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Behaviour Distractive to Pedestrians in Public Places

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1. Introduction

Pedestrians distracted due to misbehaviour are very common in public places. Today, most of the pedestrian involved accidents are caused due to misbehaviour and such accidents increase rapidly. Pedestrian distraction is caused by a range of factors, ranging from munching while walking to the use of multimedia tools. In recent years, multimedia tools have become essential to many people. However, there are adverse effects when these are used at inappropriate times such as the use of mobile phones for calls or for texting while crossing the road. Therefore, this study focused **on quantifying the behaviour distracting by different pedestrian categories in different pedestrian facilities in the Kandy town area**.

2. Methodology

This research was carried out under eight main stages. Two methods were adopted in data collection for the study. A headcount was taken of pedestrians who walk or cross roads while doing some distracting activity and a questionnaire was poses to samples of pedestrians in selected places.

Distracting activities in which most pedestrians in Kandy town engage were identified through pre-surveys. Some distractions such as talking with pavement hawkers in safe locations may have an indirect effect on other road users. However, there are adverse effects when that activity was done in unsafe locations.

At the time of selecting survey locations, both high and low traffic congestion areas were selected to achieve accuracy of the results. The duration of data collection was considered as a constant and data was collected during peak traffic hour. A coding system was used to record behaviour of pedestrians. To analyse data collected in the headcount survey, descriptive and statistical analyses were carried out. For the questionnaire survey, only descriptive analysis was carried out. The main target was to graphically represent variation of unsafe behaviour with respect to gender, age and

pedestrian category. Proportion test in R software was used to analyse data statistically for samples in which the size was greater than 10.

Hypothesis used for statistical analysis is as follows;

- ✓ H_0 = Have Equal probability to engage in distracting activity
- ✓ H_1 = Do not have equal probability to engage in distracting activity

If p – Value < 0.05 ⟶ H_0 is rejected

Finally, considering all collected data, a model sample for a Kandy town was created.

3. Results

According to the questionnaire survey, males are more susceptible to distraction than females in walking while both are much less susceptible to distraction while crossing. School age pedestrians show a higher probability to walk while distracted. Using a mobile phone for calls or text messages is a more frequent cause of distraction compared to other distractions. This behaviour accounts for10% of all distractions faced by male and school-age pedestrians alike when walking and around 2% when crossing.

According to the headcount survey, pedestrians in Kandy town are likely to use their mobile phones or to munch while walking or crossing the road.

Considering other distractions, using mobile phone for call was a general distraction at all locations selected for this research. According to the headcount survey data, younger males are more susceptible to such distraction. Relative to crossings, pedestrians are likely to be distracted when walking along walkways. According to the analysis, distracted young male pedestrians are less than 5% compared to rest even in highly congested areas. Seven percent of Male pedestrian category found to have a distraction only in the unsafe location of an overpass. Considering pedestrian walkways at popular attractions in Kandy town, around 3% of middle-aged male pedestrian categories were more susceptible to distraction. 16% of female pedestrians were distracted on pedestrian walkways in the mid-town region.

In the pedestrian walkway, outside of the town area, young male pedestrian categories were relatively more likely to engage in distracted behaviour.

At 0.05 significance level, pedestrians were likely to be distracted at zebra crossings for most of the time compared to unsafe crossing.

Considering the pedestrian volume of the town, 53% of male, 46% of middle age are the main users. Among pedestrians, 96% cross the road without engaging in any of

distracting activity. However, nearly 20% of pedestrians cross the road at unsafe locations.

4. Conclusion

Finally, it could be seen that young male pedestrian category are more susceptible to do distracted behaviour. Hence, their risk of accidents may be higher than that of other pedestrian categories. Considering other distractions, using mobile phones for call is a general distraction throughout the town. In accordance with the variation in behaviour by pedestrian facility, more pedestrians use walkways while distracted than they do crossings.

The present study was carried out for crossings and walkways only. Hence, the future studies can pay more attention to other public places as well. Moreover, there may be a direct relationship between these misbehaviours and the occurrence of accidents. Hence, paying adequate attention to such incidents may allow for the control of pedestrian accidents.

