

Learn2Live

Results of a Randomised Cluster Design Evaluation



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Executive Summary

Executive Summary

Learn 2 Live (L2L) is a 60-minute educational road safety intervention delivered in the Southwest of England, via a partnership consisting of Cornwall County Council, Devon Air Ambulance, Devon and Cornwall Police, Devon County Council, Devon and Somerset Fire and Rescue Service, Southwest Ambulance and Somerset County Council. L2L is delivered in a theatre setting, to large groups, possibly up to 2,000 young people aged between 16 and 19.

L2L started delivery in 2008 with one of the main tenets of the presentation being the use of testimonials of people who had been involved in a collision in some capacity. In 2023, due to concerns about its effectiveness and the ethics of using trauma-based approaches to alter young people's behaviour (Lewis et al., 2007; Carey et al., 2013), the partnership delivering L2L sought to move away from testimonial-based approaches.

A previous pre- and post-evaluation of L2L completed in 2025 (Edwards, 2004) found significant improvements in the participants' willingness to engage in unsafe behaviours. This evaluation builds upon the previous evaluation by improving the evaluation methodology through the addition of a control group.



Design

Design

The evaluation used a cluster design using a questionnaire measure administered at two time points, approximately four weeks apart, to a Control Group and an Intervention Group. Schools/colleges were randomly allocated to the groups once they had been ordered on a socioeconomic measure to ensure both groups were matched. The questionnaire contained three scales: The Novice Driver Vulnerability Scale, The Driver Decision Making Scale, and the Willingness to Engage in Unsafe Behaviours Scale. These scales were designed explicitly as part of the earlier evaluation (Edwards, 2024). The items contained in these measures are listed in Appendix A. All measures were subjected to a factor analysis and reliability testing.



Results

Results

No difference was found between groups when they completed the first of the two questionnaires. These findings would indicate the groups were well-matched.

When the groups completed the measure a second time, the Intervention Group showed positive and statistically significant improvements on all three scales compared to the Control Group.

For the Willingness to Engage in Unsafe Behaviours, a significant change ($p < .05$) was also found within the Control Group, with this group becoming more willing to engage in unsafe behaviour at T2 compared to T1. This increase in the Control Group scores, compared to a reduction found in the Intervention Group, would suggest that without attending L2L, passengers and drivers may become more willing to engage in unsafe behaviours.

Some differences were found between genders. Whilst males' scores did improve on all three scales, only the improvement in the Driver Decision Making Scale was found to be significant. Given that willingness is the closest measure contained in the questionnaire to actual behaviour, this would indicate that whilst the improvements in the Novice Driver Scale and the Driver Decision Making Scale were not strong enough to be statistically significant, they still had a positive effect on their willingness to engage in unsafe behaviour. For females, all the measures improved,

and this improvement was significant ($p < .05$) compared to the control group. One possible reason for this difference found between males and females is that males may be more resistant to the messaging and may need more exposure over a longer timeframe. For this reason, it is recommended that consideration is given to extending the duration of the presentation and to following up the presentation with support materials. The Partnership delivering the L2L has already addressed this concern, with the development and piloting of a follow-up session to extend the delivery of the key messages embedded into L2L.

Overall, the presentation was seen positively by the participants, with some minor gender differences. Males scored the content of the presentation and are being treated as adults, lower than females. However, this result needs to be seen in context. Males still awarded the presentation a mean score of 5.13 for content and 4.83 for being treated like an adult out of a maximum of 7, compared to females who scored it as 5.68 for content and 5.45 for being treated as an adult. No significant differences by gender were found in the participants' willingness to recommend the presentation to others of their age, their perceived interest in the information, or the presentation's overall quality. However, this finding should not be dismissed, and consideration could be given to conducting some carefully structured focus groups to see how the presentation could be improved for males. The finding of which would need to be carefully balanced with the research literature.

Conclusion

These findings demonstrate that attending an L2L presentation increases the safety of the participants by increasing their awareness of the vulnerability of novice drivers to a range of unsafe activities, their susceptibility to poor decision-making, and by decreasing their willingness to engage in unsafe behaviours.

Recommendations

1. That time allocated to L2L is increased to allow for more complex messages to be delivered.
2. The Partnership continues the development and delivery of follow-up sessions to support the main L2L presentation.

3. A set of carefully structured focus groups to identify how the presentation can be made engaging for males. The findings of which would need to be carefully balanced with the research literature.



Background

Background

Young drivers have an increased risk of collision involvement compared to other groups. For example, in the United Kingdom, the Department for Transport (2022) reported that male car drivers aged 17 to 24 are four times more likely to be killed or seriously injured compared to car drivers over the age of 25.

In an attempt to reduce this increased crash risk, Learn 2 Live (L2L) was launched in 2008. L2L is a 60-minute pre-driver/novice driver/passenger intervention for 16 to 19-year-olds, delivered across the Southwest of England. The intervention aims to educate newly qualified drivers and young passengers about the dangers they face when driving or being driven by a young driver. L2L is delivered through a partnership consisting of Cornwall County Council, Devon Air Ambulance, Devon and Cornwall Police, Devon County Council, Devon and Somerset Fire and Rescue Service, Southwest Ambulance and Somerset County Council. It is delivered in a theatre setting to large groups of young people, possibly as many as 2,000 in a single presentation.

