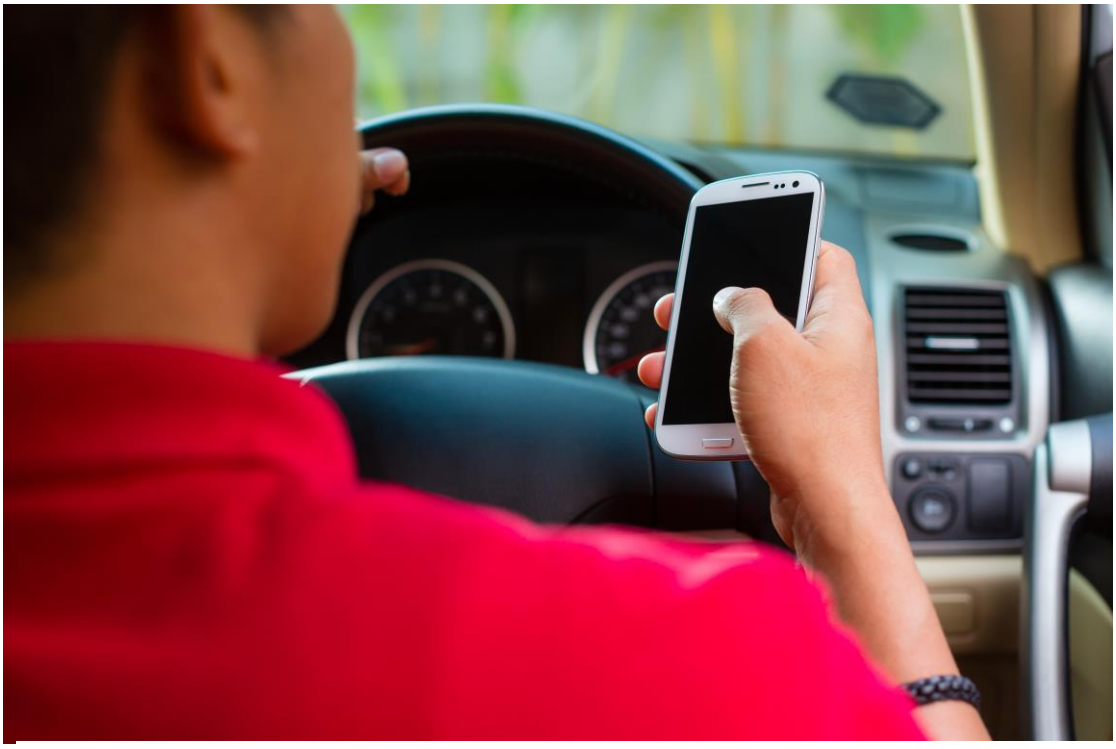
A ROAD SAFETY INTERVENTION TO MODIFY ATTITUDES AND BEHAVIOUR TOWARDS MOBILE PHONE USE WHILE DRIVING

Brief Report



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EXECUTIVE SUMMARY

Background

Budget Direct commissioned CARRS-Q to evaluate the effectiveness of a road safety intervention to alter Queensland drivers' (aged 17-45 years) attitudes towards using a hand-held mobile phone while driving. The intervention, an Evaluative Conditioning (EC) task, refers to changes in the liking of a stimulus (conditioned stimulus) when it is paired with a negative stimulus. In the current research, the EC task involved pairing images of people using a hand-held mobile phone while driving with images of the negative consequences associated with this behaviour (e.g., crashes, social disapproval, and being fined).

A pilot study with 21 drivers was first undertaken to assess the suitability of images, prior to conducting the main study to assess the EC intervention task. For the main study, participants (*N* = 163; 55% female) were randomly allocated to one of two conditions; (i) *the intervention condition*, whereby participants viewed images of drivers using a hand-held mobile phone paired with images of the associated negative consequences or (ii) *the control condition,* whereby participants were only exposed to images of drivers using a hand-held mobile phone (i.e., no negative consequences being associated with the behaviour). One week later in the main study, participants were asked to report on whether or not they used a hand-held mobile phone while driving. A range of measures, including self-report measures of attitudes towards mobile phone use and intentions to use a hand-held mobile phone while driving, were included in the main study across the three time points; Time 1 (Pre-task), Time 2 (Immediate post image exposure), and Time 3 (One-week follow-up).

Five hand-held mobile phone behaviours were assessed, including checking mobile phone for missed calls while driving, answering a phone in hand-held mode while driving, reading a text message (or another form of communication, such as a Facebook message, Snapchat, an email, or a Tweet) while driving, answering a text message (or another form of communication) while driving, and changing music (using Spotify, iTunes) while driving.

Findings

Mobile phone use was a common behaviour for drivers in the study's sample; with changing music (using Spotify, iTunes) and reading a text message (or another form of communication) reported as the two most common behaviours. Despite participants' self-reported use of their mobile phone, drivers in the current sample typically reported negative (safer) attitudes and low intentions to use a hand-held mobile phone while driving in the next week.

Contrary to expectations, drivers who were randomly allocated to the intervention condition did not report safer attitudes, lower intentions, or a reduction in hand-held mobile phone use one week after taking part in the research when compared to drivers in the control condition. Instead, the findings revealed that, irrespective of condition, participants reported safer attitudes and lower intentions to use a hand-held mobile phone from Time 1 (Pre-task) to Time 2 (Immediate post image exposure) and from Time 1 (Pre-task) to Time 3 (One week follow-up). There were no significant differences between the intervention and control conditions on whether or not participants used a hand-held phone while driving at one week follow-up.

Conclusion

Hand-held mobile phone use while driving remains a significant contributor to crashes on Australian roads. Although this study showed that an EC intervention task may not be as effective in a road safety context compared to other research areas (e.g., unhealthy eating); irrespective of condition, participants reported more negative (safer) attitudes and lower

intentions to use a hand-held mobile while driving in the next week. These findings highlight that participation in this study led drivers to have safer attitudes towards mobile phone use and lower intentions to use a hand-held mobile phone while driving. Further research is required to examine the EC intervention task by recruiting only those individuals who report positive (unsafe) attitudes and greater intentions to use a hand-held mobile phone while driving.

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1 INTRODUCTION

Budget Direct commissioned CARRS-Q to evaluate the effectiveness of an Evaluative Conditioning (EC) task and its impact upon Queensland drivers' (aged 17-45 years) attitudes towards using a hand-held mobile phone while driving. This report first provides a brief overview of the existing literature on mobile phone use, attitudes towards on-road risk taking behaviour, and Evaluative Conditioning. Next, this report presents the findings from the pilot study, which assessed the suitability of images included in the EC task of the main study. The findings from the main study are then presented followed by a discussion of the study's key conclusions.

2 LITERATURE REVIEW

2.1 Mobile phone use while driving

Motor vehicle crashes contribute to a large proportion of serious injuries and deaths in Australia each year. In 2016, for instance, 1,295 people died on Australian roads, with 251 of those deaths occurring on Queensland roads (BITRE, 2017). Driver distraction is one of the major causes of crashes, with mobile phones identified as a key factor contributing to road trauma (World Health Organisation, 2015). Over 90% of Australian mobile phone owners have smartphones (Telstra, 2014). Despite the illegal nature of hand-held mobile phone use for all Australian drivers, the increased functionality of smartphones (e.g., access to applications, internet, social media) means they have a greater potential to distract a driver than basic mobile phones. As most of these additional features are operated in the hand-held mode, it has been suggested that drivers may be accessing these features in hand-held mode and concealing this use from outside view. This concealed use makes detection and enforcement difficult, while at the same time, increases crash risk (Gauld, Lewis, & White, 2014). Specifically, use of a hand-held mobile phone when driving reduces driving performance and may result in driving errors, including longer reaction time (braking response time), lane wandering, missed traffic signals, reduced visual scanning, reduced steering control, and failure to see other vehicles (Young & Salmon, 2012). Despite the risks associated with using a hand-held mobile phone while driving, many drivers still continue to engage in this illegal behaviour.

An Australian government survey of community attitudes to road safety (*N* = 1500) showed that 15 to 39 year olds had the highest prevalence of general mobile phone use while driving (Petroulias, 2013). Further, previous Australian research has reported a high prevalence of hand-held mobile phone use when driving (e.g., Gauld et al., 2014, 2016; King et al., 2017; Waddell & Wiener, 2014). Gauld et al. (2014) examined the use of concealed talking and texting on mobile phones in a sample of 171 Australian drivers aged 17-25 years. They found that 50% of these drivers reported sending a text message, 61% of drivers reported reading a text message, 39% of drivers reported making a phone call, and 45% of drivers reported answering a phone call in a concealed manner at least 1-2 times per a week. In a later study, which included a separate sample of young drivers (*N* = 114), Gauld et al. (2016) found that over half of the respondents reported using Facebook while driving, with monitoring and reading Facebook feeds the most commonly reported behaviour followed by responding to Facebook feeds. Many of these young drivers also reported using snapchat, email, and Instagram (Gauld et al., 2017a). Hand-held mobile phone use when driving is also prevalent among drivers aged over 25 years. For example, Waddell and Wiener (2014) recruited drivers aged 18-66 years (*N* = 181; *M*age = 36 years, *SD* = 12.8) and found that 44% of drivers in this sample had reported answering a call while driving, 26% reported making a phone call while

driving, 57% reported reading a text-message while driving, and 28% had reported sending a text-message while driving. Collectively, these studies highlight that hand-held mobile phone use is a significant problem in Australia and more targeted countermeasures are required to reduce individuals' engagement in this behaviour. One approach found to be successful in improving safe driving practices is behaviour management (Luthans & Kreitner, 1985; Stajkovic & Luthans, 1997). In this research, we focus on attitudinal change as a key precursor to intentional and behaviour change.

2.2 Attitudes towards on-road risk taking behaviour

Attitudes refer to favourable or unfavourable beliefs and/or feelings towards specific behaviours. Attitudes towards on-road risk taking behaviour have been reported to be predictive of one's intentions to take risks on the roads and subsequent on-road risk taking behaviour (e.g., Iversen, 2004; Ulleberg & Rundmo, 2003). In terms of driver distraction, positive/ unsafe attitudes [or negative/ safe attitudes] towards hand-held mobile phone use while driving may increase [or decrease] the likelihood that a driver will use their mobile phone. Previous research has reported that road safety interventions should discourage positive attitudes towards mobile phone use while driving (Walsh et al., 2008). Additionally, measuring attitudes may better inform interventions designed to reduce mobile phone use.

Self-report measures have typically been used to assess drivers' attitudes towards on-road risk-taking behaviour. However, self-report measures may be susceptible to participant bias effects, such as social desirability (e.g., an individual might report a more favourable image of their own driving behaviour) and recall bias (i.e., inaccuracies of recall). More recently, however, studies have started to incorporate the use of more objective based measures alongside existing measures of self-report to further understand driving behaviour (Kaye, Lewis, & Freeman, 2018). It is important to note that there is no one gold standard measurement approach. Rather, a multi-method approach including both objective and self-report measures may provide a more comprehensive understanding of attitude and behaviour change than using only one measurement approach (Kaye, White, & Lewis, 2016).

The Implicit Association Test (IAT) is an objective computerised task which has been developed to assess underlying attitudes (see Greenwald, McGhee, & Schwartz, 1998). The IAT involves participants responding to a series of 2-choice tasks that are taken to reflect automated associations between target concepts (e.g., words related to hand-held mobile phone use while driving) and evaluative attributes (i.e., positive and negative words). The IAT has been used in previous road safety research to assess underlying attitudes towards speeding behaviour (Hatfield, Fernandes, Faunce, & Job, 2008) and helmet use (Ledesma et al., 2015). For example, Hatfield et al. (2008) reported that drivers with more negative attitudes towards speeding (as measured by the IAT and self-report measures of attitudes) were less likely to engage in speeding behaviour in a subsequent driving simulator task. Ledesma et al. (2015) found that individuals who wore a helmet had significantly greater attitudes in favour of helmet use compared to individuals who did not wear a helmet at the time of recruitment.[1] Collectively, findings from both Hatfield et al. (2008) and Ledesma et al. (2015) suggest that the IAT is a valid, objective measure of underlying attitudes. Thus, the current research expands upon this previous research by using the IAT as an objective measure of attitudes towards hand-held mobile phone use while driving in addition to a self-report measure of attitudes.

[1] The researchers approached participants if they were observed wearing a helmet (helmet use condition) or not wearing a helmet (non-helmet use condition).

2.3 Evaluative Conditioning

Previous research has reported that an Evaluative Conditioning (EC) task is one intervention which may lead to attitudinal change (e.g., Hofmann et al., 2010). Evaluative Conditioning refers to changes in the liking (desirability) of a stimulus (conditioned stimulus) when it is paired with a negative or positive stimulus (unconditioned stimulus) (De Houwer, Thomas, & Baeyens, 2001). For example, when an image of an unhealthy snack (e.g., chocolate) is paired with an image of the negative consequences associated with eating such snacks (e.g., heart disease), individuals may subsequently form more negative attitudes towards unhealthy foods. On the other hand, when an image of a healthy snack (e.g., fruit) is paired with an image of the positive consequences associated with eating a healthy snack (e.g., increased energy levels), this pairing may lead individuals to have more positive attitudes towards healthy foods. The EC task has been used successfully to alter attitudes towards alcohol and drinking behaviour (Houben, Schoenmakers, & Wiers, 2010), attitudes towards exercise (Antoniewicz & Brand, 2016), attitudes towards smoking (Măgurean, Constantin, & Sava, 2016), and attitudes towards healthy and unhealthy foods (e.g., Haynes, Kemps, & Moffitt, 2015; Hollands et al., 2011; Lebens et al., 2011).

Previous research in eating behaviours (e.g., Hollands et al. 2011; Lebens et al., 2011), for instance, has found that when images of high-fat snack foods (e.g., chocolate) were paired with negative stimuli (e.g., an image which portrayed the negative consequences of eating unhealthy food, such as heart disease, negatively perceived body shapes), participant attitudes towards high-fat snack foods were more negative after viewing the images compared to the pre-task measure of attitudes. Similarly, and in terms of attitudes towards alcohol and drinking and smoking behaviour, research has reported that the EC task resulted in more negative attitudes in drinking (Houben et al., 2010) and smoking (Măgurean et al., 2016). In the Houben et al. (2010) study, male participants who were randomly allocated to the intervention condition and who viewed beer-related images paired with negative words and negative images, showed greater negative attitudes towards beer and consumed less beer than those individuals who were randomly allocated to the control condition (i.e., no pairing of the alcohol images with the negative consequence words or images). Further, Măgurean et al. (2016) found that the EC task decreased the number of cigarettes smoked in the 24 hours after completing the experiment task. Collectively, this evidence provides support for the EC task.

Despite the wide use of the EC task, research in a road safety context is yet to explore the effects of an EC task on individuals' attitudes towards high risk behaviours. While it is acknowledged that the aforementioned behaviours (e.g., unhealthy eating and mobile phone use) have different motivational elements (e.g., eating for survival versus choosing to use a mobile phone while driving), both behaviours result in negative outcomes (e.g., unhealthy eating may lead to heart disease and using a mobile phone while driving may result in a crash and thus injury/death). Thus, based on evidence from other behavioural contexts, EC has the potential to positively influence drivers' beliefs towards mobile phone use while driving.

3 OVERVIEW OF CURRENT RESEARCH

Budget Direct commissioned CARRS-Q to assess the effectiveness of an Evaluative Conditioning task in altering Queensland drivers' (aged 17-45 years) attitudes towards using a hand-held mobile phone while driving. The literature review highlighted the value of measuring both implicit and explicit attitudes and previous research which has reported that the Evaluative Conditioning task is one intervention which may lead to attitudinal change.

The current research consists of two studies: the pilot study and the main study. The purpose of the pilot study was to assess the suitability of the images to be included as part of the EC task in the main study. The 61 images included in the pilot study were initially selected by CARRS-Q, and then reviewed by Budget Direct. Once the images were finalised, and ethics approval was provided by QUT's University Human Research Ethics Committee, the 61 images were purchased via Shutterstock (www.shutterstock.com). Given that previous research has found that threat-type images may influence how drivers process and accept road safety messages (e.g., Kaye et al., 2013, 2018; Lewis et al., 2010, 2013), the selected images reflected a range of physical threats (e.g., crash, physical injuries), social threats (e.g., social disapproval), and financial threats (e.g., receiving a fine, police) in order to target a range of road users (i.e., males and females and younger drivers aged 17-25 years and drivers aged 26 years and older). Of the 61 images, the 15 images that participants rated the most likely to reflect hand-held mobile phone use while driving and the 15 images that participants rated as the most likely to reflect the negative consequences associated with hand-held mobile phone use while driving were retained for inclusion in the main study.

The purpose of the main study was to evaluate the effectiveness of the EC task in changing attitudes towards using a hand-held mobile phone while driving. Participants were randomly allocated to one of two conditions; (i) *the intervention condition*, whereby images of drivers using a hand-held mobile phone were paired with images of the associated negative consequences or (ii) *the control condition,* whereby participants were only exposed to images of drivers using a hand-held mobile phone (no negative consequences). The IAT and a self-report measure assessed attitudes both prior to (i.e., Time 1) and immediately following (i.e., Time 2) as well as up to one week after (i.e., Time 3) completion of the EC task. On completion of the in-person session (Time 2), a fact sheet on mobile phone use and distraction was available for participants to take home. At Time 3, one week later, participants were also asked to report their behaviour in the week following. Based on the aforementioned research, it is anticipated that compared to participants in the control condition, participants in the intervention condition will show greater negative/safer attitudes towards using a hand-held mobile phone post the EC task compared to the pre-task measures of attitudes. It is also anticipated that participants in the intervention condition will be more likely to take home and read the information fact sheet, and will report reduced use of a hand-held mobile phone when driving in the following week.

4 PILOT STUDY

4.1 Methodology

Key Survey (www.keysurvey.com) was used to develop and to distribute the online survey. Participants were asked to read the participant information sheet prior to commencing the survey. Participants were first asked to answer questions that related to their demographic information (e.g., age and gender) and type of driver licence. Participants were then asked to rate the extent to which a series of 31 images reflected using a hand-held phone while driving. Responses were made via a 7-point semantic differential scale (1 = *not at all*, 7 = *very much*). Next, participants viewed a series of 30 images which related to the negative consequences of hand-held mobile phone use while driving. After each image, participants were asked, "To what extent do you perceive that the image focuses upon a [physical/ social/ financial] threat?" Responses were made via a 7-point semantic differential scale (1 = *not at all*, 7 = *very much*). Participants were also asked to rate the extent to which each of the negative consequence images made them feel sad, happy, anxious, relaxed, fearful, or relieved. Responses were made via a 4-point Likert Scale (1 = *definitely did not feel like this at all*, 4 = *definitely did feel this*). These items were adapted from the Positive and Negative Affect Schedule (PANAS; Crawford & Henry, 2004) and informed by Witte's (1999) research relating to assessing fear. On average, the survey took participants approximately 1 hour to complete. Participants were provided with either a $5 Coffee voucher or, for those participants who were university undergraduates completing a relevant course, they were eligible for partial course credit of 1% for participating in this survey. A copy of the survey is provided in Appendix A.

4.2 Results

4.2.1 Demographics

Queensland drivers aged between 17 to 45 years with a valid Australian driver licence were recruited to take part in this study. The sample comprised 21 participants (8 males, *M*age = 26.49 years, *SD* = 8.27, range 17 years and 10 months to 45 years and 2 months). Of those participants, 3 participants reporting holding a provisional 1 (i.e., red) driver licence, 8 participants reported holding a provisional 2 (i.e., green) driver licence, and 10 participants reported holding an open/ unrestricted driver licence. On average, participants reported that they obtained a driver licence (provisional or equivalent) at 18 years of age (*SD* = 2.38).

4.2.2 Mobile phone images

Appendix B presents the descriptive statistics (means and standard deviation) and frequencies for each of the 31 mobile phone images. The findings revealed that, on average, participants perceived that the majority of images reflected using a hand-held mobile phone while driving. As shown in Appendix B, images 2 to 10 inclusive and images 15, 16, 18, 24, 27, and 29 were rated by participants as the most likely to reflect hand-held phone use while driving compared to the remaining 16 images.

A series of independent groups *t*-tests[2] were then conducted to assess if there were any significant differences between male and female participants' ratings of each hand-held mobile phone image. In order to control for multiple comparisons, a Bonferroni correction[3] of $p < .001$ was applied. The findings revealed no significant differences (at $p < .001$) between males' and

[2] An analysis which assesses whether the difference between the means of two groups is statistically significant. For an independent groups *t*-test, the sample must comprise of independent groups (e.g., males and females).
[3] A Bonferroni correction is an adjustment made to the *p*-values when multiple statistical tests are performed at the same time and is used to control for the family wise error rate.

females' ratings for the hand-held mobile phone images, indicating that males and females had similar perceptions towards each image.

4.2.3 Mobile phone images for inclusion in the main study

Based on the mean ratings, the following mobile phone images 2 to 10 inclusive and images 15, 16, 18, 24, 27, and 29 were selected for inclusion in the main study (see Table 1, pages 12-13). As shown in Table 3, the mobile phone images include a range of images which reflect individuals talking on their phone while driving, texting while driving, and concealing their hand-held mobile phone while driving.

4.2.4 Negative consequence images

3.2.4.1. Type of threat

Appendix C presents the descriptive statistics (means and standard deviation) for participants' perceptions towards the extent to which an image focused upon a physical, a social, or a financial threat. Overall, and based only on mean score ratings:

- Images 1, 5, 7, 9, 11, 12, 16, 17, 21, 22, 23, 24, 26, and 27 had higher physical threat mean ratings (compared to social and financial threats)
- Images 3, 8, 13, 19, 28, 29, and 30 had higher social threat mean ratings (compared to physical and financial threats)
- Images 2, 6, and 25 had higher financial threat mean ratings (compared to physical and social threats)
- Images 15 and 20 were perceived by participants to include a combination of social and financial threats
- Image 4 was perceived by participants to include a combination of all threat types.
- Images 10, 14, and 18 were considered to be low in threat (i.e., mean scores of < 4.00 on a 7-point semantic differential scale of 1 = *not at all*, 7 = *very much*).

A series of paired *t*-tests[4] were then undertake to assess if the negative consequence images differed according to threat type (i.e., physical threat, social threat, and financial threat). A critical value of $p < .001$ was applied to control for multiple comparisons. Table 2 presents the paired samples *t*-test output as well as a brief interpretation of these findings. Overall, the findings revealed:

- Images 5, 9, 11, 12, 17, 21, 22, and 27 were perceived by participants as focusing significantly more upon physical threats when compared to social and financial threats
- There were no images that participants perceived as significantly focusing on social threats when compared to physical and financial threats. Similarly, there were not any images that participants perceived significantly focusing on financial threats when compared to physical and social threats.

These findings revealed that participants were more likely to clearly identify when an image focused upon a physical threat compared to when an image focused upon a social or financial threat.

Next, a series of independent groups *t*-tests were conducted to assess if there were any significant differences between males' and females' ratings of the negative consequence images. In order to control for multiple comparisons, a Bonferroni correction of $p < .001$ was

[4] An analysis which assesses whether the difference between two means from the same population group (e.g., in this case, each participant provided ratings in regards to physical, social, and financial threats) is statistically significant.

applied. The findings revealed that there were no significant differences between males' and females' ratings of the mobile phone images, indicating that males and females had similar ratings of the images.

3.2.4.2. Emotion

Participants were asked to rate how each of the images depicting consequences made them feel. Appendix C presents the descriptive statistics of emotions reported (i.e., sad, happy, anxious, relaxed, fearful, and relieved) for each image. Overall, the findings showed that, for the majority of images[5] there were slightly higher mean score ratings for the negative emotions of sad, anxious, and fearful compared to the positive emotions of happy, relaxed, and relieved. It is important to note, that on average, all positive and negative mean emotion scores were on the lower end of the scale (i.e., mean scores of between 1 and 3 on the 4-point Likert Scale of 1 = *definitely did not feel like this*, 4 = *definitely did feel this*), suggesting that on average, participants did not feel any particular strong negative or positive emotions towards the images.

A series of independent groups *t*-tests were then conducted to assess if there were any significant differences between male and female participant ratings of the different emotion types for each consequence image. In order to control for multiple comparisons, a Bonferroni correction of $p < .001$ was applied. The findings revealed that there were no significant differences between males' and females' ratings of emotion, indicating that males and females had similar ratings.

4.2.5 Negative consequence images for inclusion in the main study

The following factors were taken into consideration when determining which of the 15 negative consequence images would be retained for the main study:

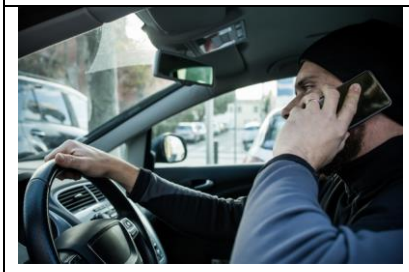
1. Mean ratings and statistical significance;
2. Ensuring an equal number of physical, social, and financial threat types would be represented in the EC task (i.e., 5 images which reflect physical threats, 5 images which reflect social threats, and 5 images which reflect financial threats), as having a mixture of threat types will assist with targeting a range of road users (males and females, aged 17-45 years); and
3. The ability to pair the images of drivers using a hand-held mobile phone while driving with the images reflecting the negative consequences associated with this behaviour.