5. References

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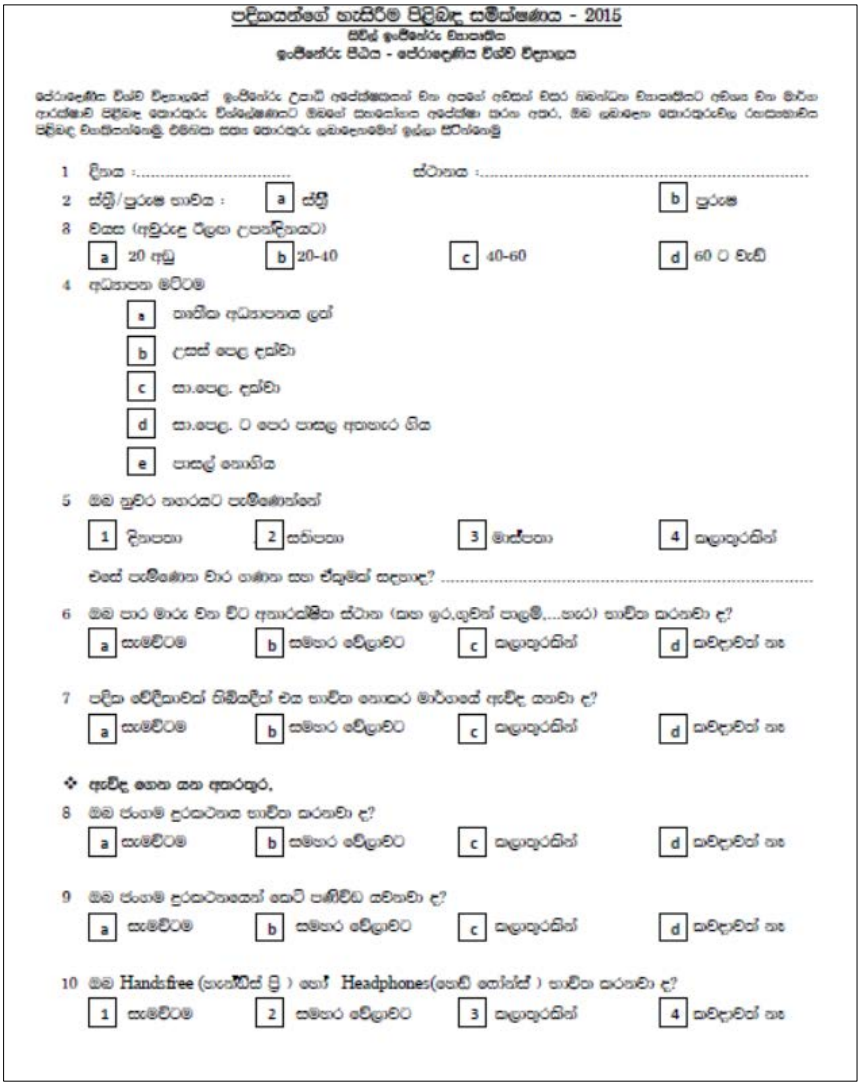
Keywords: *pedestrian, distractive behaviour, crossing, walkways, Kandy town*

6. Appendices

Appendix A: Questionnaire Survey Paper



පදිකයන්ගේ හැසිරීම පිළිබඳ සමීක්ෂණය - 2015

සිවිල් ඉංජිනේරු විභාගයික

ඉංජිනේරු පීඨය - පේරාදෙණිය විශ්ව විද්‍යාලය

පේරාදෙණිය විශ්ව විද්‍යාලයේ ඉංජිනේරු උපාධි අපේක්ෂකයන් විසා අපගේ අවසාන වසර බඳවාධ්‍යා විභාගයිකට අවශ්‍ය විසා මාර්ග ආරක්ෂාව පිළිබඳ පොරතුරු විශ්ලේෂණයට ඔබගේ සහයෝගය අපේක්ෂා කරා අතර, ඔබ ලබාදෙන පොරතුරුවලු රහසාභාවය පිළිබඳ වගකීමක්මෙලු. එමනිසා සසා පොරතුරු ලබාදෙන්මෙන් ඉල්ලා සිටින්මෙලු

1 ලිංගය :..... ස්ථානය :.....