In previous versions, L2L used members of the emergency services, bereaved parents or survivors of collisions to provide testimonials on the personal impact collisions have had on them. Over the last three years, in line with the research literature (Lewis et al., 2007; Carey et al., 2013), the Partnership delivering L2L has

increasingly wanted to move away from this approach due to concerns about its effectiveness and the ethics of using trauma to alter behaviour. For these reasons, the L2L presentation underwent a significant redesign in 2023. An initial evaluation (Edwards, 2024) of the intervention found significant improvements between pre- and post-intervention across four specifically designed scales. The scales measured if the participants were more aware of how vulnerable novice drivers were to impairment, making poor decisions and how willing they were to engage in unsafe behaviours. However, this initial evaluation did not include a control group against which to compare the results.



Redesign Process

Learn to Live Redesign Process

The redesign process commenced with a review of the current literature to ascertain the main issues that should be addressed in the presentation. This found that whilst the reasons young drivers are at increased risk of collisions are complex, they are associated with inexperience, a still-developing self-regulatory system, and impairment (OECD, 2006).

In driving terms, inexperience relates to the driver's ability to deal with hazards. Hazard perception is the process by which a driver scans the road environment, identifies potential danger, and then reacts accordingly. Novice drivers have been found to pay less attention to areas of potential danger (Borowsky et al., 2010) and to be late in recognising the potential risks (Deery, 1999) compared to more experienced drivers. Developing these skills takes several years of driving (Cao et al., 2022).

Age also has an important role in the collision rate of young drivers. The dual-system model of adolescent brain development explains the changes in behaviour seen in children as they move into adulthood. In this model, the area of the brain associated with sensation-seeking outstrips the development of the self-regulatory executive system. This disparity between the two systems manifests itself in poor levels of self-control (Casey et al., 2011; Steinberg, 2008). Gilbert and Burgess

(2008) described executive function as “The high-level cognitive processes that facilitate new ways of behaving and optimise one’s approach to unfamiliar circumstances.” (p.110). These functions are associated with planning, selective attention, response inhibition and working memory. These functions are located in the brain’s pre-frontal cortex (Mesulam, 2002), an area of the brain that is now understood not to be fully developed until as late as 30 years of age (Sowell et al., 2001).

Given that this age group has reduced hazard perception skills and a still-developing self-regulatory system, anything that makes the road user’s task more difficult or impacts brain function disproportionately affects their safety.

Young drivers can increase task demand by adding a secondary task, such as using a mobile phone. While younger people may be more familiar with, and often more able to use, mobile technology than older road users, their lack of experience and still-developing executive functions make them more vulnerable to this type of distraction (for an overview, see Brace et al., 2007).

As well as phones, other forms of impairment have been found to have a disproportionate impact on young drivers. Glad (1985) found that if the crash risk of a sober driver were set as one, this would increase to 142 for a driver who had a blood alcohol content (BAC) of 0.5 milligrams per 100 millilitres of blood, aged between 25 and 49. For drivers aged 18 to 25, with the same BAC, the figure would be 901.

In the USA, cannabis is the most frequently found drug in fatal collisions after alcohol (Pearlson et al., 2021). Cannabis is a depressant with hallucinogenic properties. Due to these qualities, it has a similar impact on driving as alcohol. Cannabis slows reactions and impacts a driver’s ability to maintain a constant road position and following distance. The effects of cannabis are greatly increased when used in conjunction with alcohol (Alvarez et al., 2021).

Young drivers are also more susceptible to the impacts of fatigue for the following reasons (For an overview, see Alvaro et al., 2018):

- Age – Melatonin, a sleep hormone, is released later in the day in this age group
- Lifestyle choices – staying up later to play games, light from screens in the evening, may have children, etc.
- Exposure – they are more likely to be driving at night for social reasons.

Young passengers often accompany your drivers and are therefore directly associated with the risks faced by young drivers. Their presence can also influence the driver's decision-making process, making them more likely to show off or engage in riskier behaviours (Ouimet et al., 2015).

The review concluded that the presentation should cover inexperience, decision-making and impairment. Given that many of the participants attending the presentation would not be driving or learning to drive, it was felt the presentation should have a strong focus on the role passengers have on a driver's decision-making process.

Capability, Opportunity, Motivation – Behaviour

Based on this rationale, a Capability, Opportunity, Motivation – Behaviour (COM-B) (Michie et al., 2014) model was then developed to inform the content of the presentation.

The COM-B was selected as the underpinning model for the development of L2L as it is one of the most widely used behavioural change models and has been cited over 2,700 times in the research literature. The model has the benefit of being easy to understand whilst ensuring that the design team considered each element of the presentation. Table 1 shows the final version of the COM-B used during the design process. The model was revised several times during the design process.

