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SAÉ2.04 Exploitation d’une base de données

In this SAÉ, we study the road accidents in the "Hauts-de-France" region. This region is made of five departments witch are "l’Aisne", "le Nord", "l’Oise", "le Pas-de-Calais" and "la Somme". Our statistics are focused on the pepeole between 18 and 24 years old from 2006 to 2021.

Accident victims

	Driver	Pasng	Pedest
Men	0.76	0.56	0.48
Women	0.24	0.44	0.52

Figure 1: Table representing the proportion of accidents by sex and category of user.

Through this table we can study the number of accidents according to the sex of the victim and his category. In general, men are more involved in accidents, except in the pedestrian category where women are slightly more involved.

The category of the person we are most interested in is the first, because this represents the driver. So we can see that there are more men being victimized as drivers, with 76% men and 24% women.

What we can deduce from this is that either men drive more than women, or their driving is more dangerous than women’s drive. However, since we do not have the causal factor of the accident, we can only deduce that the percentage being higher among men than among women.

We must be more careful when a man is driving, because there are more accidents involving men than women.

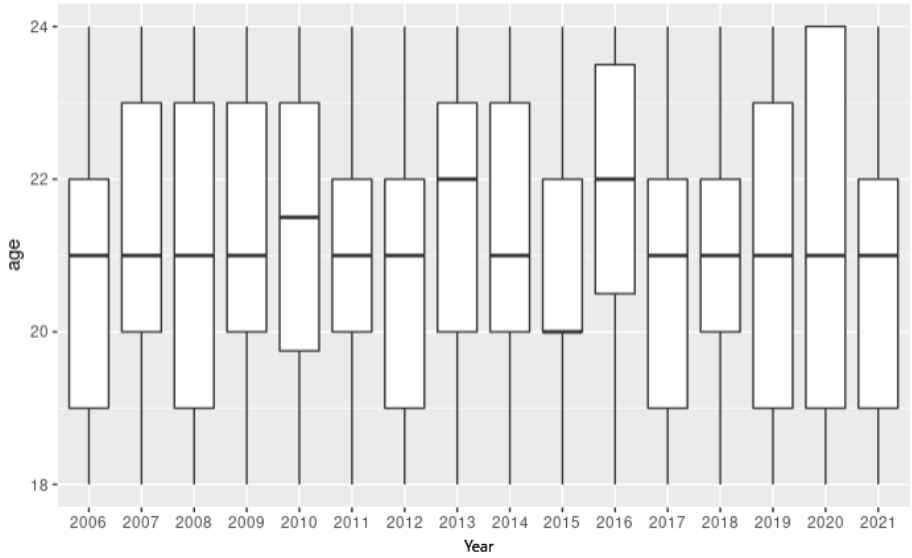

Figure 2: Boxplot representing the number of accidents per year and per age of the victim.

This boxplot was built on a comparison of the number of accidents according to the age of the people involved in it. We have also decided to show this comparison for each year. We have also selected the state of the victim involved in this accident, so here we are interested in young people who died in accidents.

We can notice that the average age of death among young people is around 21 or 22 years old. The information we can deduce is that there are a lot of fatal accidents involving young people, we can assume that usually they can be drivers themselves and therefore in some way young people would be the cause of the accident because of their lack of experience, but they can be passengers as well, however this graph doesn't tell us.

