

## Dummy Buckle Usage: Findings from Survey

N. Shaari<sup>\*1</sup>, N. F. Paiman<sup>1</sup>, M. A. M. Radzi<sup>1</sup>, S. A. M. Fauzi<sup>1</sup>, Y. Ahmad<sup>1</sup>, N. Jamaluddin<sup>1</sup>  
 and N. Isah<sup>2</sup>

<sup>1</sup>Vehicle Safety and Biomechanics Research Centre, Malaysian Institute of Road Safety Research (MIROS), 43000 Kajang Selangor, Malaysia

<sup>2</sup>Road User and Behavioral Research Centre, Malaysian Institute of Road Safety Research (MIROS), 43000 Kajang Selangor, Malaysia

\*Corresponding author: najwa@miros.gov.my

ORIGINAL ARTICLE

Open Access

### Article History:

Received  
30 Oct 2020

Accepted  
15 Aug 2021

Available online  
1 Oct 2021

**Abstract** – *The sale and usage of fake seat belt accessories or dummy buckles existed in Malaysia for quite some time. This study aims to identify the status of the usage of dummy buckles among car drivers or passengers. A survey among the public was conducted on 326 respondents in knowing the use, type, and reason why they use that accessory. The study found that 12.9% of the total respondents had experience using dummy buckles while driving. 12% of them use dummy buckle Type 2 (extender type), 72% of them stated that they use dummy buckle to avoid warning sounds of the seatbelt reminder (SBR), and 58.3% of them bought it at car accessory outlets. In conclusion, it is recommended that dummy buckles should be banned from the market due to the risks that emerge from misuse.*

**Keywords:** Dummy buckle, seatbelt accessories, car occupant safety, passive safety

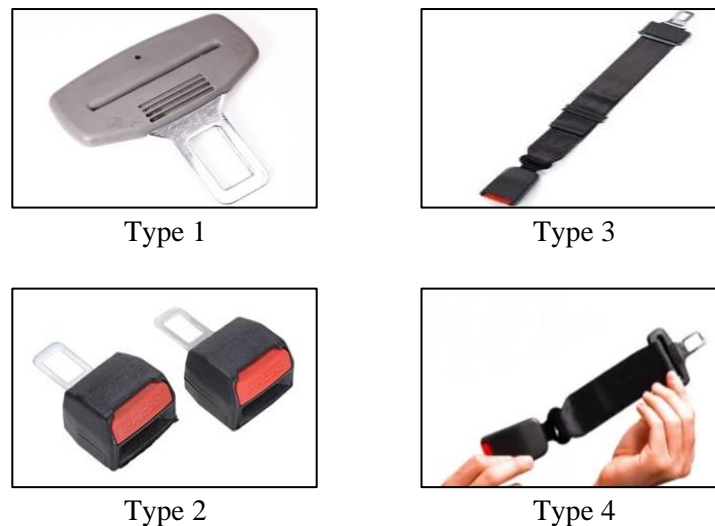
Copyright © 2021 Society of Automotive Engineers Malaysia - All rights reserved.  
 Journal homepage: [www.jsaem.my](http://www.jsaem.my)

### 1.0 INTRODUCTION

In early 1973, the first effort made by the United States to encourage the use of seat belts was to introduce Seat Belt Reminder (SBR) with a mandatory interlock system in new cars. Meaning that, with the system, the car can only be turned on if all passengers are wearing seat belts. However, the system is not accepted by the public and only lasts for a year. Following that, some car manufacturers made the seat belt reminder system a standard accessory and only served as a system to remind front passengers to wear seat belts (SWOV, 2014).

In recent years, with the creativity of road users, seatbelt accessories particularly seatbelt metal clips and seatbelt extenders or more popularly known as dummy buckles are widely sold and are easily available in Malaysia, especially in car accessories and online stores at very low prices. Its widespread sale can have an impact on the community, especially for vehicle passengers who do not like to use seat belts as passive safety devices. This study is aiming to identify the current status of dummy buckles among car drivers and passengers.

