

# Evaluation of the Effectiveness of the 2019 School-Based Awareness Campaign on Road Driving in the Municipalities of Cotonou and Abomey-Calavi in Benin

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## Abstract

Being the leading death cause among young people in the world, road accidents are avoidable through the adoption of simple attitudes and behaviors. Handicap International Non-Governmental Organization (NGO) has launched an awareness campaign in secondary schools in the municipalities of Cotonou and Abomey-Calavito bring young Beninese users to adopt good attitudes and safe behavior while driving on the road. This study aims at assessing the effectiveness of this awareness campaign. It was an evaluative cross-sectional here-elsewhere type study, held in fourteen high schools in the cities of Cotonou and Abomey-Calavi, of which seven benefited from the campaign and seven did not. In each school, students were selected on the basis of two-stage random sampling. 656 students, 309 of whom were sensitized and 347 of whom were not, were included in this study. The campaign was quite effective. Students, teachers, and school officials' perceptions of the campaign were positive. In addition, the sensitized students had a better level of knowledge ( $p = 0.001$ ) and reported safer behaviors ( $p = 0.003$ ) while driving on the road than those who were not aware. Although the effects are positive, they are still very small. Efforts must be continued and much remains to be done.

## Keywords

Road Accident, Campaign, High School, Student, Benin

## 1. Introduction

Road accidents (RA) are the leading cause of death among young people aged 15

to 29 [1]. The causes of this situation are now well known; they originate in the behavior and attitudes of young drivers: risk-taking, excessive speeds, mobile phone use, non-compliance with the traffic regulation, etc. [2] [3]. Consequently, road safety awareness and education activities are often carried out with young drivers. The aim of these educational or preventive actions aimed at young people is therefore to moderate the central processes in risk-taking and rule-breaking [4].

In Benin, an awareness campaign has been carried out in secondary schools for young road users. This campaign was part of the project “Promoting road safety in Benin, particularly in the Atlantic and Coastal departments”, set up by the Non-Governmental Organization (NGO) Handicap International (HI) in collaboration with the National Traffic Safety Center (NSCC). The aim of the campaign was to improve students’ knowledge, attitudes and behavior in driving. The main behaviors targeted were speeding, using a cell phone while driving, not respecting traffic lights or signs, improper overtaking, improper crossing, making major changes in direction without prior warning, prohibited direction, etc. Has this awareness campaign been effective?

The overall objective of this study was to assess the effectiveness of the awareness campaign. More specifically, it was mainly a question of describing the perceptions of students, teachers as well as and school officials about the awareness campaign; determine the impact of the awareness campaign on the level of knowledge, attitudes and behavior of students in driving; identify the socio-demographic features as well as those of the usual traffic environment, associated with the effectiveness of the awareness campaign and finally compare the proportion of accidents and the nature of injuries among sensitized and non-sensitized students.

The results of this work will improve practices in terms of designing and implementing more effective campaigns in the future.

## **2. Methods**

### **2.1. Type of Study**

This is an evaluative, quasi-experimental, cross-sectional study of this type. The awareness campaign was conducted between October and November 2019. Data collection was carried out in March 2020. This campaign was carried out with the support of experts from the National Road Safety Center and the communication specialist from the NGO Handicap International. It consisted of carrying out at least three awareness sessions on the prevention of road accidents by selected secondary school.

### **2.2. Study Population**

It was made up of students from public or private secondary schools, the municipalities of Cotonou or Abomey-Calavi, where the campaign was (Action group) or was not implemented (Control group). The students should be in the second

cycle, *i.e.*, from the second year of secondary school to the final year of high school. However, those who did not answer most of the questions, especially those related to the assessment of their knowledge, attitudes and behavior regarding driving on the road, were excluded from the study. In such a way as to obtain additional information on the evaluation of the campaign, teachers and censors of these colleges who benefited from the campaign were also interviewed.

