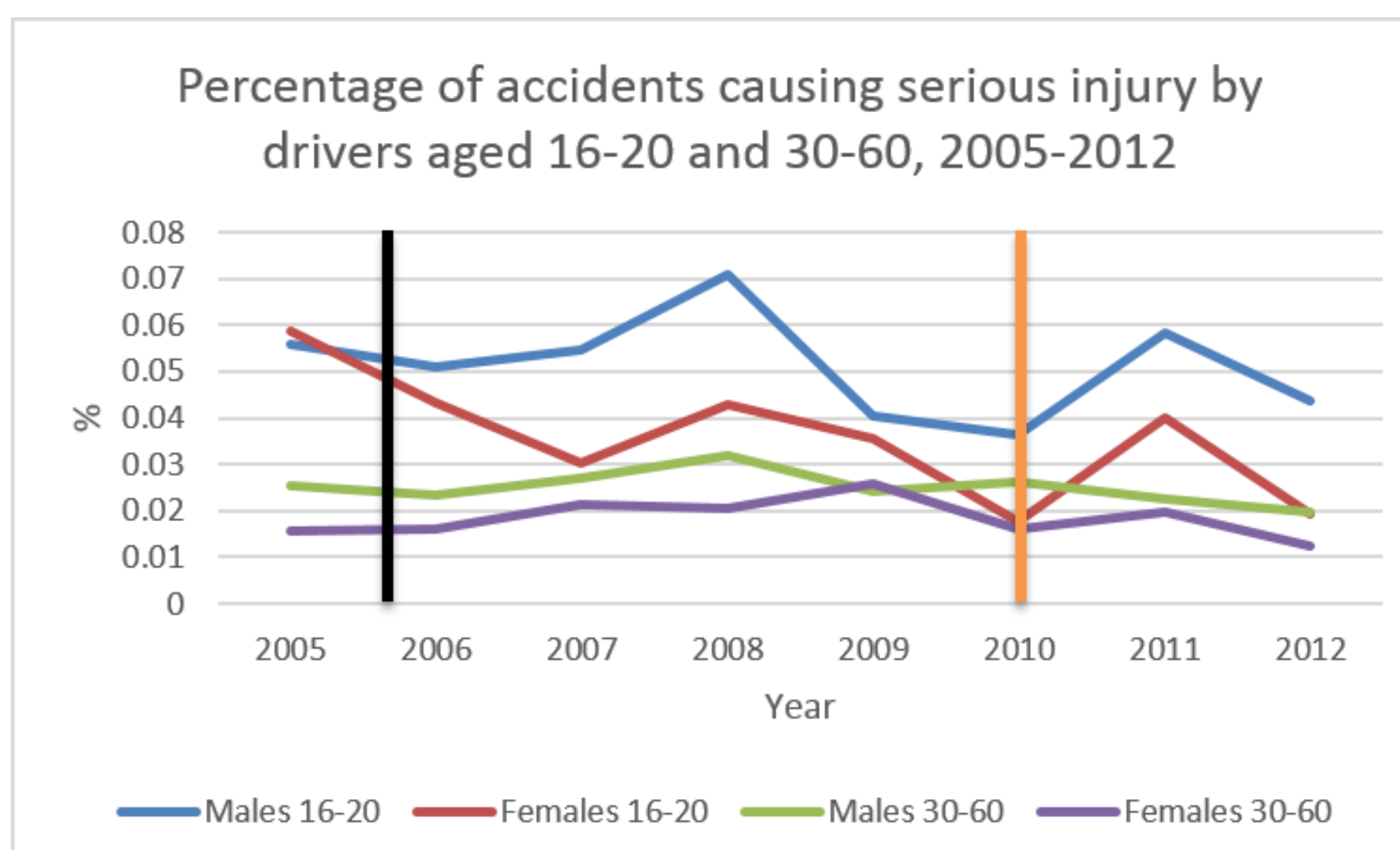
Young drivers are more prone to automobile accidents than the rest of the driving population, and collisions have large financial consequences. Governments have created many programs in an attempt to promote safer driving habits, and consequently decrease the amount of collisions. Since these programs are costly, it is important to understand if they actually have lowered the rate of accidents. This research project examines the two major programs that were adopted in the Province of Saskatchewan: the Graduated Driver's License (GDL) program and legislation about distracted driving (e.g., cell phone use). The GDL program was introduced on September 1, 2005, and restricts the driving privileges<sup>1</sup> – including the use of cell phones<sup>4</sup> – of young drivers for approximately the first 18 months after they get their licenses.<sup>1</sup> The distracted driving law has been in effect since January 1, 2010, and restricts non-GDL drivers' cell phone usage to only hands-free cell phones.<sup>2</sup> The hypothesis is that the legislative measures helped reduce driver injuries among young drivers. Understanding the results of these measures is important in order to reduce the negative consequences that collisions have on the public (such as health care expenses related to injuries).

