

Impact Objectives

- Understand the nature of adolescent risk, thereby improving the health and wellbeing of all adolescents
- Specifically, improve adolescent road safety on a global scale
- Develop initiatives to improve the safety of young drivers on the roads

The sunny side of road safety

Based at the *University of the Sunshine Coast, Australia*, Dr Bridie Scott-Parker is the creator of the first international consortium focused on adolescent road safety. Here, she reveals the passions that led to the formation of this initiative



Can you begin by introducing yourself, your key research interests and passions in life and work?

I am highly enthusiastic about adolescent health and wellbeing, which prompted me to create my research unit, the Adolescent Risk Research Unit (ARRU). ARRU is all about understanding the risks for – and experiences of – adolescents, so that we can ameliorate or eradicate these risks altogether. I am happy to confess that I am completely obsessed with adolescent road safety in particular; using the road is fraught with danger for adolescents, irrespective of whether they are the driver, the passenger, the pedestrian, the rider or the cyclist. Adolescent road safety is also a persistent global problem, with developing nations bearing the greatest brunt. I created the first international consortium focused on adolescent road safety, the Consortium of Adolescent Road Safety (CADROSA), so that developed and developing nations can work together to ensure real progress is made in a coordinated and much quicker fashion than the current reactive, piecemeal approach. I was brought up to believe our purpose is to leave the world better, and through ARRU and CADROSA I can make real improvements.

What is it that makes your projects special, and what do you hope to address through their successful completion?

All of the projects I undertake are relevant for adolescents all around the world, irrespective of the continent and country in which they reside. Therefore, I am always mindful of how any projects I currently have underway can be applied in the context of other developed, and developing, nations. There are three amazing projects that are underway at the moment right now at ARRU based on the sunny Sunshine Coast. Excitingly, the insight gained through each of these projects is informing the nature and scope of my next larger project, with the innovative data-collection and intervention methodology able to be adapted to suit any and all driving contexts around the world.

Can you describe some of the approaches you are taking to improving adolescent road safety?

We employ innovative methodologies, such as simulator-based research and naturalistic studies with smartphones and GoPro cameras capturing heretofore inaccessible and hence unknowable information. In addition, we perform qualitative and quantitative research and adopt a rigorous approach to intervention, including development, application, and process and impact evaluation. Finally, we undertake

a rigorous approach to disseminating our findings. Not only do we share our findings with our academic and research colleagues, I firmly believe that we should share our findings with the entire community.

Does collaboration play an important role in the success of the project and, if so, in what ways?

Collaboration is vital if we are to achieve real world differences in adolescent road safety and adolescent health and wellbeing. Indeed, I could not achieve what I do without a great team supporting me and my passionate efforts and unwavering determination to improve these things. Perhaps most important is the belief of my team that I can make a difference in the reality of adolescents, and that through this collaboration they too can make a difference. Through the development and maintenance of my team over the past decade, most of them are actually friends. How lovely to say that. I also have a fantastic team at home: I am still the only one in my family to achieve a university education, and despite not understanding all of the idiosyncrasies of my passion, my family is 100 per cent beside me 100 per cent of the time.



A road to adolescent health, wellbeing and safety

The Consortium of Adolescent Road Safety (CADROSA) project is a unique road safety initiative that seeks to encourage and facilitate adolescent health and wellbeing. The coordinator of the project, Dr Bridie Scott-Parker, has a genuine passion for the undertaking which is both palpable and commendable

It is a sad fact of the world we live in that too many adolescents die or are badly injured in road crashes. Sadder still is that many of these crashes are very easily preventable. In addition to the obvious social and emotional impacts of such crashes, and irrespective of whether they are preventable or not, the financial costs can be an enormous burden on society.

With that in mind, the Consortium of Adolescent Road Safety (CADROSA) project has been established. Created and coordinated by Dr Bridie Scott-Parker, who is based at the University of the Sunshine Coast in Queensland, Australia, CADROSA adopts a truly innovative approach to improving adolescent road safety. The project began development in 2014, was officially launched in 2016 and, since then, several multi-country projects have been simultaneously implemented. Importantly, the findings from each strand of the projects are disseminated in a coordinated manner to ensure that each reaches a broader audience, thereby addressing the problems across countries both developed and developing.

SAFER DRIVING SKILLS

Scott-Parker's passion for the project is palpable, as evinced by her claims that she would happily perform her professional duties for free. Her passions extend to a keen focus on pooling resources and sharing findings to reach and positively impact the most people. 'I am a firm believer that academics should share their findings, and their implications, in plain English to 'normal' people (i.e. non-academics). While I thrive on undertaking research – and this is what I am paid to do – I find that translating these research findings into English gives me the most satisfaction,' explains Scott-Parker. 'What is the point of conducting research and publishing your findings in a journal article that no one reads? My research is all about keeping adolescents safe on the road no matter how they use it. To do this, we need to engage with the community, not just 'talk at' young drivers. No-one likes to be talked at.'