This accessory is used to turn off the seat belt alarm in a car equipped with an SBR by stopping audio and visual alerts. In fact, the use of seat belts for drivers and front passengers has been mandatory since 1979. While for rear passengers, it has been mandated since 2009 (Law of Malaysia, 1987). Based on the market survey, there are four types of accessories that are usually found and available in the market as shown in Figure 1 – Type 2, Type 3, and Type 4 are basically known as seatbelt extenders because they will “elongate” the existing belt length. While Type 1 is basically known as seatbelt metal clip.



**Figure 1:** Types of dummy buckle

## 2.0 METHODOLOGY

The model developed by Neutens and Rubinson (1997) is used to determine the sample size. The formula is as:

$$N = \left( \frac{z}{e} \right)^2 (p)(1 - p)$$

Based on the calculation, a minimum of 246 minimum sample size is needed, but for this study, the researchers had successfully collected a total of 326 samples.

This cross-sectional study was carried out using an anonymous, self-administered online survey. The questionnaire used for data collection was developed in the Malay language based on the study requirements. The questionnaire was divided into two sections namely Section A (Respondent Demography); and Section B (Respondents’ level of knowledge on seat belt metal clips). It was pilot tested for face validity and understanding among 10 samples before the survey questions were finalized. The pilot test is important as it can provide valuable feedback from the sample and the researchers can revise and improve their survey questions so that they are easily understood during data collection.

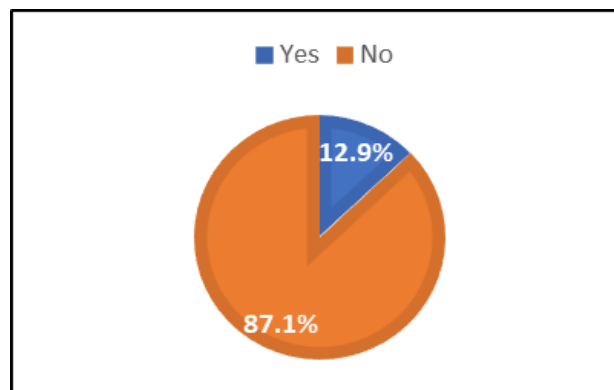
The questionnaire was then converted to the Google Forms format and distributed virtually via various mediums such as Facebook, WhatsApp application, e-mail, and data collection continuously runs for two months. The intended samples were people who drive or ride a car. The respondents were asked to complete the questionnaire. This study included no incentive for participation, and there were no penalties for refusing to complete the survey.

## 2.1 Data Analysis

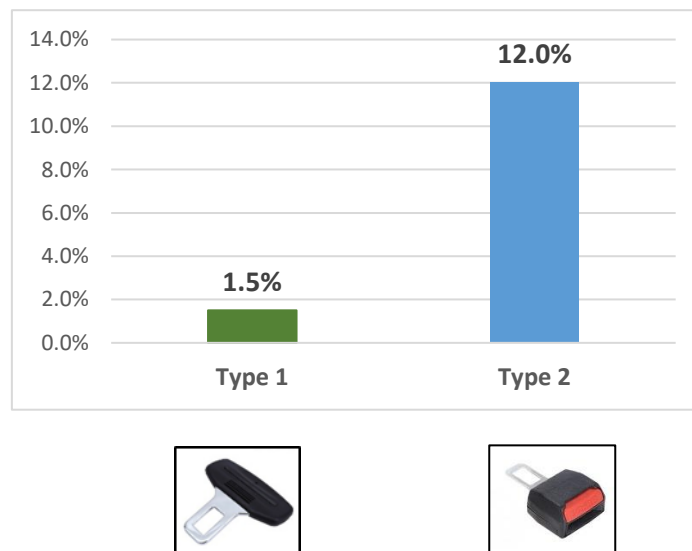
A total of 326 respondents willingly answered the online survey of this study. Data were entered into a database using software IBM SPSS Statistics 21 by a trained officer. Frequencies were calculated to analyze the data. Results are expressed with a 95% confidence interval with a p-value <0.05 and were considered statistically significant.