Table 1. Capability, Opportunity, Motivation - Behavioural model used to inform the development of the Learn 2 Live Presentation

Capability	Opportunity	Motivation
Poor decision making The participants should be able to recognise poor decision making in themselves and others To recognise the differences between a heuristic and cognitive decision making To consider a range of possible coping strategies Inexperience To have a greater awareness of how difficult the driving task is To recognise the relationship between hazard perception skills and inexperience Impairment To recognise how vulnerable novice drivers are to the effects of alcohol, cannabis and distraction.	Poor decision making To recognise times and places where a driver may be more prone to make poor impulsive decisions Inexperience To feel that it is socially acceptable for them to speak out if they feel the driving task is becoming too difficult for the driver, for example, through their use of speed, becoming fatigued or some other form of impairment. Impairment To feel that it is socially acceptable for them to speak out to maintain their own safety and the safety of others	All areas Maintaining personal safety Maintaining the safety of others Maintaining a driving licence Avoidance of fines, points and increased insurance premiums Avoiding feelings of regret from loss of licence Reducing the cost associated with the learning to drive process Maintaining personal safety

The content of the COM-B model was then used to inform the design of the presentation and set its objectives. The immediately post-presentation objects were for the participants to have:

A greater awareness of when and where novice drivers may be more prone to making poor decisions

A greater awareness of how alcohol, cannabis, and distraction impact on novice drivers

Be more willing to speak out if they feel at risk from the driver's behaviour

Be less willing to engage in unsafe behaviours as a passenger

These objectives could only be short-term in nature, due to difficulties in completing a long-term evaluation due to participant retention, as most would move on from their school or college.

The final presentation consisted of 5 elements:

1. Introduction – this was specifically designed to put the participants at ease.
2. Decision making – this element of the presentation explored how decisions were made and included several interactive tasks for the participants to complete. It also introduced the concept of a one-marshmallow or two-marshmallow decision. The one marshmallow decision may appear, or give an immediate reward, but may have longer-term more serious consequences. For example, using a mobile phone may allow you to talk to a friend, but may lead the driver to revert to provisional licence status in the first 2 years of gaining a licence under the New Drivers Act 1995.
3. Inexperience – this section looked at what is meant by inexperience and explored the importance of hazard perception skills. The participants were

shown three specially filmed video clips and asked to consider what they felt may happen next.

4. Impairment – this section explored how impairment impacts both the decision-making process and on a driver's hazard perception skills. It is based on the concept that to drive, a driver must have good vision, think clearly, and be able to operate the vehicle's controls.
5. Summary – the presentation was then summarised.

Behavioural Change Techniques (BCT)

Within these five elements, a range of Behavioural Change Techniques (BCT) were used. Table 2 provides an outline of the techniques used and examples of how they are used within the presentation.

Table 2. Behaviour change techniques used in Learn to Live and examples

Behaviour change technique used	How it was used
Information about antecedents (4.2)	Participants are asked to consider circumstances when newly qualified drivers are more likely to make poor decisions
Information about consequences (5.1)	Participant are asked to consider how having a drink driving conviction on their licence may impact on their ability to travel and work abroad.
Behavioural experiments (4.4)	Participant are asked to complete a simple experiment, a reaction test, to demonstrate how they react automatically without conscious thought.
Anticipated regret (5.5)	Participant are encouraged how regretful they would feel if they gained their licence and lost it due to the New Driver Act 1995.
Comparative imagining of future outcomes (9.3)	Participant are encouraged to consider how being a safe driver will reduce their insurance premiums
Prompt and cues (7.1)	Participants are encouraged to consider what are Ooh... moments e.g. sharp steering, acceleration, and braking, and recognise these as unsafe events.
Incompatible beliefs (13.3)	Participants are asked if they agree if driving is a combination of seeing, operating the controls, being able to think and react and control emotions. This is termed seeing, thinking, doing, and feeling. This is then linked to a range of impairments that can impact on one or more of these abilities. E.g. distraction, alcohol, drugs, and fatigue.
Salience of consequences (5.2)	This is achieved through one video-based testimonial that is then linked to a decision-making tree.
Social support non-specific (3.1)	A set of final messages from partners offering support
Restructuring the social environment (12.2)	The role of passengers is stressed, and participants are encouraged to recognise this as a time of potentially increased risk. They are encouraged to limit the number of passengers.



Evaluation

Evaluation Method

Participants and procedures

This evaluation used a randomised cluster design. In this design, clusters, in this case, schools or colleges, are randomly allocated to either an Intervention Group (IG) or Control Group (CG). Both groups complete the evaluation process, but only the IG will receive the intervention. This design strengthens the reliability of the results as it allows a comparison to be made between those who have completed the intervention and those who have not.

To avoid cross-contamination between the IG and CG, the evaluation used a design where a whole school or college was randomly allocated to either the IG or CG. To take into account socioeconomic factors, the schools were ranked by the proportion of pupils who received pupil premiums. The school/college highest on the list was randomly assigned to the IG or CG using an online tool. Once the initial school/college allocation was made, the schools and colleges were alternatively allocated to the IG or CG.

The evaluation used an anonymous questionnaire that was administered at two time points, approximately 4 weeks apart. The first administration is referred to as Time 1 (T1), with the second being referred to as Time 2 (T2). Before completing the

measures, participants had to tick to indicate they had read the evaluation information sheet, which formed the opening section of the questionnaire. An information sheet had already been sent to all the schools and colleges participating in the evaluation. The questionnaire included five items that allowed a personal code to be developed for each participant. This code was then used to match participants.