2 ස්ත්‍රී/පුරුෂ භාවය : [a] ස්ත්‍රී [b] පුරුෂ

3 වයස (අවුරුදු වලින උපන්දිනයට)

[a] 20 අඩු [b] 20-40 [c] 40-60 [d] 60 ට වැඩි

4 අධ්‍යාපන මට්ටම

[a] නාවිකා අධ්‍යාපනය ලත්

[b] උසස් පෙළ දක්වා

[c] සා.පෙළ. දක්වා

[d] සා.පෙළ. ට පෙර පාසල අතහරෙ ගිය

[e] පාසල් නොගිය

5 ඔබ සුවිර නගරයට පැමිණෙන්නේ

[1] දිනපතා [2] සතිපතා [3] මාස්පතා [4] කලාතුරකින්

එසේ පැමිණෙන විට ගණන සහ ඒකුමක් සඳහාද? .....

6 ඔබ පාර මාරු වන විට අනාරක්ෂිත ස්ථාන (සහ ඉර,ගුවන් පාලම්,....හරෙ) භාවිත කරනවා ද?

[a] සැමවිටම [b] සමහර වේලාවට [c] කලාතුරකින් [d] කවදාවත් නෑ

7 පදික වේදිකාවක් තිබියදීත් එක භාවිත නොකර මාර්ගයේ ඇවිද යනවා ද?

[a] සැමවිටම [b] සමහර වේලාවට [c] කලාතුරකින් [d] කවදාවත් නෑ

❖ **ඇවිදු ගොන යන අතරතුර,**

8 ඔබ ජංගම දුරකථනය භාවිත කරනවා ද?

[a] සැමවිටම [b] සමහර වේලාවට [c] කලාතුරකින් [d] කවදාවත් නෑ

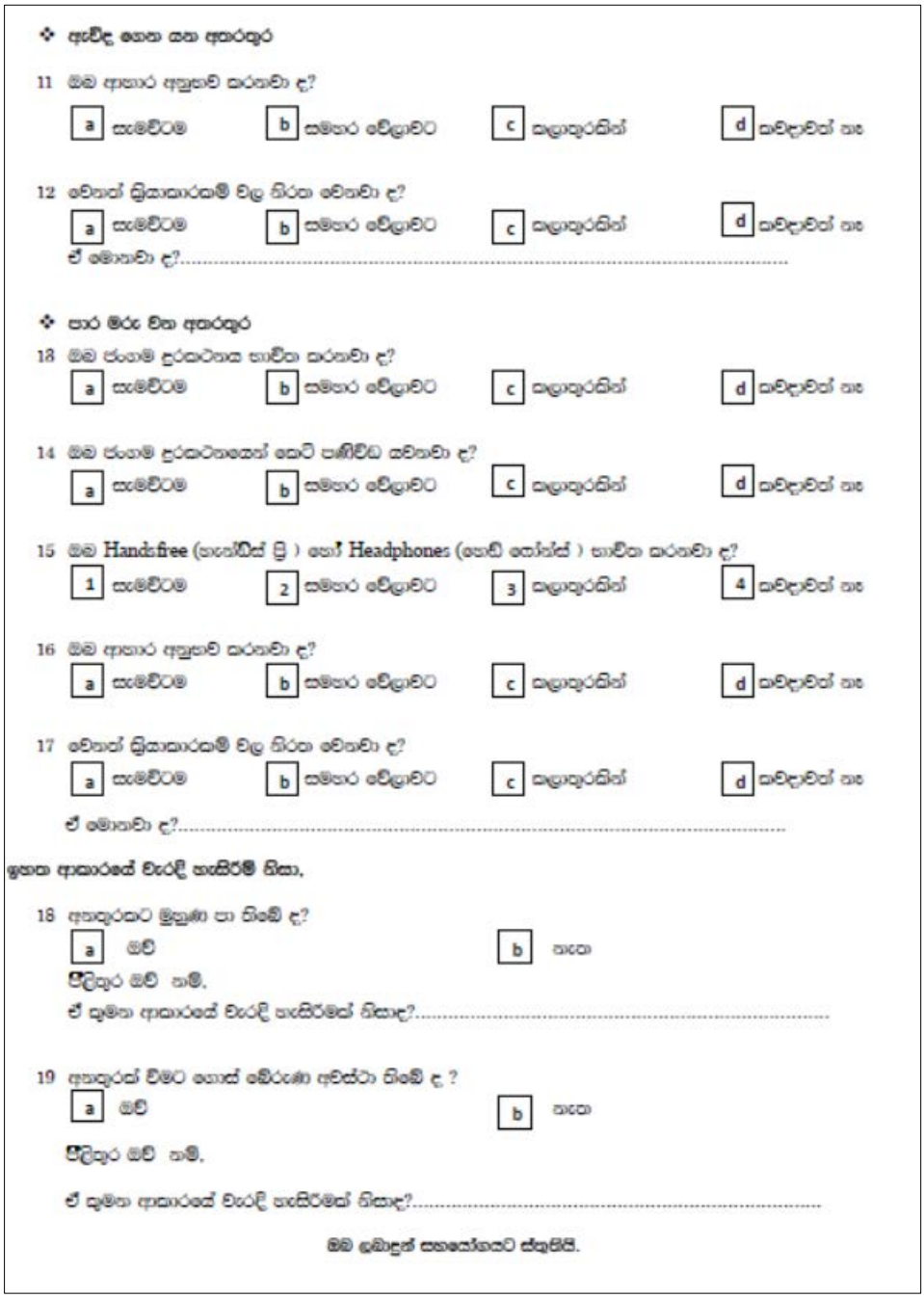
9 ඔබ ජංගම දුරකථනයෙන් කෙටි පණිවිඩ යවනවා ද?

