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Mobile Phone Usage Behaviour while Driving among Educated Young Adults in the Urban University

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Abstract

Introduction: Students who drive and using mobile phones become a common sight these days. Futile to coordinate shall contribute to road traffic accidents. Objective: This study aims to describe the mobile phone usage behaviour while driving among educated young adults. Methods: A cross sectional study was conducted among student in Klang Valley and their participation was on voluntary basis. Results & conclusion: 66.6% of the participants used a mobile phone while driving where male drivers more often to use it on urban road. Results from this study can inform policy maker to design specific campaigns to minimise this unsafe behaviour.

Keywords: Mobile phone usage behaviour; driving; young adult; policy

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1. Introduction

Mobile phone ownership is generally an essential item among adolescence nowadays (Davie, Panting, & Charlton, 2004). It also, had significantly transformed the ways of their daily living activities include in doing business (Palen, Salzman, & Youngs, 2000), learning (Sharples, 2000) and many more. It is now become a trend where, across the country many young adults are now adopting mobile phone for enhancing their ways of lives. This trend has changed drastically where a decade ago mobile phone was seem as an impossible gadget to be owned (Karim, Darus, & Hussin, 2006).

With the recent economic prosperity, Malaysia is going forward to be a developed country by the year 2020 (Mustapha & Abdullah, 2004). This economic prosperity was also contributed to the financial ability of the people to increase their quality of life includes the ability to own mobile phones. Some parents nowadays were becoming more financially independent and able to provide their children with more expensive communication devices which improve their ‘means of communication and socialization’. For example, many parents provide a car or motorcycle to their children for the purpose of mobilization inside and outside the university. Their communication and socialization activities always happen in every seconds of their living. This could be proven by the usage of mobile phones while driving becomes a common sight these days (McCarrt, Hellinga, & Bratiman, 2006). These two phenomena always combine and can contribute to a significant risk of accident.

As we all knows, driving is a complex process which involves eyes-hand-foot coordination (Fuller, 2000). Futility to coordinate shall contribute to road traffic accidents (RTA). Young people are usually representing the highest numbers of the accident cases (Chliaoutakis, Darviri, & Demakakos, 1999). It has been proven that, the young drivers had the highest tendencies to use a mobile phone while driving compared with other groups of people (McCarrt et al., 2006) and this behaviour could lead to RTA.

2. Literature Review

According to Lam (2000), driver distraction while driving is a significant factor that leads to RTA. Activities involving mobile phone such as messaging and communication without a proper device could lead to a very serious distract to the driver. Moreover, not just dialling and SMS while driving increased the risk of accident but a conversation on mobile phone while driving also contribute to RTA (Consiglio, Driscoll, Witte, & Berg, 2003). A number of studies have shown that the mobile phone usage while driving increased the risk for RTA (Abou Raya & ElMeguid, 2009; Charlton & Smith, 2003; McEvoy, Stevenson, & Woodward, 2006; Nabi et al., 2005). Previous research has shown that the mobile phone usage while driving decreased drivers’ performance in a many areas (Dave Lamble, Kauranen, Laakso, & Summala, 1999; Strayer & Johnston, 2001). For example, the drivers spent less time observing their instruments and mirrors when using mobile phone while driving (Nunes & Recarte, 2002).

Malaysian government has taken several measures to reduce the RTA. It has been gazetted that, using mobile phones is a serious traffic offence. Yet, despite legislative ban, more drivers still reported using a mobile phone while driving (McEvoy, Stevenson, & Woodward, 2006; White, Hyde, Walsh, & Watson, 2010).