Variety of accident

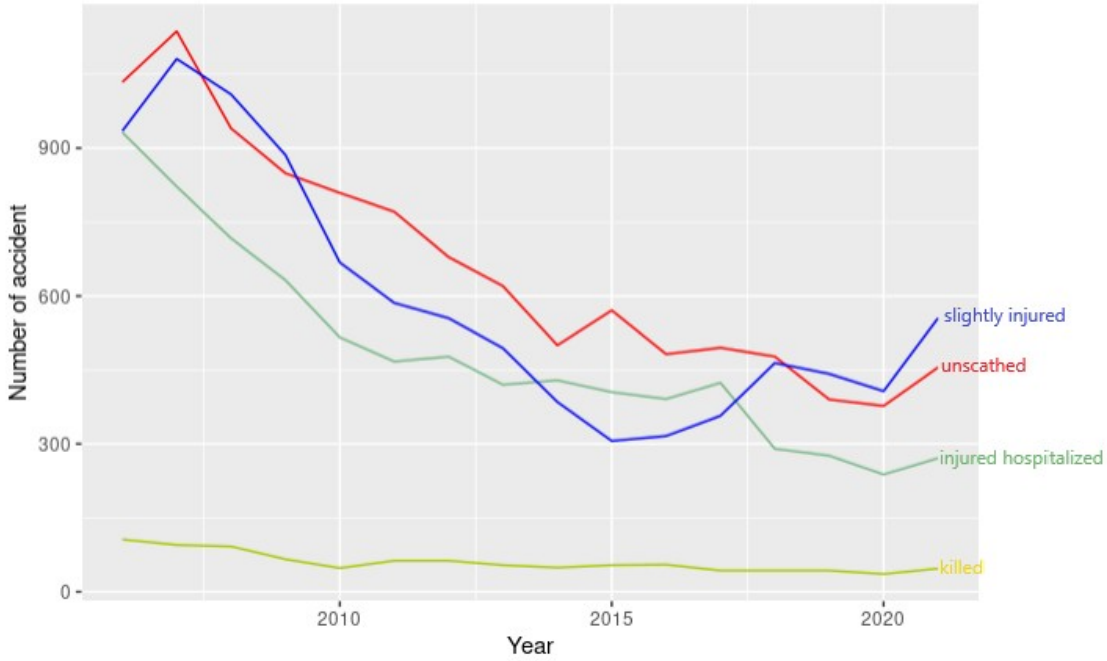

Figure 3: Line graph over the time representing the number of accidents with for each line the level of severity.

What we are trying to study with this graph is the state of accident victims on average per year. In other words, we are looking to see the evolution of the number of fatal accidents over the years. So we can see that mortal accidents are represented by the dark yellow line. There were not many in 2006 and it seems that this number has decreased over time.

We can believe that the fatality of the accidents reduce over time, however if we observe the other curves, we can see that they also decrease strongly. We can deduce that it is not the number of fatal accidents that decrease over time but the total number of accidents that have occurred.

This is due to an increase in road safety, in particular with more restrictions such as the reduction of speeds on the most dangerous roads.

Dangerous places and days in "Hauts-de-France"

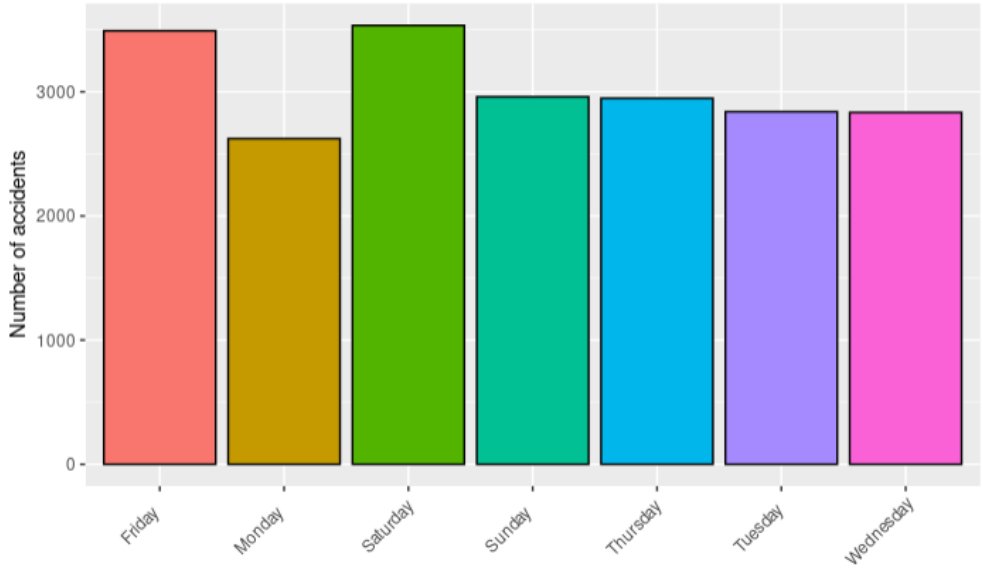

Figure 4: Bar chart representing the number of accidents for each day of the week.

This graph illustrates the number of accidents for each day of the week. The information is not very relevant but we can see that Saturday is the most dangerous day with the most accidents. Saturday being the most accidental day, we can assume that it is the day when the most people leave their homes. There is a greater risk of having an accident on Saturday than on the other days of the week.

adr <chr>	nom <chr>	nbacc <int>
AUTOROUTE A25	Nord	245
AUTOROUTE A21	Pas-de-Calais	160
AUTOROUTE A1	Nord	140
AUTOROUTE A23	Nord	103
AUTOROUTE A2	Nord	93
AUTOROUTE A1	Oise	88
AUTOROUTE A22	Nord	78
AUTOROUTE A16	Nord	77
AUTOROUTE A1	Pas-de-Calais	72
ROUTE NATIONALE 356	Nord	59

1-10 of 10 rows

Figure 5: Table representing the places where the most accidents took place.

This second table shows us the top 10 roads with the most accidents in the “Hauts-de-France” region. It provides us the address where the accidents took place, the department where the place is located and the number of accidents not taking place. These addresses with a large number of accidents are considered more dangerous. We can notice that it is in particular the motorways which are sources of the majority of accidents. We can deduce that most accidents are linked to excessive speed so either the speed regulation on these roads is not respected, or you have to be vigilant on high-speed roads.