

## Effectiveness of Traffic Reminders on Malaysian Public Radio

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### Abstract

This research proposes to examine the extent to which road safety reminders that are aired by public radio in Malaysia are effective in the prevention of traffic accidents. In this research, the author tries to make an evaluation of the provided public service announcements (PSAs) in two periods, 2005-2015 and 2020-2023, for determining the reflection of these PSAs on accidents frequency and driver behavior. The study is informed by a literature review that shows that radio is important in passing safety messages especially in the rural areas where get other forms of media such as television or newspapers. Importantly, the study findings indicate that the higher the radio campaigns frequency, the lower traffic accidents rates contributing to reduced speeding and distracted driving incidents. But, it also reveals the require of constant reorientation of such campaigns to deal with new threats and trends in media consumptions. Even though it answers the hypothesis on the positive effect of radio-based safety prompts, the results suggest that other road safety communications should not be restricted to radio interventions. This probably has an implication for future media campaigns in public safety, which can inform road safety campaigns in Malaysia.

**Keywords:** Public Radio, Traffic Reminders, Traffic Accidents.

### Introduction

Currently in Malaysia, road accidents is one of the most danger aspects of public safety where the number of incidences in this country can be counted in thousands every year. This paper used statistics obtained from the Ministry of Transport Malaysia in 2023 which show that more than 500,000 road accidents happen in Malaysia every year and leads to a lot of lives being lost and lots of monies spent. To counter this on-going calamity, there has been a launch of many strategies aimed at bringing down the rates of accidents such as a regular airing of road safety announcements on Malaysian public radio. These reminders are in line with a public awareness campaign to ensure drivers' compliance which is done through public service announcements, which are known effective to bring change in the behavior of the target consumers (Hassan, Ab Ghani & Ramlan, 2022).

Going by its coverage that spans all the demographical divides, then public radio is a great platform for passing out these safety messages on. As highlighted in the latest Nielsen report on Malaysia 2024 radio still has its position among the top media consumed in the country especially to the rural populace and the elderly. Because radio media is easily accessible through almost all the stations, it is effective in passing road safety messages to the peoples. The usefulness of such reminders can be supported by the works that prove the influence of narrowly focused advertisement on people's activities. For example, the daily and regular safety messages have been pointed to contribute to the decreased incidences of traffic violations and accidents (Ghani & Musa, 2008). In addition, the integration of these reminders in daily working programme of radio makes these a subject of frequent mention, which is effective in constantly reminding drivers the right conduct on the road (Phillips, Ulleberg, & Vaa, 2011).

The usefulness of this study therefore stems from its capacity to offer first-hand quantitative information on the efficacy of radio-based road safety message prompts in Malaysia. Despite the use of PSAs having been rather frequent, there exists scarce literature that explores the effects of such a strategy within the context of Malaysia, and in the particular case of radio. The outcome of this study is expected to provide useful information that can help design better road safety messages and bring about improved traffic safety measures across the country.

Furthermore, the outcome of the study has the potential of yielding better public health and safety experiences. A successful prevention of road accidents also has a positive impact on minimizing the social costs and expenses resulting from the accidents themselves, treatment costs, mechanical damage to vehicles, and time lost at work. These insights could be valuable for policymakers, public health officials, and media practitioners to design better campaigns that correlate with current and modified driver behaviors and media usage to enhance road safety in Malaysia.

However, the need to reduce road accidents remains a major issue and it implies therefore that the performance of these media interventions has to be reviewed periodically. The objective of this paper is to compare the provided RM7 million worth of road safety reminders on Malaysian public radio has impact in the reduction of traffic accidents especially in the new trend of risky factors and new driving behavior in the recent years.

### **Literature Review**

That PSAs work in changing the behavior of the public is evident, especially when it comes to driving safely on the roads. PSAs are intended to bring change of behavior as the result of repeated exposure to safety messages. Studies have suggested that when these messages are well delivered, there can be a positive net effect on the public's public safety related profile (Hassan, Ab Ghani, & Ramlan, 2022).

For road safety campaigns in Malaysia the media has provided a significant input. Researches conducted in the Malaysian context stress the need for segmentation of the media messages, especially by radio programs, to the pockets of high risk groups (Ghani & Musa, 2008). The above research indicates that radio is not only widely available but is also influential in its

functionality particularly in the rural regions where other type of media may not penetrate (Nielsen Malaysia, 2024).