Whilst the initial sample was large, this reduced when the T1 and T2 questionnaires were matched (Table 3), giving a final sample of matched questionnaires of 147 in the IG and 286 in the CG. The results presented in this document use the matched sample.

Table 3. Sample size

	Time 1 Questionnaire	Time 2 Questionnaire	Matched Questionnaires
Intervention Group	587	246	147
Control Group	1066	778	286

Measures

As well as collecting demographic information, the questionnaire contained three of the four measures developed as part of an earlier evaluation pre- and post-evaluation. These were the Novice Driver Vulnerability Scale (NDVA), The Driver Decision-making Scale (DDS), and the Willingness to Engage in Unsafe Behaviours Scale (WEUBS). The fourth measure used in the initial evaluation, the Willingness to Take Action Scale, was not included as that evaluation found that the Cronbach's alpha score was below the reliability threshold of $\alpha < .7$.

Novice Driver Vulnerability Scale (NDVA)

This scale explores whether attending the presentation increased the participants' awareness of the vulnerability of novice drivers compared to more experienced drivers to the effects of alcohol, mobile phone use, cannabis, and fatigue. The scale

uses a 7-point scale ranging from 'no more vulnerable' to 'much more vulnerable'. High scores would indicate a greater awareness of novice driver vulnerabilities.

Driver Decision-making Scale (DDS)

This assessed whether the participants had an increased awareness of when novice drivers were more prone to making poor, impulsive decisions. For example, if they were late for an appointment or had friends in the car. This scale used a 7-point scale ranging from 'not at all likely' to 'very likely'. High scores would indicate that the participants are more aware of when novice drivers are likely to make unsafe decisions.

Willingness to Engage in Unsafe Behaviours Scale (WEUBS)

Willingness was used as a proxy measure of behaviour, as it reflects the impulsive behaviours often observed in novice drivers (Garrard et al. 2008). The scale contained six items relating to phone, alcohol and cannabis use scored on a 7-point scale ranging from not at all willing to very willing. Low scores would indicate they are less willing to engage in unsafe behaviours.

All the scales were developed as part of the previous evaluation and had been subjected to exploratory factor analysis and reliability testing. The Cronbach's alpha scores for the current evaluation are given in Table 4.

Table 4. Cronbach's Alpha Scores for the three scales contained in the questionnaire

Scale	Previous evaluation Cronbach's alpha	Current evaluation Cronbach's alpha
The Novice Driver Vulnerability Scale	.92	.90
<i>Driver decision-making scale</i>	.79	.76
<i>Willingness to engage in unsafe behaviours</i>	.77	.81

Results

The mean scores and SD are contained in Table 5 for all three scales. An independent t-test identified no significant difference at T1 between the CG and the IG, indicating that the groups were well matched (Table 6).

Table 5. Means Scores, sample size and Standard Deviations for Novice Driver Vulnerability Scale, Driver Decision Making Scale and the Willingness to Engage in Unsafe Behaviour Scale at both time points.

Scale	Group	N	Mean (SD)
T1 Novice Driver Vulnerability Scale	Intervention	143	23.10 (7.42)
	Control	284	22.00 (8.27)
T2 Novice Driver Vulnerability Scale	Intervention	126	25.02 (7.63)
	Control	252	22.92 (7.47)
T1 Driver Decision Making Scale	Intervention	140	26.41 (5.03)
	Control	279	25.78 (6.05)
T2 Driver Decision Making Scale	Intervention	125	28.11 -6.35
	Control	245	26.58 (6.07)
T1 Willingness to Engage in Unsafe Behaviours Scale	Intervention	141	17.25 (6.28)
	Control	282	16.85 (6.03)
T2 Willingness to Engage in Unsafe Behaviours Scale	Intervention	127	15.17 (6.29)
	Control	250	17.84 (6.27)

Table 6. Results of an independent t-test at Time 1 on Novice Driver Vulnerability Scale, Driver Decision Making Scale and the Willingness to Engage in Unsafe Behaviour Scale

Scale	Group	N	Mean (SD)	t =	df	p
T1 Novice Driver Vulnerability Scale	Intervention	143	23.10 (7.42)	1.4	425	0.1
	Control	284	22.00 (8.27)			
T1 Driver Decision Making Scale	Intervention	140	26.41 (5.03)	1.1	417	0.3
	Control	279	25.78 (6.05)			
T1 Willingness to Engage in Unsafe Behaviours Scale	Intervention	141	17.25 (6.28)	0.6	421	0.53
	Control	282	16.85 (6.03)			

An Analysis of Covariance (ANCOVA) was performed to assess if there was a difference in the measures T2 between groups. The ANCOVA confirmed that the condition (intervention vs. control) was significant for all three of the outcome measures when controlling for baseline (Tables 7 and 8).

