

## Technology and driver education for Indigenous Australians

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### Abstract

Multiple barriers have been identified that prevent some Indigenous Australians from obtaining a licence. A scoping review of the literature was conducted to identify interventions that are used to address these barriers. Limited research was identified, none of which assessed the suitability of technological interventions such as PC-based training or driving simulators. Following this, Indigenous community members in regional Queensland were consulted to gain insight into the appropriateness and perceived usefulness of a PC-based hazard perception training intervention. Diverse experiences of drivers and differing preferences to delivery mode and content highlight the importance of driver education interventions to be flexible.

### Background

Indigenous Australians can face multiple barriers to obtaining a driver licence (Cullen, Clapham, Hunter, Rogers, & Ivers, 2017). A lack of public transport available in many regional and remote areas means that driving is a necessity for meeting many basic needs including health and education services (Currie & Senbergs, 2007). Young drivers are at an increased risk of crash and serious injury when they begin to drive without supervision (Lee, Simons-Morton, Klauer, Ouimet, & Dingus, 2011; Mayhew, Simpson, & Pak, 2003). Driver education and training may help to reduce this risk, however, little is known about the suitability of technological interventions for Indigenous populations. Unsuitable interventions may present another barrier to licensure for these young drivers' or provide little benefit.

### Method

#### *Scoping review*

A literature review was conducted to survey the extent of research addressing 1) driver education specifically for Indigenous Australians and 2) technology based driver education for Indigenous peoples of any nationality. Methodology of the review followed scoping review guidelines developed by Arksey and O'Malley (2005).

#### *Indigenous community consultation*

Indigenous Australians from a Queensland regional centre were asked to contribute their views. Prior to commencing data collection for this phase of the study, a community elder from a Queensland regional centre was consulted and permission was sought from them to conduct research with their community. Discussions aided the research team in ensuring research methodology that was deemed appropriate by the community elder and the study was approved by an Aboriginal and Torres Strait Islander ethics sub-committee. Yarning at local NAIDOC celebrations was used to assess the suitability of a video based driver training intervention. The intervention was a video viewed on a laptop computer that included an education and training segment designed to train hazard perception skills. Hazard perception training can be useful for novice drivers as they are typically less capable of anticipating hazards and as such experience less

time to respond when dangerous situations occur (Horswill, 2016). Members of the research team communicated preliminary research findings through informal discussions with the same community elder.

## Results

The scoping review failed to identify any studies that incorporated driver education technologies that had been used with Indigenous people. Seven papers were identified that discussed interventions specifically to aid Indigenous Australians in obtaining a licence. These interventions included training community members to become driver trainers, mentoring programs, classroom education and other programs that provided structure to learners. One paper specifically identified a decision to avoid PC-based activities in favour of group activities.

The consultation process indicated that local Indigenous community members were easily able to identify several barriers that made getting a licence difficult for them. A lack of confidence in their driving skills and a fear of making mistakes were prominent. The PC-based education package was generally viewed positively. An open-minded attitude of ‘the more the better’ was prevalent, as well as a willingness to try new things. There were some mixed opinions regarding the delivery of the program, with some people preferring the education task be a group exercise allowing for shared discussion, while others liked the idea of having a way to explore driving in private without feeling embarrassed.

## Discussion

The use of technology, such as PC-based education, may be appropriate for aiding increases in licensure of Indigenous Australians. However, this is an under-researched area that warrants further investigation. The involvement of Aboriginal and Torres Strait Islander peoples in this study was limited. Future research in this field would benefit from closer community collaboration, including Aboriginal and Torres Strait Islander research team members. In a regional community there was variation in the perceived strengths and weaknesses of an intervention. This suggests that the needs and desires of this group may require an intervention that is flexible to adapt to different methods of use.

## References

- Arksey, H., & O'Malley, L. (2005). Scoping studies: Towards a methodological framework. *International Journal of Social Research Methodology*, 8(1), 19-32 doi: 10.1080/1364557032000119616
- Cullen, P., Clapham, K., Hunter, K., Rogers, K., & Ivers, R. (2017). Applying a context-informed approach to evaluation of a licensing support program with aboriginal communities: A study protocol. *Journal of the Australasian College of Road Safety*, 28(4), 31.
- Currie, G., & Senbergs, Z. (2007). Indigenous communities: Transport disadvantage and Aboriginal communities. In G. Currie, J. Stanley & J. Stanley (Eds.), *No way to go: Transport and social disadvantage in Australian communities*. Clayton, Victoria: Monash University Press.
- Horswill, M. S. (2016). Hazard perception in driving. *Current Directions in Psychological Science*, 25(6), 425-430.
- Lee, S. E., Simons-Morton, B. G., Klauer, S. E., Ouimet, M. C., & Dingus, T. A. (2011). Naturalistic assessment of novice teenage crash experience. *Accident Analysis & Prevention*, 43(4), 1472-1479. doi:10.1016/j.aap.2011.02.026

Mayhew, D. R., Simpson, H. M., & Pak, A. (2003). Changes in collision rates among novice drivers during the first months of driving. *Accident Analysis & Prevention*, 35(5), 683-691.  
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