### 2.3. Sampling

Two lists of colleges were drawn up: one for those that benefited from the campaign (Action group) and one for those that did not (Control group). On each list, the colleges were divided by municipality, district and neighborhood. Seven (07) colleges were then selected randomly. In addition, the selected colleges that did not benefit from the campaign were in different neighborhoods from those selected and who benefited from them in order to ensure that the behavior of non-sensitized students on the road was not influenced by those sensitized (the “communication loop” phenomenon).

With regard to the calculation of the minimum size of the action group, it was determined by the Schwartz formula:

$$n = Z^2 \alpha \frac{p(1-p)}{i^2}$$

- Value of the  $Z$  statistic of the Normal distribution for a risk of error  $\alpha = 5\%$ :  $Z\alpha = 1.96$ ;
- Proportion of pupils with good driving behavior:  $p = 50\%$  (we have no information);
- Accuracy:  $i = 5\%$ ;
- We thus obtain:  $n = 384$ .

The minimum sample size for the Action group was therefore 384 students. The minimum sample size of the control group was modeled on that of the Action group, and was therefore also 384 students.

In each of these colleges, a second, first and final class were selected by simple random selection. In each selected class, twenty students were randomly selected per class, for a total of sixty (60) students per college. Indeed, the minimum sample size of the students to be surveyed was 384 in each group (Action and Controls) and was calculated using the Schwartz formula. For censors and teachers, the selection was made by non-probability sampling by reasoned choice and the censor and one teacher were surveyed for each of the seven (07) selected colleges that benefited from the campaign.

### 2.4. Measuring Student Knowledge, Attitudes and Behaviors

Three initial measurement scales were developed: one for knowledge, one for attitudes and one for behaviors. The number of items on these scales ranged from seven (07) to thirteen (13). For the knowledge measurement items, each student

was asked to answer “Yes”, “No” or “Don’t know” and depending on the answer chosen, the student was given one point if correct or zero if not. The measures of attitudes and behaviors were made up of Likert scales with five levels of response: “totally disagree”, “disagree”, “neither disagree-nor agree”, “agree” and “totally agree” on attitudes and “never”, “rarely”, “sometimes”, “often”, “always” when it comes to measuring behavior. A score between a five-point points was given based on the selected answer and the sense of acceptance of the attitude or behavior being measured. These different initial measurement scales were then pre-tested on a sample of representative students of those to be investigated. Items that did not contribute to the differentiating function of the scales and those that were not correlated to a threshold of 5% (Pearson correlation) to the overall score of their new scale were eliminated. The reliability of each of these scales was then tested using Cronbach’s alpha ( $\alpha$ ) and was moderate for the knowledge and behavior scale ( $\alpha = 0.61$ ), adequate for the attitude scale ( $\alpha = 0.64$ ) [5]. Thus, three final measurement scales were obtained. And the number of items for each of them were seven (07), eight (08) and five (05) respectively for knowledge, attitudes and behaviors.

In order to measure the real effect of the campaign on students’ knowledge, attitudes and behaviors, some factors independent of the campaign and likely to influence them were controlled. These included the socio-demographic characteristics of the student such as age, sex, level of education, type of college, most used means of transport, distance from school, personal experience of RTAs, etc. and features related to the student’s usual traffic environment such as the type of road, the density of traffic (congestion or not), the rideability of roads (in case of heavy rain).

### **2.5. Assessment of Campaign Effectiveness**

Four levels of assessment of the effectiveness of the awareness campaign were defined: not effective, not very effective, rather effective and very effective. The campaign would be considered “ineffective” if there was no difference between the knowledge and attitudes of the two groups of pupils and there was also no difference in behavior, accident proportions and the nature of the injuries. It would be “ineffective” if the knowledge and/or attitudes of the sensitized pupils are better than those of the non-sensitized pupils without a difference in behavior and accidents. However, when the difference is not perceptible only at the level of accidents but for all others the tendency is better among sensitized students, the campaign would be considered “rather effective”. Finally, the campaign would be very effective if there is a difference at all levels and this in favor of sensitized students.