Previous studies have indicated that young adults especially males tended to use a mobile phone while driving more than older drivers or female (Brusque & Alauzet, 2008; Lamble, Rajalin, & Summala, 2002). However the result is still inconclusive. Therefore the aim of study was to identify the prevalence of mobile phone use while driving on urban road and highway among young educated adults. Finally this study also investigates how the participants altered their driving behaviours while using a mobile phone.
3. Methodology

3.1. Participants

A cross-sectional study was conducted among college and university students in Klang Valley from January to February 2011. Non-probability sampling was used in this study. The participation of this study is on a voluntary basis. The self-administered questionnaires were distributed to the students through the students’ e-mail. All the participants were informed of the purpose of the study and were assured of confidentiality and anonymity. Consent was assumed if the student completed and submitted the questionnaire.

3.2. Instrument

A self-reported questionnaire modified from Gras et al., (2007) was used for this survey. The questions include questions about participants’ gender, age and driving behavior (crash history in the last 5 years, mobile phone use while driving, and whether they had been involved in any incident while using a mobile phone and driving). This survey also investigated the reported frequency with which drivers used a mobile phone to make or answer a telephone call and to send or read text messages (SMS). Participants were asked how frequently they used a mobile phone, for this purpose, while they were driving on urban roads and on highways. In this survey, there were 2 possible answers: never, and at least once. Finally, the participants were also asked whether they altered their driving behavior while using a mobile phone on urban roads and on the highway. The response in this category was “do not use”, “reduce speed”, “stop the vehicle”, “pull over and drive on the road shoulder” and “I do not alter my behavior”. The participants were also asked whether they used a hands-free device.

3.3. Statistical analysis

Data entry and statistical analysis was carried out using SPSS, version 16.0 (SPSS Inc. Chicago, IL, USA). Hypothesis testing was completed using a chi-square test for univariate analysis. For the categorical variables results are presented as the frequency and its percentage and for numerical variables results are presented as the mean ± SD. Significance level was set at \( \alpha = 0.05 \).

4. Results and Discussions

Two hundred and eighteen participants were selected. Of the 218 selected, 11 had no driving license (participants must have a valid driver license), 15 did not respond to the questionnaire and there were 4 participants who did not meet the age criteria (more than 25 years old). The remaining 188 participants range in age from 18 – 25 years old (mean=22.5, \( \pm \)SD=1.5), with more than half (58.5%) being females. The demographic characteristics of the respondents are listed in table 1. Majority of the respondents reported to have frequently driven a car (77.1%) and half of them reported to have a valid driving license from three to five years (50.0%).
Table 1. Characteristic of the respondents, n=188

<table>
<thead>
<tr>
<th>Variable</th>
<th>Frequency (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valid driver licence (years)</td>
<td></td>
</tr>
<tr>
<td>1 – 2</td>
<td>68 (36.2)</td>
</tr>
<tr>
<td>3 – 5</td>
<td>94 (50.0)</td>
</tr>
<tr>
<td>6 – 8</td>
<td>26 (13.8)</td>
</tr>
<tr>
<td>Type of vehicle mostly used</td>
<td></td>
</tr>
<tr>
<td>Car</td>
<td>43 (22.9)</td>
</tr>
<tr>
<td>Motorbike</td>
<td>145 (77.1)</td>
</tr>
<tr>
<td>Involvement in any accident for the past five years</td>
<td></td>
</tr>
<tr>
<td>0 – 3</td>
<td>184 (97.9)</td>
</tr>
<tr>
<td>4 and more</td>
<td>4 (2.2)</td>
</tr>
<tr>
<td>Hand free device usage</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>59 (31.4)</td>
</tr>
<tr>
<td>No</td>
<td>129 (68.6)</td>
</tr>
</tbody>
</table>

Overall, only 33.4% of the participants reported never using a mobile phone while driving. Majority of the participants (66.6%) reported using a mobile phone while driving to make or answer call and/or to use SMS. The reported frequency of mobile phone use, by road type is presented at table 2. Based on analysis if we compare use of mobile phone by gender, we found that the males speak more often on their mobile phone than female on urban road ($X^2=6.109; p=0.013$). However, for all remaining data analyses we observed no significant difference.