## 3.0 RESULTS AND DISCUSSION

Figure 2 shows the percentage of respondents' experience in using the dummy buckle. The overall dummy buckle usage rate was 12.9% (n = 41). Table 1 illustrates an analysis of the significance of the socio-demographic of the respondents and dummy buckle usage. Drivers' demographics, namely, gender, race, academic qualification, work sector, and marital status show significant association towards dummy buckle usage ( $p < 0.001$ ). Among them, 12% have experience using dummy buckle extender type while the other 1.5% of the respondents have experience using metal clip type (Figure 3).



**Figure 2:** Respondents' experience using dummy buckle



**Figure 3:** Type of dummy buckle used by the respondents

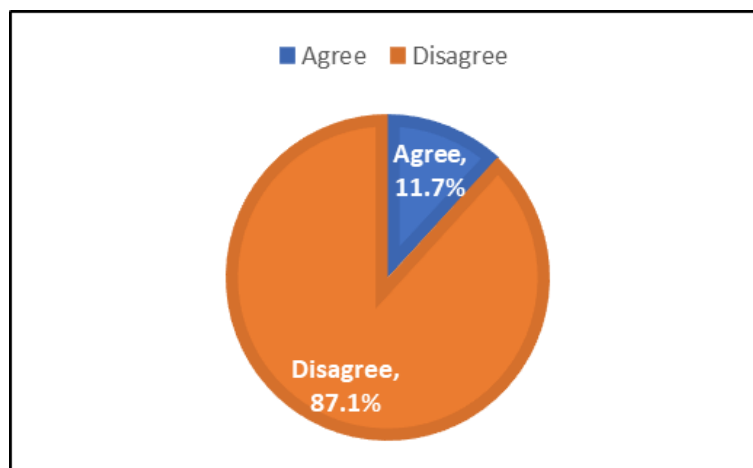
**Table 1:** Dummy buckle usage according to socio-demographic information

Variables	Attribute	Percentage (%)		Chi-square, p-value
		No	Yes	
Gender	Male	158 (48.5%)	25 (7.7%)	<b>326.209, d.f=4, &lt;0.001</b>
	Female	118 (36.2%)	16 (4.9%)	
Age	≤ 24	9 (2.8%)	4 (1.3%)	<b>11.316, d.f=4, 0.079</b>
	25 – 30	32 (10.1%)	9 (2.8%)	
	31 – 35	74 (23.4%)	13 (4.1%)	
	36 – 40	86 (27.2%)	8 (2.5%)	
	41 – 45	23 (7.3%)	4 (1.3%)	
	46 – 50	28 (8.9%)	2 (0.6%)	
	≥ 51	23 (7.3%)	1 (0.3%)	
Race	Malay	247 (75.8%)	39 (12.0%)	<b>328.447, d.f=8, &lt;0.001</b>
	Chinese	18 (5.5%)	1 (0.3%)	
	Indian	7 (2.1%)	0 (0%)	
	Others	4 (1.2%)	1 (0.3%)	
Academic Qualification	SPM/PMR	38 (11.7%)	4 (1.2%)	<b>297.316, d.f=10, &lt;0.001</b>
	Diploma/Cert.	88 (27.0%)	10 (3.1%)	
	Degree	102 (31.3%)	22 (6.7%)	
	Master	41 (12.6%)	5 (1.5%)	
Work Sector	PHD	6 (1.8%)	0 (0%)	<b>326.895, d.f=10, &lt;0.001</b>
	Gov. Sector	129 (39.6%)	19 (5.8%)	
	Private Sector	114 (35.0%)	17 (5.2%)	
	Self-Employed	18 (5.5%)	2 (0.6%)	
	Unemployed	7 (2.1%)	2 (0.6%)	
Marital Status	Student	8 (2.5%)	1 (0.3%)	<b>327.603, d.f=6, &lt;0.001</b>
	Married	223 (68.4%)	31 (9.5%)	
	Single	49 (15.0%)	10 (3.1%)	
Driving Experience	Widow/Widower	4 (1.2%)	0 (0%)	<b>5.322, d.f=6, 0.503</b>
	Less than 5 years	17 (5.4%)	3 (1.0%)	
	6 – 10 years	42 (13.4%)	11 (3.5%)	
	11 – 15 years	69 (22.0%)	9 (2.9%)	
	16 – 20 years	71 (22.6%)	12 (3.8%)	
	21 – 25 years	36 (11.5%)	3 (1.0%)	
	26 – 30 years	24 (7.6%)	2 (0.6%)	
> 30 years	14(4.5%)	1(0.3%)		