### **2.6. Student Satisfaction with the Campaign**

To measure the overall satisfaction of students in the campaign, a satisfaction scale was developed. This scale consists of seven (07) items. For each item, the

student has the choice of five answers. Responses were rated from 1 point to 5 points. Thus, the overall student satisfaction score ranged from 7 to 35 points. In order to measure each student's level of satisfaction, the overall satisfaction score was distributed over three classes, with a range calculated according to the following criterion: (Higher score – Lower score)/3. The satisfaction was considered low when the student's total score is less than or equal to 16; average if the total score is between 17 and 26 and high when the total score is greater than or equal to 27.

## 2.7. Data Processing and Analysis

For the processing of quantitative data, we checked the completeness and completeness of the data sheets, then entered the data with epidata 3.1 software and cleared the database with stata 11. The interviews were transcribed verbatim. Quantitative data were analyzed with stata 11 and SPSS software at the 5% significance threshold. The qualitative data were manually analyzed. Data analysis was both descriptive and analytical. In the descriptive analysis, the results of the quantitative variables were presented as a mean and standard deviation when the distribution is normal and proportions for the qualitative variables. The compatibility of the two groups was sought through statistical tests of Chi<sup>2</sup> or student t. In terms of perceptions of the campaign, verbatim reported was used as appropriate. The analytical phase was conducted by group of dependent variables. For each dependent variable, the campaign effect was measured without taking into account other factors using Student, Chi<sup>2</sup> or Fisher t-tests. The variables were then entered into multivariate analysis of covariance models, stepwise downwards except for accidents.

## 2.8. Ethical Concerns

College principals were informed of the merits of the study and its relevance. Prior to the respondents' participation in the study, the reasons for the study were also explained to them and their free, verbal and informed consent was requested. Similarly, the data were collected on anonymous basis and confidentiality was respected.

## 3. Results

Of the 768 students selected, 695 agreed to participate in the study, 39 of whom did not answer most of the essential questions and were therefore excluded. The analysis is based on the data of 656 students divided as follows: 309 in the Action group, 347 in the Control group, for a participation rate of 85.42%.

Similarly, all censors (n = 7) and four ((n = 4) randomly selected teachers were interviewed during data collection for this study.

### 3.1. Characteristics of the Two Groups

The comparison of the characteristics of the two groups shows a difference in

terms of: the average age which was significantly higher among sensitized students compared to non-sensitized (17.91 years 1.86 years compared to 17.44 years 2.08 years) ( $p = 0.002$ ); the type of college attended ( $p = 0.013$ ); the mode of transportation often used ( $p < 0.001$ ); the frequency of riding a motorcycle or bicycle per week ( $p < 0.001$ ); Discussion with parents on road safety ( $p = 0.004$ ) and participation in at least one other road awareness in previous years ( $p < 0.001$ ) (**Table 1**). However, by integrating these six variables into a logistic regression with “campaign participation” as a dependent variable, the results indicate that the differences remain significant for the following variables even when the differences for the other variables are controlled: age, frequency of riding a motorcycle or a bike per week, Discussion with parents on road safety and participation in at least one other outreach in previous years (**Table 2**). The analyses concerning the differences between the Action and Control groups in terms of knowledge, attitudes and driving behavior were therefore checked with these variables. Since sex is a variable of interest, it was also considered in these analyses.

### 3.2. Perceptions of Students, Censors and Teachers on the Campaign

The students’ assessment of the awareness campaign was generally positive. However, while 77.4% of students said that the campaign allowed them to be more cautious on the road, for most of the censors ( $n = 5$ ) the change in positive behavior among most of their students is not only due to the campaign but especially thanks to the help of the police, This has resulted in a considerable reduction in the number of accidents. Similarly, if for eight out of ten students (80.8%) the campaign was little or too long, according to all censors, it was very short which explained the fact that the messages broadcast were rather theoretical ( $n = 6$ ).

In total, according to the results, we deduce that 47.6% of students were very satisfied with the awareness campaign compared to 9.4% who were dissatisfied (**Figure 1**).