## Methods

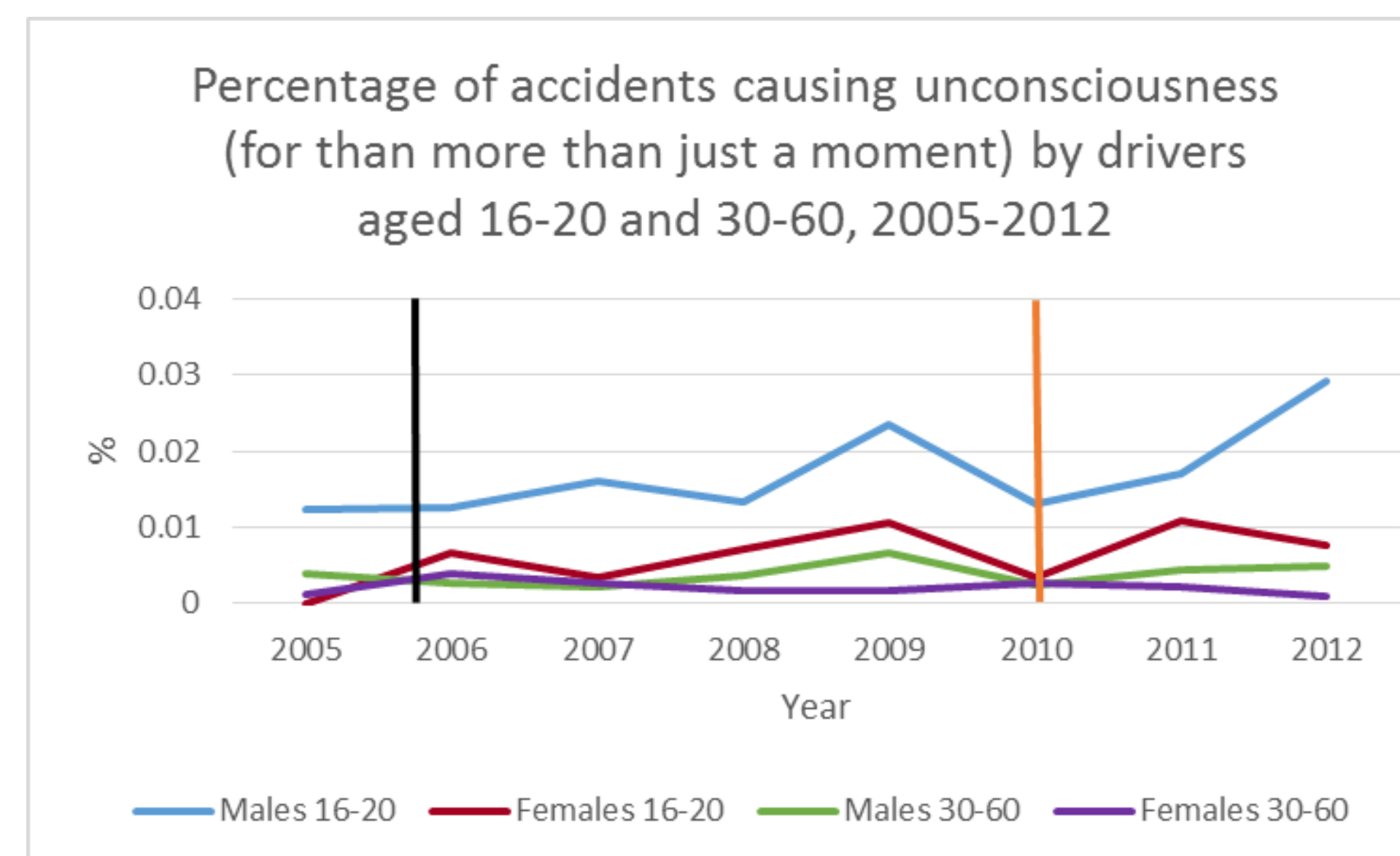
A data set with information about all vehicle collisions in Saskatchewan from 1988-2012 was used. Using Excel, the data pertaining to drivers of cars, passenger trucks, vans and SUV's was isolated. These were presented graphically in order to identify trends in driver injuries among different age and gender groups. Drivers 16-20 years old are compared with drivers 30-60 years old.