**Figure 4:** Respondents' knowledge about the function of the dummy buckle

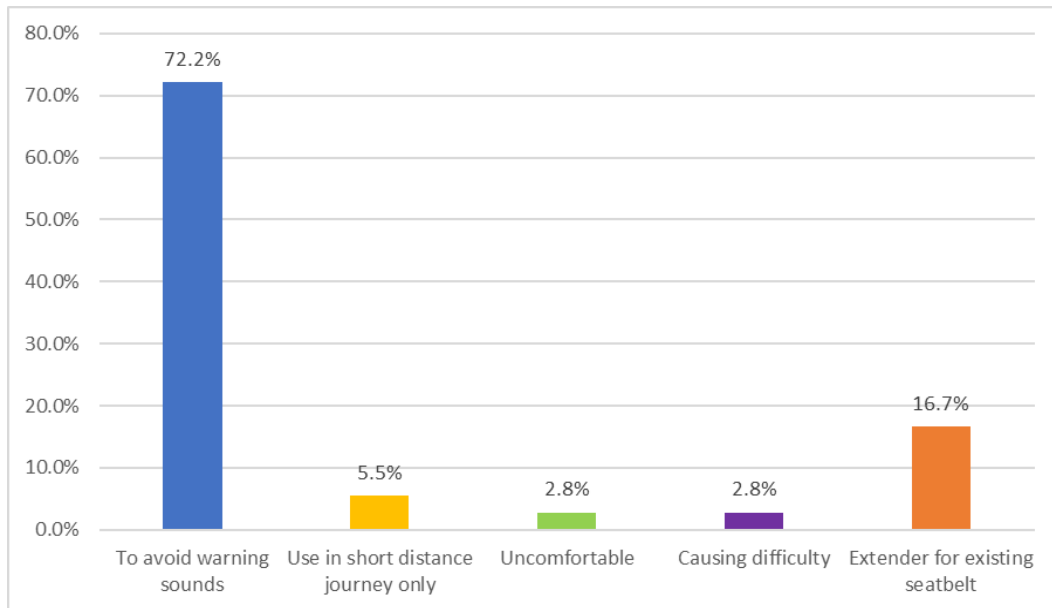
An open-ended question about the knowledge of the respondents on the function of the dummy buckle also was asked to gather feedback from respondents. Answers given by the respondents were categorized into groups namely 'Know' and 'Do Not Know'. If the respondents answer about the function to stop the seatbelt reminder sound, it is considered as 'Know' but if the answer is otherwise, it is considered as 'Do Not Know'. Only 26% of the respondents do not know the function of the accessory, and the rest of the respondents were aware of its function (Figure 4).