Based on these factors, images 2, 3, 5, 6, 8, 9, 12, 13, 15, 17, 20, 21, 25, 28, and 30 were selected for inclusion in the main study (see Table 1, pages 12-13).

[5] Participants were asked to rate how each image made them feel on a 4-point Likert Scale (1 = definitely did not feel like this, 4 = definitely did feel this), with higher scores indicating more of the emotion having experienced. Image 10 was rated, on average as, "definitely did not feel like this" for all negative and positive emotions; Image 20 received the same mean score of 1.14 for the items of "sad" and "relaxed" and, on average, sad (1.14) was rated higher than happy (1.00) and anxious (2.33) was rated higher than relaxed.

Table 1

Images retained for inclusion in the main study

Mobile phone images		
		
		
		
		
		

Negative consequence images		
Images perceived to reflect physical negative consequences		
		
		
Images perceived to reflect social negative consequences		
		
		
Images perceived to reflect financial negative consequences		
		
		

5 MAIN STUDY

5.1 Methodology

The main study comprised self-report survey measures and two computerised tasks. These measures are discussed below.

5.1.1 Self-report measures

Consistent with previous research which has examined smartphone use while driving (see: Gauld et al., 2017a, b), the items used in this survey were based on the Theory of Planned Behaviour (TPB) (Fishbein & Ajzen, 2009). The TPB proposes that attitudes, subjective norms, and perceived behavioural control (PBC) influence behavioural intentions which, in turn, influence actual behaviour (Ajzen, 1991). Attitudes refer to the extent to which one holds favourable or unfavourable perceptions towards a particular behaviour (in this case, using a hand-held mobile phone while driving), subjective norms refer to the perception that important others (e.g., family and friends) would approve of an individual using a hand-held mobile phone while driving, while PBC refers to the perceived ease or difficulty of using a hand-held mobile phone while driving. In this study, behavioural intentions were measured in terms of one's intention to use a hand-held mobile phone while driving in the next week. More information on the items used to measure each of the TPB constructs is presented below.

In the current study, given that there are a range of behaviours that may be possible when using a mobile phone while driving, five types of behaviours were assessed:

1. Checking a mobile phone for missed calls while driving;
2. Answering calls in hand-held mode on a mobile phone while driving;
3. Reading text messages (or another form of communication, such as a Facebook message, Snapchat, an email, or a tweet);
4. Answering text messages (or another form of communication, such as a Facebook message, Snapchat, an email, or a tweet); and,
5. Using a hand-held mobile phone to change music (using Spotify, iTunes) while driving.

4.1.1.1. Past behaviour

For each of the five behaviours, participants were asked, "How often do you do the following on your mobile phone while driving?" Participants rated past behaviour on a 7-point Scale (1 = *more than once per a day*, 7 = *never*).

4.1.1.2. Involvement with the behaviour

For relevance of the issue of road safety, participants were asked, "How important/ relevant is the issue of road safety to you?" Participants rated involvement on a 6-point Likert Scale (1 = *extremely important*, 6 = *extremely unimportant*). Further, participants were asked if they had ever been fined from using a mobile phone while driving and if they had ever been involved in a crash as a result of using a mobile phone while driving.

4.1.1.3. Attitudes

Using a 7-point semantic differential scale, participants rated their attitudes towards each of the five behaviours using four word pairs: bad/good, unfavourable/favourable, harmful/harmless, and unacceptable/acceptable. Higher scores reflected more favourable (unsafe) attitudes towards using a mobile phone while driving.

4.1.1.4. Subjective norms and specific subjective norms

For each behaviour, two items measured subjective norms (i.e., “Most people important to me would approve of me [behaviour, as defined above] while driving in the next week” and “Most people important to me would think that I should [behaviour, as defined above] while driving in the next week.”). To measure specific subjective norms, participants were asked to indicate the extent to which they agreed or disagreed that their friends, partner, and family would approve of them engaging in the above five behaviours. Participants rated each item on a 6-point Likert scale (1 = *strongly disagree*, 6 = *strongly agree*). Higher scores reflected greater normative approval for using a mobile phone while driving.

4.1.1.5. Perceived behavioural control (PBC)

One item was used to assess each aspect of PBC, namely, controllability (i.e., “I have complete control over whether or not I [behaviour, as defined above] while driving in the next week”) and capability/ self-efficacy (“I am confident that I could [behaviour, as defined above] while driving in the next week”). Participants rated each item on a 6-point Likert scale (1 = *strongly disagree*, 6 = *strongly agree*), with higher scores indicating greater control and capability.

4.1.1.6. Intentions

For each behaviour, two items measured intentions (i.e., “I intend to [behaviour, as defined above] while driving in the next week” and “It is likely that I will [behaviour, as defined above] while driving in the next week”). Participants rated each item on a 6-point Likert scale (1 = *strongly disagree*, 6 = *strongly agree*). Higher scores reflected greater intentions to use a mobile phone while driving in the next week.

4.1.1.7. Actual behaviour (one week follow-up)

For each behaviour, participants were asked, “How often in the past week have you [behaviour, as defined above] on your mobile phone while driving.” Participants rated each item on a 7-point Likert scale (1 = *never*, 7 = *very often*). Higher scores indicated a greater likelihood of having used a mobile phone while driving in the past week.

5.1.2 Computer tasks

Two computerised tasks were included in the main study: the Evaluative Conditioning (intervention) task and the Implicit Association Task (IAT). E-prime 3.0 (https://pstnet.com/products/e-prime/) was used to design and run these computerised tasks. Details on each task are provided below.

4.1.2.1. Evaluative Conditioning (EC) Task

The computerised EC (intervention) task consisted of 7 blocks of 15 trials each (i.e., the images were repeated 7 times throughout this task). Trials were randomised within each block for each participant. For the intervention condition, participants viewed a total of 210 images (i.e., 105 images of people using their hand-held mobile phone while driving and 105 photos of the negative consequences associated with this behaviour). For the control condition, participants viewed a total of 105 images (i.e., only images of people using their hand-held mobile phone while driving). Each trial commenced with a fixation cross presented for 500ms followed by an image of a person using their hand-held phone while driving, presented in the centre of the screen for 1500ms, followed by either an image of the negative consequence (in the intervention condition), presented in the centre of the screen (1500ms), or a blank black screen for participants in the control condition (see Figure 1). To ensure that participants paid close attention to the images, the task also included an image of a white dot which was presented a

total of 28 times and was randomised throughout the task. Participants were required to press the space bar on the computer keypad whenever they saw the image of the white dot.

Figure 1. An example of an EC task trial (intervention condition). No negative consequence image was shown to participants in the control condition. Fixation cross, images and the white circle were presented to participants on a black background.

4.1.2.2. Implicit Association Task

In the Implicit Association Task (IAT), participants were asked to categorise target-concept words (i.e., words relating to hand-held mobile phone use while driving and safe driving words) and evaluative attributes (i.e., positive and negative words) (see Table 1). Participants were asked to categorise the words as fast and as accurately as possible by pressing either the 'A' or 'L' keys on the computer keyboard. Participants received feedback for every incorrect response (i.e., the word 'incorrect' appeared in the centre of the computer screen if the word was incorrectly categorised by the participant).

The IAT consists of 5 stages (see Table 2). In Stage 1, the initial target discrimination, participants were required to categorise the target-concept words. For this task, participants pressed 'A' when a target word was presented and pressed 'L' when a concept word was presented. In Stage 2, pleasant/ unpleasant discrimination, participants were required to categorise the positive and negative words, by pressing 'A' when a negative word was presented and 'L' when a positive word was presented. In Stage 3, compatible combined task, participants pressed 'A' when target or negative words were presented and 'L' when concept or positive words were presented. This stage is referred to as the compatible stage as participants should be faster at responding to target words when they are paired with negative words. In Stage 4, reversed target discrimination, participants were required to press 'A' when a concept word was presented and 'L' when a target word was presented. In Stage 5, non-compatible combined task, participants were required to press 'A' when target or positive words were presented and 'L' when concept or negative words were presented.

The IAT effect is the mean reaction time to the words presented in the non-compatible combined condition (Stage 5: distraction and positive words) minus the mean reaction time to the words presented in the compatible combined condition (Stage 3: distraction and negative words). The mean reaction time to words were only calculated for correct responses.

Table 2

Implicit Association Task (IAT) word trials.

Stage 1	Stage 2	Stage 3	Stage 4	Stage 5
Initial target discrimination	**Pleasant/ unpleasant discrimination**	**Compatible combined task**	**Reversed target discrimination**	**Non-compatible combined task**
Target words	***Negative words***	***Target-negative words***	***Concept words***	***Target-positive words***
Distraction	Tragedy	Distraction	Sensible	Distraction
Inattention	Disaster	Inattention	Responsible	Inattention
Careless	Poison	Careless	Careful	Careless
Risky	Hatred	Risky	Cautious	Risky
Dangerous	Evil	Dangerous	Attentive	Dangerous
Unsafe	Grief	Unsafe	Safe	Unsafe
Reckless	Agony	Reckless	Focused	Reckless
		Tragedy		Health
Concept words	***Positive words***	Disaster	***Target words***	Love
Sensible	Health	Poison	Distraction	Pleasure
Responsible	Love	Hatred	Inattention	Happy
Careful	Pleasure	Evil	Careless	Laughter
Cautious	Happy	Grief	Risky	Peace
Attentive	Laughter	Agony	Dangerous	Paradise
Safe	Peace		Unsafe	
Focused	Paradise	***Concept-positive words***	Reckless	***Concept-negative words***
		Sensible		Sensible
		Responsible		Responsible
		Careful		Careful
		Cautious		Cautious
		Attentive		Attentive
		Safe		Safe
		Focused		Focused
		Health		Tragedy
		Love		Disaster
		Pleasure		Poison
		Happy		Hatred
		Laughter		Evil
		Peace		Grief
		Paradise		Agony

Note. The order of words was randomised for each participant within each stage.

5.1.3 Design and Procedure

A between groups design was implemented whereby participants were randomly allocated to one of two conditions: (1) *intervention condition*, whereby images of people driving when using a hand-held mobile phone were paired with images of the negative consequences associated with behaviour (e.g., a crash); and (2) *control condition*, whereby participants were only exposed to the images of drivers using a hand-held mobile device (no images of negative consequences).

The University's Human Research Ethics Committee approved this study prior to its commencement and all participations provided written informed consent. Participants were recruited to take part in this research from April to August, 2018. At Time 1, participants first completed a pre-task completion, self-report survey which included demographic items, past behaviour, current attitudes towards using a hand-held mobile phone while driving, and measures of subjective norm, PBC, and intentions to use their mobile phone while driving in the next week. Next, and while still prior to completing the EC task and thus at Time 1, participants completed the pre-task IAT which assessed underlying attitudes towards mobile phone use while driving. On completion of the EC task, and designated as Time 2, participants immediately completed the post-task IAT and post-task self-report measures of attitudes, subjective norms, PBC, and intentions to use a hand-held mobile phone while driving in the next week. At the end of this session, a fact sheet on mobile phone use and distraction was available for participants to take home (https://research.qut.edu.au/carrsq/wp-content/uploads/sites/45/2017/04/Mobile-phone-distraction.pdf). This fact sheet was included as another measure of behaviour.

One week later, designated as Time 3, participants were sent a link to the follow-up online survey which was designed to assess actual behaviour (i.e., whether or not they used a hand-held phone when driving and/or read the information fact sheet for those participants who took home this additional information). A copy of the 3 surveys (Time 1: pre-task, Time 2: immediate post computerised tasks, and Time 3: follow-up) are provided in Appendix D. On average, the in-person session took participants approximately 40 minutes to 1 hour to complete and the follow-up survey took participants approximately 10-15 minutes to complete. Participants were provided with either a $20 Coles/Myer gift card or, for those university undergraduate students who so chose to, they could instead receive partial course credit for participating. For all participants who completed the follow-up online survey, they were offered the chance to enter a prize draw to receive 1 of 2 $20 Coles/Myer gift cards.

5.2 Results

5.2.1 Participant demographics

Participants (*N* = 163; 55% female) aged 17-45 years (*M*age = 24.79, *SD* = 7.60) were recruited to take part in this research. Of the 163 participants, 161 participants resided in the State of Queensland, Australia and one participant reported that they resided in the State of Victoria, Australia.[6] Over half of the sample (*n* = 90, 55.2%) reported holding an open Australian drivers licence, 40 (24.5%) participants reported holding a provisional 2 Australian drivers licence, 30 (18.4%) participants reported holding a provisional 1 Australian driver licence, and 3 participants (1.8%) reported holding an international driver licence. The 3 participants who reported holding an international driver licence were still included in the study as they had driven on Queensland roads. The majority of participants (*n* = 101, 62.0%) reported driving an automatic vehicle, with 61 (37.4%) participants reporting driving a manual vehicle.[7] When asked 'where do you mostly drive?', 96 (58.9%) participants reported that they mostly drove in the suburbs, 61 (37.4%) reported that they mostly drove in the city, 4 (2.5%) reported that they mostly drove in the city and suburbs, and 2 (1.2%) participants reported mostly driving in country/ rural areas. On average, participants reported driving 8.59 hours per week.

5.2.2 Overview of data analysis

This section of the report outlines the findings from the self-report questionnaire data and the IAT. The Statistical Package for the Social Science (IBM SPSS Version 23.0) was used to evaluate the data. The results are presented in accordance with the following items and in the following order:

1. Involvement with the behaviour
2. Past behaviour
3. Pre-task attitudes and intentions (measured prior to computerised tasks)
4. Attitude and behavioural intention change measured following exposure to the intervention (intervention condition), relative to a control condition not exposed to the intervention
5. Effectiveness of the EC task on attitudes, intentions, and actual behaviour
6. Factors which predict drivers' intentions to use a hand-held mobile phone while driving
7. Implicit measure of attitudes.

5.2.3 Involvement with the behaviour

The majority of participants (*n* = 154; 94.5%)[8] reported that they had never been fined for using their mobile phone while driving. Of the 8 participants who reported being fined for using their mobile phone while driving, all had reported only being fined once. Further, 5 (3.1%) participants reported being involved in a crash as a result of using their mobile phone while driving.

When asked, "how important/relevant is the issue of road safety to you?", 62 (38.0%) participants reported that road safety was extremely important, 67 (41.1%) participants reported that road safety was quite important, 12 (7.4%) participants reported that road safety was slightly important, 1 (0.6%) participant reported that road safety was slightly unimportant,

[6] One participant did not provide a response when asked, "Which state do you currently reside in?"
[7] One participant reported driving both an automatic and manual car.
[8] One participant did not provide a response when asked, "Have you ever been fined for using your mobile phone while driving"?

11 (6.7%) participants reported that road safety was quite unimportant, and 9 (5.5%) participants reported that road safety was extremely unimportant.[9]

5.2.4 Past Behaviour

Table 3 presents the proportion of responses (presented as a percentage) for participants' self-reported use of their mobile phone while driving. Overall, 33.8% of participants reported checking their mobile phone for missed calls while driving at least 1-2 times per a week, 16.5% of participants reported answering a phone call in hand-held mode at least 1-2 times per week, 49.7% of participants reported reading a text message or another form of communication on their mobile phone while driving at least 1-2 times per a week, 26.5% of participants reported answering a text message or another form of communication on their mobile phone while driving at least 1-2 times per a week, and 61.8% of participants reported changing music on their mobile phone while driving at least 1-2 times per a week. These figures suggest that using a mobile phone while driving is a common behaviour for the drivers included in this study.

Table 3

Past behaviour of mobile phone use while driving.

	Proportion of responses (%)						
	More than once per day	**Daily**	**1-2 times per week**	**1-2 times per month**	**1-2 times in six months**	**Once a year**	**Never**
How often do you do the following on your mobile phone while driving?							
Check your mobile phone for missed calls	2.5%	9.8%	21.5%	14.1%	12.3%	6.1%	33.7%
Answer a phone call in hand-held mode	1.2%	4.3%	11.0%	15.3%	12.9%	9.8%	45.4%
Read a text message (or another form of communication, such as a Facebook message, Snapchat, an email, or a tweet)	7.4%	14.1%	28.2%	17.2%	9.8%	6.7%	16.6%
Answer a text message (or another form of communication, such as a Facebook message, Snapchat, an email, or a tweet)	4.9%	3.7%	17.9%	15.4%	9.9%	7.4%	40.7%
Change music (using Spotify, iTunes)	23.5%	20.4%	17.9%	11.7%	4.3%	1.2%	21.0%

[9] One participant did not provide a response when asked, "How important/ relevant is the issue of road safety to you?"

5.2.5 Time 1: Pre-task measures of attitudes and intentions

Table 4 presents the descriptive statistics (i.e., means and standard deviations) for participants' attitudes towards mobile phone use while driving at Time 1 and thus prior to task completion. On average, the findings revealed that participants typically reported negative (safer) attitudes towards using their mobile phone while driving.

Table 4

Descriptive statistics (Means and standard deviations) for Time 1 (i.e., prior to task completion) attitudes towards mobile phone use while driving

	Mean	Standard deviation
For me, checking my mobile phone for missed calls while driving in the next week would be:	2.10	1.05
For me, answering a call in hand-held mode on my mobile phone while driving in the next week would be:	1.79	1.04
For me, reading a text message (or another form or communication, such as Facebook message, Snapchat, an email or a tweet) on my mobile phone while driving in the next week would be:	2.07	1.08
For me, answering a text message (or another form of communication, such as Facebook message, Snapchat, an email or a tweet) on my mobile phone while driving in the next week would be:	1.49	0.72
For me, changing music (using Spotify, iTunes) on my mobile phone while driving in the next week would be:	3.24	1.52

Note. Attitudes were measured on a 7-point Semantic Differential Scale (1 = *bad, unfavourable, harmful, and unacceptable;* 7 = *good, favourable, harmless, and acceptable*). Lower scores reflect more negative (safer) attitudes towards using a mobile phone while driving (i.e., using a mobile phone while driving in the next week would be bad, unfavourable, harmful, and unacceptable) and higher scores reflect more positive (unsafe) attitudes towards using a mobile phone while driving (i.e., using a mobile phone while driving in the next week would be good, favourable, harmless, and acceptable).

A series of 10 independent groups *t*-tests were undertaken to assess any mean differences in pre-task attitudes as a function of gender (male and female), and for any differences in pre-task attitudes as a function of age categories (17-24 years and 25-45 years). In order to control for multiple comparisons, a Bonferroni correction of $p = .001$ was applied. The findings revealed that there were no significant differences in pre-task attitudes between males and females or between drivers aged 17-24 years and drivers aged 25-45 years.

Table 5 presents the descriptive statistics (i.e., means and standard deviations) for participants' intentions to use their mobile phone while driving. On average, the findings revealed that participants typically reported low intentions to use their mobile phone while driving in the next week to check for missed calls, answer calls, read text messages, answer text messages, or change music while driving.

Table 5

Descriptive statistics (Means and standard deviations) for Time 1 (i.e., prior to task completion) intentions to use a mobile phone while driving in the next week

	Mean	Standard deviation
Intentions to check mobile phone for missed calls while driving in the next week.	2.25	1.22
Intentions to answer calls in hand-held mode on mobile phone while driving in the next week.	1.82	1.11
Intentions to read text messages (or another form of communication, such as a Facebook message, Snapchat, an email, or a tweet) on mobile phone while driving in the next week.	2.72	1.40
Intentions to answer text messages (or another form of communication, such as a Facebook message, Snapchat, an email, or a tweet) on mobile phone while driving in the next week.	2.19	1.18
Intentions to use mobile phone to change music (using Spotify, iTunes) while driving in the next week	3.76	1.83

Note. Scale (1 = *strongly disagree*, 6 = *strongly agree*). Higher scores reflect greater intentions to a use mobile phone while driving in the next week.

A series of 10 independent groups *t*-tests were undertaken to assess any differences in pre-task intentions as a function of gender (male and female), and any differences in pre-task intentions as a function of age categories (17-24 years and 25-45 years). In order to control for multiple comparisons, a Bonferroni correction of $p = .001$ was applied. The findings revealed that drivers aged 17-24 years ($M = 4.23$, $SD = 1.58$) were significantly more likely to report greater intentions to use their mobile phone in the next week to change music (using Spotify, iTunes) compared to drivers aged 25-45 years ($M = 3.08$, $SD = 1.97$), $t(119.39) = 3.98$, $p < .001$. There were no other significant differences found for the remaining intention items.

5.2.6 EC task (Pre-task to immediate post task)

Of the 163 participants, only 95 participants (58% of the sample) completed the one week follow-up questionnaire (Time 3). Thus, and in order to increase the number of participants in the following analyses, a series of 2 x 2 Mixed-Design ANOVAs were first undertaken to assess differences between Time 1 (Pre-task) and Time 2 (Immediate post-task) using the full sample of 163 participants. The Independent between groups variable was condition (intervention versus control) and the dependent within groups variable was attitudes and intentions measured at Time 1 (Pre-task) and at Time 2 (Immediate post task). In order to control for multiple comparisons, a Bonferroni correction of $p = .005$ was applied to each analysis. Figures 2 to 11 depict the direction of mean attitude and intention ratings for the intervention and control conditions from Time 1 (Pre-task) to Time 2 (Immediate post task). The results are reported first in relation to the five behaviours under investigation regarding attitudes and then intentions.

Attitudes towards checking mobile phone for missed calls while driving in the next week

There was no significant main effect of condition, $F(1, 160) = 0.01$, $p = .915$. There was a significant main effect of attitudes, $F(1, 160) = 73.23$, $p < .001$. Pairwise comparisons indicated that mean attitude ratings decreased from Time 1 to Time 2, mean difference = 0.47, $p < .001$, 95% CI [0.36, 0.58]. There was no significant condition x attitude interaction, $F(1, 160) = 1.37$, $p = .244$.

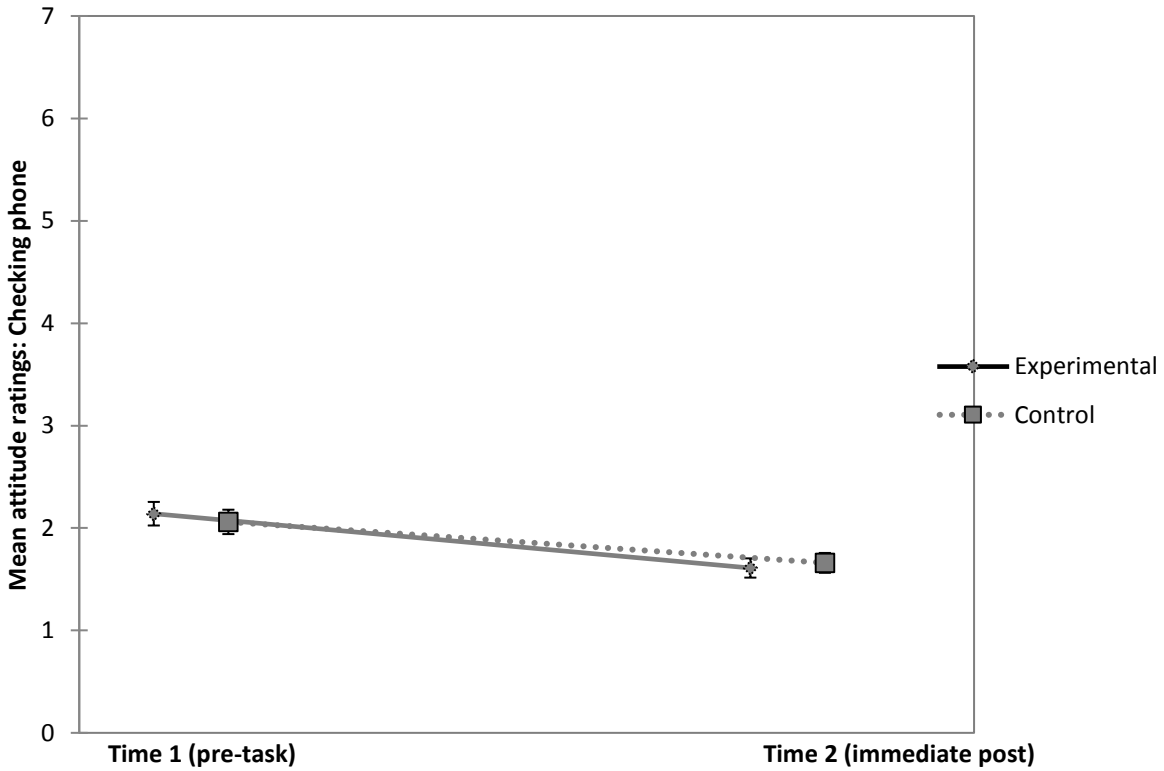


Figure 2. Mean attitude ratings for the intervention and control conditions at Time 1 and Time 2 for checking their mobile phone for missed calls while driving in the next week. Error bars represent Standard Error.

Attitudes towards answering a call in hand-held mode on mobile phone while driving in the next week

There was no significant main effect of condition, $F(1, 158) = 0.07$, $p = .791$. There was a significant main effect of attitudes, $F(1, 158) = 27.05$, $p < .001$. Pairwise comparisons revealed that mean attitude ratings decreased from Time 1 to Time 2, mean difference = 0.30, $p < .001$, 95% CI [0.18, 0.41]. There was no significant condition x attitude interaction, $F(1,158) = 0.18$, $p = .672$.