### 3.3. Measuring Campaign Effects

#### 3.3.1. Measuring the Raw Effects of the Campaign

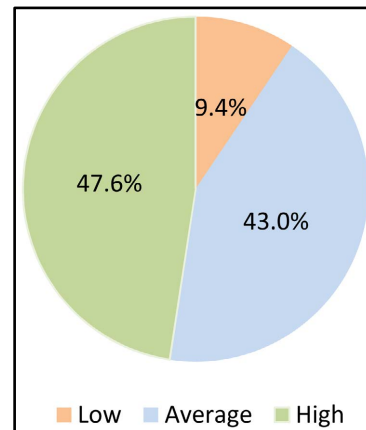
Students in the Action group had a better overall knowledge of traffic rules on the road compared to the students in the Control group, but the difference was not significant ( $p = 0.155$ ). Nevertheless, whether in one or the other of the groups, the pupils had overall a relatively average knowledge of the traffic rules on the road (out of a total of 7 expected points, the action group obtained an average of  $4.60 \pm 1.60$  points against  $4.42 \pm 1.59$  points for the Control group). Regarding the overall attitude in terms of driving on the road, there was no significant difference ( $p = 0.166$ ) between the students of the two groups even if there was on average a slight increase of 0.44 point in the students of the Action group compared to those of the Control group. Whether in one or the other of the groups, the pupils had an overall relatively good attitude in terms of driving on

**Table 1.** Comparison of experimental groups for socio-demographic variables and those related to the usual traffic environment.

	Action Group (n = 309)		Control Group (n = 347)		p-value
	Headcount	%	Headcount	%	
<b>Sex</b>					0.096
Female	159	51.5	156	45.0	
Male	150	48.5	191	55.0	
<b>College type</b>					0.013
Public	208	67.3	201	57.9	
Private	101	32.7	146	42.1	
<b>Distance home-college</b>					0.449
<5 km	253	81.9	276	79.5	
≥5 km	56	18.1	71	20.5	
<b>Means of transport</b>					0.000
Motorcycle(driver)/bicycle	41	13.3	86	24.8	
Other	268	86.7	261	75.2	
<b>Driving frequency week</b>					0.000
Never	119	38.5	98	28.2	
Rarely	126	40.8	140	40.3	
2 to 3 times for week	33	10.7	33	9.5	
Almost every day	31	10.0	76	22.0	
<b>Personal experience RA</b>					0.478
Yes	65	21.0	81	23.3	
No	244	79.0	266	76.7	
<b>Close deceased RA</b>					0.135
Yes	103	33.3	97	27.9	
No	206	66.7	250	72.1	
<b>Discussion with parents</b>					0.004
Yes	269	87.1	325	93.7	
No	40	12.9	22	6.3	
<b>Sensitization past</b>					0.000
Yes	124	40.1	33	9.5	
No	185	59.9	314	90.5	
<b>Traffic density</b>					0.288
Not dense	100	32.4	126	36.3	
Dense	209	67.6	221	63.7	
<b>Rideability road (rains)</b>					0.667
Impracticable	270	87.4	307	88.5	
Practicable	39	12.6	40	11.5	

**Table 2.** Logistical regression of age, driving frequency, discussion with parents and participation in previous awareness of experimental group membership.

	OR	IC à 95%	p-value
Age	1.11	1.02 - 1.21	0.015
Driving frequency week	0.75	0.63 - 0.89	0.001
Discussion with parents	2.05	1.14 - 3.69	0.016
Sensitization past	0.16	0.10 - 0.24	0.000

**Figure 1.** Breakdown of students sensitized according to the level of satisfaction with the campaign.

the road (out of a total of 40 expected points, the action group obtained an average of  $30.61 \pm 3.72$  points against  $30.17 \pm 4.38$  points for the Control group). In addition, overall, the students in the Action group declared having safer behaviors ( $21.56 \pm 3.35$  points) in terms of driving on the road than the students in the Control group ( $20.98 \pm 3.34$  points) and the difference was significant ( $p = 0.027$ ). There was no difference between the occurrence of accidents ( $p = 0.166$ ) and the severity of injuries during accidents ( $p = 0.446$ ) in either group but the students in the Action group were less injured during the accident than those in the Control group and the difference was significant ( $p = 0.023$ ).