## Results

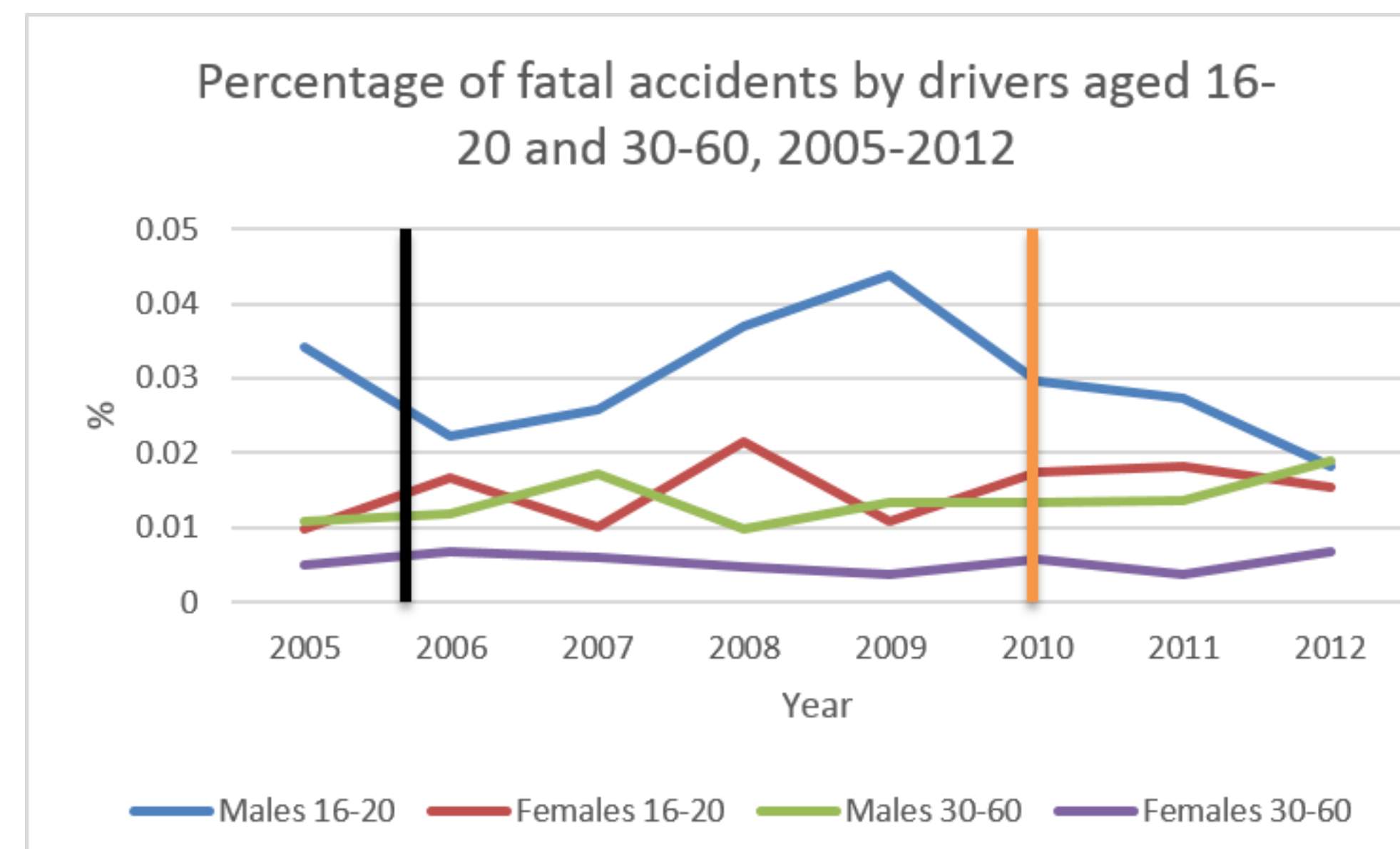
For these graphs, the percentage measured is  $[(\# \text{ gender \& age with injury } i) / (\# \text{ gender \& age with DL})] * 100$  (note: DL stands for Driver's License). The number of driver's license holders per year by age and gender was found on the Saskatchewan Government Insurance website.<sup>3</sup> This information was only available since 2005. In September 2005, the GDL law came into place.<sup>1</sup> Therefore, these graphs are not able to very extensively show the differences in driver injuries before and after the GDL law. The vertical black line represents the introduction of the GDL law, on September 1, 2005.<sup>1</sup> The vertical green line represents the introduction of the cell phone law, on January 1, 2010.<sup>2</sup> There are proportionately more young drivers that are involved in major accidents than drivers 30-60. Interestingly, the young drivers of different genders have different injury rates, but they often will both have peaks or dips in their rates at similar times.