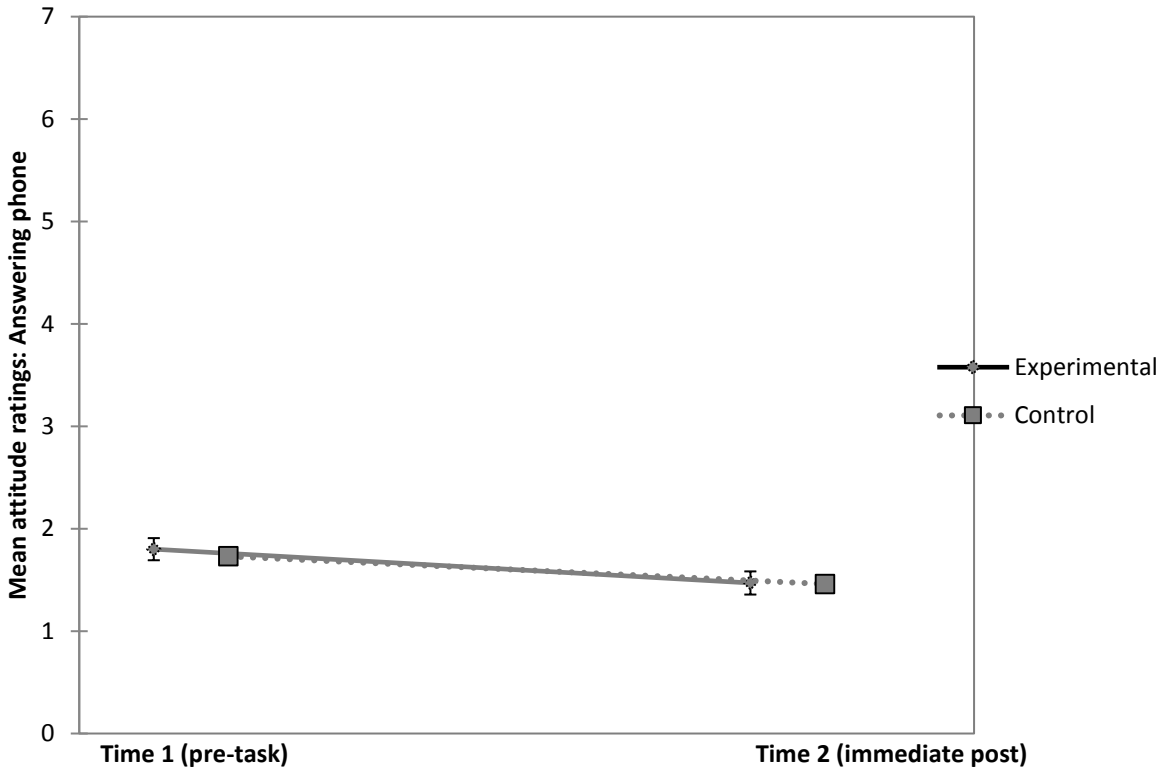


Figure 3. Mean attitude ratings for the intervention and control conditions at Time 1 and Time 2 for answering a call in hand-held mode on their mobile phone while driving in the next week. Error bars represent Standard Error.

Attitudes towards reading a text message (or another form of communication) on mobile phone while driving in the next week

There was no significant main effect of condition, $F(1, 159) = 0.01$, $p = .954$. There was a significant main effect of attitudes, $F(1, 159) = 29.96$, $p < .001$. Pairwise comparisons revealed that mean attitude ratings decreased from Time 1 to Time 2, mean difference = 0.31, $p < .001$, 95% CI [0.20, 0.43]. There was no significant condition x attitude interaction, $F(1,159) = 0.33$, $p = .565$.

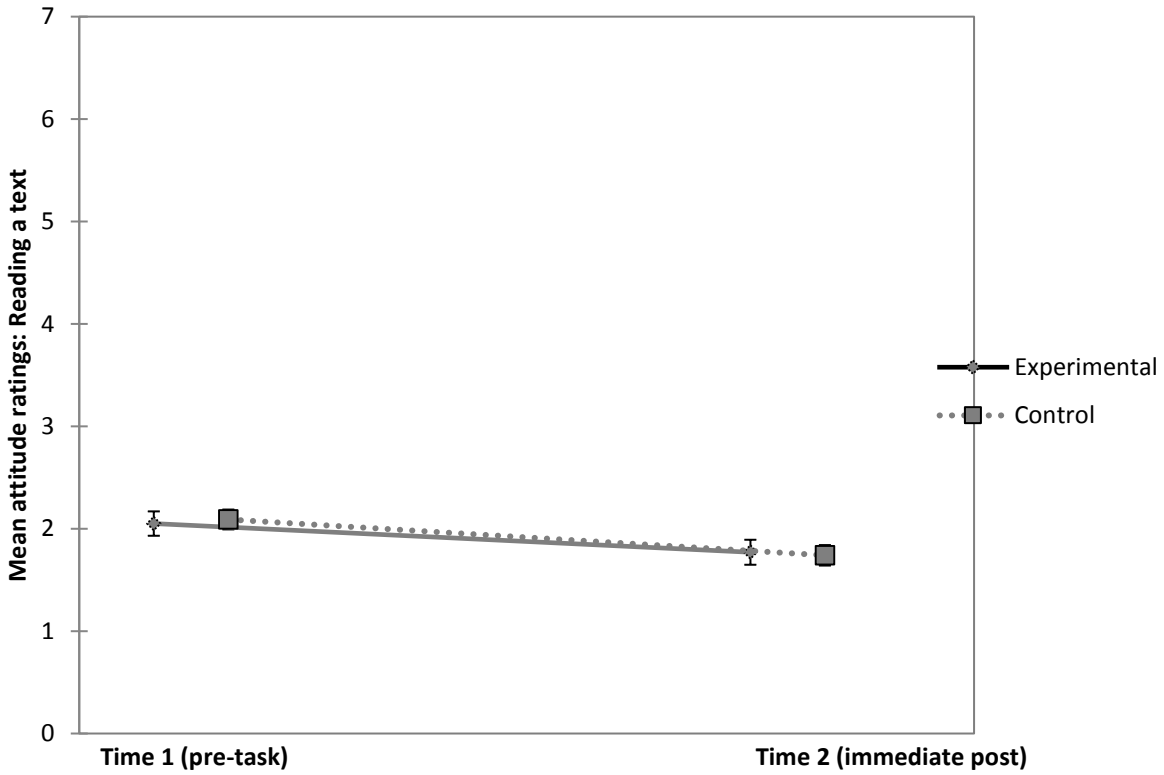


Figure 4. Mean attitude ratings for the intervention and control conditions at Time 1 and Time 2 for reading a text message (or another form of communication) on their mobile phone while driving in the next week. Error bars represent Standard Error.

Attitudes towards answering a text message (or another form of communication) on mobile phone while driving in the next week

There was no significant main effect of condition, $F(1, 158) = 0.54$, $p = .816$. There was a significant main effect of attitudes, $F(1, 158) = 10.04$, $p = .002$. Pairwise comparisons revealed that mean attitude ratings decreased from Time 1 to Time 2, mean difference = 0.13, $p = .002$, 95% CI [0.05, 0.20]. There was also no significant condition x attitude interaction, $F(1, 158) = 0.16$, $p = .157$.

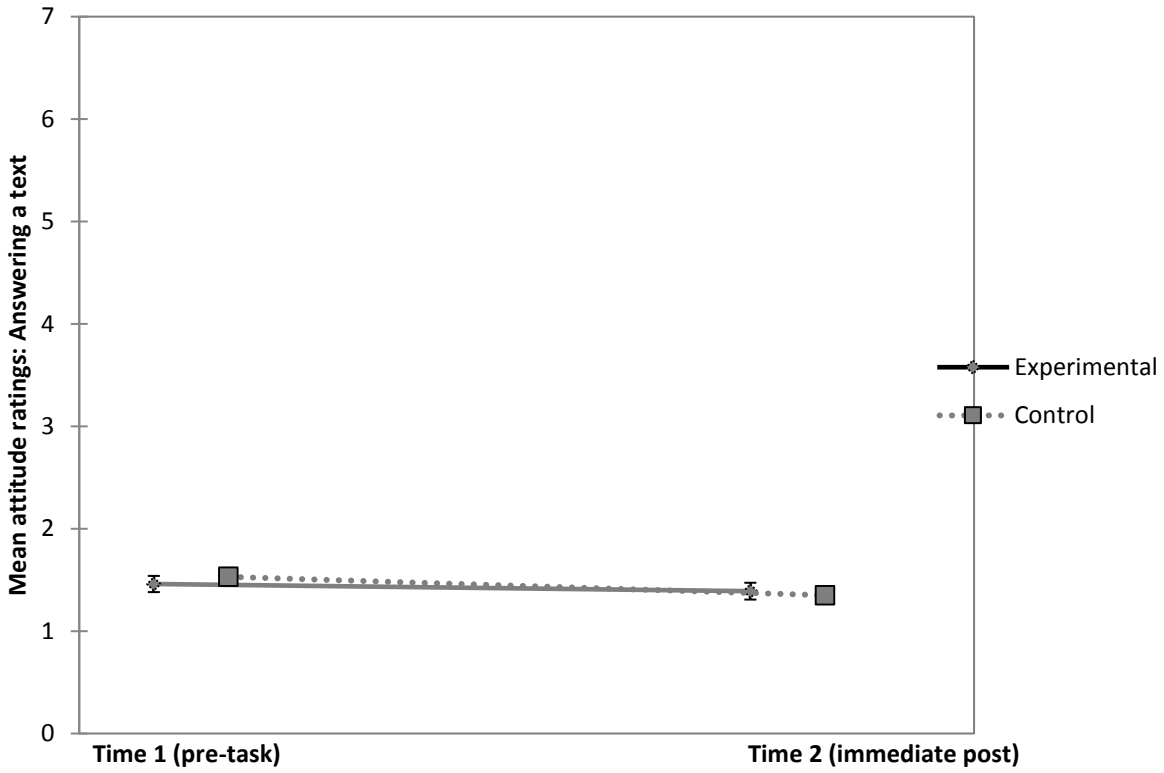


Figure 5. Mean attitude ratings for the intervention and control conditions at Time 1 and Time 2 for answering a text message (or another form of communication) on their mobile phone while driving in the next week. Error bars represent Standard Error.

Attitudes towards changing music on mobile phone while driving in the next week

There was no significant main effect of condition, $F(1, 159) = 0.03$, $p = .876$. There was a significant main effect of attitudes, $F(1, 159) = 60.52$, $p < .001$. Pairwise comparisons revealed that mean attitude ratings decreased from Time 1 to Time 2, mean difference = 0.60, $p < .001$, 95% CI [0.45, 0.75]. There was no significant condition x attitude interaction, $F(1, 159) = 0.04$, $p = .836$.

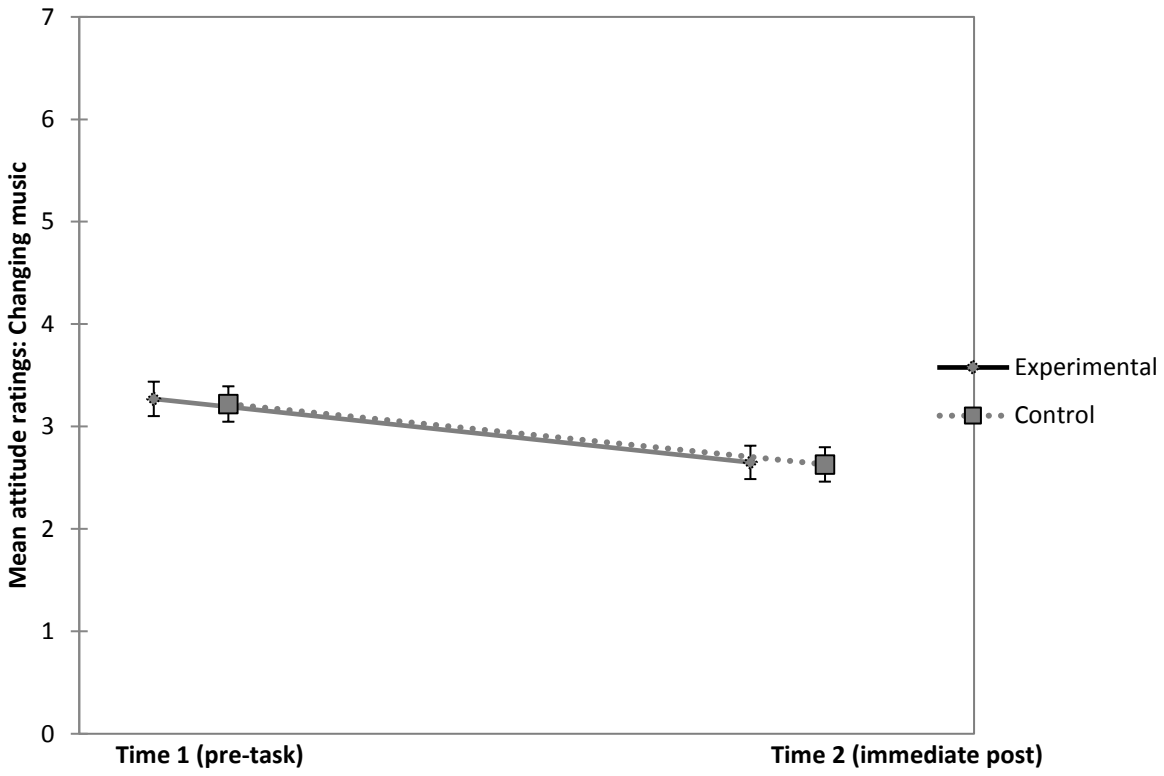


Figure 6. Mean attitude ratings for the intervention and control conditions at Time 1 and Time 2 for changing music on their mobile phone while driving in the next week. Error bars represent Standard Error.

Summary: Attitudes

Overall, these findings suggest that attitudes improved or, more specifically, became less favourable in regards to all five behaviours regarding mobile phone use while driving (i.e., checking for missed calls, answering a call, reading and answering a text message [or another form of communication, such as a Facebook message, Snapchat, an email, or a tweet], and changing music) from Time 1 (pre task) to Time 2 (immediate post task), irrespective of the condition (i.e., intervention or control) that participants were randomly assigned to.

Intentions to check mobile phone for missed calls while driving in the next week

There was no significant main effect of condition, $F(1,160) = 2.18$, $p = .141$. There was a significant main effect of intentions, $F(1, 160) = 11.69$, $p = .001$. Pairwise comparisons revealed that mean intention ratings decreased from Time 1 to Time 2, mean difference = 0.22, $p = .001$, 95% CI [0.09, 0.35]. There was no significant condition x intention interaction, $F(1, 160) = 1.58$, $p = .210$.

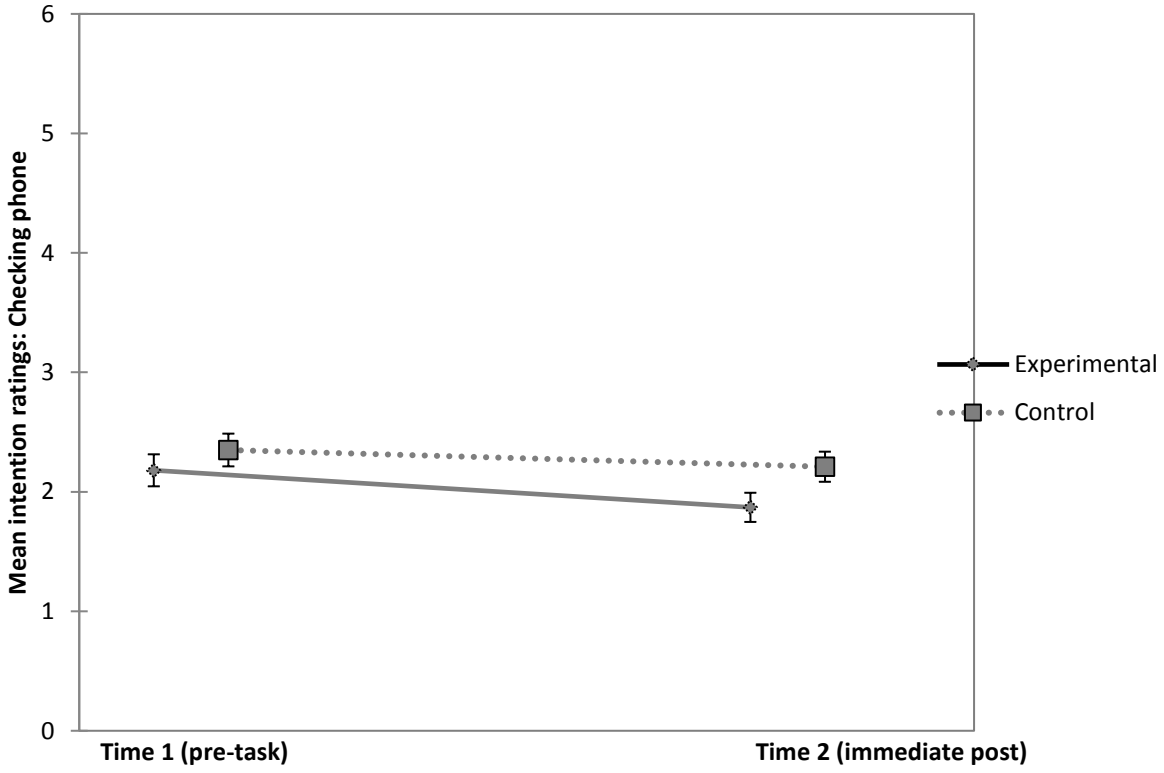


Figure 7. Mean intention ratings for the intervention and control conditions at Time 1 and Time 2 for checking their mobile phone for missed calls while driving in the next week. Error bars represent Standard Error.

Intentions to answer a call in hand-held mode on mobile phone while driving in the next week

There was no significant main effect of condition, $F(1,159) = 3.04$, $p = .083$. There was no significant main effect of intentions at the adjusted p-value of .005, $F(1, 159) = 5.48$, $p = .020$, or significant condition x intentions interaction, $F(1, 159) = 0.30$, $p = .587$.

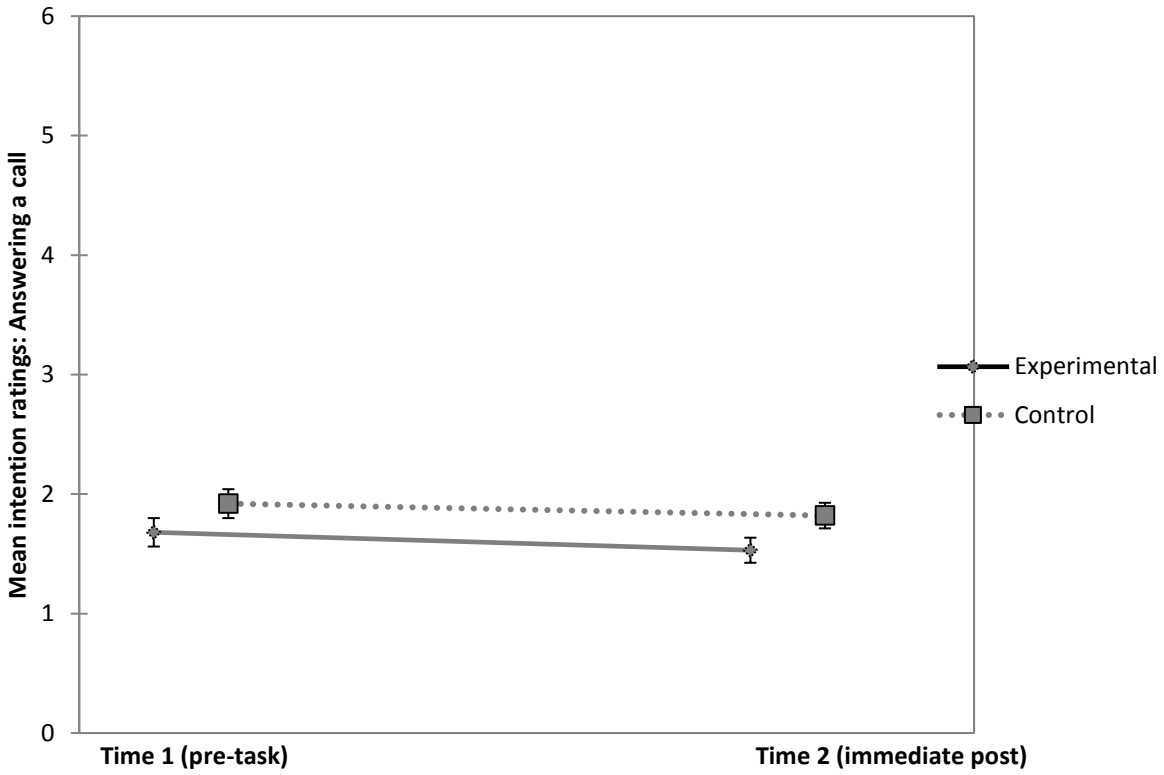


Figure 8. Mean intention ratings for the intervention and control conditions at Time 1 and Time 2 for answering a call in hand-held mode on their mobile phone while driving in the next week. Error bars represent Standard Error.

Intentions to reading a text message (or another form of communication) on mobile phone while driving in the next week

There was no significant effect of condition, $F(1,161) = 1.44$, $p = .233$. There was a significant effect of intentions, $F(1, 161) = 26.17$, $p < .001$. Pairwise comparisons revealed that mean intentions ratings improved from Time 1 to Time 2, mean difference = 0.35, $p < .001$, 95% CI [0.21, 0.48]. There was no significant condition x intention interaction, $F(1,161) = 2.45$, $p = .120$.

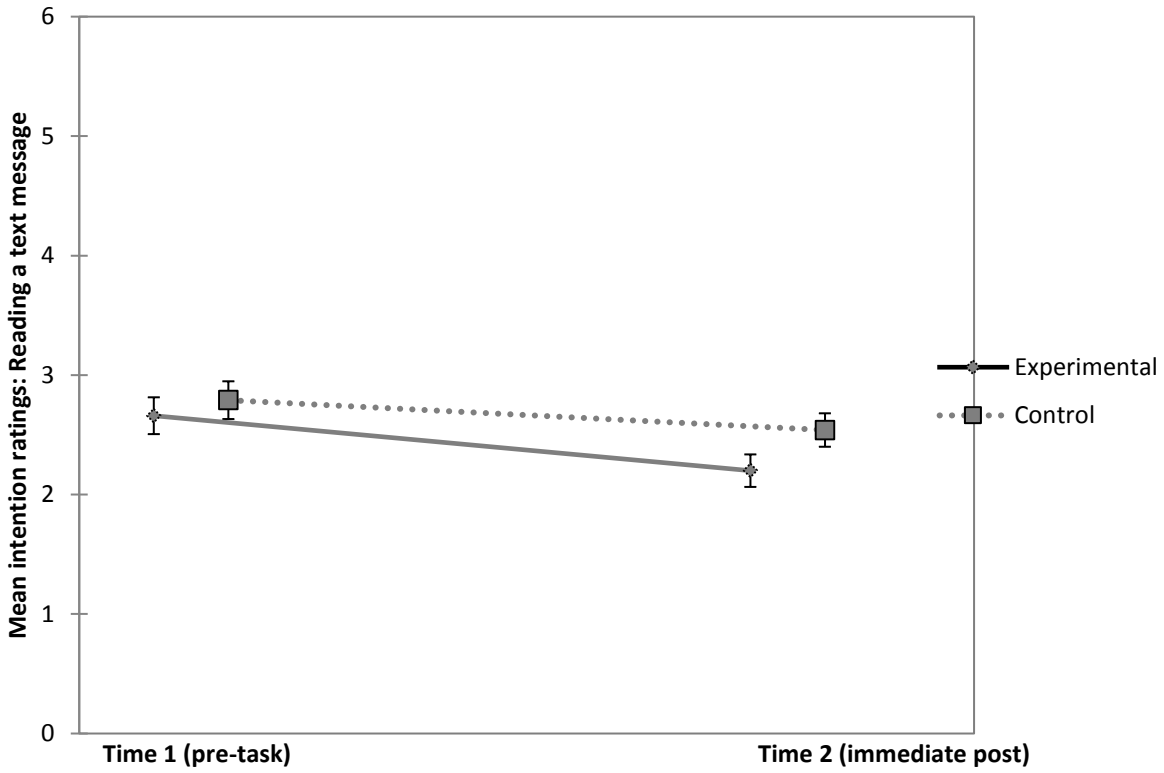


Figure 9. Mean intention ratings for the intervention and control conditions at Time 1 and Time 2 for reading a text message (or another form of communication) on their mobile phone while driving in the next week. Error bars represent Standard Error.

Intentions to answering a text message (or another form of communication) on mobile phone while driving in the next week

There was no significant effect of condition, $F(1,161) = 1.84$, $p = .177$. There was a significant effect of intentions, $F(1, 161) = 21.32$, $p < .001$. Pairwise comparisons revealed that mean intentions ratings improved from Time 1 to Time 2, mean difference = 0.27, $p < .001$, 95% CI [0.16, 0.39]. There was no significant condition x intention interaction, $F(1, 161) = 0.37$, $p = .545$.