### 3.3.2. Measuring the Real Effects of the Campaign

In order to measure the real effect of the campaign, each group of dependent variable was introduced into a multivariate analysis model of covariance, step by step downwards. Thus, taking into account the age of the pupils, participation in the awareness campaign has a very significant influence at 0.001 on the level of knowledge about driving on the road (**Table 3**). Gender and the frequency of riding a motorcycle or bicycle per week also had a significant influence with error probabilities of 0.000 each. The  $R^2$  was 13.9%.

However, participation in the awareness campaign still has no impact on students' attitude to driving on the road ( $p = 0.197$ ) even if the frequency of riding a motorcycle or bicycle per week had a significant effect with a probability error of 0.018 (**Table 4**). The  $R^2$  was 1.8%.



**Table 3.** Multivariate analysis between the action and witness groups for the level of knowledge.

	F	p-value
<b>COFACTOR</b>		
Age	10.62	0.001
<b>MAIN EFFECTS</b>		
Campaign participation	10.22	0.001
Sex	43.33	0.000
Driving frequency week	10.62	0.000
<b>EXPLAINED</b>	17.55	0.000
<b>R<sup>2</sup> = 0.139</b>		

**Table 4.** Multivariate analysis between the action and control groups for attitude.

	F	p-value
<b>MAIN EFFECTS</b>		
Campaign participation	1.67	0.197
Driving frequency week	3.37	0.018
<b>EXPLAINED</b>	3.01	0.018
<b>R<sup>2</sup> = 0.018</b>		

**Table 5.** Multivariate analysis between action and control groups for behavior.

	F	p-value
<b>COFACTOR</b>		
Age	10.56	0.001
<b>MAIN EFFECTS</b>		
Campaign participation	4.66	0.031
Driving frequency week	7.12	0.000
<b>EXPLAINED</b>	7.84	0.000
<b>R<sup>2</sup> = 0.056</b>		

Finally, taking into account the age of the students, participation in the awareness campaign has a significant impact at 0.031 on driving behavior on the road. The frequency of riding a motorcycle or bicycle per week also had a significant effect with a probability error of 0.000 (**Table 5**). The R<sup>2</sup> was 5.6%.

### 3.3.3. Assessment of the Effectiveness of the Campaign

In view of the results obtained and referring to the criteria for evaluating the effectiveness listed above (part methods-evaluation of the effectiveness of the campaign), we can deduce that the awareness campaign was “rather effective”.

## 4. Discussion

Based on the elements of the methodology and the specificities of the subject, shortcomings were identified in the study. For several reasons, it was impossible to use a before-and-after experimental design for the evaluation. The lack of reliable information about students knowledge, attitudes and behaviors before the campaign and the impossibility of distributing the pupils randomly between the Action and control groups, were the main reasons for which we retained the quasi-experimental design with non-equivalent control group. However, the main challenge of this type of quotation is linked to the comparability of the two groups (Action and Control) which requires a rigorous selection process; otherwise, there is a potential selection bias, which could compromise the validity of the results obtained. The selection of colleges by random draw, as well as the use of the two-stage random sampling technique for the selection of students in each selected college, are all measures taken to limit selection bias and ensure as best as possible the comparability of the two groups and which reinforces the quality of our results. With regard to the measurement instrument, the questions relating to knowledge, attitudes and behaviors were developed on the basis of the technical orientation guide which specified the themes as well as their contents that should be addressed during the awareness campaign. Likewise, the different scales for measuring knowledge, attitudes and behavior, although not completely reliable, were at least moderately so, which already reinforces the reliability of our results.