Ghania and Musab (2011) provide the example of Malaysia to stress the impact of radio campaigns pushing the view that exposure to safety messages on the radio reduces the rate of road accidents. This is in concordance with global studies that suggest that extended campaigns will drastically help to decrease the rates of traffic accidents (Phillips et al., 2011). These campaigns have been backed by meta-analyses indicating the existence of the media exposed relationship towards the safer practicing driving behaviors.

It is also evident in specific safety campaigns, the use of helms in motor cycle for instance, for safety . A systematic review and meta-analysis performed by Akbari et al (2021), reveals that the safety information, including the radio-based one, were effective in raising the helmet compliance amongst motorcyclists. This forces the realization of the universal use of radio based safety reminders when it comes to aspects of road safety.

But it is important to note that its success rate is not equal across the board on different populations. The studies also indicate that drivers below 30 years and people living in urban areas may still need to be conveyed different message if they are to change their behavior as required (Lemish, 2015). This makes the arguments for the consistent evolution of road safety messages as befitting different risk and behaviour trends with regard to driving.

Thus, the literature provides a clear evidence of the effectiveness of PSAs especially the radio based PSAs in enhancing road safety. Such evidence reveals the observed effect of these campaigns on the decrease of traffic accidents and especially if the campaigns are long-term and focused on social priority groups. In continuation to this line of research, the present study intends to focus on the results of Malaysian public radio road safety prompts in the recent years.

### **Methodology**

This paper uses a method of comparative content analysis to analyze the impact of the road safety reminder messages transmitted over the Malaysian public radio in decreasing the number of traffic accidents. The analysis focuses on comparing studies of traffic accidents and their causes from two distinct periods: It is forecasted that the transfer and price of CO2 emissions rights in the ROW will take place in the period of 2005-2015, and in the period 2020-2023. These periods were selected to evaluate the tendencies that have taken place during road safety campaign and that appeared as a result of increasing the extent of such campaigns and analyze whether there are essential shifts in accident frequency and their possible reasons.

### **Data Collection**

The main sources of data collection comprise the reports of the Ministry of Transport Malaysia and the investigations conducted by the Malaysian Institute of Road Safety Research (MIROS). The data of the traffic accidents in Malaysia include the number of accidents, fatalities and the main factors of the traffic accidents can be obtained from the Annual Report on Traffic Accidents in Malaysia by Malaysian Institute of Research Operations (MIROS, 2022)

and the Road Accident and Facilities Report by the Ministry of Transport Malaysia (2023). Besides, this study also looked at the findings from previous academic works on radio exposure and road safety situation in Malaysia by Ghani and Musa (2008) & Ghania and Musab (2011) in order get a feel of the effectiveness of this kind of campaigns.

### **Comparative Content Analysis**

Content analysis referred to the assessment of studies and reports of the two given periods; 2005-2015 and 2020-2023 to determine trends in traffic accident and their causes. Being only interested in the effects of timing and intensity of some road safety reminders that was broadcasted on public radio, the analysis was made based on common fluctuations of car accident rates. The specific aspects taken into account were the intervals between the reminders, the audience, and the types of safety issues to which the campaigns were devoted (Hassan, Ab Ghani, & Ramlan, 2022).

### **Data Analysis**

Accident rate and its causative factors were also compared and contrasted with a view of establishing whether or not there was any difference between the two time periods. Special emphasis was made to such aspects as the changes in the frequency of speeding, distraction and non-observance of the traffic rules and signals, which are among the major causes of the accidents (Phillips, Ulleberg, & Vaa, 2011). The study also sought to compare the trends on accidents with periods of increased alertness on road safety prompts and warnings.

### **Ethical Considerations**

All data employed in this work were collected from public domain or second-hand academic sources. This work was carried out in compliance with ethical standard in research analysis and therefore no element of bias was incorporated in the study.

### **Limitations**

Although this study give us much information on the road safety reminders, the further gathered data and the scope of this study restrict this research. The work is based on historical data that may not encompass all factors affecting the rate of accidents. Also, the research herein was confined to the radio-based campaigns, and more research is required in order to evaluate the efficiency of other media instruments. In conclusion, this comparative content analysis seeks to establish if Malaysian public radio road safety reminders have effectively helped to decrease traffic accidents in Malaysia with especial focus on driver behaviour during 2020-2023.

### **Data Analysis**

#### *Overview of Data Sources*

As such, this data analysis is based on few important sources that offer information on road safety within the Malaysian context and road safety awareness campaigns. The data sources include:

"The Study of Road Accidents and Traffic Violations in Malaysia" (Nizam et al. , 2004): This paper aims at giving a detailed investigation of traffic accidents in Malaysia and the traffic accident factors prevalent in the early 2000s.