Table 7. Analysis of Covariance at Time 2 F Scores

	F (df between, df within)	p =
Novice Driver Vulnerability Scale	F(1, 371) = 4.51	0.03
Driver Decision Making Scale	F(1, 357) = 4.41	0.03
Willingness to engage in unsafe behaviours	F(1, 367) = 24.35	0.001

Table 8. Analysis of Covariance at Time 2 Estimated Means

Item	Group	Estimated mean	Std. Error
T2 Novice Driver	Intervention	24.66 ^a	0.59
Vulnerability Scale	Control	23.11 ^a	0.42
T2 Driver Decision Making	Intervention	27.98 ^b	0.51
Scale	Control	26.56 ^b	0.36
T2 Willingness to engage in	Intervention	15.14 ^c	0.47
unsafe behaviours	Control	17.96 ^c	0.33

a. Covariates appearing in the model are evaluated at the following values: T1 Novice Driver Vulnerability Scale = 22.66.

b. Covariates appearing in the model are evaluated at the following values: T1 Driver Decision Making Scale = 25.981.

c. Covariates appearing in the model are evaluated at the following values: T1 Willingness to engage in unsafe behaviours = 16.99.

Gender

A set of independent sample t-tests was conducted to identify if there were any significant differences between IG and the CG by gender. Whilst no differences were found between groups at T1 for females, significant differences were found at T2 for all three scales (Table 9).

Table 9. Results of an independent t-test – female participants.

Gender - female	Group	N	Mean	t =	df	p <
T1 Novice Driver Vulnerability Scale	Intervention	86	23.9 (7.15)	1.25	255	0.21
	Control	171	22.61 (8.09)			
T2 Novice Driver Vulnerability Scale	Intervention	78	26.28* (7.43)	2.62	229	0.01
	Control	153	23.59 (7.36)			
T1 Driver Decision Making Scale	Intervention	84	26.77 (4.58)	1.49	249	0.14
	Control	167	25.67 (5.98)			

T2 Driver Decision Making Scale	Intervention	77	29.22* (6.2)	2.57	222	0.01
	Control	147	27.03 (5.96)			
T1 Willingness to Engage in unsafe Behaviours	Intervention	84	16.14 (6.11)	-0.50	252	0.63
	Control	170	16.52 (5.77)			
T2 Willingness to Engage in unsafe Behaviours	Intervention	78	13.80** (6.03)	-4.37	227	<.001
	Control	151	17.47 (6.01)			

For males, the picture was less clear. An independent t-test found no differences at T1 or T2 for any of the scales between groups (Table 10). However, the IG score at T1 on WEUB was higher than the CG score, this difference, at .07, was close to being significant. To control for this difference, an ANCOVA analysis was completed. The ANCOVA confirmed that the condition (intervention vs. control) was significant for the WEUB when controlling for baseline. No other differences were found between groups. (Tables 11 and 12).

Table 10. Results of an independent t-test by Gender – Male

Gender - Male	Group	N	Mean	t =	df	p <
T1 Novice Driver Vulnerability Scale	Intervention	54	21.81 (7.73)	0.59	161	0.56
	Control	109	21.01 (8.44)			
T2 Novice Driver Vulnerability Scale	Intervention	45	22.58 (7.65)	0.47	139	0.64
	Control	96	21.94 (7.55)			
	Intervention	53	26.06 (5.48)	0.28	159	0.78

T1 Driver Decision Making Scale	Control	108	25.78 (6.13)				
T2 Driver Decision Making Scale	Intervention	45	26.27 (6.36)	0.40	138	0.69	
	Control	95	25.82 (6.09)				
T1 Willingness to Engage in unsafe Behaviours	Intervention	54	19.14 (6.29)				
	Control	108	17.56 (6.38)	1.51	160	0.07	
T2 Willingness to Engage in Unsafe Behaviours	Intervention	46	17.65 (6.19)				
	Control	97	18.56 (6.6)	-0.78	141	0.22	

Table 11. Result of an Analysis of Covariance by Gender at Time 2

		Male
	F	p
Novice Driver Vulnerability Scale	F(1, 138) = .00	0.96
Driver Decision Making Scale	F(1, 136) = .02	0.9
Willingness to Engage in Unsafe Behaviours	F(1, 140) = 5.34	0.02*

* Indicates significance ($p < .05$)

Table 12. Analysis of Covariance at Time 2 Estimated Means by Gender (Males)

Male		
Item	Group	Estimated mean
T2 Novice Driver Vulnerability Scale	Intervention	22.10 ^a
	Control	22.16 ^a
T2 Driver Decision Making Scale	Intervention	26.04 ^b
	Control	25.91 ^b
T2 Willingness to Engage in Unsafe Behaviours	Intervention	16.83 ^c
	Control	18.95 ^c

a. Covariates appearing in the model are evaluated at the following values: T1 Novice Driver Vulnerability Scale = 21.73.

b. Covariates appearing in the model are evaluated at the following values: T1 Driver Decision Making Scale = 26.05.

c. Covariates appearing in the model are evaluated at the following values: T1 Willingness to engage in unsafe behaviours = 18.04.

d. Covariates appearing in the model are evaluated at the following values: T1 Novice Driver Vulnerability Scale = 23.24.

e. Covariates appearing in the model are evaluated at the following values: T1 Driver Decision Making Scale = 25.96.

f. Covariates appearing in the model are evaluated at the following values: T1 Willingness to engage in unsafe behaviours = 16.39.

Learning to Drive

The participants were asked to indicate how likely they were to learn to drive over the next 3 years. No difference was found between groups at either time point. This would indicate that the L2L did not increase the participant's anxiety about learning to drive.