Thus, the data analysis revealed a positive effect of the campaign on students' knowledge of traffic rules. Of course, the explained variability of the final model was very low (13.9%) and we must be aware that there are other variables to explain more than 85% of the variability in the level of knowledge of the students, apart from the participation in the country, gender, frequency of driving taking into account age. However, this positive finding, as insignificant as it may seem, indicates the importance of safety actions in the school environment and corroborates those made by other authors notably Bouchard [6], Kraïem *et al.* [4]. Moreover, from our results, it emerges that the attitudes of the pupils towards driving on the road were generally good in one or the other of the two groups without the difference being significant even after controlling for the effect of other factors. The awareness campaign therefore had no effect on the attitudes of students in the Action group compared to those in the Witness group. On the other hand, Kraïem *et al.* in 2014 noted in their study a positive change in attitudes in favor of students in the Action group ( $p = 0.000$ ) [4]. This difference can be linked to the fact that the techniques and tools (brochures, role plays, testimonies, theaters, videos, demonstrations, etc.) used were much more practical and allowed the pupils to feel really concerned, unlike the present campaign. Awareness raising where the messages disseminated were mainly theoretical. Likewise, unlike most previous studies [4] [6], the results of this evaluation concluded that the awareness campaign had a positive effect on the behavior, over-

all, of students in the Action group compared to those in the Control group. Nonetheless, the coefficient of determination was very, very low (5.6%) and meant that, taking age into account, only 5.6% of the variability in student performance on the driving behavior test was attributable to participation in the campaign and how often a motorcycle or bicycle is driven per week. This seems to confirm the fact that the transition from knowledge or attitude to behavior modification is much more difficult. It will therefore be necessary to continue efforts. Finally, the results of the present study showed that educated students were not involved in a lower proportion of accidents and were no less seriously injured when they were involved in accidents than non-sensitized students. However, they were less injured than the latter in the accidents. However, these results, obtained with chi-square or Fisher tests, may not reflect reality and even if they were conclusive at all levels, further analysis would be necessary. In fact, accidents are events which generally result from the presence of several factors: a wet road, an obstruction of the view of the cyclist or a motorist, a distracted driver, etc. And although statistics show that the road user is responsible for 96% of RTAs. In 65% of cases, that he is directly involved [7], the effects of an action like the present campaign of awareness, can influence only a limited number of factors involved in the genesis of an accident. As a result, the possibility of determining the effects of this awareness campaign on the accident rate is rather limited. And even if the campaign were run repeatedly over several years, there are many factors that could come into play such as the phenomenon of subject maturation, changes in subjects' exposure to traffic, changes of the physical environment. Finally, another problem is the incomplete nature of the accident statistics. If an assessment is to be based on an analysis of the files, the information obtained will cover only part of the accidents [6] [8]. It goes without saying that the notification rate is closely related to the severity of the injuries sustained. As a result, accidents with minor consequences are not notified. All these factors make it very difficult to assess and properly monitor the effects of this awareness campaign on the accident rate over a longer or shorter period. However, based on the opinions of the censors who noticed a drop in the number of accidents in their college thanks in particular to the campaign but also to other measures such as the support of the police, the setting up of signs of signaling and donkey rides around their college, we can join this universal finding which supports that awareness campaigns have more effects in terms of reducing the number of RTAs when they are combined with other measures [9] [10].

## 5. Conclusion

This research made it possible to assess the effectiveness of the awareness campaign carried out in schools in the communes of Cotonou and Abomey-Calavi. We conclude that sensitized students have a better level of knowledge and safer driving behaviors than non-sensitized students but that there is no difference in attitudes and accidents. From this, we conclude that the awareness campaign

was quite effective. Nevertheless, it should be remembered that although the campaign has a positive effect on knowledge and behavior, this is still relatively very small.

### Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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## Appendices

### Appendix 1: Student Questionnaire

Number of the card: /\_/\_/\_/\_/

College initials: /\_/\_/\_/\_/

SURVEY OF PUPILS TO ASSESS THE EFFECTIVENESS OF THE AWARENESS  
CAMPAIGN ON ROAD DRIVING IN THE COMMUNES OF COTONOU AND  
ABOMEY-CALAVI

Dear/dear student!

I answer on behalf of **DANSOU Boris Pleck**, responsible for the investigation to evaluate the effectiveness of the awareness campaign conducted on road driving in the communes of Cotonou and Abomey-Calavi.

The purpose of this survey is to better understand your driving habits. Depending on the questions asked, you are asked to check the box corresponding to your answer.

For the validity of this survey, we need sincere answers that match what you really look like. Completion of this questionnaire is anonymous and will take approximately 15 minutes.