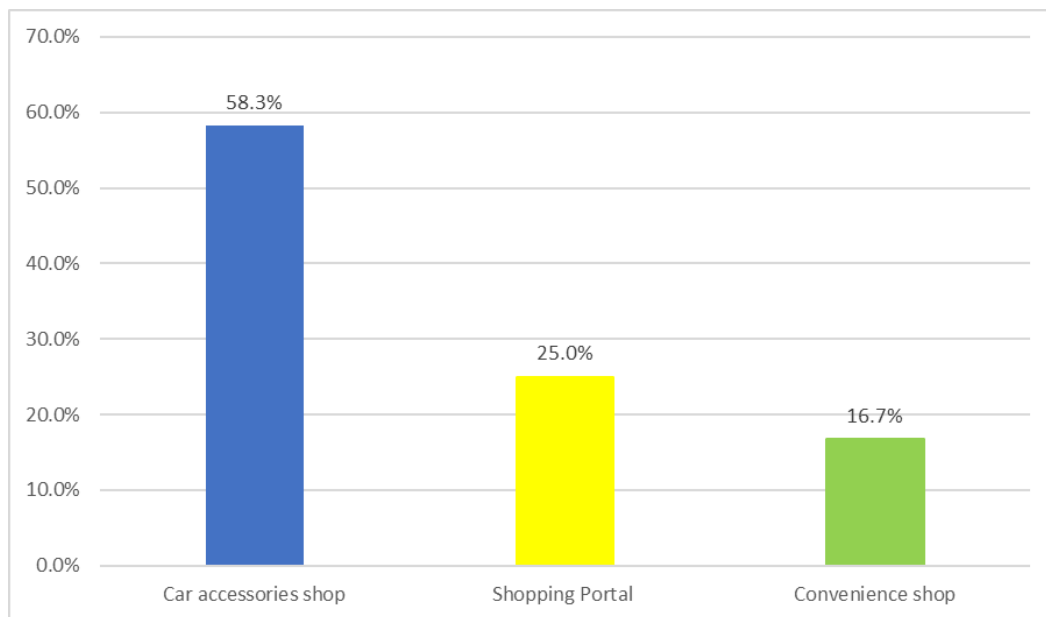
**Figure 5:** Respondents' opinion on the usage of dummy buckle

The respondents also were asked about their opinion about the usage of dummy buckles. Most of them (87.1%) do not agree this accessory used while driving, meanwhile, 11.7% agreed (Figure 5). According to the data obtained, 72% of them stated that they use a dummy buckle to avoid the warning sounds of SBR (Figure 6). Some of them (16.7%) use it as an extender for existing seatbelts, especially for pregnant ladies or large body sizes. They use it to get extra comfort while using a seatbelt. The study showed that overweight, obesity, and extreme obesity are associated with significantly decreased use of seatbelts (Schlundt et al., 2007). However, they also use it when driving a short distance (5.5%), are uncomfortable (2.8%), and cause difficulty (2.8%) when using a seatbelt. According to Ariffin et. al (2016), 31.4% of people, often and always think about how to disconnect SBR or cheat on the system rather than using the seatbelt.

There are several locations selling dummy buckles. According to respondents, 58.3% of respondents bought it at a car accessories shop, 25% at a shopping portal and another 16.7% bought it at a convenience shop (Figure 7). This means that this accessory is widely sold in Malaysia. The market prices for dummy buckles also vary, some are sold at prices below RM5 (24%), mostly sold at RM5 – RM15 (43%), and some were sold above RM15 (14%) (Figure 8). A market survey was done to find out the actual price of the certified buckle, and as a result, this buckle was sold at prices starting from RM60 until RM170 according to their types. Regarding the respondents' feedback on the price, it was clearly showing that the buckle purchased does not comply with the standards.