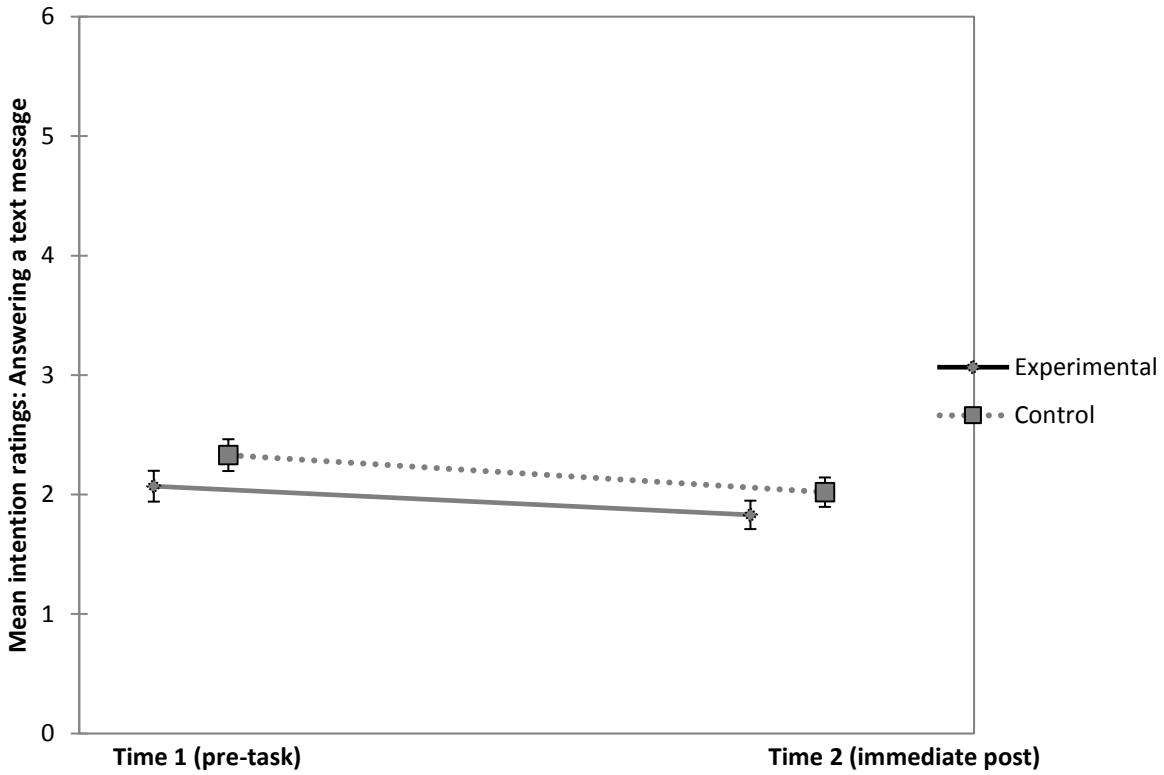


Figure 10. Mean intention ratings for the experiment and control conditions at Time 1 and Time 2 for answering a text message (or another form of communication) on their mobile phone while driving in the next week. Error bars represent Standard Error.

Intentions to changing music on mobile phone while driving in the next week

There was no significant effect of condition, $F(1, 161) = 2.00$, $p = .160$. There was a significant effect of intentions, $F(1, 161) = 57.90$, $p < .001$. Pairwise comparisons revealed that mean intentions ratings improved from Time 1 to Time 2, mean difference = 0.62, $p < .001$, 95% CI [0.46, 0.78]. There was no significant condition x intention interaction, $F(1, 161) = 0.36$, $p = .551$.

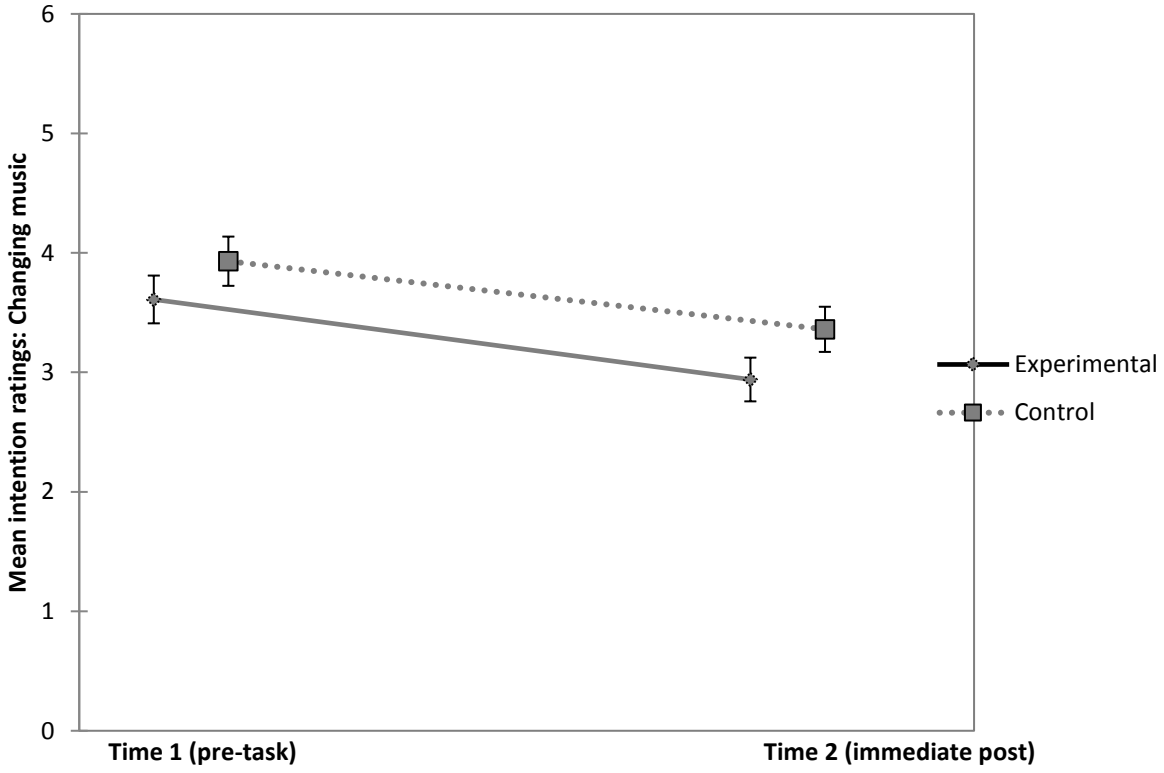


Figure 11. Mean intention ratings for the intervention and control conditions at Time 1 and Time 2 for changing music on their mobile phone while driving in the next week. Error bars represent Standard Error.

Summary: Behavioural intentions

Overall, these findings suggest that intentions reduced from Time 1 (Pre-task) to Time 2 (Immediate post task) in regards to four of the five behaviours regarding mobile phone use while driving (i.e., checking for missed calls, reading and answering a text message [or another form of communication, such as a Facebook message, Snapchat, an email, or a tweet], and changing music). The only exception was in relation to the behaviour of answering a phone call in hand-held mode. These reductions were found irrespective of the condition that participants had been randomly assigned to.

5.2.7 Evaluative Conditioning (EC) task (Time 1 to Time 2 to Time 3)

To assess differences between Time 1 (Pre-task), Time 2 (Immediate post task), and Time 3 (One week follow-up), a series of 2 x 3 Mixed-Design ANOVAs were undertaken. The following analyses only include those participants who completed the measures at Time 1, Time 2, and Time 3 (n = 93). The independent between groups variable was condition (intervention versus control) and the dependent within groups variable was attitudes and intentions measured at Time 1 (Pre-task), at Time 2 (Immediate post task), and at Time 3 (One week follow-up). In order to control for multiple comparisons, a Bonferroni correction of p = .005 was applied to each analysis. Figures 12 to 21 depict the direction of mean attitude and intention ratings for the intervention and control conditions from Time 1 (Pre-task) to Time 2 (Immediate post computerised tasks) to Time 3 (One week follow-up).

Attitudes towards check mobile phone for missed calls while driving in the next week

There was no significant main effect of condition, $F(1, 91) = 0.93$, $p = .337$. There was a significant main effect of attitudes, $F(1.59, 144.68) = 19.40$, $p < .001$. Pairwise comparisons indicated that mean attitude ratings decreased from Time 1 to Time 2, mean difference = 0.43, $p < .001$, 95% CI [0.26, 0.60] and decreased from Time 1 to Time 3, mean difference = 0.44, p < .001, 95% CI [0.20, 0.68]. However, there was no significant difference in attitudes towards checking mobile phone for missed calls from Time 2 and Time 3, mean difference = 0.01, p = 1.00, 95% CI [-0.16, 0.18]. There was no significant condition x attitude interaction, $F(1.59, 144.68) = 0.34$, $p = .662$.

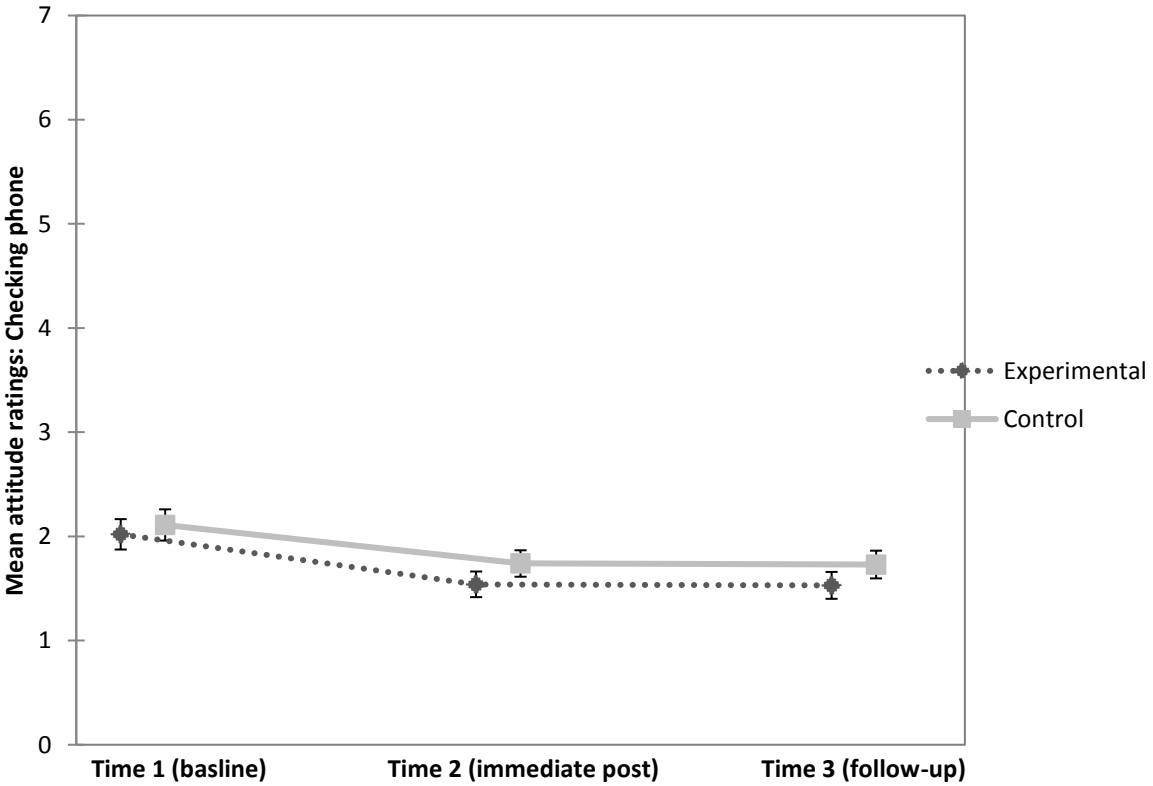


Figure 12. Mean attitude ratings for the intervention and control conditions at Time 1, Time 2, and Time 3 for checking mobile phone for missed calls while driving in the next week. Error bars represent Standard Error.

Attitudes towards answering a call in hand-held mode on mobile phone while driving in the next week

There was no significant main effect of condition, $F(1, 89) = 0.39$, $p = .844$. There was a significant main effect of attitudes, $F(1.82, 162.14) = 14.86$, $p < .001$. Pairwise comparisons revealed that mean attitude ratings decreased from Time 1 to Time 2, mean difference = 0.37, $p < .001$, 95% CI [0.19, 0.56] and decreased from Time 1 to Time 3, mean difference = 0.39, $p < .001$, 95% CI [0.16, 0.61]. However, there was no significant difference in attitudes towards answering a call in hand-held mode from Time 2 to Time 3, mean difference = 0.01, p = 1.00, 95% CI [-0.16, 0.19]. There was no significant condition x attitude interaction, $F(1.82,162.14) = 0.15$, $p = .841$.

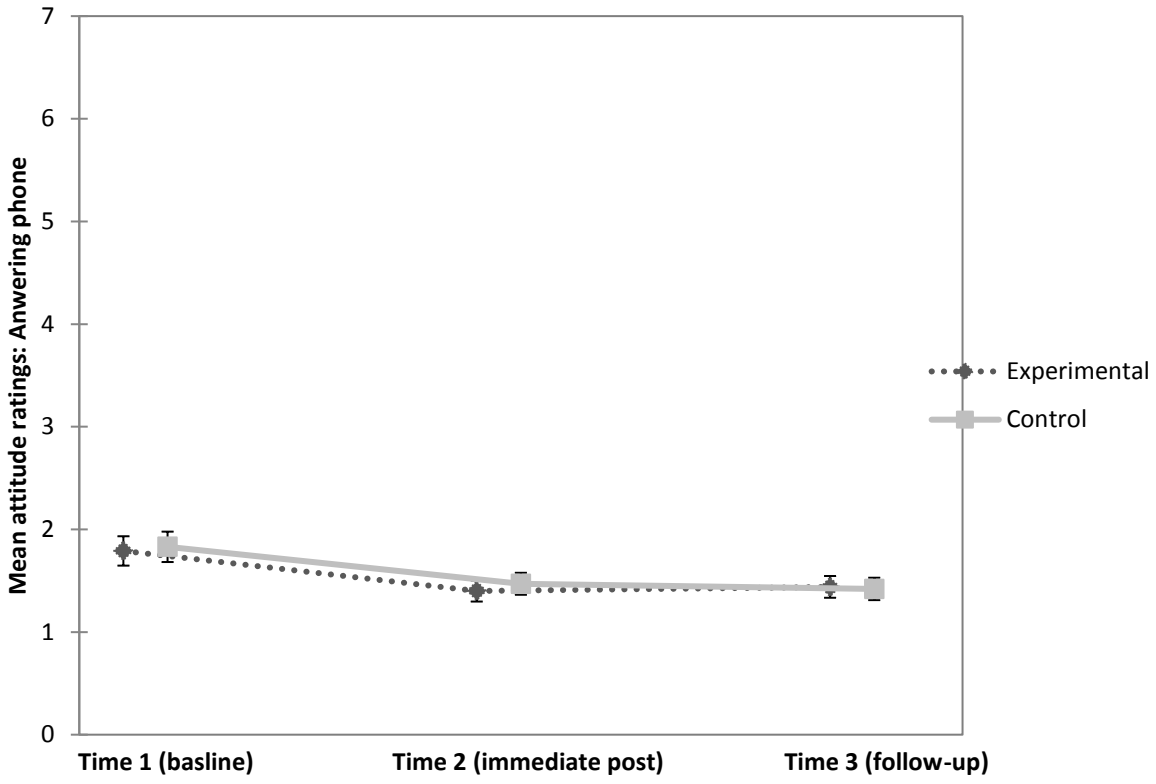


Figure 13. Mean attitude ratings for the intervention and control conditions at Time 1, Time 2, and Time 3 for answering a call in hand-held mode on mobile phone while driving in the next week. Error bars represent Standard Error.

Attitudes towards reading a text message (or another form of communication) on mobile phone while driving in the next week

There was no significant main effect of condition, $F(1, 90) = 0.02$, $p = .962$. There was a significant main effect of attitudes, $F(1.78, 160.43) = 12.58$, $p < .001$. Pairwise comparisons revealed that mean attitude ratings decreased from Time 1 to Time 2, mean difference = 0.39, $p < .001$, 95% CI [0.18, 0.60] and decreased from Time 1 to Time 3, mean difference = 0.34, p = .002, 95% CI [0.11, 0.58]. However, there was no significant difference in attitudes towards reading a text message (or another form of communication) from Time 2 to Time 3, mean difference = -0.05, $p = 1.00$, 95% CI [-0.23, 0.12]. There was no significant condition x attitude interaction, $F(1.78, 160.43) = 0.04$, $p = .945$.

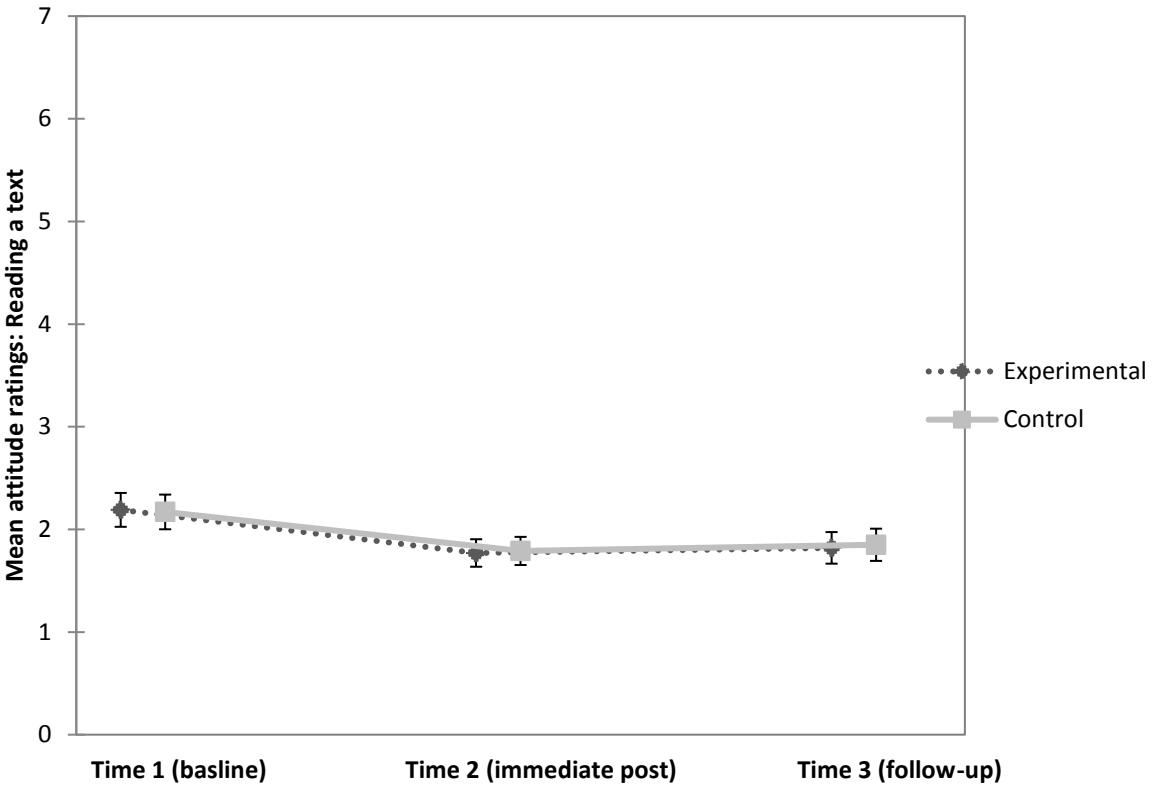


Figure 14. Mean attitude ratings for the intervention and control conditions at Time 1, Time 2, and Time 3 for reading a text message (or another form of communication) on mobile phone while driving in the next week. Error bars represent Standard Error.

Attitudes towards answering a text message (or another form of communication) on mobile phone while driving in the next week

There was no significant main effect of condition, $F(1, 89) = 0.43$, $p = .513$. There was no significant main effect of attitudes at the adjusted p-value of .005, $F(1.61, 143.49) = 3.56$, $p = .040$, or significant condition x attitude interaction, $F(1.16, 143.49) = 0.13$, p .837.

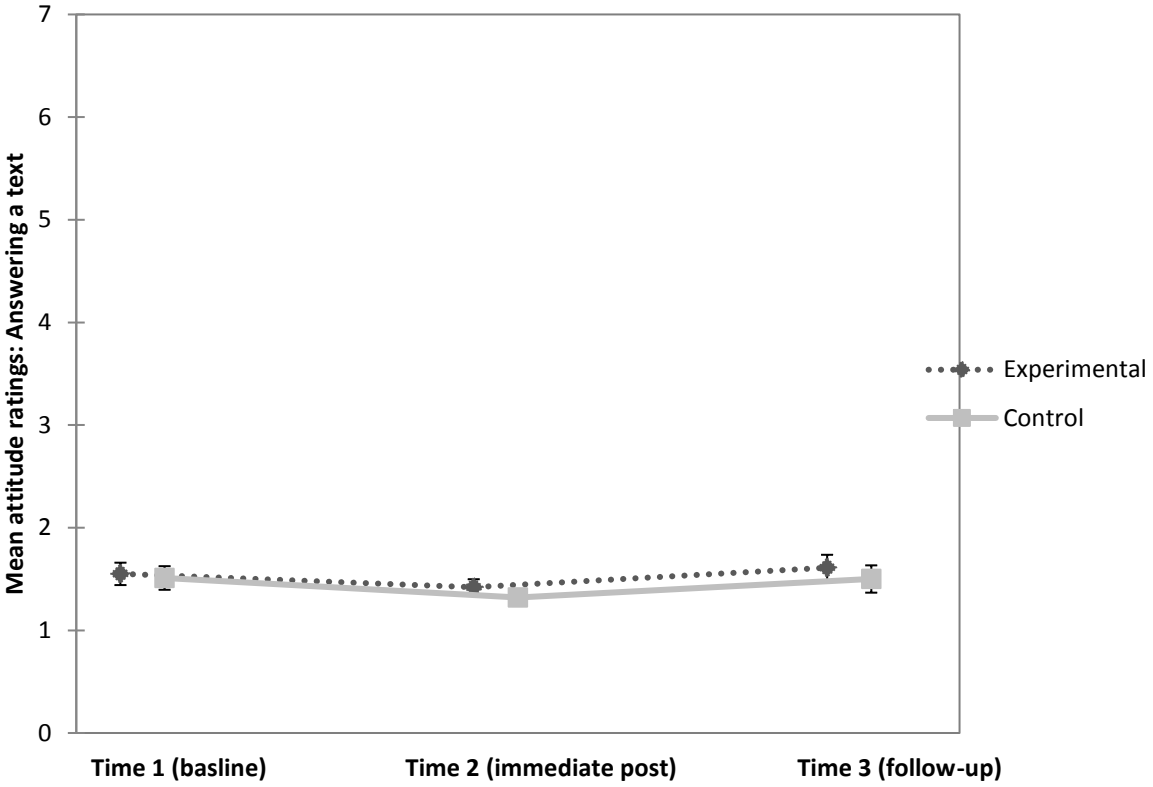


Figure 15. Mean attitude ratings for the intervention and control conditions at Time 1, Time 2, and Time 3 for answering a text message (or another form of communication) on mobile phone while driving in the next week. Error bars represent Standard Error.

Attitudes towards changing music on mobile phone while driving in the next week

There was no significant main effect of condition, $F(1, 92) = 0.04$, $p = .839$. There was a significant main effect of attitudes, $F(1.79, 164.86) = 24.11$, $p < .001$. Pairwise comparisons revealed that mean attitude ratings decreased from Time 1 to Time 2, mean difference = 0.59, $p < .001$, 95% CI [0.36, 0.82] and decreased from Time 1 to Time 3, mean difference = 0.71, $p < .001$, 95% CI [0.41, 1.02]. However, there was no significant difference in attitudes towards changing music on mobile phone while driving from Time 2 to Time 3, mean difference = 0.12, p = .752, 95% CI [-0.14, 0.38]. There was no significant condition x attitude interaction, $F(1.79, 164.86) = 2.22$, $p = .118$.

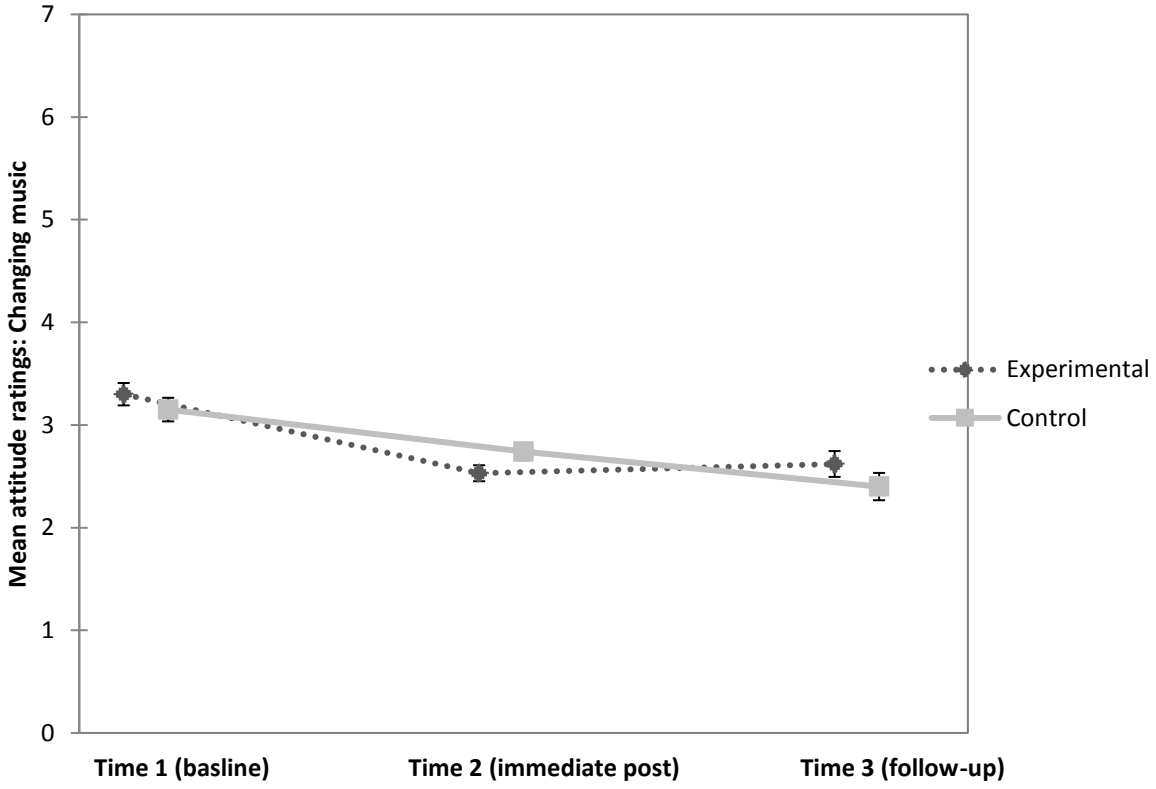


Figure 16. Mean attitude ratings for the intervention and control conditions at Time 1, Time 2, and Time 3 for changing music on mobile phone while driving in the next week. Error bars represent Standard Error.