Thank you in advance for your time and attention in completing the survey.

#### Attention: This Questionnaire Is Printed on Both Sides

- What is your gender?

*Feminine*

*Masculine*

- How old were you on your last birthday?      /\_/\_/\_/ years

- What class are you in?

*Second*

*Premiere*

*Senior year*

- What kind of college are you in?

*Public*

*Private*

- What means of transportation do you use very often to go to school?

*On foot*

*Bicycle*

*Motorcycle (Passenger)*

*Motorcycle (Driver)*

*Car (Passenger)*

*Car (Driver)*

*Public transport*

• How many times do you drive a bike or motorcycle a week?

*Never*

*Rarely*

*2 - 3 times a week*

*Almost daily*

• How far do you travel from home to school?

<100 m

100 m - 1 km

1 - 5 km

5 - 20 km

>20 km

• In past years, have you ever had a traffic accident?

*Yes*

*No*

• Do you have a family member or friend who died as a result of a traffic accident?

*Yes*

*No*

• Do you have a family member or friend who did not die but was hospitalized due to a traffic accident?

*Yes*

*No*

• Do your parents or guardians give you advice on how to behave on the road?

*Yes*

*No*

• In past school years, have you ever had to participate in a road safety awareness campaign?

*Yes*

*No*

• Are you a member of a road safety club?

*Yes*

*No*

• How many years have you been driving a motorcycle or bike for the first time? /\_/\_/\_ years

• On the roads you often use, is there little or a lot of traffic?

*Very dense (bottling)*

*Dense (little traffic jam)*

*Not dense (fluid circulation)*

• From home to school, in case of heavy rain, are the roads passable?

*Not practicable (very difficult to travel)*

*Impractical*

*Practicable (normal circulation)*

For the rest of the questions, you can choose between three answers. Check only one answer.

• A person is speeding on the road when driving at a speed beyond the normal required on that road.

*Yes*

*No*

*Don't know*

• The maximum speed in agglomeration in the absence of a speed sign limitation is 50 km/h.

*Yes*

*No*

*Don't know*

• In the event of a speeding violation, the driver can clearly see the road and easily avoid a collision.

*Yes*

*No*

*Don't know*

• At a turn, the driver must slow down.

*Yes*

*No*

*Don't know*

• To overtake from the right, the driver in front must want to turn left.

*Yes*

*No*

*Don't know*

• After overtaking, before reversing to the right, the driver must check

that the vehicle he has just overtaken appears in his rearview mirror.

- Yes
- No
- Don't know

• Wearing a helmet allows you not to have an accident on the road.

- Yes
- No
- Don't know

For the rest of the questions, you can choose between five answers. Check only one answer.

• You can never have a traffic accident.

- Totally disagree
- Disagree
- Neither in disagreement nor in agreement
- In agreement
- Strongly agree

• In general, the consequences of a traffic accident are not too severe.

- Totally disagree
- Disagree
- Neither in disagreement nor in agreement
- In agreement
- Strongly agree

You have perfect control of a bike or motorcycle while driving.

- Totally disagree
- Disagree
- Neither in disagreement nor in agreement
- In agreement
- Strongly agree

• In case of a delay for the school, you can exceed the speed limits or light a red light.

- Totally disagree
- Disagree
- Neither in disagreement nor in agreement
- In agreement
- Strongly agree

• For you, exceeding the speed limits on the road is pleasant.

- Totally disagree



*Disagree*   
*Neither in disagreement nor in agreement*   
*In agreement*   
*Strongly agree*

- For you, using your mobile phone in circulation is risky.

*Totally disagree*   
*Disagree*   
*Neither in disagreement nor in agreement*   
*In agreement*   
*Strongly agree*

- For you, running a red light is not always risky.

*Totally disagree*   
*Disagree*   
*Neither in disagreement nor in agreement*   
*In agreement*   
*Strongly agree*

- For you, running in reverse is not always risky?

*Totally disagree*   
*Disagree*   
*Neither in disagreement nor in agreement*   
*In agreement*   
*Strongly agree*

- For you, the driver of a motorcycle must wear a helmet.