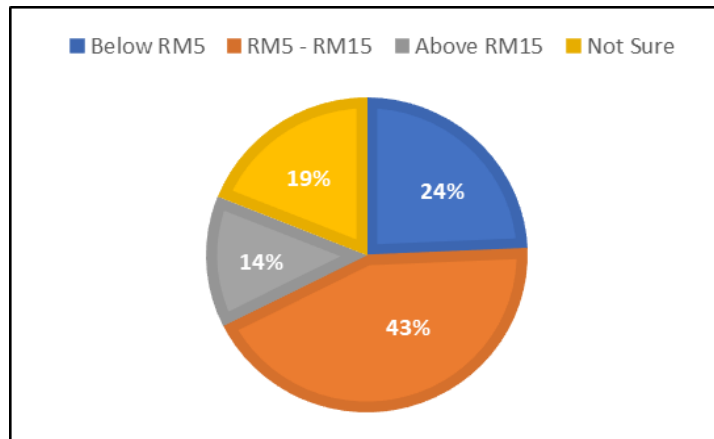


**Figure 6:** Factors influencing the use of seatbelt accessory

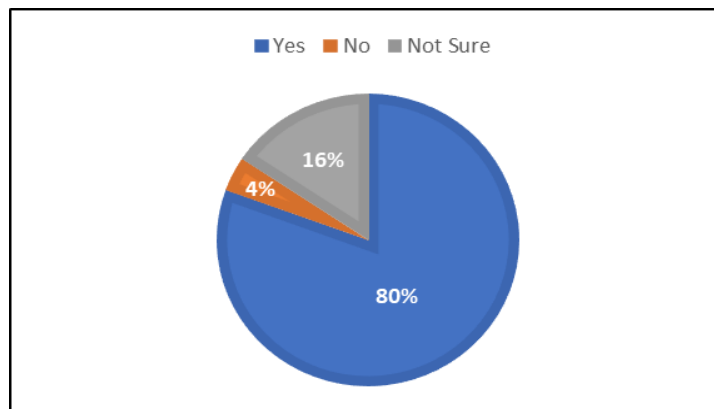


**Figure 7:** Location of purchased dummy buckle

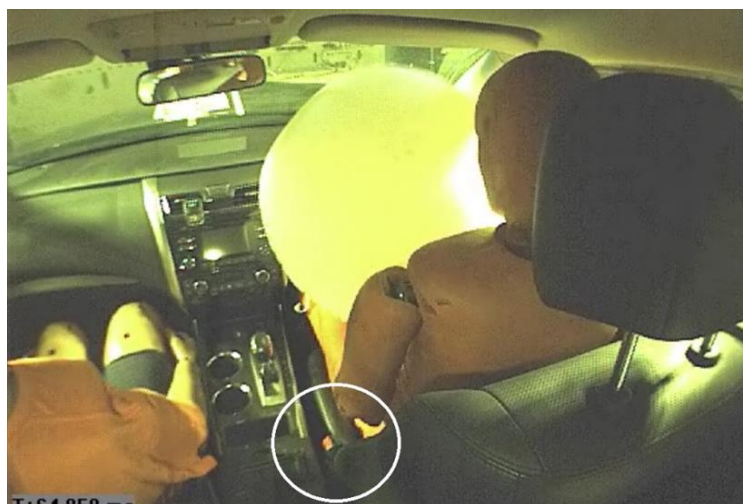
Figure 9 illustrates that most of the respondents (80%) realize that usage of a dummy buckle could endanger their life or other passengers in an accident. But, only a few of them are unsure and say no about the matter, this is probably because they never knew about the existence of a dummy buckle. Referring to the crash test (MCT0158) that has been conducted by MIROS PC3 (crash lab), it shows that the dummy buckle used in this test was detached from the seatbelt lock (Figure 10). The speed during the crash test was 64km/h (MIROS, n.d.).