Significant differences were found in relation to how long the learning to drive process would take. The participants were asked to rate how many hours of driving

experience would be needed to pass their driving test. This was a 6-point scale ranging from 0 to 20 hours to >100 hours (Table 12). At T1 no difference existed between groups. At T2, a significant difference was found between the IG and the CG, with the IG indicating it would take them longer (Table 13). This result demonstrates that IG had a greater realisation of how difficult it was to learn to drive.

Table 12. Count of responses to the question: How many hours of driving experience needed before is taking a driving test

Hours	Time 1 Intervention	Time 1 Control	Time 2 Intervention	Time 2 Control
0-20	12	21	2	21
21-40	55	120	12	111
21-60	48	90	34	70
61-80	18	39	45	31
81-100	6	10	25	14
>100	4	5	13	6
Total	143	285	131	253

Table 13. Results of an independent t-test: 1 How many hours of driving experience do you think a driver should have before taking their driving test?

	Group	N	Mean (SD)	t =	df	p =
T1 How many hours of driving experience do you think a driver should have before taking their driving test?	Intervention	143	2.74 (1.10)	0.46	426	.32
	Control	285	2.69 (1.03)			
T2 How many hours of driving experience do you think a driver should have before taking their driving test?	Intervention	131	3.9 (1.16)	9.86	382	.001
	Control	253	2.7 (1.12)			

The IG, were asked five questions, using a 7-point rating scale from strongly disagree to strongly agree, exploring their feeling about the presentation. Figures 1 to 5 contain the response counts, with the means being shown in Table 14.

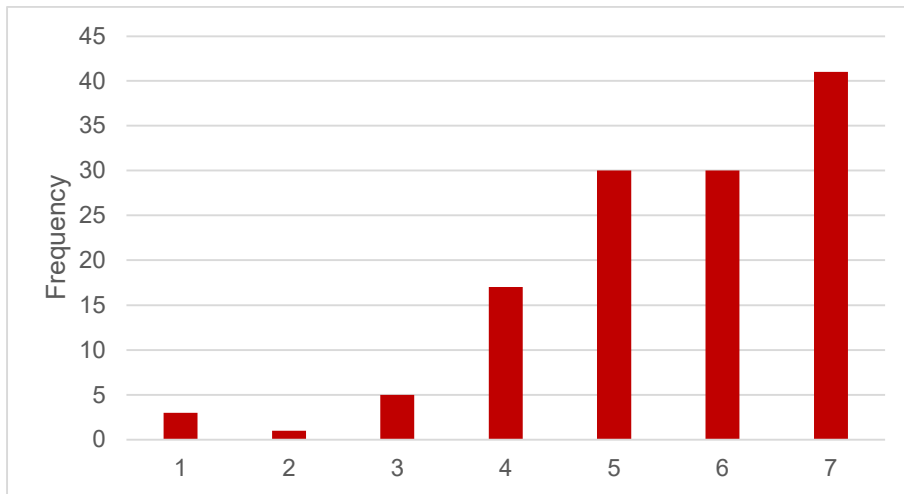


Figure 1. How strongly do you disagree or agree with the statement: I thought the presentation was very well presented

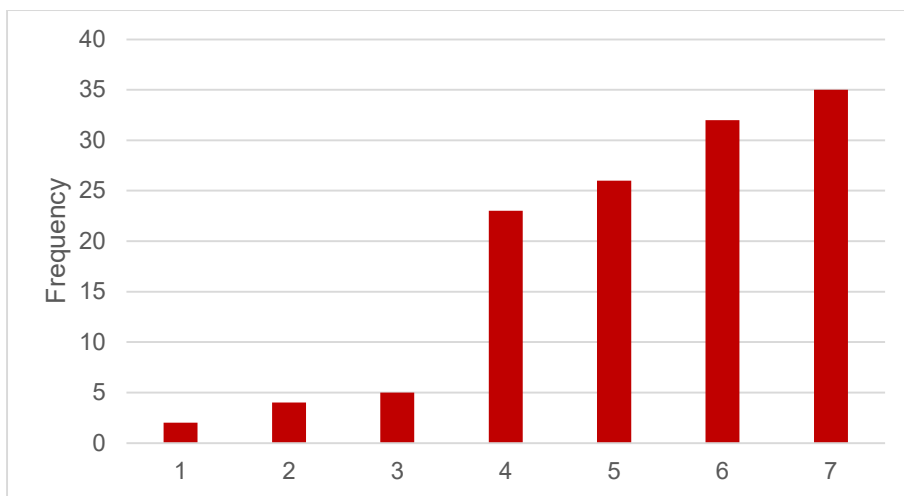


Figure 1. How strongly do you disagree or agree with the statement: I would recommend the presentation to other people of my age