[a] සැමවිටම [b] සමහර වේලාවට [c] කලාතුරකින් [d] කවදාවත් නෑ

10 ඔබ **Hands-free** (හෑන්ඩ්ස් ෆ්‍රී) හෝ **Headphones**(හෙඩ් ෆෝන්ස්) භාවිත කරනවා ද?

[1] සැමවිටම [2] සමහර වේලාවට [3] කලාතුරකින් [4] කවදාවත් නෑ

Figure A.1: Questionnaire Survey Paper



❖ ඇවිදීම හෙන සහ අතරතුර

11 ඔබ ආහාර අනුභව කරනවා ද?

a සැමවිටම b සමහර වේලාවට c කලාතුරකින් d කවදාවත් නෑ

12 වෙනත් ක්‍රියාකාරකම් වල නිරත වෙනවා ද?

a සැමවිටම b සමහර වේලාවට c කලාතුරකින් d කවදාවත් නෑ

ඒ මොනවා ද?.....

❖ පාර මරද්දී සහ අතරතුර

13 ඔබ ජංගම දුරකථනය භාවිත කරනවා ද?

a සැමවිටම b සමහර වේලාවට c කලාතුරකින් d කවදාවත් නෑ

14 ඔබ ජංගම දුරකථනයෙන් කෙටි පණිවිඩ යවනවා ද?

a සැමවිටම b සමහර වේලාවට c කලාතුරකින් d කවදාවත් නෑ

15 ඔබ **Handsfree** (හෑන්ඩ්ස් ෆ්‍රී) හෝ **Headphones** (හෙඩ් ෆෝන්ස්) භාවිත කරනවා ද?

1 සැමවිටම 2 සමහර වේලාවට 3 කලාතුරකින් 4 කවදාවත් නෑ

16 ඔබ ආහාර අනුභව කරනවා ද?

a සැමවිටම b සමහර වේලාවට c කලාතුරකින් d කවදාවත් නෑ

17 වෙනත් ක්‍රියාකාරකම් වල නිරත වෙනවා ද?

a සැමවිටම b සමහර වේලාවට c කලාතුරකින් d කවදාවත් නෑ

ඒ මොනවා ද?.....

ඉහත ආකාරයේ වැරදි හැසිරීම් නිසා,

18 අනතුරකට මුහුණ පා තිබේ ද?

a ඔව් b නැත

පිළිතුර ඔව් නම්,

ඒ දුම්න ආකාරයේ වැරදි හැසිරීමක් නිසාද?.....

19 අනතුරක් වීමට හොස් බේරුණ අවස්ථා තිබේ ද ?

a ඔව් b නැත

පිළිතුර ඔව් නම්,

ඒ දුම්න ආකාරයේ වැරදි හැසිරීමක් නිසාද?.....

ඔබ ලබාදුන් සහයෝගයට ස්තුතියි.

Figure A.1: Questionnaire Survey Paper (contd.)