In this graph, the 30-60 drivers of both genders have more steady rates of injury than the younger drivers do. There is a slight downward trend in the rate of young driver injuries.

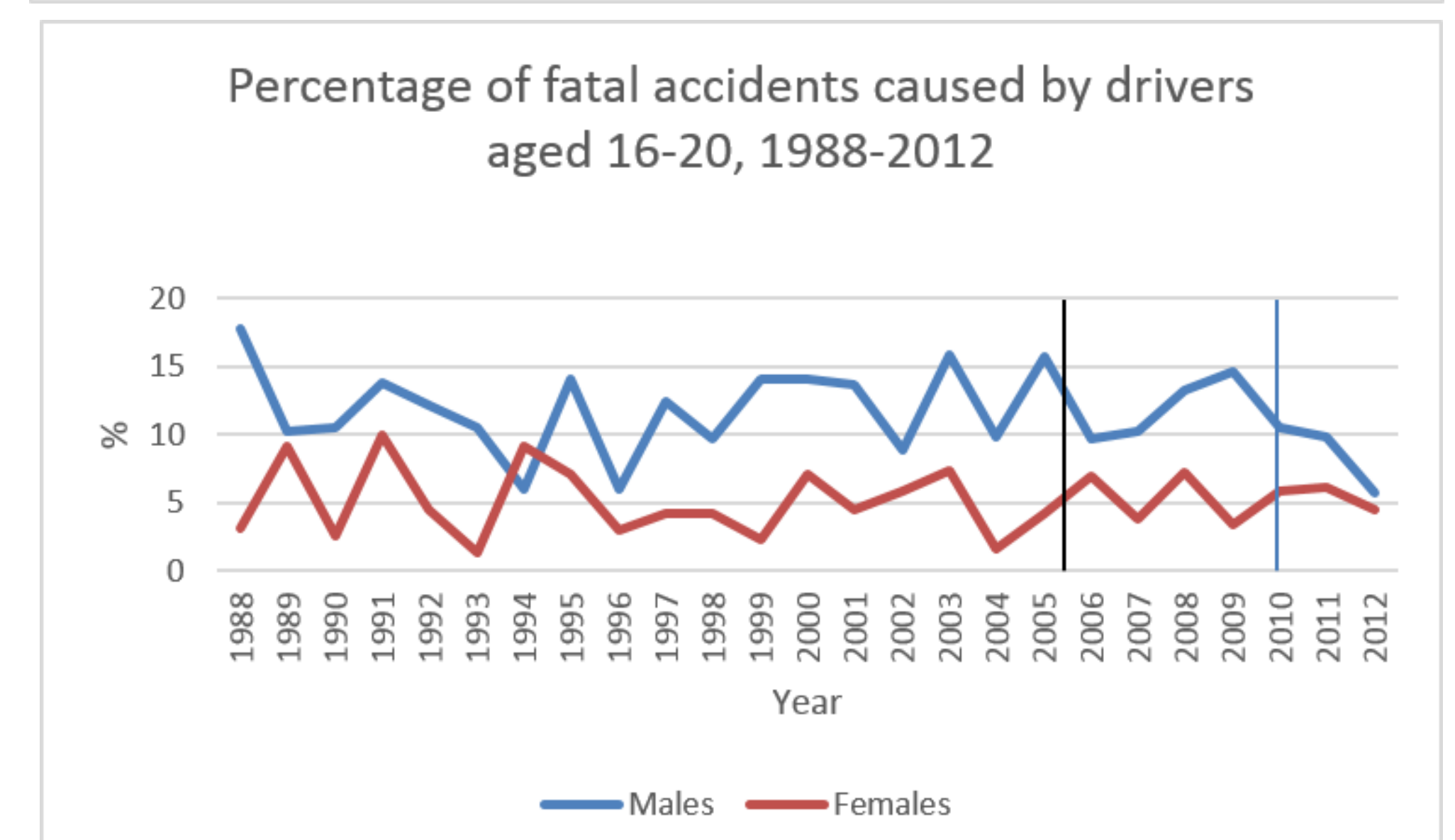