Table 2. Reported mobile phone use by road type and kind of use

<table>
<thead>
<tr>
<th>Road type</th>
<th>Use</th>
<th>Male</th>
<th></th>
<th>Female</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Never</td>
<td>At least once</td>
<td>Never</td>
<td>At least once</td>
</tr>
<tr>
<td>Urban road, n(%)</td>
<td>Call</td>
<td>13(16.7)*</td>
<td>65(83.3)*</td>
<td>36(32.7)*</td>
<td>74(67.3)*</td>
</tr>
<tr>
<td></td>
<td>SMS</td>
<td>16(20.5)</td>
<td>62(79.5)</td>
<td>36(32.7)</td>
<td>74(67.3)</td>
</tr>
<tr>
<td>Highway, n(%)</td>
<td>Call</td>
<td>25(32.1)</td>
<td>53(67.9)</td>
<td>50(45.5)</td>
<td>60(54.5)</td>
</tr>
<tr>
<td></td>
<td>SMS</td>
<td>26(33.3)</td>
<td>52(66.7)</td>
<td>49(44.5)</td>
<td>61(55.5)</td>
</tr>
</tbody>
</table>

*p<0.05

The participants were also asked what types of behaviours they occupied in to reduce the risks with using hand phone while driving (table 3). On the urban road, 3.2% reported not changing their driving behaviour, and 15.4% reported that they did not use their mobile phone. Majority of them reduced their speed while 13.8% of the participant will stop the vehicle and then answer the phone. Similar proportions of the behaviour also observed while driving on highway.
This study found that 66.6% of the participants used a mobile phone while driving. This finding is similar to those reported in Spain (60%) (Gras et al., 2007) and New Zealand (57.3%) (Sullman & Baas, 2004). However, this finding considerably lower than the studies done in Finland (80%) (Pöysti, Rajalin, & Summala, 2005) and in Australia (77%) (White et al., 2010). This could be explained that as a young adult they are more frequently to ignore the law. other than that, student’s life always demanding on multitasking since they have a tide schedule that need them to use their mobile phone even while driving.

This present study also found that majority of the participant was less likely to use hand free device with only 31.4% reported using it. However this finding is considerably higher than the proportion reported in Spanish (14.3%) (Gras et al., 2007) and New Zealand studies (17.2%) (Sullman & Baas, 2004). Though, as this is a cross sectional study it is not possible to say that the usage of hand free device encourage them to use mobile phone while driving. Future research should further investigate in an attempt to answer this question.

The reported mobile phone usage between male and female respondent while driving was not difference in this study. The only significant difference observed in this study was that males use a mobile phone more frequent to make call on urban road. This result is same with the finding by Sullman & Baas, (2004) and Gras et al., (2007), who both found that the male drivers were more often to use mobile phone while driving. The possible explanation for this could be due that male is more certain compare to female while driving and they more confident to take a risk.

Majority of the respondents reported that they will reduced speed to reduce the risks associated with using hand held phone while driving in both highway (77.6%) and urban road (61.1%). This reported behaviour is higher compared to study done in Spain (Gras et al., 2007). In the Spanish study, they found that only 26.6% (urban road) and 22.6% (highway) of the respondents reported that they reduce speed to reduce the risk. This could be due to that they feel safer and less risky if they can reduce speed when use mobile phone while driving.

There are few possible limitations with this study. This is a cross sectional study which utilized a self reported questionnaire. These approaches could artificially inflate the results which then reduces the causal interpretation of study findings (Rothengatter, 2002). However, as the present study did not seek to identify causal relationship but only served as a preliminary investigation to improve our knowledge of participants’ mobile phone usage behaviour while driving, this approach was considered valuable (White et al., 2010).

5. Conclusion

Mobile phone use while driving is a common among young adults yet preventable driving risk. Results from this study can inform policy maker to design specific campaigns to minimise of this unsafe behaviour among this target group of people.
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References


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