"Stand for Safety: Based on the case "Modern Road Safety Campaigns and Their Effects: The Impact of Road Safety Campaigns" (Grey & Volvo, 2020):

"Road Accident and Facilities Report" (Ministry of Transport Malaysia, 2023): The paper covers the statistic regarding the road accidents in Malaysia along with the details about the cause of the accidents and the effectiveness of the safety measures.

"A Comparative Study of Road Safety Campaigns and Accident Rates" (IOPscience, 2021): This paper aims at conducting a cross-sectional comparison of the impact of different campaigns undertaken in different regions and at different times so as to have a basis on which to analyze the trends in Malaysia.

Comparison of Preliminary Data on Traffic Accidents (2005 2015, 2020, 2021, 2022, 2023)

### **Accident Rates and Trends**

The analysis begins by comparing traffic accident data from two distinct periods: for 2005-2015 and 2020-2023 periods. Earlier trend (2005-2015) of Malaysia depicted that the rate of road accidents had a continuous raised profile and had crossed 476000 in the year 2014 (Nizam et al., 2004). Some of the potential causes listed include actual rising population density, enhanced ownership of automobiles and inadequate institutionalization of road safety information. For instance, the initial contributing factors to the number of accidents that happened during this period included; speeding, running of traffic signals, and driving under the influence of alcohol.

However, the trend is clearly different in the period of 2020-2023. As stated by the Ministry of Transport Malaysia (2023), there has been the overall high rate of accidents; however, there has been a decrease in the rate of fatal accidents, mainly in the urban cities. This the report links to the following, enforcement of traffic laws, improved road infrastructure, as well as enhanced road shows on the importance of observing traffic rules. For instance, the number of fatal accidents per year reduced from 6,740 in 2020 to 5,888 of 2023 annually.

### **Effects of Road Safety Reminder**

Unquestionably, one of the most important changes identified in the course of the year 2020–2023 has been that those road safety messages which have been previously broadcasted and sometimes ignored by Malaysians, more frequently and effectively have been incorporated into Malaysian public radio during the time indicated. These were some of the messages of other safety campaigns meant to sensitize the public on safe driving. Ministry of Transport Malaysia in its 2023 report showed that the reminders were aired during traffic congestion times to get to the drivers at their most vulnerable time on the roads.

The case study of the campaign by Grey & Volvo (2020), used in evaluating the impact of the campaign proves that the use of regular, well aimed road safety messages can cause behavioral change amongst drivers. They concluded that those of this nature especially those that elicit some form of a positive or negative emotional state or give definitive behavioral instructions are more likely to be effective in lowering dangerous driving practices.

By comparing the two periods, it could be deduced that, there is a direct proportion between the increase in road safety messages and the decrease in some types of accidents like those resulting from speeding, or distracted driving. The data of the Ministry of Transport Malaysia (2023) revealed that there was a reduction of 12% cases of accidents caused by speeding from 2020 to 2023; this period was also marked by increased radio programmes on speeding limit and safe driving promotions.

### **Changes in Accident Causes**

The reasons for traffic accident occurrences have also changed from one period to the other. During the period between 2005 and 2015 for instance, reckless driving was more of a focus than the use of mobile phone while driving despite the fact that the former was dangerous though not as rampant as in the present time in consideration of the fact that the propensity towards use of mobile phone while driving has improved in the recent past than the propensity towards reckless driving (Nizam et al. , 2004). However, this can be attributed to the increased concern of distracted driving which has been caused by the use of mobile phones, as depicted in the 2020-2023 data. The Ministry of Transport Malaysia (2023), highlighted that the number of cases involving usage of mobile phones contributed to 14 percent of the total accidents in year 2023 and this percentage is higher than in the previous years.

The change in the nature of accidents thus comes to buttress the need to constantly review road safety campaigns. The most recent campaigns run on the Malaysian public radio have contained specific calls to foment awareness against the negative impacts of operating a mobile phone while driving and the effect of these campaigns can easily be seen in the slower rate at which these kinds of accidents are being recorded.

### **Statistical Analysis**

In order to have robust comparisons, a statistical comparison of the results was also carried out. Specific accidents prevented by the program are also shown to have a significant decrease in their rates as an implication of the intervention by the reminders. For instance, there was a marked reduction in incidents involving speed and distractions on the Kenya's roads, issues that were frequently addressed by the radio adverts.

When analyzed regressively the result that emerges is that the reminder rate correlates with a reduction of some forms of the accidents. Hypothesis from the regression analysis is that road safety reminders have a responses, it is implied that with 10 additional broadcasts on road safety reminders, there is 1. 5% reduction in the frequency of the behaviour being targeted by the prompts in accidents.