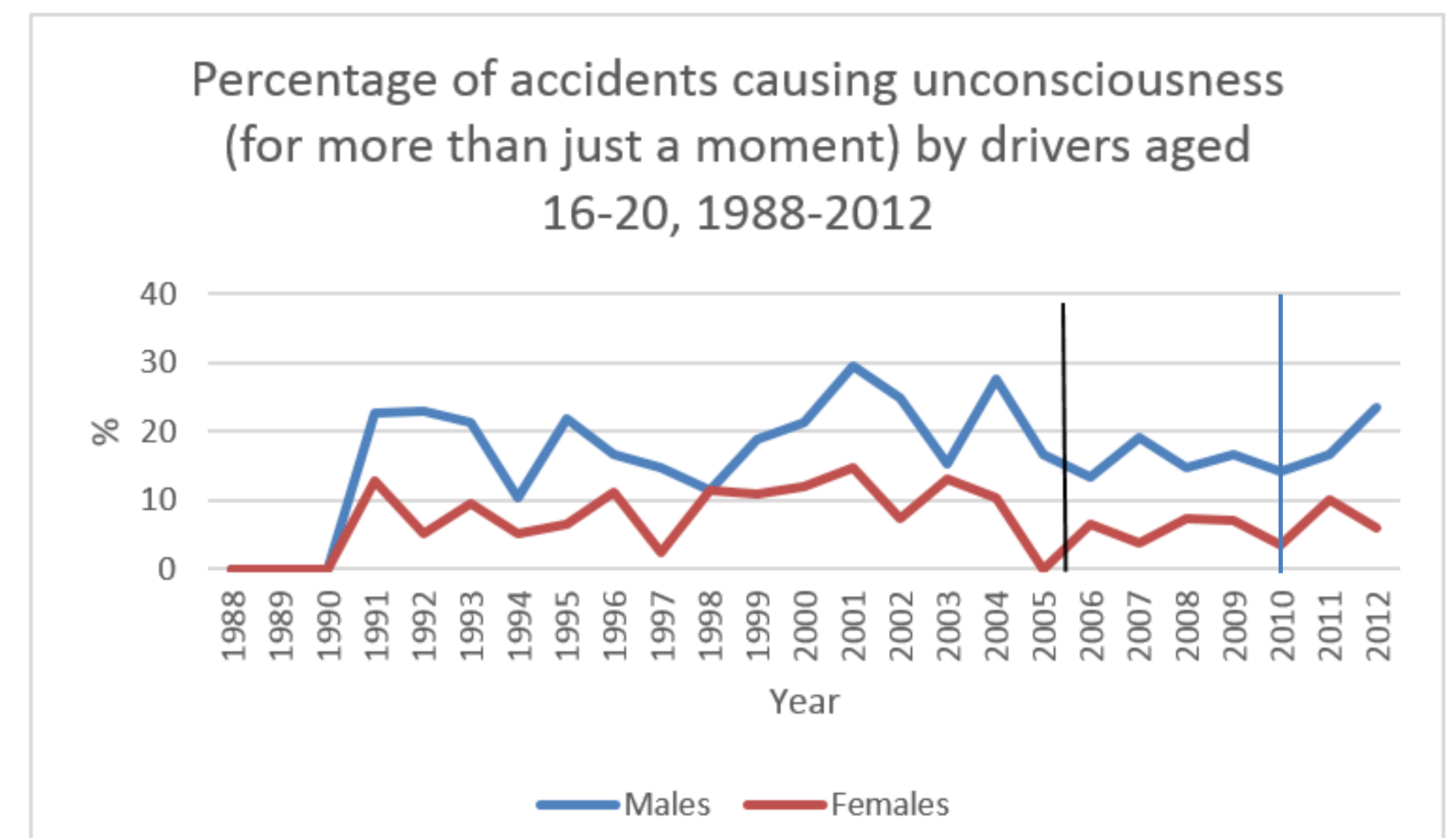
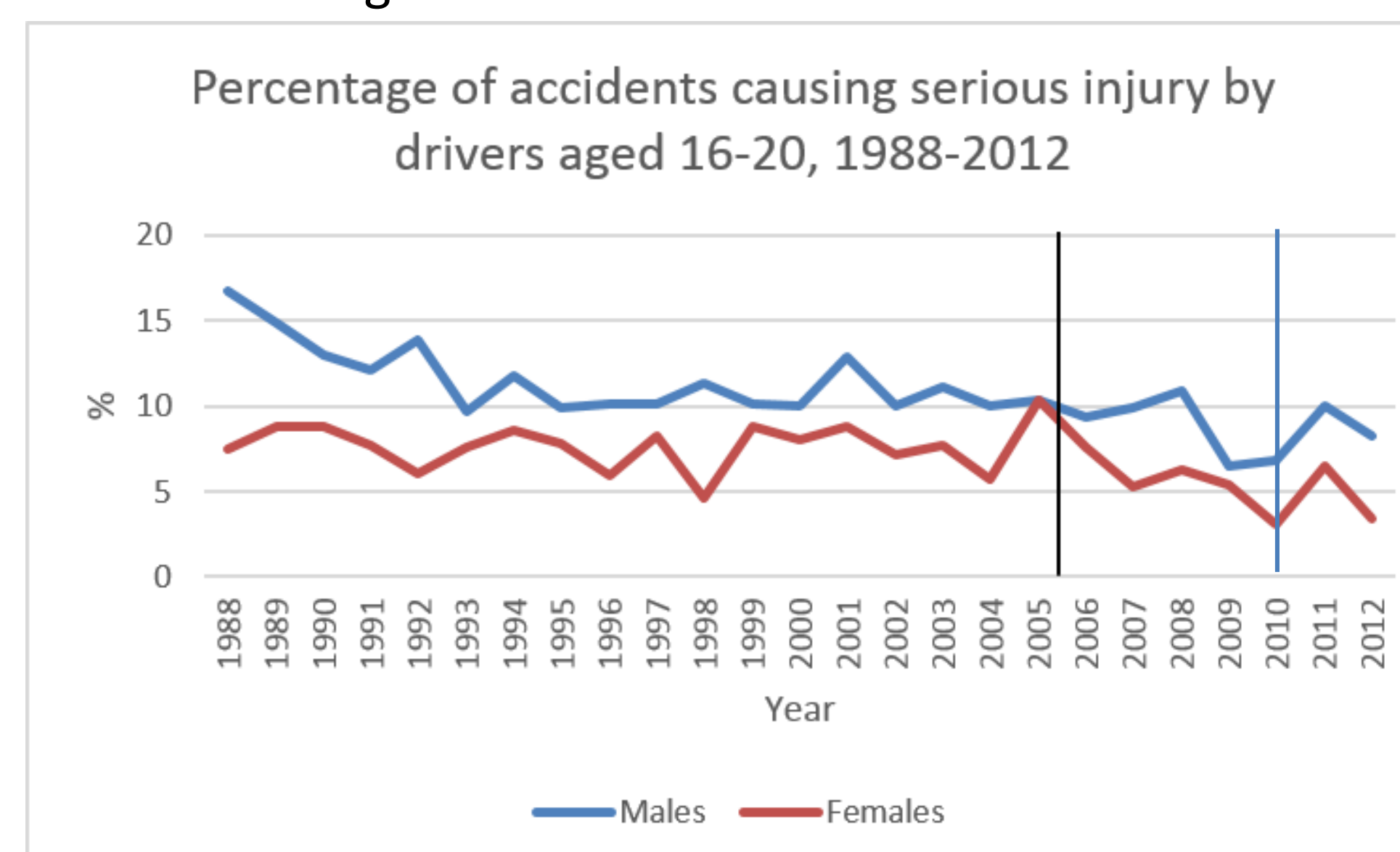