*Totally disagree*   
*Disagree*   
*Neither in disagreement nor in agreement*   
*In agreement*   
*Strongly agree*

- For you, the passenger of a motorcycle must wear a helmet.

*Totally disagree*   
*Disagree*   
*Neither in disagreement nor in agreement*   
*In agreement*   
*Strongly agree*

- In the last 5 months, you have exceeded 50 km/h while driving on the road.

*Never*

- Rarely*
- Sometimes*
- Often*
- Always*

• In the last 5 months, you have asked your driver to drive faster.

- Never*
- Rarely*
- Sometimes*
- Often*
- Always*

• In the last five months, you ran a red light or your driver ran a red light without you blaming him.

- Never*
- Rarely*
- Sometimes*
- Often*
- Always*

• In the last 5 months, you've been texting or picking up a call on a motorcycle.

- Never*
- Rarely*
- Sometimes*
- Often*
- Always*

• In the last 5 months, you have been driving in reverse or watching your driver drive in reverse without reproach.

- Never*
- Rarely*
- Sometimes*
- Often*
- Always*

For the rest of the questions, choose an answer.

• In the last five months, have you had a car accident?

- Yes*
- No*

• Were you injured in this accident?

- Yes*

No

• How serious were the injuries?

*Light (cut, bump)*

*Serious (was hospitalized)*

• How do you travel at the time of the accident?

*Pedestrian*

*Cyclist (Bicycle)*

*Motorcycle passenger*

*Motorcycle driver*

*By car*

• The other you collided with, how was he moving?

*Has Feet*

*Bicycle*

*Motorcycle*

*Car*

*Tricycle*

*Heavyweight*

*None (free fall)*

• What was the cause of the accident?

*Failure to observe red light*

*Speeding*

*Inattention*

*Path defect*

*Vehicle breakdown*

*Fault of the other*

*Other*

The following data relate to the awareness campaign itself; we always rely on your sincerity in the answers.

• What themes are covered in the awareness campaign? (You can check multiple responses)

*Speeding*

*Use telephone traffic*

*Restricted traffic*

*Non-compliance with traffic lights*

*Overrun rules*

*Helmet wearing*

*Consequences of VTA*

• In your opinion, the awareness campaign conducted at your college

was:

- Very useless*
- Little useless*
- Neither useless nor useful*
- Of little use*
- Very helpful*

• In your opinion, the awareness campaign conducted at your college

was:

- Too long*
- A little long*
- Neither long nor short*
- Somewhat short*
- Too short*

• According to you, the campaign messages were:

- Very difficult to understand*
- Somewhat difficult to understand*
- Undecided*
- Somewhat easy to understand*
- Very easy to understand*

• According to you, the campaign messages were:

- Very theoretical*
- Rather theoretical*
- Undecided*
- Somewhat convenient*
- Very convenient*

• During the campaign, you felt concerned:

- Strongly disagree*
- Kind of disagree*
- Neither in disagreement nor in agreement*
- Somewhat agree*
- Strongly agree*

• The awareness campaign allowed you to be more careful on the road:

- Strongly disagree*
- Kind of disagree*
- Neither in disagreement nor in agreement*
- Somewhat agree*
- Strongly agree*

• The awareness campaign led you to discourage loved ones from taking

risks on the road:

- Strongly disagree*
- Kind of disagree*
- Neither in disagreement nor in agreement*
- Somewhat agree*
- Strongly agree*

Thank you again for your participation

### Appendix 2: Interview Guide for Censors and Teachers

Date: /\_\_/\_/2020  
College initials: /\_\_/\_/\_\_\_/  
Name of Investigator: \_\_\_\_\_

Perceptions of campaign messages (complexity, practicability)  
.....  
.....  
.....  
.....

Changing Student Behaviour After Campaign  
.....  
.....  
.....  
.....

Students demonstrate more interest in road safety since the campaign  
.....  
.....  
.....  
.....

Wishes or expectations for future awareness campaigns  
.....  
.....  
.....  
.....

Thank you for your participation