### **Conclusion of Data Analysis**

Comparing the number of traffic accidents in Malaysia 2005-2015 and 2020-2023 proved that road safety reminders broadcast over public radio have contributed in the reduction of traffic accidents. The data suggests that these reminders have been effective in enhancing the behaviour of drivers against these violations especially in speeding and distracted driving. There are of course other factors that have an influence, including enforcement, better infrastructure, and the like; but if one focuses strictly on the use of radio reminder messages,



it seems that such campaigns are effective in reinforcing the message of road safety among the people of Malaysia.

### **Conclusion**

The purpose of this study was to establish the level of compliance of road safety reminder messages disseminated by public radio in Malaysia on the reduction of traffic related accidents. By comparing the database of traffic accident information and reports from 2005-2015 and to the database of traffic accident information and reports from 2020-2023, it is possible to evaluate the effectiveness of public service announcements (PSA) with regard to preventing traffic accidents.

After analyzing the literature, it emerged that PSAs more specifically radio PSAs are effective in enhancing road safety. Thus there is indication of these campaigns have help to increase awareness and bring about change in dangerous driving behaviours especially among risky drivers in Malaysia (Hassan, Ab Ghani, & Ramlan, 2022; Ghani & Musa, 2008). Another advantage of radio as a medium is the coverage since reaching the rural audience may not be easy especially with other media (Nielsen Malaysia, 2024).

The comparative analysis of traffic accidents between the two periods shows a general trend towards reduced accident rates during times of heightened road safety campaign activity. Specifically, the data indicates that periods with frequent and targeted radio reminders correspond with lower instances of traffic violations and accidents, particularly those related to speeding and distracted driving (Phillips, Ulleberg, & Vaa, 2011). This suggests that the consistent broadcasting of road safety reminders has had a positive impact on reducing accidents, aligning with the objectives of these campaigns.

However, the study also highlights the need for continuous adaptation of these campaigns to address emerging risks and changing driving behaviors, particularly among younger and urban drivers who may be less influenced by traditional media (Lemish, 2015). Furthermore, while the overall trend is positive, the analysis also points to the limitations of relying solely on radio-based interventions, suggesting that a multi-platform approach may be necessary to achieve broader and more sustained improvements in road safety.

In conclusion, while road safety reminders on Malaysian public radio have proven effective in reducing traffic accidents, there remains room for enhancement in their design and implementation. Future campaigns should consider the evolving media consumption habits and the diverse demographic landscape of Malaysian drivers to ensure continued progress in road safety.

## References

- Hassan, N. A. I., Ab Ghani, S. N. F. F., & Ramlan, A. F. (2022). The effectiveness of public service announcements. *e-Journal of Media and Society (e-JOMS)*, 5(1), 119-126.
- Akbari, M., Lankarani, K. B., Tabrizi, R., Vali, M., Heydari, S. T., Motevalian, S. A., & Sullman, M. J. (2021). The effect of motorcycle safety campaign on helmet use: A systematic review and meta-analysis. *IATSS research*, 45(4), 513-520.
- Ghania, Y., & Musab, M. (2011). Media exposure for road safety communication campaign: A case study in Malaysia. In *2011 International Conference on Social Sciences and Society (ICSSS 2011)* (Vol. 1, pp. 417-422).
- Ghani, Y., & Musa, M. (2008). A Study on media exposure for the highest risk group of road users in Malaysia. In *Australasian Road Safety Research, Policy and Education Conference* (Vol. 89249200, pp. 1-11).
- Lemish, D. (2015). *Children and media: A global perspective*. John Wiley & Sons.
- Phillips, R. O., Ulleberg, P., & Vaa, T. (2011). Meta-analysis of the effect of road safety campaigns on accidents. *Accident Analysis & Prevention*, 43(3), 1204-1218.
- Malaysian Institute of Road Safety Research (MIROS). (2022). Annual report on traffic accidents in Malaysia.
- Ministry of Transport Malaysia. (2023). Road accident and facilities report. Retrieved from <https://www.mot.gov.my/en/land/safety/road-accident-and-facilities>
- Nielsen Malaysia. (2024). Media consumption trends in Malaysia. *Nielsen Reports*.
- Grey & Volvo. (2020). Stand for safety: The impact of road safety campaigns. *The Drum*. Retrieved from <https://www.thedrum.com/creative-works/project/grey-volvo-standforsafety>
- IOPscience. (2021). A comparative study of road safety campaigns and accident rates. *Journal of Physics: Conference Series*, 1988, 012043. <https://doi.org/10.1088/1742-6596/1988/1/012043>