The CADROSA project is composed of several smaller projects that work together across countries to ensure the aims are achieved. Three in particular are especially

important to addressing the challenges of the wider project. Project one relates to developing safe driving skills in young drivers. Given that it can take years of independent, unsupervised driving for adolescents to build a breadth of skills to be able to perceive driving hazards, and to understand how the hazards might impact on their safety, it is essential that situation awareness skills are developed so that adolescents can understand what they can do to minimise the impact of these hazards. This is crucial not just for the individuals behind the wheel, but other people who could be affected by a lack of awareness of the potential hazards.

Importantly, we know that in Australia parents provide the most driving lessons to their children, despite there being limited understanding of what they should teach, when and how. Thus, CADROSA has adopted an innovative approach that shies away from targeting young drivers and instead focuses on teaching parents how to build situation awareness skills and escape route identification skills in their child even before they have a driver's licence. In doing

so, the seeds of survival are planted from a relatively early age and are done so in an effective way – namely, a game in which either the parent or the child is the winner. And teens *love* to beat their parents!

THE EFFECT OF EMOTIONS

Project two relates to understanding how emotions affect situation awareness and escape route identification skills in the newly independent driver. It is known that young drivers are most at risk when they start to drive unsupervised and that adolescence is a developmental period characterised by emotional flux. This can present a problem when an adolescent decides to drive when they are particularly emotional, be that happy, sad or angry. Naturally, when under the influence of such emotions, decision-making can be affected.

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Armed with this knowledge, Scott-Parker and her team have developed the cave simulator, in which they project real-world driving captured by GoPro cameras. ‘Using this technology, I measured the participants’ situation awareness and escape route identification skills, before evoking a strong emotion. I then measured these skills a second time,’ explains Scott-Parker. ‘For half of the drivers, they brought their best friends for the second drive so that I could explore the influence of this passenger on the driver’s situation awareness and escape route identification skills, in addition to the influence of their emotions.’ The research revealed that strong emotions narrow the young driver’s situation awareness and escape route identification ability, and that carrying your best friend as a passenger also narrows these skills.

Importantly, Scott-Parker’s expertise has revealed that playing SAFER (Situation

Awareness Fast Tracking including identifying Escape Routes) means that the young driver already has a wealth of safety-related skills when they start to drive on the road. This, along with the other findings, shows that SAFER has the potential to provide a solid foundation of situation awareness and escape route identification skills in the young driver. Ultimately, this means that the adolescent might not succumb to the road-safety risks associated with narrow situation awareness and escape route identification skills.

UNDERSTANDING DRIVING EXPOSURE

Project three relates to understanding the driving exposure of the young driver. Research has shown that, contrary to public perception, young drivers are very safe when they are supervised as they learn to

drive. However, when they start driving unsupervised, exponential increases in crash risks occur. In addition, learner drivers tend to drive during the day, on familiar roads, and in low-risk conditions, whereas when a young driver has passed their test and begins to drive unsupervised, they’ll drive in higher-risk conditions, such as at night or on unfamiliar roads. Therefore, Scott-Parker and her team have ascertained that more needs to be discovered about the driving exposure of young drivers so they can identify the risks and design adequate interventions.

‘I currently have a study underway in which learner drivers are provided with a smartphone that contains two apps, and they will continue to use these apps until they have been driving unsupervised for at least six months,’ explains Scott-Parker. ‘One app is completed on every drive – this app collects a breadth of driving exposure-

related information, including time of day, route, and acceleration. The second app tells me about the driver and the journey itself – information to which we would not normally have access.’ The first app enables Scott-Parker to better understand the exposure of the driver to speed limits, infrastructure and weather, and how this exposure changes pre-independence to post-independence. The second app looks at different aspects of the journey, such as how the individual is feeling, what the purpose of the journey is, and how many people are in the car.

By combining the findings from all three projects, Scott-Parker’s wider Adolescent Risk Research Unit (ARRU) project will result in a state-wide implementation and evaluation of pre-licence training and driving exposure monitoring. ‘Once I have the Queensland-wide programme up and running, it can be rolled out throughout other nations via CADROSA so that global learnings are gained from one project in a much shorter period of time,’ explains Scott-Parker. ‘This means we can keep more adolescents safer and sooner!’

Project Insights

FUNDING

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PRINCIPAL INVESTIGATOR BIO

Dr Bridie Scott-Parker leads the Adolescent Risk Research Unit (ARRU) at the University of the Sunshine Coast, where she is a senior research fellow. She is a recent recipient of a highly competitive National Health and Medical Research Council Early Career Fellowship, and she has created the first international consortium focused on adolescent road safety, the Consortium of Adolescent Road Safety (CADROSA).

CADROSA newsletter

Dr Bridie Scott-Parker has created a newsletter that enables her to share where she will be and when, so that she can interact and develop opportunities to improve adolescent road safety with anyone, all around the world.

<http://cadrosa.org/newsletters/>