Among young drivers, collisions causing unconsciousness for more than just a moment have trended up over the years studied. The curves' behaviour after the GDL and distracted driving legislation seems to indicate that these programs have not produced their desired effects on young people, for this category of injury.



It is important to note that since there are not very many fatal accidents that occur each year, a small change in the number of these accidents year-to-year can affect the percentage a lot. The data shows that young male drivers are more likely than the other categories to be killed from a driving accident. Near 2012, the rate goes down. It will be interesting in the coming years to see if this downward-sloping trend continues. The young females and the 30-60 males have similar rates of dying from road collisions. The 30-60 females consistently have the lowest rate. This is slightly different from the two other graphs, where the 30-60 females curve occasionally is equal or higher than the curves for the younger females and the 30-60 males. Under the GDL program, drivers who are not fully licensed are not allowed to use a cell phone of any kind.<sup>4</sup> The earliest a driver could be fully licensed is age 17.<sup>4</sup> Therefore, since the 2005 GDL law and the 2010 cell phone law have the same cell phone restrictions, we would not expect a major change after 2010 in injuries among young people. The data generally reflects this.

In order to look at a longer time period, different graphs were made, comparing the percentages of young male and female driver injuries. For these graphs, % means  $[(\# \text{ injury } i \text{ gender \& age}) / (\# \text{ injury } i \text{ all drivers of all genders and ages})] * 100$ . These graphs do not take into account the total number of licensed drivers of each age and gender, since these statistics could not be found for before 2005. These graphs support the suggestion that young drivers have higher rates of injury-causing accidents than the population on average.



After the 2005 law, there was a decrease in the number of serious injury collisions for both genders. For unconsciousness collisions, there was a decline after the 2005 law, but an increase in males after the 2010 law. It would be interesting to see this graph once more years have passed to see if the increase after 2010 is an anomaly.

There is not any notable change in the rate after 2005. However, there is a decline after 2009 among males. In 2012, the rate among males is the lowest of all the years shown.

## Conclusions

One surprising finding was that young drivers of different genders peaks and dips in injuries at similar times. Further research could look into reasons for this.

## Acknowledgements

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## Contact information:

Katarina Michalyshyn: [kmich030@uottawa.ca](mailto:kmich030@uottawa.ca).  
Professor Rose Anne Devlin: [radevlin@uottawa.ca](mailto:radevlin@uottawa.ca) University of Ottawa, Faculty of Social Sciences, Room 5039E, 120 University Avenue, Ottawa ON, K1N 6N5

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