**Figure 8:** Cost of the purchased seatbelt accessories



**Figure 9:** Opinion of respondents on the usage of such accessories could endanger life/other passengers in a crash

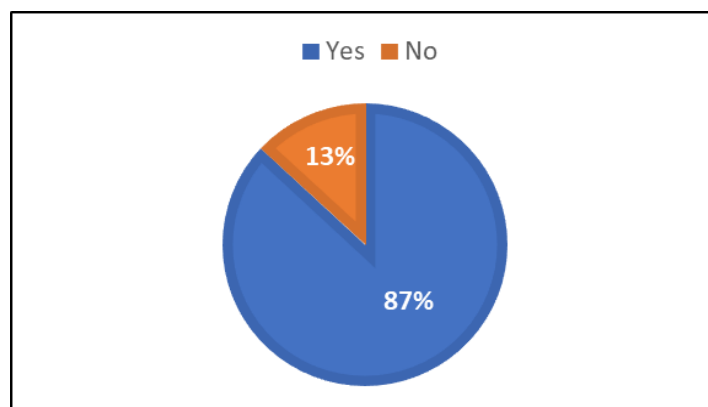


**Figure 10:** Dummy buckle was ripped off from the seatbelt lock (MIROS crash test)

Several crashes occurred and these dummy buckles have been found used in vehicles involved. According to the news published by Paultan.org (Chan, 2017), one of the crashes that occurred in Port Dickson involved a Mitsubishi Lancer car that lost control and crashed into a road divider causing the driver to be thrown out of the vehicle. Meanwhile, another fatal crash was recorded on 23rd August 2018, at 2.30 am in Gua Musang, Kelantan. A Perodua Myvi was found skidded (SVA) at a straight road down the hill causing three deaths (driver, front & rear passengers), while the other rear passenger suffered a minor injury. Another fatal crash also happened on 25th May 2020, in Kuantan, Pahang involving two cars (Toyota Yaris and Toyota CHR) in a frontal collision (Figure 11). The similarity between all three crashes is all of them use dummy buckles (no seatbelt use) and resulting in causing the victims to be thrown out of the vehicles or sustaining a strong impact on the steering wheel or dashboard of the vehicle that leads to fatalities. The way forward towards solving this problem is to ban these accessories from the Malaysian market – 87% of the respondents agreed this accessory should be banned (Figure 12).



**Figure 11:** Dummy buckle found in the crash car



**Figure 12:** Respondents' opinion on banning the sale of dummy buckles in Malaysia



#### **4.0 CONCLUSION**

This study had shown that 12.9% of drivers or car passengers used dummy buckles as accessories to “beat” SBR. On the other hand, we had witnessed that several fatal crash cases were related to dummy buckle usage. Thus, this study would like to recommend that the accessories must be banned. This matter needs to be discussed in depth with the Ministry of Domestic Trade and Consumer Affairs because it involves matters related to consumers and buyers. Many agencies to be involved and discuss further on this issue and come out with an effective policy to eliminate these accessories in the Malaysian market.

#### **REFERENCES**

- Ariffin, A. H., Hamzah, A., Paiman, N. F., Solah, M. S., Jawi, Z. M., Abu Kassim, K. A., Shabadin, A. & Mohamed, N. (2016). Association of Seatbelt Reminders (SBRs) with Seatbelt Wearing Rates among Front Occupants of Private Vehicles in Klang Valley. MIROS Research Report: MRR No. 191.
- Chan, M. (2017). Driver killed after thrown out in crash, fake seat belt clip seen – is the (in)convenience worth your life? Retrieved from <https://paultan.org>.
- Law of Malaysia (1987). Act 333, Road Transport Act 1987. Motor Vehicle Rules (Seatbelt) (Amendments 2008).
- MIROS (n.d.). Crash Test (MCT 0158) Report, Malaysia Institute of Road Safety Research.
- Neutens, J. J., & Rubinson, L. (1997). *Research Techniques for the Health Sciences*. Allyn and Bacon.
- Schlundt, D. G., Briggs, N. C., Miller, S. T., Arthur, C. M., & Goldzweig, I. A. (2007). BMI and seatbelt use. *Obesity* (Silver Spring, Md.), 15(11), 2541–2545.
- SWOV (2014). Fact Sheet – Seat Belt Reminders. SWOV – Institute for Road Safety Research.