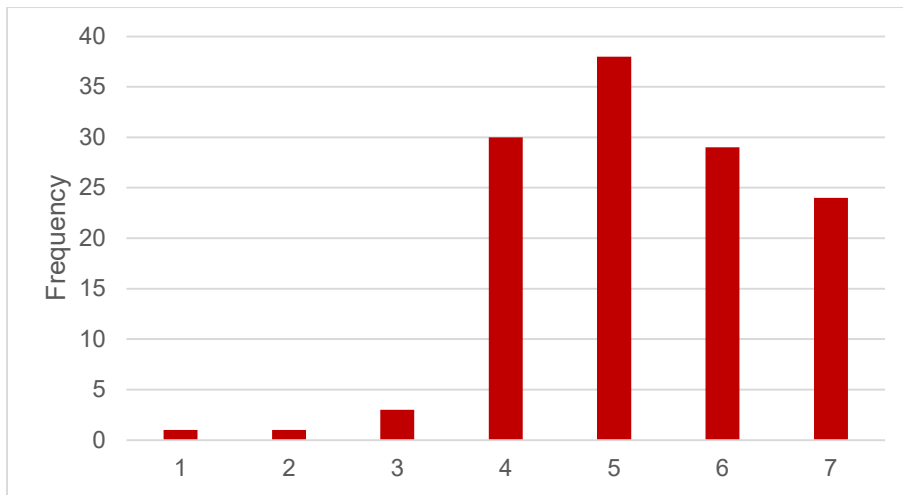


Figure 2. How strongly do you disagree or agree with the statement: The information was very interesting

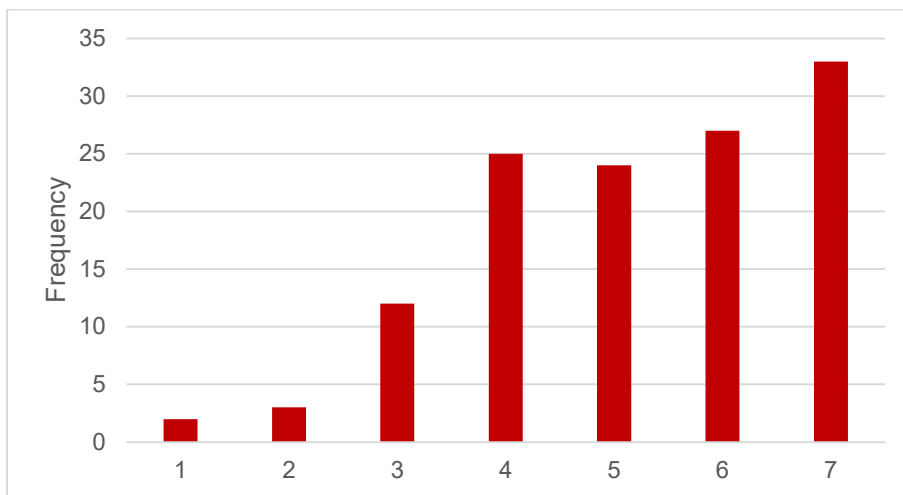


Figure 3. How strongly do you disagree or agree with the statement: I felt the presentation treated me as an adult

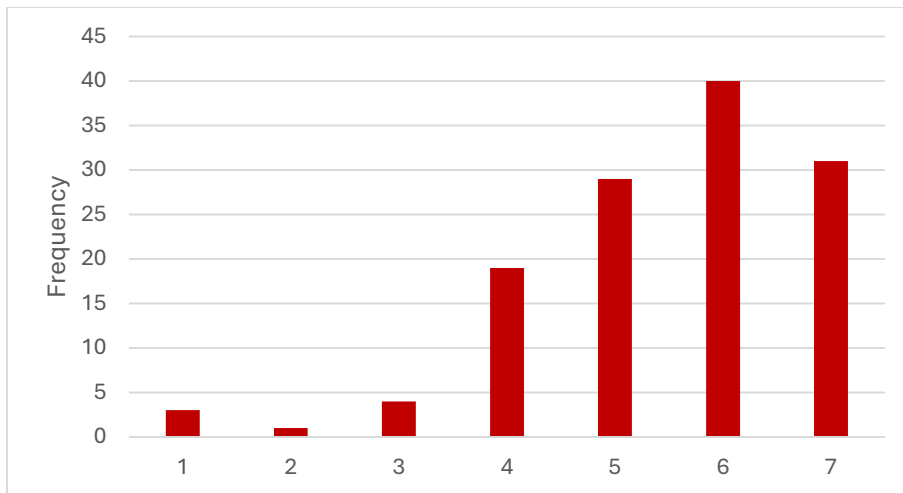


Figure 4. How strongly do you disagree or agree with the statements: The content of the presentation was very good

Table 14. Means for items relating to how the participants experience L2L

	I thought the presentation was very well presented	I would recommend the presentation to other people of my age	The content of the presentation was very good	The information was very interesting	I felt the presentation treated me as an adult
N =	127	127	127	126	126
Mean	5.55	5.39	5.47	5.27	5.21
(SD)	(1.41)	(1.45)	(1.34)	(1.21)	(1.51)

All the scores were at the higher end of the scale. Some differences were found by gender, with males giving low ratings overall, but these differences were only significant for the statements asking about being treated as an adult and the content of the presentation, with females being more likely to rate the presentation higher on both items (Table 15).