Summary: Attitudes

Overall, these findings suggest that attitudes towards the mobile phone behaviours of checking for missed calls, answering a call, reading a text message (or another form of communication, such as a Facebook message, Snapchat, an email, or a tweet), and changing music improved (i.e., they became less favourable towards these behaviours) from Time 1 to Time 2 and from Time 1 to Time 3, irrespective of the condition that participants were randomly assigned to. There were no significant differences (changes) in attitudes in regards to these behaviours from Time 2 to Time 3. The only exception to these results was in regards to the behaviour of answering a text message (or another form of communication, such as a Facebook message, Snapchat, an email, or a tweet) where there were no significant main or interaction effects found.

Intentions to check mobile phone for missed calls while driving in the next week

There was no significant main effect of condition at the adjusted p-value of .005, $F(1,93) = 4.74$, $p = .032$. There was a significant main effect of intentions, $F(1.74, 161.64) = 18.18$, $p = < .001$. Pairwise comparisons revealed that there was no significant difference in mean intention ratings to check mobile phone for missed calls from Time 1 to Time 2, mean difference = 0.17, $p = .148$, 95% CI [-0.04, 0.37]. However, mean intention ratings decreased from Time 1 to Time 3, mean difference = 0.51, $p < .001$, 95% CI [0.26, 0.75] and decreased from Time 2 to Time 3, mean difference = 0.34, $p < .001$, 95% CI [0.17, 0.52]. There was no significant condition x intention interaction, $F(1.74, 186) = 3.02$, $p = .059$.

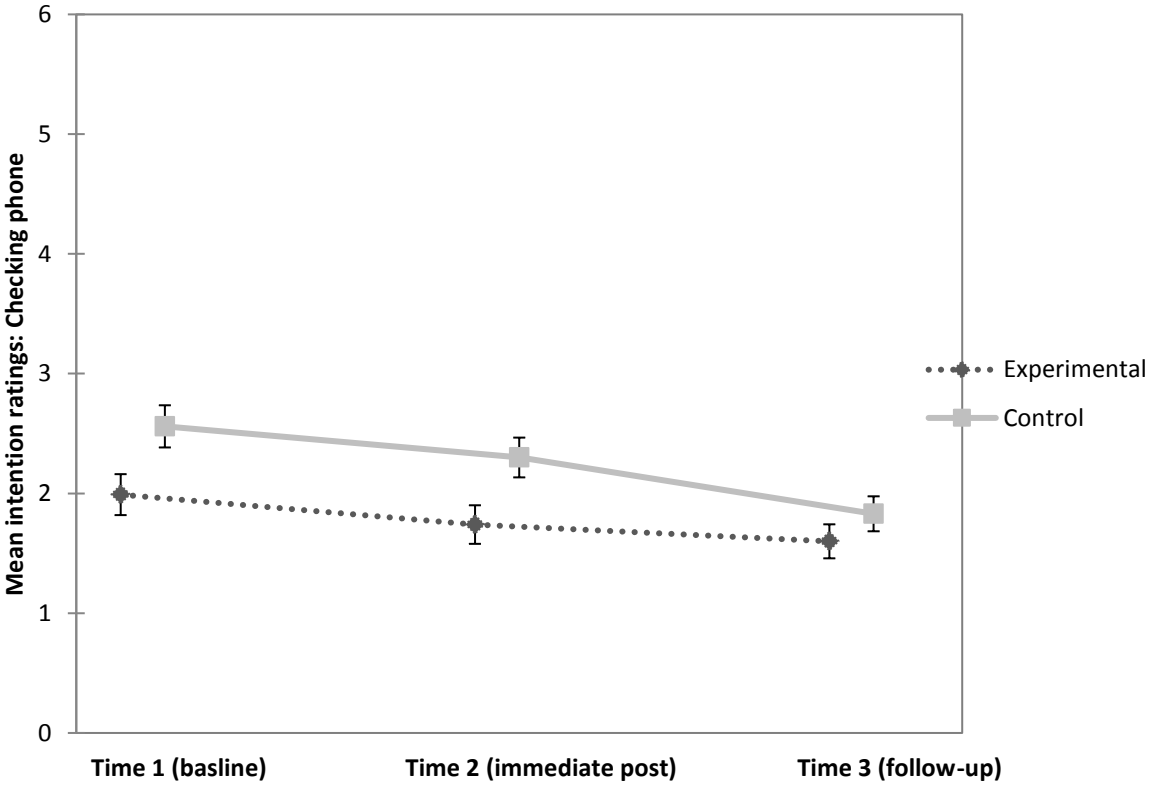


Figure 17. Mean intention ratings for the intervention and control conditions at Time 1, Time 2, and Time 3 for checking mobile phone for missed calls while driving in the next week. Error bars represent Standard Error.

Intentions to answer a call in hand-held mode on mobile phone while driving in the next week

There was no significant main effect of condition at the adjusted p-value of .005, $F(1,93) = 4.18$, $p = .044$. There was a significant main effect of intentions. $F(1.77, 164.89) = 5.76$, $p = .005$. Pairwise comparisons revealed that there was no significant difference in mean intentions ratings at the adjusted p-value of .005 from Time 1 to Time 2, $p = .043$, from Time 1 to Time 3, $p = .017$, or from Time 2 to Time 3, $p = .922$. There was no significant condition x intentions interaction, $F(1.77, 164.89) = 0.26$, $p = .745$.

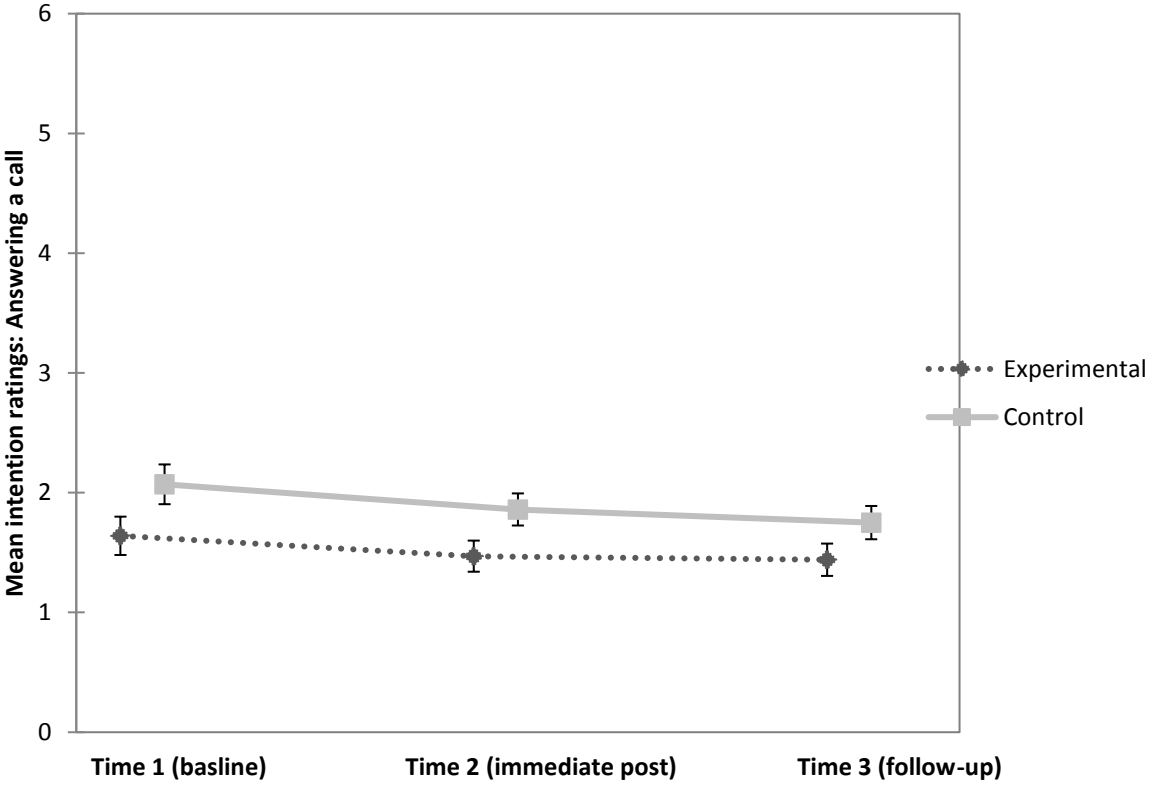


Figure 18. Mean intention ratings for the intervention and control conditions at Time 1, Time 2, and Time 3 for answering a call in hand-held mode on mobile phone while driving in the next week. Error bars represent Standard Error.

Intentions to reading a text message (or another form of communication) on mobile phone while driving in the next week

There was no significant effect of condition, $F(1,93) = 1.62$, $p = .205$. There was a significant effect of intentions, $F(1.80, 167.70) = 27.79$, $p < .001$. Pairwise comparisons revealed that mean intentions ratings improved from Time 1 to Time 2, mean difference = 0.31, $p = .002$, 95% CI [0.10, 0.52], from Time 1 to Time 3, mean difference = 0.70, $p < .001$, 95% CI [0.43, 0.96], and from Time 2 to Time 3, mean difference = 0.40, $p < .001$, 95% CI [0.18, 0.60]. There was no significant condition x intention interaction, $F(1.80, 167.70) = 1.36$, $p = .259$.

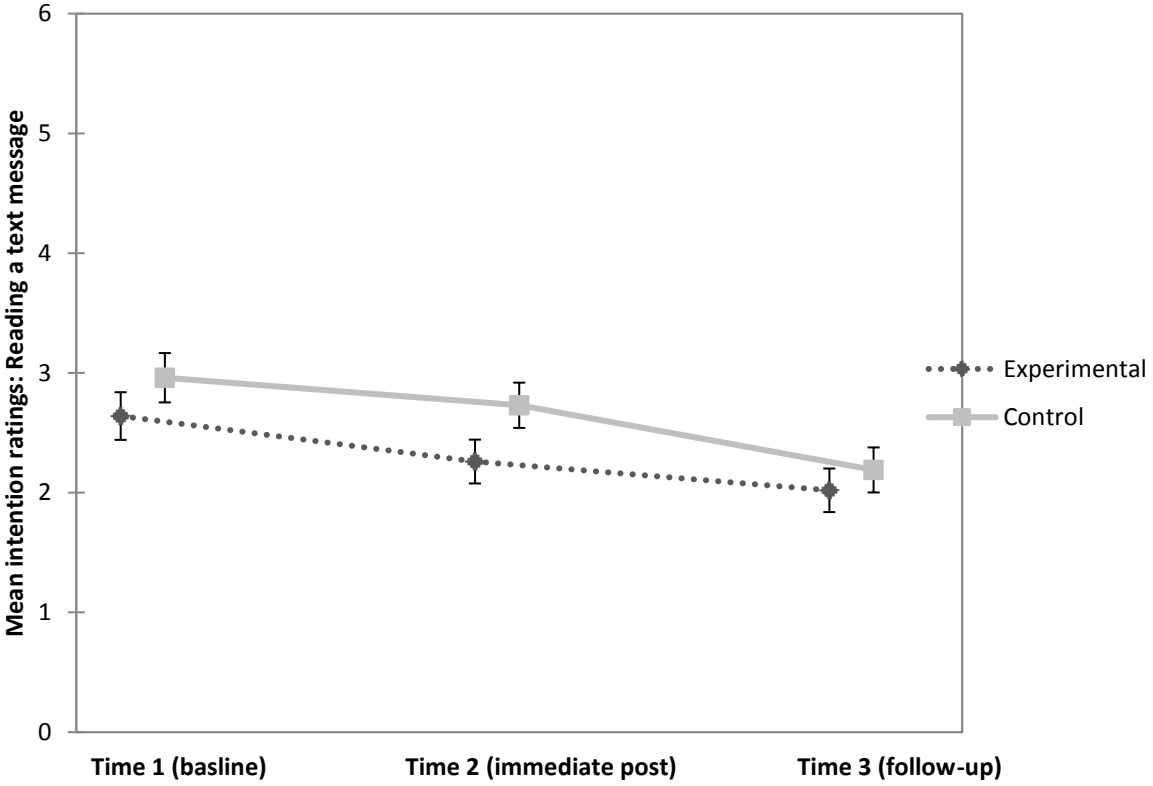


Figure 19. Mean intention ratings for the intervention and control conditions at Time 1, Time 2, and Time 3 for reading a text message (or another form of communication) on mobile phone while driving in the next week. Error bars represent Standard Error.

Intentions to answering a text message (or another form of communication) on mobile phone while driving in the next week

There was no significant effect of condition, $F(1, 93) = 1.93$, $p = .168$. There was a significant effect of intentions, $F(1.73, 161.16) = 9.58$, $p < .001$. Pairwise comparisons revealed that there was no significant difference in mean intentions ratings to answer a text message (or another form of communication) from Time 1 to Time 2 at the adjusted p-value of .005, mean difference = 0.22, $p = .009$, 95% CI [0.04, 0.40] or from Time 2 to Time 3, mean difference = 0.16, $p = .193$, 95% CI [-0.05, 0.36]. However, mean intentions ratings did improve from Time 1 to Time 3, mean difference = 0.38, $p = .001$, 95% CI [0.13, 0.62]. There was no significant condition x intention interaction, $F(1.73, 161.16) = 0.27$, $p = .732$.

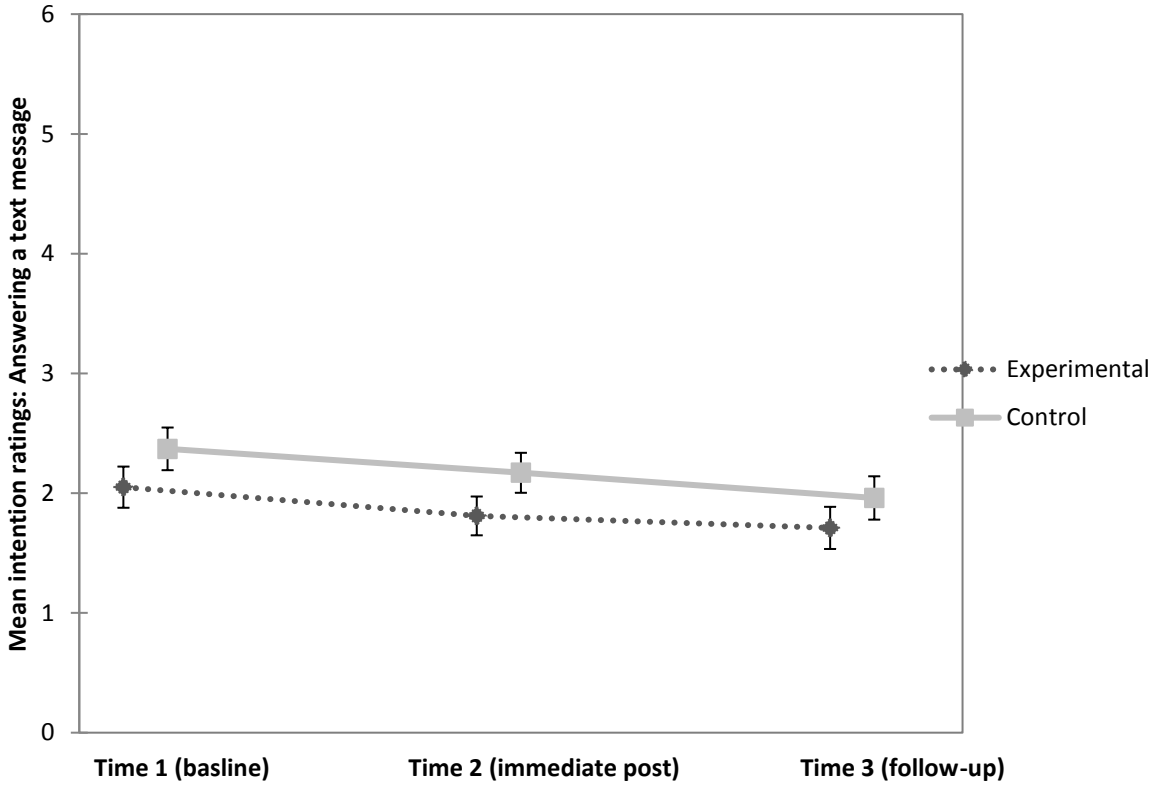


Figure 20. Mean intention ratings for the intervention and control conditions at Time 1, Time 2, and Time 3 for answering a text message (or another form of communication) on mobile phone while driving in the next week. Error bars represent Standard Error.

Intentions to changing music on mobile phone while driving in the next week

There was no significant effect of condition, $F(1, 93) = 1.08$, $p = .302$. There was a significant effect of intentions, $F(1.63, 151.97) = 34.69$, $p < .001$. Pairwise comparisons revealed that mean intention ratings improved from Time 1 to Time 2, mean difference = 0.64, $p < .001$, 95% CI [0.40, 0.88] and from Time 1 to Time 3, mean difference = 0.95, $p < .001$, 95% CI [0.60, 1.29]. There was no significant differences in mean intention ratings to change music on mobile phone at the adjusted p-value of .005 from Time 2 to Time 3, mean difference = 0.31, $p = .013$, 95% CI [0.05, 0.56]. There was no significant condition x intention interaction, $F(1.63, 151.97) = 1.38$, $p = .252$.

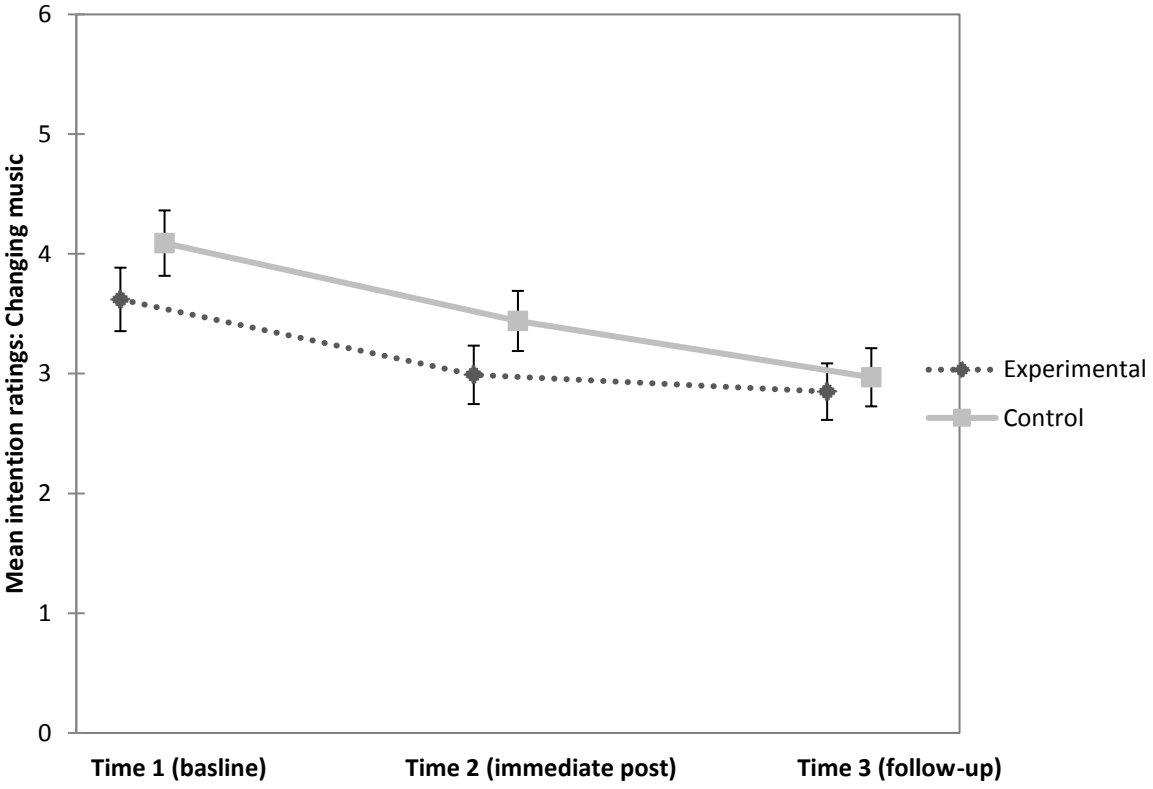


Figure 21. Mean intention ratings for the intervention and control conditions at Time 1, Time 2, and Time 3 for changing music on mobile phone while driving in the next week. Error bars represent Standard Error.

Summary: Behavioural intentions

Overall, these findings suggest that participants rated their intentions to use a mobile phone while driving in the next week to read a text message (or another form of communication, such as a Facebook message, Snapchat, an email, or a tweet), and change music significantly lower in Time 2 compared to Time 1, irrespective of the condition that participants were randomly assigned to. Further, the findings revealed that participants rated their intentions to use a mobile phone while driving in the next week to check their phone for missed calls, read or answer a text message, and change music significantly lower from Time 1 to Time 3, irrespective of the condition that participants were randomly assigned to. From Time 2 to Time 3, mean intentions ratings decreased for the behaviours of checking a mobile phone for missed calls and reading a text message, again irrespective of condition.

5.2.8 Behaviour during the past week since completing the in-person study

To assess if there were any differences between participants in the intervention and control conditions in hand-held mobile phone use while driving in the week since completing the computerised tasks, a series of independent groups *t*-tests were undertaken. In order to control for multiple comparisons, a Bonferroni correction of $p = .010$ was applied. Overall, the findings revealed that there were no significant differences between conditions at the adjusted *p*-value for checking a mobile phone while driving, $t(98) = -1.77$, $p = .080$, for answering a call in hand-held mode while driving, $t(63.24) = -2.41$, $p = .019$, for reading a text message (or another form of communication), $t(93) = -0.44$, $p = .661$, for answering a text message (or another form of communication), $t(93) = -1.00$, $p = .320$, or for changing music (using Spotify, iTunes) on a mobile phone while driving, $t(93) = -1.07$, $p = .289$. Further, an independent groups *t*-test revealed that there was no significant difference between the intervention ($M = 1.68$, $SD = 0.47$) and control ($M = 1.48$, $SD = 0.51$) conditions on whether or not an individual decided to take home and read a fact sheet on mobile phone use and distraction, $t(82.86) = 1.95$, $p = .055$. Overall, these findings suggest that there were no significant differences between the two conditions on actual behaviour of using a hand-held mobile phone in the week since completing the computerised tasks.

5.2.9 Effectiveness of Evaluative Conditioning (EC) task according to age category and gender

A series of 2 x 2 between groups ANOVAs were undertaken to assess if there were any differences in mean scores on attitudes towards, and intentions to use, hand-held mobile phones at Time 2 (immediate post task), as a function of gender (males and females) and age category (17-24 years and 25-45 years). The findings revealed that there were no significant gender x age interactions for immediate post attitudes or intentions.

Next, a series of independent groups *t*-tests were conducted to assess if there were any differences in attitudes and intentions as a function of gender, followed by another series of independent groups *t*-tests to assess if there were any differences in attitudes and intentions as a function of age category. In order to control for multiple comparisons, a Bonferroni correction of $p = .001$ was applied. For gender, the findings revealed that there were no significant differences between males and females on either the measures of attitudes and intentions. These findings indicate that females and males allocated to the intervention condition had similar mean scores on attitudes and intentions, immediately post the EC task.

For age category, the findings revealed that there were no significant differences between drivers aged 17-24 years and drivers aged 25-45 years on either the measures of attitudes and intentions, at the adjusted *p*-value of .001. These findings indicate that younger (17-24 years) and slightly older (25-45 years) drivers allocated to the intervention condition had similar mean scores on attitudes and intentions, immediately post the EC task.

5.2.10 Factors which predict drivers' intentions to use a hand-held mobile phone while driving (Time 1: Pre-task data)

Bivariate correlations and a series of multiple linear regressions were undertaken to assess the factors which may predict drivers' intentions to use a hand-held mobile phone while driving.[10] Appendix E presents the means, standard deviations, and correlations for subjective norms (general and specific – friends, partner, and parents), PBC controllability, PBC capability/self-efficacy, attitudes, and intentions, for each of the five behaviours regarding mobile phone use while driving. As expected according to the underpinning theory (i.e., the Theory of Planned Behaviour), the findings revealed that there were moderate to large significant positive relationships between attitudes, intentions, subjective norms, and PBC capability/ self-efficacy. However, the relationships between the aforementioned variables and PBC controllability was mixed (e.g., there were no significant relationships between PBC controllability and attitudes, subjective norms, and intentions for behaviours of answering a phone call in hand-held mode while driving or for reading and answering a text message. There was a small negative relationship between PBC controllability and intentions for checking a mobile for missed calls while driving and a small positive relationship between PBC controllability and intentions for changing music while driving).

Five separate linear regressions were conducted, one for each of the five behaviours regarding mobile phone use, to examine if attitudes, subjective norms,[11] PBC controllability, and PBC capability/self-efficacy were significant predictors of drivers' intentions. In order to control for multiple comparisons, a Bonferroni correction of $p < .01$ was applied to each analysis. The key findings are presented in the following paragraph, with the relevant statistics presented in Appendix E.

The results revealed that the overall variance accounted for by the TPB factors for each model was significant ($p < .001$). Specifically, the results showed that:

- The TPB constructs significantly accounted for 46.8% of the variance in intentions to check mobile phone for missed calls while driving in the next week, $F(4, 161) = 36.39$, $p < .001$;
- The TPB constructs significantly accounted for 50.4% of the variance in intentions to answer a phone call in hand-held mode while driving in the next week, $F(4, 157) = 40.88$, $p < .001$;
- The TPB constructs significantly accounted for 56.1% of the variance in intentions to read a text message (or another form of communication) while driving in the next week, $F(4, 158) = 51.56$, $p < .001$; 49.5% of the variance in intentions to answer a text message (or another form of communication) while driving in the next week, $F(4, 159) = 39.91$, $p < .001$; and,
- The TPB constructs significantly accounted for 61.5% of the variance in intentions to change music while driving in the next week, $F(4,161) = 65.32$, $p < .001$.

For each behaviour, attitudes and PBC capability/ self-efficacy were significant positive unique predictors in intentions to use a hand-held mobile phone in the next week. Further, PBC controllability was also a significant negative predictor of intentions to check a mobile phone call for missed calls in the next week and subjective norms was also significant positive predictor of intentions to change music (using Spotify, iTunes) in the next week. According to

[10] Bivariate correlations assess the relationship between two variables (e.g., the relationship between attitudes and intentions). A linear regression is a predictive analysis which can examine if a set of independent variables (e.g., attitudes, subjective norms, and perceived behavioural control) are significant predictors of a dependent variable (e.g., intentions). The pre-task data were used for these analyses in order to increase power (i.e., all participants were included rather than based on separate analyses as a function of condition).

[11] Specific subjective norms of friends, partner, and parents were not included in the linear regressions as specific norms are indirect beliefs and subjective norms is a direct belief.

the beta weights, attitudes was the strongest predictor for checking mobile phone and for answering calls while driving, and PBC capability/ self-efficacy was the strongest predictor for the remaining three mobile phone behaviours.

5.2.11 Implicit measures of attitudes

A one-way *t*-test was calculated to assess the IAT effect[12] prior to participants undertaking the computerised tasks. The findings revealed that the IAT effect was significantly greater than zero, $t(162) = 15.32$, $p < .001$, 95% CI [1106.52, 1433.99], indicating that participants showed faster responses when the distraction words were paired with the negative words (compatible stage) than when the distraction words were paired with the positive words (non-compatible stage). This result suggests that, overall, participants had negative (safer) attitudes towards mobile phone use while driving.

Two independent groups *t*-test were then undertaken to assess if there were any differences in the IAT effect as a function of condition. The findings revealed that there were no significant differences in IAT effect between individuals allocated to the intervention condition ($M = 1352.54$, $SD = 987.46$) or control condition ($M = 1182.76$, $SD = 1129.11$) prior to completing the computerised tasks, $t(161) = 1.02$, $p = .308$, 95% CI [-157.82, 497.37]. Similarly, there were no significant differences in IAT effect between individuals allocated to the intervention condition ($M = 782.69$, $SD = 551.81$) or control condition ($M = 734.10$, $SD = 524.35$) immediately post completing the computerised tasks, $t(161) = 0.58$, $p = .566$, 95% CI [-118.13, 215.32]. These findings revealed that both groups of participants showed similar reaction times towards the word stimuli.

Pearson's correlations were then used to compare the implicit measure of attitudes to the self-report measures of attitudes. The findings revealed that there were no significant correlations between the scores on the implicit and self-report attitudes, suggesting that some disparities existed between the self-report and implicit measures of attitudes used in this study.

[12] The IAT effect is the mean reaction time to the words presented in the non-compatible combined condition (Stage 5: distraction and positive words) minus the mean reaction time to the words presented in the compatible combined condition (Stage 3: distraction and negative words). The mean reaction time to words was only calculated for correct responses.

6 KEY CONCLUSIONS

The purpose of the main study was to evaluate the effectiveness of the Evaluative Conditioning (EC) task in altering individuals' attitudes towards using a hand-held mobile phone while driving. Participants (*N* = 163) were randomly allocated to one of two conditions; (i) *the intervention condition*, whereby images of drivers using a hand-held mobile phone were paired with images of the associated negative consequences or (ii) *the control condition,* whereby participants were only exposed to images of drivers using a hand-held mobile phone (no negative consequences). Five hand-held mobile phone behaviours were assessed in the current study, including checking mobile phone for missed calls while driving, answering a phone in hand-held mode while driving, reading a text message (or another form of communication, such as a Facebook message, Snapchat, an email, or a Tweet) while driving, answering a text message (or another form of communication) while driving, and changing music (using Spotify, iTunes) while driving. The key conclusions of this research are summarised below:

Past behaviour

- Mobile phone use while driving was a common behaviour for drivers included in the current research. The two most common behaviours which were reported by participants were, *Changing music (using Spotify, iTunes)* while driving, with more than half of the participants (*n* = 100, 61.8%) reporting performing this behaviour while driving at least 1-2 times per a week, and *Reading a text message (or another form of communication, such as a Facebook message, Snapchat, an email, or a tweet)* while driving, with 81 (49.7%) participants reporting performing this behaviour while driving at least 1-2 times per a week.

Pre-task attitudes and intentions (completed prior to the undertaking the computerised tasks)

- On average, the findings revealed that participants typically reported negative (safer) attitudes towards using their mobile phone while driving (perceived using a hand-held mobile phone as bad, unfavourable, harmful, and unacceptable) and reported low intentions to use their mobile phone while driving over the next week.

- The current findings showed that intentions to use a hand-held mobile phone while driving in the next week were low; however, using a mobile phone was a common behaviour reported by drivers included in this research. Thus, while people do not intend to use a hand-held mobile phone while driving, they still end up using their phones. This finding suggests that interventions to prevent this behaviour may benefit from encouraging individuals to plan ahead and identify essentially "if-then" statements as to what actions they may use to prevent their phone use while driving in any given scenario (see Gollwitzer, 1999). Evidence supports the value of encouraging individuals to form implementation intentions so as to improve the correspondence between intentions and subsequent behaviour including in regards to risky driving behaviours such as speeding (Elliott & Armitage, 2006).

- Prior to taking part in the study, drivers aged 17-24 years reported significantly greater intentions to use their mobile phone to change music (using Spotify, iTunes) while driving in the next week compared to drivers aged 25-45 years.

Evaluative Conditioning task

- It was anticipated that, compared to participants in the control condition, participants in the intervention condition would show greater negative/ safer attitudes towards using a hand-held mobile phone post the EC task compared to the pre-task measure of attitudes, would take home and read the information fact sheet, and would report less use of a hand-held mobile phone when driving in the following week. This hypothesis was not supported. Contrary to expectations, the findings revealed that for some of the mobile phone behaviours (refer to pages 27, 32, 37, and 42 for specific behaviours) participants reported safer attitudes and lower intentions to use a mobile phone from Time 1 (Pre-task) to Time 2 (Immediate post task) and from Time 1 (Pre-task) to Time 3 (One week follow-up), irrespective of the condition that they had been randomly assigned to.

- These findings may suggest that simply by taking part in the experiment, this act in and of itself was associated with participants reporting more negative (safer attitudes) and lower intentions to use a mobile phone while driving in the next week. Given that there were no differences between the intervention and control conditions, these findings may imply that just images depicting the behaviour is enough, as opposed to providing a threat (of whatever type). Thus, a future intervention could be just a series of images of hand-held mobile phone use with the key aspect being for them to be delivered in more of an experimental study type approach.

- It is important to note, however, that there was no significant difference between the two conditions on actual behaviour in terms of hand-held mobile phone use while driving in the week since completing the computerised tasks. In considering these findings, it is also important to note that pre-task attitudes and intentions to use a mobile phone while driving in the next week were low (e.g., average pre-task attitude ratings of 1.62 to 3.06 on a 7-point Semantic Differential Scale and average pre-task intention ratings of 1.66 to 3.68 on a 6-point Likert Scale). To further assess if the Evaluative Conditioning does influence attitudes and intentions to use a hand-held mobile phone while driving, future research may consider recruiting only those individuals who report positive (unsafe) attitudes and greater intentions to use a hand-held mobile phone while driving.

- There were no significant differences between males and females and between drivers aged 17-24 years and 25-45 years on either the measures of attitudes and intentions to use their mobile while driving in the next week after completing the EC task. These findings suggest that males and females and drivers aged 17-24 years and 25-45 years who were allocated to the intervention condition had similar mean attitude and intention ratings immediately after completing the EC task. Further, these findings highlight that the intervention task did not have any differential effects as a function of age or gender of the respondents.

Factors which predict drivers' intentions to use a hand-held mobile phone while driving

- Consistent with previous research (e.g., Gauld et al., 2014, 2017b), the Theory of Planned Behaviour (TPB) was shown to be an effective model in explaining intentions to use a hand-held mobile phone use while driving. Specifically, the findings revealed that attitudes had the strongest influence on intentions to use a hand-held mobile phone while driving in the next week to check for missed calls and answer in hand-held mode, while perceived behavioural control (PBC) capability/self-efficacy had the strongest influence on intentions to use a hand-held mobile phone while driving in the next week

to read and answer a text message (or another form of communication) and to change music (using Spotify, iTunes).

- These findings may suggest that intervention strategies, such as advertising campaigns, could challenge drivers' favourable attitudes towards using a hand-held mobile phone while driving and their perceived capability of using a hand-held phone while driving. For example, advertisements could highlight the dangers associated with a driver taking their eyes off the road, even for a few seconds, and further emphasise that all drivers who engage in using a hand-held mobile phone while driving have a heightened crash risk. Advertisements could also challenge the perception that one is safely able to read a text message while driving by reinforcing that using a mobile phone while driving often captures the driver's attention much more than they realise. They could target passengers in a car where the driver is changing music to see if they agree that the driver is able to safely use a mobile phone while driving.

7 REFERENCES

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8 APPENDICES

Appendix A: Online pilot survey

Section 1. Demographic items

Unless otherwise instructed, most questions ask you to choose the number that best corresponds to your response. We request that you answer questions as honestly as you can. Remember that all information you provide will be confidential and will be used for aggregating purposes only.

Q1. Are you aged between 17-45 years?	☐ Yes ☐ No
Q2. What is your current age in years/months?	_____ years _____ months
Q3. What is your current licence status?	☐ Learner ☐ Provisional 1 ☐ Provisional 2 ☐ Open ☐ Restricted licence (e.g., for work only)
Q4. What is your gender?	☐ Male ☐ Female ☐ Other
Q5. In which state or territory of Australia are you currently living?	
Q6. At what age did you obtained a drivers licence (provisional or equivalent)?	

Section 2. Mobile phone use and driving behaviour images

The following section will ask you to rate a series of 31 images associated with mobile phone use and driving behaviour. For each image, you will be asked to rate the extent to which you perceive that the image accurately reflects using a hand-held mobile phone while driving. Please take time to consider each image before providing your rating.

[Insert image here – repeated for all images]

To what extent do you perceive that the image accurately reflects using a hand-held mobile phone while driving?

Not at all	1	2	3	4	5	6	7	Very much

Section 3. Images associated with the negative consequences of hand-held mobile phone use while driving

The following section will ask you to rate a series of 30 images associated with the negative consequences of hand-held mobile phone use while driving. Please take time to consider each image before providing your ratings.

[Insert image here – repeated for all images]

To what extent do you perceive that the image focused upon a physical threat (i.e., crash, physical injuries)?

Not at all	1	2	3	4	5	6	7	Very much

To what extent do you perceive that the image focused upon a social threat (e.g., social disapproval)?

Not at all	1	2	3	4	5	6	7	Very much

To what extent do you perceive that the image focused upon a financial threat (e.g., receiving a fine)?

Not at all	1	2	3	4	5	6	7	Very much

We are also interested in knowing how the image made you feel.
Please indicate on the scale provided, the extent to which the image made you feel…

	Definitely did not feel like this at all	Possibly felt like this	Felt this somewhat	Definitely did feel this
Sad	1	2	3	4
Happy	1	2	3	4
Anxious	1	2	3	4
Relaxed	1	2	3	4
Fearful	1	2	3	4
Relieved	1	2	3	4

Section 4. Final feedback

We welcome any final comments that you may have about any aspect of this research. Please feel free to share your comments in the space provided. As all data is to remain non-identifiable, please ensure that you do not record your name or any other information that could identify you in this section.

_____
_____
_____
_____

Appendix B: Descriptive statistics and frequencies of participant ratings of the mobile phone images

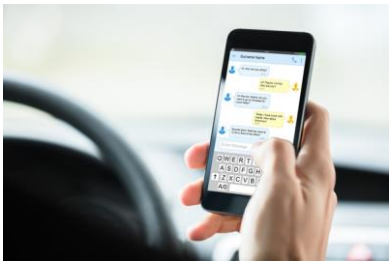
The images highlighted in bold were selected for the main study

Mobile phone image 1  Descriptive statistics: *M*(*SD*): 4.71 (2.13) Frequencies (1 = *not at all*, 7 = *very much*) 1: 1 (4.8%) 2: 4 (19.0%) 3: 3 (14.3%) 4: 0 (0.0%) 5: 3 (14.3%) 6: 4 (19.0%) 7: 6 (28.6%)	**Mobile phone image 2**  Descriptive statistics: *M*(*SD*): 6.24 (1.45) Frequencies (1 = *not at all*, 7 = *very much*) 1: 0 (0.0%) 2: 1 (4.8%) 3: 1 (4.8%) 4: 0 (0.0%) 5: 3 (14.3%) 6: 1 (4.8%) 7: 15 (71.4%)	**Mobile phone image 3**  Descriptive statistics: *M*(*SD*): 6.38 (1.24) Frequencies (1 = *not at all*, 7 = *very much*) 1: 0 (0.0%) 2: 0 (0.0%) 3: 2 (9.5%) 4: 0 (0.0%) 5: 1 (4.8%) 6: 0 (0.0%) 7: 15 (71.4%)
Mobile phone image 4  Descriptive statistics: *M*(*SD*): 6.33 (0.97) Frequencies (1 = *not at all*, 7 = *very much*) 1: 0 (0.0%) 2: 0 (0.0%) 3: 0 (0.0%) 4: 1 (4.8%) 5: 4 (19.0%) 6: 3 (14.3%) 7: 13 (61.9%)	**Mobile phone image 5**  Descriptive statistics: *M*(*SD*): 6.57 (0.87) Frequencies (1 = *not at all*, 7 = *very much*) 1: 0 (0.0%) 2: 0 (0.0%) 3: 0 (0.0%) 4: 1 (4.8%) 5: 2 (9.5%) 6: 2 (9.5%) 7: 16 (76.2%)	**Mobile phone image 6**  Descriptive statistics: *M*(*SD*): 6.57 (0.93) Frequencies (1 = *not at all*, 7 = *very much*) 1: 0 (0.0%) 2: 0 (0.0%) 3: 0 (0.0%) 4: 1 (4.8%) 5: 3 (14.3%) 6: 0 (0.0%) 7: 17 (81.0%)

Mobile phone image 7	**Mobile phone image 8**	**Mobile phone image 9**
 Descriptive statistics: *M*(*SD*): 6.19 (1.44) Frequencies (1 = *not at all*, 7 = *very much*) 1: 0 (0.0%) 2: 0 (0.0%) 3: 2 (9.5%) 4: 2 (9.5%) 5: 1 (4.8%) 6: 1 (4.8%) 7: 15 (71.4%)	 Descriptive statistics: *M*(*SD*): 6.05 (1.47) Frequencies (1 = *not at all*, 7 = *very much*) 1: 0 (0.0%) 2: 1 (4.8%) 3: 1 (4.8%) 4: 1 (4.8%) 5: 2 (9.5%) 6: 4 (19.0%) 7: 12 (57.1%)	 Descriptive statistics: *M*(*SD*): 6.24 (0.94) Frequencies (1 = *not at all*, 7 = *very much*) 1: 0 (0.0%) 2: 0 (0.0%) 3: 0 (0.0%) 4: 1 (4.8%) 5: 4 (19.0%) 6: 5 (23.8%) 7: 11 (52.4%)
Mobile phone image 10	Mobile phone image 11	Mobile phone image 12
 Descriptive statistics: *M*(*SD*): 6.14 (1.20) Frequencies (1 = *not at all*, 7 = *very much*) 1: 0 (0.0%) 2: 1 (4.8%) 3: 0 (0.0%) 4: 0 (0.0%) 5: 3 (14.3%) 6: 7 (33.3%) 7: 10 (47.6%)	 Descriptive statistics: *M*(*SD*): 5.67 (1.28) Frequencies (1 = *not at all*, 7 = *very much*) 1: 0 (0.0%) 2: 0 (0.0%) 3: 1 (4.8%) 4: 4 (19.0%) 5: 3 (14.3%) 6: 6 (28.6%) 7: 7 (33.3%)	 Descriptive statistics: *M*(*SD*): 5.90 (1.30) Frequencies (1 = *not at all*, 7 = *very much*) 1: 0 (0.0%) 2: 0 (0.0%) 3: 1 (4.8%) 4: 3 (14.3%) 5: 3 (14.3%) 6: 4 (19.0%) 7: 10 (47.6%)

Mobile phone image 13  Descriptive statistics: *M*(*SD*): 5.81 (1.50) Frequencies (1 = *not at all*, 7 = *very much*) 1: 0 (0.0%) 2: 1 (4.8%) 3: 1 (4.8%) 4: 1 (4.8%) 5: 6 (28.6%) 6: 1 (4.8%) 7: 11 (52.4%)	Mobile phone image 14  Descriptive statistics: *M*(*SD*): 4.71 (1.95) Frequencies (1 = *not at all*, 7 = *very much*) 1: 2 (9.5%) 2: 1 (4.8%) 3: 2 (9.5%) 4: 4 (19.0%) 5: 5 (23.8%) 6: 1 (4.8%) 7: 6 (28.6%)	**Mobile phone image 15**  Descriptive statistics: *M*(*SD*): 6.10 (1.09) Frequencies (1 = *not at all*, 7 = *very much*) 1: 0 (0.0%) 2: 0 (0.0%) 3: 0 (0.0%) 4: 3 (14.3%) 5: 2 (9.5%) 6: 6 (28.6%) 7: 10 (47.6%)
Mobile phone image 16  Descriptive statistics: *M*(*SD*): 6.10 (1.34) Frequencies (1 = *not at all*, 7 = *very much*) 1: 0 (0.0%) 2: 0 (0.0%) 3: 1 (4.8%) 4: 1 (4.8%) 5: 3 (14.3%) 6: 6 (28.6%) 7: 10 (47.6%)	Mobile phone image 17  Descriptive statistics: *M*(*SD*): 5.57 (1.36) Frequencies (1 = *not at all*, 7 = *very much*) 1: 0 (0.0%) 2: 0 (0.0%) 3: 2 (9.5%) 4: 3 (14.3%) 5: 4 (19.0%) 6: 5 (23.8%) 7: 7 (33.3%)	**Mobile phone image 18**  Descriptive statistics: *M*(*SD*): 6.19 (1.67) Frequencies (1 = *not at all*, 7 = *very much*) 1: 0 (0.0%) 2: 0 (0.0%) 3: 1 (4.8%) 4: 1 (4.8%) 5: 3 (14.3%) 6: 4 (19.0%) 7: 12 (57.1%)

Mobile phone image 19	Mobile phone image 20	Mobile phone image 21
 Descriptive statistics: *M*(*SD*): 6.00 (1.10) Frequencies (1 = *not at all*, 7 = *very much*) 1: 0 (0.0%) 2: 0 (0.0%) 3: 0 (0.0%) 4: 3 (14.3%) 5: 3 (14.3%) 6: 6 (28.6%) 7: 9 (42.9%)	 Descriptive statistics: *M*(*SD*): 5.76 (1.87) Frequencies (1 = *not at all*, 7 = *very much*) 1: 0 (0.0%) 2: 3 (14.3%) 3: 0 (0.0%) 4: 2 (9.5%) 5: 2 (9.5%) 6: 1 (4.8%) 7: 13 (61.9%)	 Descriptive statistics: *M*(*SD*): 5.60 (1.50) Frequencies* (1 = *not at all*, 7 = *very much*) 1: 0 (0.0%) 2: 1 (4.8%) 3: 1 (4.8%) 4: 2 (9.5%) 5: 5 (23.8%) 6: 3 (14.3%) 7: 8 (38.1%)
Mobile phone image 22	Mobile phone image 23	**Mobile phone image 24**
 Descriptive statistics: *M*(*SD*): 5.52 (1.40) Frequencies (1 = *not at all*, 7 = *very much*) 1: 0 (0.0%) 2: 0 (0.0%) 3: 2 (9.5%) 4: 3 (14.3%) 5: 6 (28.6%) 6: 2 (9.5%) 7: 8 (38.1%)	 Descriptive statistics: *M*(*SD*): 5.90 (1.76) Frequencies (1 = *not at all*, 7 = *very much*) 1: 0 (0.0%) 2: 3 (14.3%) 3: 0 (0.0%) 4: 0 (0.0%) 5: 2 (9.5%) 6: 4 (19.0%) 7: 12 (57.1%)	 Descriptive statistics: *M*(*SD*): 6.35 (0.88) Frequencies (1 = *not at all*, 7 = *very much*) 1: 0 (0.0%) 2: 0 (0.0%) 3: 0 (0.0%) 4: 1 (4.8%) 5: 2 (9.5%) 6: 6 (28.6%) 7: 11 (52.4%)

Mobile phone image 25  Descriptive statistics: *M*(*SD*): 4.67 (2.06) Frequencies (1 = *not at all*, 7 = *very much*) 1: 0 (0.0%) 2: 5 (23.8%) 3: 1 (4.8%) 4: 6 (28.6%) 5: 1 (4.8%) 6: 0 (0.0%) 7: 8 (38.1%)	Mobile phone image 26  Descriptive statistics: *M*(*SD*): 5.19 (2.09) Frequencies (1 = *not at all*, 7 = *very much*) 1: 2 (9.5%) 2: 1 (4.8%) 3: 1 (4.8%) 4: 4 (19.0%) 5: 1 (4.8%) 6: 3 (14.3%) 7: 9 (42.9%)	**Mobile phone image 27**  Descriptive statistics: *M*(*SD*): 6.24 (1.04) Frequencies (1 = *not at all*, 7 = *very much*) 1: 0 (0.0%) 2: 0 (0.0%) 3: 0 (0.0%) 4: 2 (9.5%) 5: 3 (14.3%) 6: 4 (19.0%) 7: 12 (57.1%)
Mobile phone image 28  Descriptive statistics: *M*(*SD*): 5.48 (1.40) Frequencies (1 = *not at all*, 7 = *very much*) 1: 0 (0.0%) 2: 0 (0.0%) 3: 1 (4.8%) 4: 6 (28.6%) 5: 4 (19.0%) 6: 2 (9.5%) 7: 8 (38.1%)	**Mobile phone image 29**  Descriptive statistics: *M*(*SD*): 6.14 (1.24) Frequencies (1 = *not at all*, 7 = *very much*) 1: 0 (0.0%) 2: 0 (0.0%) 3: 1 (4.8%) 4: 2 (9.5%) 5: 2 (9.5%) 6: 4 (19.0%) 7: 12 (57.1%)	Mobile phone image 30  Descriptive statistics: *M*(*SD*): 5.19 (2.11) Frequencies (1 = *not at all*, 7 = *very much*) 1: 2 (9.5%) 2: 1 (4.8%) 3: 1 (4.8%) 4: 4 (19.0%) 5: 2 (9.5%) 6: 1 (4.8%) 7: 10 (47.6%)

Mobile phone image 31  Descriptive statistics: *M*(*SD*): 4.86 (2.10) Frequencies (1 = *not at all*, 7 = *very much*) 1: 2 (9.5%) 2: 1 (4.8%) 3: 3 (14.3%) 4: 3 (14.3%) 5: 3 (14.3%) 6: 1 (4.8%) 7: 8 (38.1%)	

Note. For each image participants were asked, “To what extent do you perceive that the image accurately reflects using a hand-held mobile phone while driving? (1 = *not at all,* 7 = *very much*).” * = one participant did not provide a response.