Table 13. Paired Sample t-test between genders

Statements	Gender	N	Mean	t =	df	p =
I thought the presentation was very well presented	Male	46	5.24 (1.29)	-1.92	122	0.06
	Female	78	5.74 (1.45)			

I would recommend the presentation to other people of my age	Male	46	5.11 (1.37)	-1.66	122	0.10
	Female	78	5.55 (1.47)			
The content of the presentation was very good	Male	46	5.13 (1.28)	-2.23	122	0.03*
	Female	78	5.68 (1.35)			
The information was very interesting	Male	46	5.00 (1.10)	-1.87	121	0.06
	Female	77	5.42 (1.25)			
I felt the presentation treated me as an adult	Male	46	4.83 (1.47)	-6.28	121	0.03*
	Female	77	5.45 (1.49)			

* Indicates significant ($p < .05$)

Two open-text questions were also included to gain insight into the participants' feelings about the course. The first question asked what the main message they had taken from the presentation was. Out of the 181 participants who completed this question, 48.32% made a general comment relating to safety, for example, "That driving safety is important", 18.23% specifically mentioned decision making, for example 'make the right decision as a passenger or driver" and 17.68% mentioned impairment. These comments mirror L2L learning objectives.

The second open-text question asked how the presentation could be improved. Out of the 117 participants who completed this question, 38.46% indicated that they could not think how it could be improved or that no change was necessary. The next most frequent was lack of engagement which was mentioned by 16.24% of the participants. With the increased use of personal testimonials being mentioned by 6% of the participants. The remaining answers were difficult to code as it was unclear to what the participant was referring.



Discussion

Discussion

As an improvement was found for all three scales used in the evaluation, it must be concluded that L2L does have a positive impact on the participants who attend. This finding is in line with the previous evaluation completed in 2024.

Although there were some differences between males and females, the improvement found in the WEUB scale for both groups is important. A willingness scale was used as a proxy measure of behaviour, as it aligns with the dual-process prototype willingness model (TPWM) (Gerrard et al., 2008). The PTWM model sees willingness as a more reliable measure of behaviour for this age group, as it reflects how young people make impulsive decisions.

One possible reason for the difference found between males and females is that males may be more resistant to the messaging and may need more exposure over a longer timeframe. Put simply, not only does an intervention have to contain the right messages, but the messages have to be delivered frequently enough for the messages to take hold. The L2L dosage (Glendon et al., 2014, Kinnear et al., 2017) may simply be too short at an hour. The Partnership delivering the L2L has already addressed this concern, with the development and piloting of a follow-up session to extend the delivery of the key messages embedded into L2L.

One of the most important considerations with any intervention of this type is that it does not have a negative impact, for example, by discouraging young people from learning to drive by increasing their fear of driving. This evaluation did not find any issues of this nature, despite them feeling it would take them longer to learn to drive than they initially thought. The finding related to how long it takes to learn to drive is encouraging, as the more lessons they have, the more experience they gain, and research has identified that any increase in experience improves novice driver safety (Ehsani et al., 2017).

Overall, the presentation has been viewed as useful and interesting by the participants, with positive feedback being received for the items included in the questionnaire to assess their reaction to the L2L. However, males did score L2L significantly lower for the content of the presentation and for being treated as an adult compared to females. However, it should be noted that the mean scores were still relatively high, with the mean for the first being 5.13 and for the latter being 4.83 out of 7.

When asked in an open text question how it could be improved, no consensus appeared other than the use of testimonials. However, it is crucial to recognise the aim of the presentation is not to entertain but to make participants safer, which the current approach, based on this and the previous evaluation, is achieving.

Therefore, any change based on participant feedback would need to be carefully considered and reviewed against the current research literature. However, consideration could be given to running several carefully structured focus groups with males who have attended a session to see if any further improvements can be made.



Recommendation

Recommendations

1. The time allocated to L2L is increased to allow for more complex messages to be delivered
2. The Partnership continues the development and delivery of follow-up sessions to support the main L2L presentation
3. A set of carefully structured focus groups are held to see how the presentation can be made engaging for males.



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Appendix A – Items Included in the Scale

Novice Driver Vulnerability scale

How vulnerable is a newly qualified driver compared to an experienced driver to: (7-point scale ranging from no more vulnerable to much more vulnerable)

- Having a small amount of alcohol before driving
- Using a small amount of cannabis before driving
- Using a handsfree mobile phone whilst driving
- Using a handheld mobile phone whilst driving
- Becoming tired whilst driving

High scores indicate a greater awareness of novice driver vulnerability

Driver Decision Making Scale

In the following situations, how likely do you feel a newly qualified driver is to make an unsafe decision: (7-point scale from not at all likely to very likely)

- When they are late for an appointment
- When they are having a good time
- When they have friends in the car
- When they have had a single alcoholic drink
- When they have used a small amount of cannabis
- When they are angry

High scores indicate a greater awareness of times and situations where novice driver are prone to making unsafe decisions

Willingness to engage in unsafe behaviours

How willing would you be to: (7-point scale from not at all willing to very willing)

- Show a photo on your phone to the driver
- Have a phone conversation with another friend during the drive

Travel with them if they have recently consumed a small amount of alcohol

Travel with them if they have recently used cannabis

Travel with them if they are using a handsfree mobile phone

Travel with them if they are using a handheld mobile phone

High scores indicate a greater willingness to engage in unsafe behaviour

Willingness to Take Action Scale

How willing would you be to: (7-point scale from not at all willing to very willing)

To suggest the driver takes a break on a long journey

Ask the driver to slow down

Suggest turning the music down

High scores indicate a greater willingness to take actions to reduce their risk as a passenger.