Appendix C: Descriptive statistics and paired samples t-test output for participant ratings of the negative consequence images

The images highlighted in bold were retained for the main study

Negative consequence image 1

Threat type:
Descriptive statistics (M/SD):
(1 = *not at all*, 7 = *very much*)

Physical:	5.10 (1.48)
Social:	3.38 (1.77)
Financial:	3.15 (1.90)

Paired samples t-test output:
Physical vs. Social:
t(20) = 3.38, p = .003

Physical vs. Financial:
t(19) = 3.94, p = .001

Social vs. Financial:
t(19) = 0.13, p = .895

Interpretation: On average, image 1 was perceived by participants to focus upon a physical threat when compared to a financial threat or to a social threat, although this finding failed to reach significance at $p < .001$.

Emotions:
Descriptive statistics (M/SD):
*(*1 = *definitely did not feel like this,* 4 = *definitely did feel this)*

Sad	1.95 (0.87)
Happy	1.00 (0.00)
Anxious	2.14 (1.06)
Relaxed	1.14 (0.36)
Fearful	1.76 (0.89)
Relieved	1.14 (0.78)

Negative consequence image 2

Threat type:
Descriptive statistics (M/SD):
(1 = *not at all*, 7 = *very much*)

Physical:	2.76 (1.92)
Social:	5.10 (1.21)
Financial:	5.90 (1.48)

Paired samples t-test output:
Physical vs. Social:
t(19) = -5.41, p <.001

Physical vs. Financial:
t(20) = -6.24, p <.001

Social vs. Financial:
t(19) = -2.17, p = .043

Interpretation: On average, Image 2 was perceived by participants to focus on social and financial threats compared to a physical threat. This difference was significant. There was no significant differences in ratings between social and financial threats at $p < .001$, suggesting that participants perceived the image to comprise both threat types.

Emotions:
Descriptive statistics (M/SD):
*(*1 = *definitely did not feel like this,* 4 = *definitely did feel this)*

Sad	1.38 (0.67)
Happy	1.00 (0.00)
Anxious	2.76 (1.00)
Relaxed	1.00 (0.00)
Fearful	2.43 (0.87)
Relieved	1.00 (0.00)

Negative consequence image 3

Threat type:
Descriptive statistics (M/SD):
(1 = *not at all*, 7 = *very much*)

Physical:	4.57 (1.93)
Social:	5.30 (1.78)
Financial:	4.41 (1.88)

Paired samples t-test output:
Physical vs. Social:
t(19) = -1.96, p = .065

Physical vs. Financial:
t(20) = 0.72, p = .480

Social vs. Financial:
t(19) = 1.99, p = .061

Interpretation: The descriptive statistics show that mean ratings for social threats were higher than mean ratings for physical and financial threats. However, there were no significant differences between threat types.

Emotions:
Descriptive statistics (M/SD):
*(*1 = *definitely did not feel like this,* 4 = *definitely did feel this)*

Sad	2.14 (1.11)
Happy	1.00 (0.00)
Anxious	2.24 (1.09)
Relaxed	1.00 (0.00)
Fearful	1.90 (1.14)
Relieved	1.05 (0.22)

Negative consequence image 4

Threat type:
Descriptive statistics (M/SD):
(1 = *not at all*, 7 = *very much*)

Physical:	4.95 (1.32)
Social:	4.00 (1.82)
Financial:	4.19 (1.97)

Paired samples t-test output:
Physical vs. Social:
t(20) = 2.07, p = .052

Physical vs. Financial:
t(20) = 1.36, p = .189

Social vs. Financial:
t(20) = -0.45, p = .658

Interpretation: The descriptive statistics show that on average, there were similar mean ratings of physical, social, and financial threats. There was no significant differences between threat types.

Emotions:
Descriptive statistics (M/SD):
(1 = definitely did not feel like this, 4 = definitely did feel this)

Sad	2.19 (1.21)
Happy	1.00 (0.00)
Anxious	2.05 (1.02)
Relaxed	1.10 (0.30)
Fearful	1.48 (0.75)
Relieved	1.05 (0.22)

Negative consequence image 5

Threat type:
Descriptive statistics (M/SD):
(1 = *not at all*, 7 = *very much*)

Physical:	6.90 (0.30)
Social:	4.29 (2.19)
Financial:	4.57 (2.09)

Paired samples t-test output:
Physical vs. Social:
t(20) = 5.29, p <.001

Physical vs. Financial:
t(20) = 5.02, p < .001

Social vs. Financial:
t(20) = -0.72, p = .480

Interpretation: On average, Image 5 was perceived by participants to focus upon a physical threat compared to a social threat or to a financial threat. These findings were significant.

Emotions:
Descriptive statistics (M/SD):
(1 = definitely did not feel like this, 4 = definitely did feel this)

Sad	2.95 (1.02)
Happy	1.00 (0.00)
Anxious	2.67 (1.02)
Relaxed	1.00 (0.00)
Fearful	2.81 (1.12)
Relieved	1.05 (0.22)

Negative consequence image 6

Threat type:
Descriptive statistics (M/SD):
(1 = *not at all*, 7 = *very much*)

Physical:	2.10 (1.79)
Social:	4.00 (1.90)
Financial:	4.71 (1.90)

Paired samples t-test output:
Physical vs. Social:
t(20) = -4.54, p < .001

Physical vs. Financial:
t(20) = -5.01, p < .001

Social vs. Financial:
t(20) = -1.37, p = .186

Interpretation: On average, Image 6 was perceived by participants to focus on social and financial threats compared to physical threats. This finding was significant. However, the descriptive statistics show that on average, social threat ratings were low (mean score of 4), with financial threat ratings only slightly higher (mean score of 4.71) than social threat ratings.

Emotions:
Descriptive statistics (M/SD):
(1 = definitely did not feel like this, 4 = definitely did feel this)

Sad	1.24 (0.44)
Happy	1.00 (0.00)
Anxious	2.38 (1.16)
Relaxed	1.05 (0.22)
Fearful	1.86 (0.96)
Relieved	1.10 (0.31)

Negative consequence image 7

Threat type:
Descriptive statistics (M/SD):
(1 = *not at all*, 7 = *very much*)

Physical:	6.74 (0.56)
Social:	5.24 (1.76)
Financial:	3.81 (2.44)

Paired samples t-test output:
Physical vs. Social:
t(18) = 3.88, p = .001

Physical vs. Financial:
t(18) = 6.09 = p <.001

Social vs. Financial:
t(20) = 2.71, p = .014

Interpretation: On average, image 7 was perceived by participants to focus upon a physical threat compared to a financial threat. This finding was significant. While image 7 was rated on average to focus more upon a physical threat than a social threat, this finding failed to reach significance at *p* < .001.

Emotions:
Descriptive statistics (M/SD):
(1 = definitely did not feel like this, 4 = definitely did feel this)

Sad	3.05 (0.87)
Happy	1.00 (0.00)
Anxious	2.76 (1.09)
Relaxed	1.05 (0.22)
Fearful	2.33 (1.24)
Relieved	1.00 (0.00)

Negative consequence image 8

Threat type:
Descriptive statistics (M/SD):
(1 = *not at all*, 7 = *very much*)

Physical:	3.24 (2.34)
Social:	5.38 (1.86)
Financial:	3.10 (2.10)

Paired samples t-test output:
Physical vs. Social:
t(20) = -3.51, p = .002

Physical vs. Financial:
t(19) = 0.77, p = .449

Social vs. Financial:
t(19) = 3.86, p = .001

Interpretation: The descriptive statistics show that the mean rating for social threat was higher than the mean rating for physical and financial threats. However, there were no significant differences in mean ratings between threat type, at *p* < .001.

Emotions:
Descriptive statistics (M/SD):
(1 = definitely did not feel like this, 4 = definitely did feel this)

Sad	1.33 (0.58)
Happy	1.05 (0.22)
Anxious	1.67 (0.80)
Relaxed	1.29 (0.90)
Fearful	1.48 (0.75)
Relieved	1.14 (0.48)

Negative consequence image 9

Threat type:
Descriptive statistics (M/SD):
(1 = *not at all*, 7 = *very much*)

Physical:	6.62 (1.32)
Social:	2.90 (2.02)
Financial:	2.86 (1.93)

Paired samples t-test output:
Physical vs. Social:
t(20) = 8.01, p < .001

Physical vs. Financial:
t(20) = 8.42, p < .001

Social vs. Financial:
t(20) = 0.20, p = .841

Interpretation: On average, image 9 was rated by participants as focusing upon a physical threat compared to a social threat or to a financial threat. These findings were significant. There was no significant difference between social or financial threat mean ratings.

Emotions:
Descriptive statistics (M/SD):
(1 = definitely did not feel like this, 4 = definitely did feel this)

Sad	2.71 (1.10)
Happy	1.10 (0.44)
Anxious	2.33 (1.28)
Relaxed	1.00 (0.00)
Fearful	2.41 (1.11)
Relieved	1.29 (0.64)

Negative consequence image 10

Threat type:
Descriptive statistics (M/SD):
(1 = *not at all*, 7 = *very much*)

Physical:	1.19 (0.87)
Social:	1.90 (1.30)
Financial:	3.43 (2.46)

Paired samples t-test output:
Physical vs. Social:
t(20) = -2.97, p = .008

Physical vs. Financial:
t(20) = -4.12, p = .001

Social vs. Financial:
t(20) = -3.87, p = .001

Interpretation: The descriptive statistics show that mean ratings were slightly higher for financial threats than for physical and social threats. However, on average, the mean rating for a financial threat was still considered to be low (< 4, using a 7-point semantic differential scale). There were no significant differences between threat type, at $p < .001$.

Emotions:
Descriptive statistics (M/SD):
(1 = definitely did not feel like this, 4 = definitely did feel this)

Sad	1.00 (0.00)
Happy	1.38 (0.86)
Anxious	1.14 (0.36)
Relaxed	1.33 (0.73)
Fearful	1.14 (0.66)
Relieved	1.10 (0.30)

Negative consequence image 11

Threat type:
Descriptive statistics (M/SD):
(1 = *not at all*, 7 = *very much*)

Physical:	6.52 (0.72)
Social:	3.86 (2.27)
Financial:	3.90 (2.26)

Paired samples t-test output:
Physical vs. Social:
t(20) = 5.45, p <.001

Physical vs. Financial:
t(20) = 5.05, p <.001

Social vs. Financial:
t(20) = -0.12, p = .909

Interpretation: On average, image 11 was rated by participants to focus upon a physical threat when compared to a social or to a financial threat. These findings were significant.

Emotions:
Descriptive statistics (M/SD):
(1 = definitely did not feel like this, 4 = definitely did feel this)

Sad	2.19 (1.17)
Happy	1.00 (0.00)
Anxious	1.90 (0.91)
Relaxed	1.05 (0.22)
Fearful	1.81 (0.98)
Relieved	1.05 (0.22)

Negative consequence image 12

Threat type:
Descriptive statistics (M/SD):
(1 = *not at all*, 7 = *very much*)

Physical:	6.90 (0.30)
Social:	3.24 (2.00)
Financial:	2.90 (2.21)

Paired samples t-test output:
Physical vs. Social:
t(20) = 8.70, p < .001

Physical vs. Financial:
t(20) = 8.55, p < .001

Social vs. Financial:
t(20) = 1.10, p = .285.

Interpretation: On average, image 12 was rated by participants to focus upon a physical threat when compared to a social or to a financial threat. These findings were significant.

Emotions:
Descriptive statistics (M/SD):
(1 = definitely did not feel like this, 4 = definitely did feel this)

Sad	2.81 (1.08)
Happy	1.00 (0.00)
Anxious	2.52 (1.17)
Relaxed	1.05 (0.22)
Fearful	2.38 (1.02)
Relieved	1.10 (0.30)

Negative consequence image 13

Threat type:
Descriptive statistics (M/SD):
(1 = *not at all*, 7 = *very much*)

Physical:	4.45 (2.42)
Social:	5.52 (1.81)
Financial:	3.45 (2.48)

Paired samples t-test output:
Physical vs. Social:
t(19) = -2.34, p = .030

Physical vs. Financial:
t(18) = 2.28, p = .035

Social vs. Financial:
t(19) = 4.70, p <.001

Interpretation: The descriptive statistics show that mean ratings were higher for social threats than for physical and financial threats. There was a significant difference between social and financial threats, suggesting that on average, participants perceived image 13 to focus more upon a social threat than a financial threat. There were no other significant differences at $p < .001$.

Emotions:
Descriptive statistics (M/SD):
(1 = definitely did not feel like this, 4 = definitely did feel this)

Sad	1.52 (0.98)
Happy	1.05 (0.22)
Anxious	2.67 (1.02)
Relaxed	1.05 (0.22)
Fearful	2.24 (1.14)
Relieved	1.05 (0.22)

Negative consequence image 14

Threat type:
Descriptive statistics (M/SD):
(1 = *not at all*, 7 = *very much*)

Physical:	2.24 (1.45)
Social:	3.43 (1.99)
Financial:	1.90 (1.26)

Paired samples t-test output:
Physical vs. Social:
t(20) = -2.61, p = .017

Physical vs. Financial:
t(20) = 1.50, p = .149

Social vs. Financial:
t(20) = 3.75, p = .001

Interpretation: The descriptive statistics show that on average physical, social, and financial threat ratings were low (mean ratings of 1.90 and 3.43, using a 7-point semantic differential scale). There was no significant differences between threat types at $p < .001$.

Emotions:
Descriptive statistics (M/SD):
(1 = definitely did not feel like this, 4 = definitely did feel this)

Sad	2.29 (1.19)
Happy	1.00 (0.00)
Anxious	1.43 (0.81)
Relaxed	1.10 (0.30)
Fearful	1.43 (0.75)
Relieved	1.00 (0.00)

Negative consequence image 15

Threat type:
Descriptive statistics (M/SD):
(1 = *not at all*, 7 = *very much*)

Physical:	2.60 (1.60)
Social:	4.05 (1.63)
Financial:	4.10 (1.81)

Paired samples t-test output:
Physical vs. Social:
t(19) = -3.99, p = .001

Physical vs. Financial:
t(19) = -3.25, p = .004

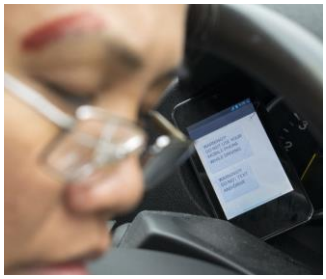
Social vs. Financial:
t(20) = -0.12, p = .905

Interpretation: The descriptive statistics show that mean ratings for social and financial threats were slightly higher than the mean rating for physical threats for image 15. However, all threat type ratings were considered to be low (mean ratings < 4.11, using a 7-point semantic differential scale) and there were no significant differences between threat types.

Emotions:
Descriptive statistics (M/SD):
(1 = definitely did not feel like this, 4 = definitely did feel this)

Sad	1.10 (0.30)
Happy	1.00 (0.00)
Anxious	2.14 (0.96)
Relaxed	1.05 (0.22)
Fearful	1.81 (0.93)
Relieved	1.10 (0.31)

Negative consequence image 16



Threat type:
Descriptive statistics (M/SD):
(1 = *not at all*, 7 = *very much*)

Physical:	5.24 (1.70)
Social:	4.76 (1.45)
Financial:	2.95 (2.09)

Paired samples t-test output:
Physical vs. Social:
t(20) = 1.07, p = .298

Physical vs. Financial:
t(20) = 5.04, p <.001

Social vs. Financial:
t(20) = 4.07, p <.001

Interpretation: These findings indicate that mean ratings for physical threat was rated slightly higher than for social threat and significantly higher than for financial threat. There were no significant differences between physical and social threat mean ratings.

Emotions:
Descriptive statistics (M/SD):
(1 = definitely did not feel like this, 4 *= definitely did feel this)*

Sad	1.90 (0.89)
Happy	1.00 (0.00)
Anxious	2.05 (.081)
Relaxed	1.05 (0.22)
Fearful	1.81 (0.81)
Relieved	1.05 (0.22)

Negative consequence image 17

Threat type:
Descriptive statistics (M/SD):
(1 = *not at all*, 7 = *very much*)

Physical:	6.62 (0.67)
Social:	4.81 (1.81)
Financial:	3.81 (2.23)

Paired samples t-test output:
Physical vs. Social:
t(20) = 4.28, p < .001

Physical vs. Financial:
t(20) = 5.96, p <.001

Social vs. Financial:
t(20) = 2.09, p = .049

Interpretation: On average, image 17 was rated by participants to focus upon a physical threat compared to a social or to a financial threat. These findings were significant. There was no significant difference between social or financial threat mean ratings at *p* < .001.

Emotions:
Descriptive statistics (M/SD):
(1 = definitely did not feel like this, 4 *= definitely did feel this)*

Sad	2.90 (0.94)
Happy	1.00 (0.00)
Anxious	2.24 (0.94)
Relaxed	1.00 (0.00)
Fearful	2.00 (1.08)
Relieved	1.00 (0.00)

Negative consequence image 18

Threat type:
Descriptive statistics (M/SD):
(1 = *not at all*, 7 = *very much*)

Physical:	1.81 (1.17)
Social:	2.60 (1.70)
Financial:	1.90 (1.41)

Paired samples t-test output:
Physical vs. Social:
t(19) = -2.54, p = .020

Physical vs. Financial:
t(19) = -0.81, p = .428

Social vs. Financial:
t(19) = 3.04, p = .007

Interpretation: The descriptive statistics show that, on average physical, social, and financial threat ratings were low (mean ratings of 1.81 and 2.60, using a 7-point semantic differential scale). There was no significant differences between threat types at *p* < .001.

Emotions:
Descriptive statistics (M/SD):
(1 = definitely did not feel like this, 4 *= definitely did feel this)*

Sad	2.19 (1.12)
Happy	1.00 (0.00)
Anxious	1.33 (0.58)
Relaxed	1.05 (0.22)
Fearful	1.29 (0.56)
Relieved	1.10 (0.30)

Negative consequence image 19

Threat type:
Descriptive statistics (M/SD):
(1 = *not at all*, 7 = *very much*)

Physical:	2.14 (1.49)
Social:	4.05 (1.77)
Financial:	1.86 (1.24)

Paired samples t-test output:
Physical vs. Social:
t(20) = -4.26, p < .001

Physical vs. Financial:
t(20) = 1.37, p = .186

Social vs. Financial:
t(20) = 5.93, p < .001

Interpretation: On average, image 19 had significantly higher mean ratings for focusing upon a social threat compared to physical and financial threats. However, the mean rating for social threats was considered to be low (i.e., mean rating of 4.05, using a 7-point semantic differential scale).

Emotions:
Descriptive statistics (M/SD):
(1 = definitely did not feel like this, 4 = definitely did feel this)

Sad	1.48 (0.68)
Happy	1.00 (0.00)
Anxious	1.48 (0.75)
Relaxed	1.10 (0.30)
Fearful	1.33 (0.30)
Relieved	1.00 (0.00)

Negative consequence image 20

Threat type:
Descriptive statistics (M/SD):
(1 = *not at all*, 7 = *very much*)

Physical:	3.43 (2.11)
Social:	4.19 (1.60)
Financial:	4.33 (2.11)

Paired samples t-test output:
Physical vs. Social:
t(20) = -1.93, p = .069

Physical vs. Financial:
t(20) = -1.86, p = .078

Social vs. Financial:
t(20) = -0.34, p = .738

Interpretation: The descriptive statistics show that, on average physical, social, and financial threat ratings were low (mean ratings of 3.43 and 4.33, using a 7-point semantic differential scale). There was no significant differences between threat types.

Emotions:
Descriptive statistics (M/SD):
(1 = definitely did not feel like this, 4 = definitely did feel this)

Sad	1.14 (0.36)
Happy	1.00 (0.00)
Anxious	2.33 (0.86)
Relaxed	1.14 (0.36)
Fearful	1.71 (0.85)
Relieved	1.05 (0.22)

Negative consequence image 21

Threat type:
Descriptive statistics (M/SD):
(1 = *not at all*, 7 = *very much*)

Physical:	6.81 (0.40)
Social:	2.86 (2.01)
Financial:	2.76 (1.97)

Paired samples t-test output:
Physical vs. Social:
t(20) = 9.36, p < .001

Physical vs. Financial:
t(20) = 9.71, p < .001

Social vs. Financial:
t(20) = 0.46, p = .649

Interpretation: On average, image 21 was rated by participants to focus upon a physical threat compared to a social or to a financial threat. These findings were significant.

Emotions:
Descriptive statistics (M/SD):
(1 = definitely did not feel like this, 4 = definitely did feel this)

Sad	2.80 (1.11)
Happy	1.00 (0.00)
Anxious	2.43 (1.17)
Relaxed	1.00 (0.00)
Fearful	2.00 (1.00)
Relieved	1.10 (0.30)

Negative consequence image 22

Threat type:
Descriptive statistics (M/SD):
(1 = *not at all*, 7 = *very much*)

Physical:	6.20 (0.83)
Social:	3.14 (2.10)
Financial:	3.57 (2.36)

Paired samples t-test output:
Physical vs. Social:
t(19) = 6.10, p < .001

Physical vs. Financial:
t(19) = 4.67, p < .001

Social vs. Financial:
t(20) = -0.99, p = .335

Interpretation: On average, image 22 was rated by participants to focus upon a physical threat compared to a social threat or to a financial threat. These findings were significant. There was no significant difference between social or financial threat mean ratings

Emotions:
Descriptive statistics (M/SD):
(1 = definitely did not feel like this, 4 = definitely did feel this)

Sad	2.10 (0.94)
Happy	1.00 (0.00)
Anxious	1.86 (0.66)
Relaxed	1.00 (0.00)
Fearful	2.05 (0.95)
Relieved	1.05 (0.22)

Negative consequence image 23

Threat type:
Descriptive statistics (M/SD):
(1 = *not at all*, 7 = *very much*)

Physical:	4.43 (1.91)
Social:	3.67 (2.06)
Financial:	3.33 (2.33)

Paired samples t-test output:
Physical vs. Social:
t(20) = 1.75, p = .096

Physical vs. Financial:
t(20) = 2.55, p = .019

Social vs. Financial:
t(20) = 1.13, p = .273

Interpretation: The descriptive statistics show that, on average, images 23 was rated by participants to focus on a physical threat, with slightly lower mean scores for social and financial threats. There were no significant differences between threat type.

Emotions:
Descriptive statistics (M/SD):
(1 = definitely did not feel like this, 4 = definitely did feel this)

Sad	1.33 (0.66)
Happy	1.05 (0.22)
Anxious	2.19 (1.03)
Relaxed	1.05 (0.22)
Fearful	1.86 (1.06)
Relieved	1.10 (0.44)

Negative consequence image 24

Threat type:
Descriptive statistics (M/SD):
(1 = *not at all*, 7 = *very much*)

Physical:	6.33 (0.86)
Social:	3.75 (2.12)
Financial:	4.43 (2.16)

Paired samples t-test output:
Physical vs. Social:
t(19) = 5.21, p < .001

Physical vs. Financial:
t(20) = 3.99, p = .001

Social vs. Financial:
t(19) = -1.67, p = .110

Interpretation: On average, image 24 had significantly higher mean ratings for focusing upon a physical threat compared to a social threat. The descriptive statistics show that image 24 had higher mean ratings for focusing upon a physical threat compared to a financial threat, but this finding failed to reach significance at *p* < .001.

Emotions:
Descriptive statistics (M/SD):
(1 = definitely did not feel like this, 4 = definitely did feel this)

Sad	1.95 (1.16)
Happy	1.00 (0.00)
Anxious	2.00 (1.14)
Relaxed	1.05 (0.22)
Fearful	1.76 (1.04)
Relieved	1.10 (0.30)

Negative consequence image 25

Threat type:
Descriptive statistics (M/SD):
(1 = *not at all*, 7 = *very much*)

Physical:	1.95 (1.50)
Social:	5.29 (1.59)
Financial:	5.90 (1.22)

Paired samples t-test output:
Physical vs. Social:
t(20) = -7.17, p < .001

Physical vs. Financial:
t(20) = -7.95, p < .001

Social vs. Financial:
t(20) = -0.97, p = .343

Interpretation: The descriptive statistics show that, on average, image 25 was perceived by participants to significantly focus upon social and financial threats when compared to a physical threat.

Emotions:
Descriptive statistics (M/SD):
(1 = definitely did not feel like this, 4 = definitely did feel this)

Sad	1.57 (0.93)
Happy	1.14 (0.66)
Anxious	2.14 (1.11)
Relaxed	1.14 (0.48)
Fearful	1.90 (1.00)
Relieved	1.05 (0.22)

Negative consequence image 26

Threat type:
Descriptive statistics (M/SD):
(1 = *not at all*, 7 = *very much*)

Physical:	5.90 (1.22)
Social:	5.48 (1.60)
Financial:	2.76 (2.36)

Paired samples t-test output:
Physical vs. Social:
t(20) = 1.14, p = .267

Physical vs. Financial:
t(20) = 5.68, p < .001

Social vs. Financial:
t(20) = 5.67, p < .001

Interpretation: The descriptive statistics show that, on average, image 26 was perceived by participants to focus upon physical and social threats. There were no significant differences between these two threat types.

Emotions:
Descriptive statistics (M/SD):
(1 = definitely did not feel like this, 4 = definitely did feel this)

Sad	2.00 (1.05)
Happy	1.00 (0.00)
Anxious	2.95 (0.97)
Relaxed	1.00 (0.00)
Fearful	2.38 (1.07)
Relieved	1.00 (0.00)

Negative consequence image 27

Threat type:
Descriptive statistics (M/SD):
(1 = *not at all*, 7 = *very much*)

Physical:	6.33 (0.73)
Social:	4.48 (1.94)
Financial:	4.05 (2.06)

Paired samples t-test output:
Physical vs. Social:
t(20) = 4.24, p < .001

Physical vs. Financial:
t(20) = 4.88, p < .001

Social vs. Financial:
t(20) = 1.12, p = .275

Interpretation: On average, image 27 was rated by participants to focus upon a physical threat compared to a social threat or to a financial threat. These findings were significant. There was no significant difference between social or financial threat mean ratings.

Emotions:
Descriptive statistics (M/SD):
(1 = definitely did not feel like this, 4 = definitely did feel this)

Sad	2.38 (1.16)
Happy	1.00 (0.00)
Anxious	1.90 (0.83)
Relaxed	1.00 (0.00)
Fearful	1.62 (0.59)
Relieved	1.05 (0.22)

Negative consequence image 28

Threat type:
Descriptive statistics (M/SD):
(1 = *not at all*, 7 = *very much*)

Physical:	5.38 (1.66)
Social:	6.29 (0.90)
Financial:	4.19 (2.19)

Paired samples t-test output:
Physical vs. Social:
t(20) = -2.36, p = .029

Physical vs. Financial:
t(20) = 1.96, p = .064

Social vs. Financial:
t(20) = 4.39, p < .001

Interpretation: The descriptive statistics show that on average, image 30 was perceived by participants to focus upon a social threat compared to a physical or financial threat. There was a significant difference between social and financial threats (higher mean scores towards the image focusing on a social threat), but no significant difference between social and physical mean scores at, *p* < .001.

Emotions:
Descriptive statistics (M/SD):
(1 = definitely did not feel like this, 4 = definitely did feel this)

Sad	1.86 (1.06)
Happy	1.00 (0.00)
Anxious	2.71 (1.06)
Relaxed	1.00 (0.00)
Fearful	2.24 (1.04)
Relieved	1.00 (0.00)

Negative consequence image 29

Threat type:
Descriptive statistics (M/SD):
(1 = *not at all*, 7 = *very much*)

Physical:	4.19 (2.18)
Social:	4.95 (1.72)
Financial:	4.57 (1.63)

Paired samples t-test output:
Physical vs. Social:
t(20) = 0.93, p = .365

Physical vs. Financial:
t(20) = 1.89, p = .074

Social vs. Financial:
t(20) = 1.78, p = .091

Interpretation: The descriptive statistics show that on average physical, social, and financial threat ratings were similar (mean ratings of 4.19 to 4.95). There were no significant differences between threat types.

Emotions:
Descriptive statistics (M/SD):
(1 = definitely did not feel like this, 4 = definitely did feel this)

Sad	1.43 (0.68)
Happy	1.05 (0.22)
Anxious	1.48 (0.51)
Relaxed	1.19 (0.68)
Fearful	1.52 (0.60)
Relieved	1.05 (0.22)

Negative consequence image 30

Threat type:
Descriptive statistics (M/SD):
(1 = *not at all*, 7 = *very much*)

Physical:	4.57 (1.75)
Social:	5.29 (1.31)
Financial:	4.19 (2.11)

Paired samples t-test output:
Physical vs. Social:
t(20) = -1.63, p = .118

Physical vs. Financial:
t(20) = 0.65, p = .521

Social vs. Financial:
t(20) = 3.47, p = .002

Interpretation: The descriptive statistics show that on average, image 30 was rated by participants to focus more upon a social theat. However, there were no significant differences between threat types, *p* < .001.

Emotions:
Descriptive statistics (M/SD):
(1 = definitely did not feel like this, 4 = definitely did feel this)

Sad	2.05 (0.97)
Happy	1.00 (0.00)
Anxious	2.38 (1.02)
Relaxed	1.05 (0.22)
Fearful	1.67 (0.86)
Relieved	1.10 (0.30)

Main study. Survey 1: Pre-task

SECTION A: General Information

Please indicate your responses to the questions below by writing your responses as directed.

a)	What is your gender?	○ Male ○ Female ○ Other
b)	What is your age in years?	_____ years
c)	What state do you currently reside in?	_____
d)	What is your licence status?	○ Open ○ Provisional 1 ○ Provisional 2 ○ Learners
e)	What type of car do you drive?	○ Automatic ○ Manual
f)	On average, how many hours of driving do you do each week? of driving	_____ hours
g)	Where do you mostly drive? (Please select one response)	○ City ○ Suburb ○Country/rural areas
h)	What is the highest level of education you have completed?	○ High School ○ TAFE ○ Undergraduate ○ Postgraduate

A number of the items in this survey do appear similar and therefore repetitive, but we are keen to explore your responses in relation to different contexts.

SECTION B: Past Behaviour

How often do you do the following on your mobile phone **while driving**?

(Please circle a number on each line)

	More than once per day	Daily	1 – 2 times per week	1 – 2 times per month	1 – 2 times in six months	Once a year	Never
Check your mobile phone for missed calls	1	2	3	4	5	6	7
Answer a phone call in hand-held mode	1	2	3	4	5	6	7
Read a text message (or another form of communication, such as a Facebook message, Snapchat, an email, or a tweet)	1	2	3	4	5	6	7
Answer a text message (or another form of communication, such as a Facebook message, Snapchat, an email, or a tweet)	1	2	3	4	5	6	7
Change music (using Spotify, iTunes)	1	2	3	4	5	6	7

SECTION C: Involvement

a) How important/relevant is the issue of road safety to you?

Extremely unimportant	Quite unimportant	Slightly unimportant	Slightly important	Quite important	Extremely important

b) Have you ever been fined from using your mobile phone while driving?
Yes/no
If yes, how many times?

c) Have you ever been involved in a crash as a result of using your mobile phone while driving?
Yes/no
If yes, how many times?

SECTION D: Attitudes

a) For me, **checking my mobile phone** for missed calls while driving in the next week would be: **(Please circle a number on each line)**

Bad	1	2	3	4	5	6	7	**Good**
Unfavourable	1	2	3	4	5	6	7	**Favourable**
Harmful	1	2	3	4	5	6	7	**Harmless**
Unacceptable	1	2	3	4	5	6	7	**Acceptable**

b) For me, answering **a call in hand-held mode on my mobile phone** while driving in the next week would be: **(Please circle a number on each line)**

Bad	1	2	3	4	5	6	7	**Good**
Unfavourable	1	2	3	4	5	6	7	**Favourable**
Harmful	1	2	3	4	5	6	7	**Harmless**
Unacceptable	1	2	3	4	5	6	7	**Acceptable**

c) For me**, reading a text message (or another form of communication, such as a Facebook message, Snapchat, an email, or a tweet)** on my mobile phone while driving in the next week would be: **(Please circle a number on each line)**

Bad	1	2	3	4	5	6	7	**Good**
Unfavourable	1	2	3	4	5	6	7	**Favourable**
Harmful	1	2	3	4	5	6	7	**Harmless**
Unacceptable	1	2	3	4	5	6	7	**Acceptable**

d) For me, **answering a text message (or another form of communication, such as a Facebook message, Snapchat, an email, or a tweet)** on my mobile phone while driving in the next week would be: **(Please circle a number on each line)**

Bad	1	2	3	4	5	6	7	**Good**
Unfavourable	1	2	3	4	5	6	7	**Favourable**
Harmful	1	2	3	4	5	6	7	**Harmless**
Unacceptable	1	2	3	4	5	6	7	**Acceptable**

e) For me, **changing music** (using Spotify, iTunes) on my mobile phone while driving in the next week would be: **(Please circle a number on each line)**

Bad	1	2	3	4	5	6	7	**Good**
Unfavourable	1	2	3	4	5	6	7	**Favourable**
Harmful	1	2	3	4	5	6	7	**Harmless**
Unacceptable	1	2	3	4	5	6	7	**Acceptable**

SECTION E: Intention, Perceived Behavioural Control, Subjective Norm
For the table below, please circle the answer most appropriate to you on each line:

Strongly disagree	Disagree	Somewhat disagree	Somewhat agree	Agree	Strongly agree
I **intend** to **check my mobile phone** for missed calls while driving in the next week					
1	2	3	5	6	7
It is **likely** that I will **check my mobile phone** for missed calls while driving in the next week.					
1	2	3	4	5	6
Most **people important to me** would **approve** of me **checking my mobile phone** for missed calls while driving in the next week.					
1	2	3	4	5	6
Most **people important to me** would think that I **should check my mobile phone** for missed calls while driving in the next week.					
1	2	3	4	5	6
I have **complete control** over whether or not I **check my mobile phone** for missed calls while driving in the next week.					
1	2	3	4	5	6
I am **confident** that I could **check my mobile phone** for missed calls while driving in the next week.					
1	2	3	4	5	6
I **intend** to answer calls **in hand-held mode** on **my mobile phone** while driving in the next week.					
1	2	3	4	5	6
It is **likely** that I will answer calls **in hand-held mode** on **my mobile phone** while driving in the next week.					
1	2	3	4	5	6
Most **people important to me** would **approve** of me **answering calls in hand-held mode on my mobile phone** while driving in the next week.					
1	2	3	4	5	6
Most **people important to me** would think that I **should answer calls in hand-held mode on my mobile phone** while driving in the next week.					
1	2	3	4	5	6

Strongly disagree	Disagree	Somewhat disagree	Somewhat agree	Agree	Strongly agree
I have **complete control** over whether or not I **answer calls in hand-held mode on my mobile phone** while driving in the next week.					
1	2	3	4	5	6
I am **confident** that I could **answer calls in hand-held mode on my mobile phone** while driving in the next week.					
1	2	3	4	5	6
I **intend** to **read text messages (or another forms of communication, such as a Facebook message, Snapchat, an email, or a tweet)** on my mobile phone while driving in the next week					
1	2	3	4	5	6
It is **likely** that I will **read text messages (or another forms of communication, such as a Facebook message, Snapchat, an email, or a tweet**) on my mobile phone while driving in the next week					
1	2	3	4	5	6
Most **people important to me** would **approve** of me **reading text messages (or another forms of communication, such as a Facebook message, Snapchat, an email, or a tweet)** on my mobile phone while driving in the next week.					
1	2	3	4	5	6
Most **people important to me** would think that I **should read text messages (or another forms of communication, such as a Facebook message, Snapchat, an email, or a tweet)** on my mobile phone while driving in the next week.					
1	2	3	4	5	6
I have **complete control** over whether or not I **read text messages (or another forms of communication, such as a Facebook message, Snapchat, an email, or a tweet)** while driving in the next week.					
1	2	3	4	5	6
I am **confident** that I could **read text messages (or another forms of communication, such as a Facebook message, Snapchat, an email, or a tweet)** while driving in the next week.					
1	2	3	4	5	6
I **intend** to **answer text messages (or another forms of communication, such as a Facebook message, Snapchat, an email, or a tweet)** on my mobile phone while driving in the next week.					
1	2	3	4	5	6

Strongly disagree	Disagree	Somewhat disagree	Somewhat agree	Agree	Strongly agree
It is **likely** that I will **answer text messages (or another forms of communication, such as a Facebook message, Snapchat, an email, or a tweet)** on my mobile phone while driving in the next week.					
1	2	3	4	5	6
Most **people important to me** would **approve** of me **answering text messages (or another forms of communication, such as a Facebook message, Snapchat, an email, or a tweet)** on my mobile phone while driving in the next week.					
1	2	3	4	5	6
Most **people important to me** would think that I **should answer text messages (or another forms of communication, such as a Facebook message, Snapchat, an email, or a tweet)** on my mobile phone while driving in the next week.					
1	2	3	4	5	6
I have **complete control** over whether or not I **answer text messages (or another forms of communication, such as a Facebook message, Snapchat, an email, or a tweet)** on my mobile phone while driving in the next week.					
1	2	3	4	5	6
I am **confident** that I could **answer text messages (or another forms of communication, such as a Facebook message, Snapchat, an email, or a tweet)** on my mobile phone while driving in the next week.					
1	2	3	4	5	6
I **intend** to use **my mobile phone to change music** (using Spotify, iTunes) while driving in the next week.					
1	2	3	4	5	6
It is **likely** that I will use **my mobile phone to change music** (using Spotify, iTunes) while driving in the next week.					
1	2	3	4	5	6
Most people important to me would **approve** of me using **my mobile phone to change music** (using Spotify, iTunes) while driving in the next week,					
1	2	3	4	5	6
Most people important to me would think that I **should use my mobile phone to change music** (using Spotify, iTunes) while driving in the next week.					
1	2	3	4	5	6

Strongly disagree	Disagree	Somewhat disagree	Somewhat agree	Agree	Strongly agree
I have **complete control** over whether or not I use **my mobile phone to change music** (using Spotify, iTunes) while driving in the next week.					
1	2	3	4	5	6
I am **confident** that I could use **my mobile phone to change music** (using Spotify, iTunes) while driving in the next week.					
1	2	3	4	5	6

SECTION F: Specific Subjective Norms

For the following five questions, please indicate the extent to which you agree or disagree that the **following person/ people would approve of you**.....

a. **Checking my mobile phone** for missed calls while driving in the next week:

	Strongly disagree	Disagree	Somewhat disagree	Somewhat agree	Agree	Strongly agree	N/A
Friends	1	2	3	4	5	6	7
Partner	1	2	3	4	5	6	7
Parent(s)	1	2	3	4	5	6	7

b. **Answering a call in hand-held mode** on my mobile phone while driving in the next week:

	Strongly disagree	Disagree	Somewhat disagree	Somewhat agree	Agree	Strongly agree	N/A
Friends	1	2	3	4	5	6	7
Partner	1	2	3	4	5	6	7
Parent(s)	1	2	3	4	5	6	7

c. **Reading a text message** (or another form of communication, such as a Facebook message, Snapchat, an email, or a tweet) on my mobile phone while driving in the next week:

	Strongly disagree	Disagree	Somewhat disagree	Somewhat agree	Agree	Strongly agree	N/A
Friends	1	2	3	4	5	6	7
Partner	1	2	3	4	5	6	7
Parent(s)	1	2	3	4	5	6	7

d. **Answering a text message** (or another form of communication, such as a Facebook message, Snapchat, an email, or a tweet) on my mobile phone while driving in the next week:

	Strongly disagree	Disagree	Somewhat disagree	Somewhat agree	Agree	Strongly agree	N/A
Friends	1	2	3	4	5	6	7
Partner	1	2	3	4	5	6	7
Parent(s)	1	2	3	4	5	6	7

e. **Changing music** (using Spotify, iTunes) on my mobile phone while driving in the next week:

	Strongly disagree	Disagree	Somewhat disagree	Somewhat agree	Agree	Strongly agree	N/A
Friends	1	2	3	4	5	6	7
Partner	1	2	3	4	5	6	7
Parent(s)	1	2	3	4	5	6	7

SECTION G: Unique participant code

We would like to ask you to provide us with a unique participant code. This code will be our means of matching your data anonymously. We cannot identify you from this code. To create your 6-digit/letter code, please answer the following questions:

	What are the last two letters of your first name? (e.g., Emma Jane Smith = MA).
	What are the last two letters of your middle name? (e.g., Emma Jane Smith = NE. If you do not have a middle name please write 'NA').
	What is the month of your birthday? (e.g., 6th April, 1999 would be 04)

Thank you for completing this first survey.

Please let the researcher know that you have completed this survey.
You will now receive instructions on how to complete the computerised tasks.

Main study. Survey 2: Immediate post computerised task

A number of the items in this survey do appear similar and therefore repetitive, but we are keen to explore your responses in relation to different contexts.

SECTION A: Attitudes

a) For me, **checking my mobile phone** for missed calls while driving in the next week would be: **(Please circle a number on each line)**

Bad	1	2	3	4	5	6	7	**Good**
Unfavourable	1	2	3	4	5	6	7	**Favourable**
Harmful	1	2	3	4	5	6	7	**Harmless**
Unacceptable	1	2	3	4	5	6	7	**Acceptable**

b) For me, answering **a phone call in hand-held mode on my mobile phone** while driving in the next week would be: **(Please circle a number on each line)**

Bad	1	2	3	4	5	6	7	**Good**
Unfavourable	1	2	3	4	5	6	7	**Favourable**
Harmful	1	2	3	4	5	6	7	**Harmless**
Unacceptable	1	2	3	4	5	6	7	**Acceptable**

c) For me**, reading a text message (or another form of communication, such as a Facebook message, Snapchat, an email, or a tweet)** on my mobile phone while driving in the next week would be: **(Please circle a number on each line)**

Bad	1	2	3	4	5	6	7	**Good**
Unfavourable	1	2	3	4	5	6	7	**Favourable**
Harmful	1	2	3	4	5	6	7	**Harmless**
Unacceptable	1	2	3	4	5	6	7	**Acceptable**

d) For me, **answering a text message (or another form of communication, such as a Facebook message, Snapchat, an email, or a tweet)** on my mobile phone while driving in the next week would be: **(Please circle a number on each line)**

Bad	1	2	3	4	5	6	7	**Good**
Unfavourable	1	2	3	4	5	6	7	**Favourable**
Harmful	1	2	3	4	5	6	7	**Harmless**
Unacceptable	1	2	3	4	5	6	7	**Acceptable**

e) For me, **changing music** (using Spotify, iTunes) on my mobile phone while driving in the next week would be: **(Please circle a number on each line)**

Bad	1	2	3	4	5	6	7	**Good**
Unfavourable	1	2	3	4	5	6	7	**Favourable**
Harmful	1	2	3	4	5	6	7	**Harmless**
Unacceptable	1	2	3	4	5	6	7	**Acceptable**

SECTION B: Intention, Perceived Behavioural Control, Subjective Norm

For the table below, please circle the answer most appropriate to you on each line:

Strongly disagree	Disagree	Somewhat disagree	Somewhat agree	Agree	Strongly agree
I **intend** to **check my mobile phone** for missed calls while driving in the next week					
1	2	3	5	6	7
It is **likely** that I will **check my mobile phone** for missed calls while driving in the next week.					
1	2	3	4	5	6
Most **people important to me** would **approve** of me **checking my mobile phone** for missed calls while driving in the next week.					
1	2	3	4	5	6
Most **people important to me** would think that I **should check my mobile phone** for missed calls while driving in the next week.					
1	2	3	4	5	6
I have **complete control** over whether or not I **check my mobile phone** for missed calls while driving in the next week.					
1	2	3	4	5	6
I am **confident** that I could **check my mobile phone** for missed calls while driving in the next week.					
1	2	3	4	5	6
I **intend** to answer calls **in hand-held mode** on **my mobile phone** while driving in the next week.					
1	2	3	4	5	6
It is **likely** that I will answer calls **in hand-held mode** on **my mobile phone** while driving in the next week.					
1	2	3	4	5	6
Most **people important to me** would **approve** of me **answering calls in hand-held mode on my mobile phone** while driving in the next week.					
1	2	3	4	5	6

Strongly disagree	Disagree	Somewhat disagree	Somewhat agree	Agree	Strongly agree
Most **people important to me** would think that I **should answer calls in hand-held mode on my mobile phone** while driving in the next week.					
1	2	3	4	5	6
I have **complete control** over whether or not I **answer calls in hand-held mode on my mobile phone** while driving in the next week.					
1	2	3	4	5	6
I am **confident** that I could **answer calls in hand-held mode on my mobile phone** while driving in the next week.					
1	2	3	4	5	6
I **intend** to **read text messages (or another forms of communication, such as a Facebook message, Snapchat, an email, or a tweet)** on my mobile phone while driving in the next week					
1	2	3	4	5	6
It is **likely** that I will **read text messages (or another forms of communication, such as a Facebook message, Snapchat, an email, or a tweet**) on my mobile phone while driving in the next week					
1	2	3	4	5	6
Most **people important to me** would **approve** of me **reading text messages (or another forms of communication, such as a Facebook message, Snapchat, an email, or a tweet)** on my mobile phone while driving in the next week.					
1	2	3	4	5	6
Most **people important to me** would think that I **should read text messages (or another forms of communication, such as a Facebook message, Snapchat, an email, or a tweet)** on my mobile phone while driving in the next week.					
1	2	3	4	5	6
I have **complete control** over whether or not I **read text messages (or another forms of communication, such as a Facebook message, Snapchat, an email, or a tweet)** while driving in the next week.					
1	2	3	4	5	6
I am **confident** that I could **read text messages (or another forms of communication, such as a Facebook message, Snapchat, an email, or a tweet)** while driving in the next week.					
1	2	3	4	5	6

Strongly disagree	Disagree	Somewhat disagree	Somewhat agree	Agree	Strongly agree
I **intend** to **answer text messages (or another forms of communication, such as a Facebook message, Snapchat, an email, or a tweet)** on my mobile phone while driving in the next week.					
1	2	3	4	5	6
It is **likely** that I will **answer text messages (or another forms of communication, such as a Facebook message, Snapchat, an email, or a tweet)** on my mobile phone while driving in the next week.					
1	2	3	4	5	6
Most **people important to me** would **approve** of me **answering text messages (or another forms of communication, such as a Facebook message, Snapchat, an email, or a tweet)** on my mobile phone while driving in the next week.					
1	2	3	4	5	6
Most **people important to me** would think that I **should answer text messages (or another forms of communication, such as a Facebook message, Snapchat, an email, or a tweet)** on my mobile phone while driving in the next week.					
1	2	3	4	5	6
I have **complete control** over whether or not I **answer text messages (or another forms of communication, such as a Facebook message, Snapchat, an email, or a tweet)** on my mobile phone while driving in the next week.					
1	2	3	4	5	6
I am **confident** that I could **answer text messages (or another forms of communication, such as a Facebook message, Snapchat, an email, or a tweet)** on my mobile phone while driving in the next week.					
1	2	3	4	5	6
I **intend** to use **my mobile phone to change music** (using Spotify, iTunes) while driving in the next week.					
1	2	3	4	5	6
It is **likely** that I will use **my mobile phone to change music** (using Spotify, iTunes) while driving in the next week.					
1	2	3	4	5	6
Most people important to me would **approve** of me using **my mobile phone to change music** (using Spotify, iTunes) while driving in the next week,					
1	2	3	4	5	6

Strongly disagree	Disagree	Somewhat disagree	Somewhat agree	Agree	Strongly agree
Most people important to me would think that I **should use my mobile phone to change music** (using Spotify, iTunes) while driving in the next week.					
1	2	3	4	5	6
I have **complete control** over whether or not I use **my mobile phone to change music** (using Spotify, iTunes) while driving in the next week.					
1	2	3	4	5	6
I am **confident** that I could use **my mobile phone to change music** (using Spotify, iTunes) while driving in the next week.					
1	2	3	4	5	6

SECTION C: Specific Subjective Norms

For the following five questions, please indicate the extent to which you agree or disagree that the **following person/ people would approve of you**…….

a. **Checking my mobile phone** for missed calls while driving in the next week:

	Strongly disagree	Disagree	Somewhat disagree	Somewhat agree	Agree	Strongly agree	N/A
Friends	1	2	3	4	5	6	7
Partner	1	2	3	4	5	6	7
Parent(s)	1	2	3	4	5	6	7

b. **Answering a call in hand-held mode** on my mobile phone while driving in the next week:

	Strongly disagree	Disagree	Somewhat disagree	Somewhat agree	Agree	Strongly agree	N/A
Friends	1	2	3	4	5	6	7
Partner	1	2	3	4	5	6	7
Parent(s)	1	2	3	4	5	6	7

c. **Reading a text message** (or another form of communication, such as a Facebook message, Snapchat, an email, or a tweet) on my mobile phone while driving in the next week:

	Strongly disagree	Disagree	Somewhat disagree	Somewhat agree	Agree	Strongly agree	N/A
Friends	1	2	3	4	5	6	7
Partner	1	2	3	4	5	6	7
Parent(s)	1	2	3	4	5	6	7

d. **Answering a text message** (or another form of communication, such as a Facebook message, Snapchat, an email, or a tweet) on my mobile phone while driving in the next week:

	Strongly disagree	Disagree	Somewhat disagree	Somewhat agree	Agree	Strongly agree	N/A
Friends	1	2	3	4	5	6	7
Partner	1	2	3	4	5	6	7
Parent(s)	1	2	3	4	5	6	7

e. **Changing music** (using Spotify, iTunes) on my mobile phone while driving in the next week:

	Strongly disagree	Disagree	Somewhat disagree	Somewhat agree	Agree	Strongly agree	N/A
Friends	1	2	3	4	5	6	7
Partner	1	2	3	4	5	6	7
Parent(s)	1	2	3	4	5	6	7

SECTION D: Unique participant code

We would like to ask you to provide us with a unique participant code. This code will be our means of matching your data anonymously. We cannot identify you from this code. To create your 6-digit/letter code, please answer the following questions:

	What are the last two letters of your first name? (e.g., Emma Jane Smith = MA).
	What are the last two letters of your middle name? (e.g., Emma Jane Smith = NE. If you do not have a middle name please write 'NA').
	What is the month of your birthday? (e.g., 6th April, 1999 would be 04)

Thank you for completing the second survey.

Please let the research know that you have completed this survey.

Main study. Survey 3: 1 week follow-up (completed online)

SECTION A: About you

i) Did you take home the CARRS-Q factsheet on mobile phone use and distraction?

○Yes
○ No

b) If yes, did you read the CARRS-Q factsheet on mobile phone use and distraction?

○Yes
○ No

SECTION B: Behaviour during the past week

a) How often in the past week have you **checked your mobile phone** for missed calls while driving? **(Please mark one response)**

Never	Rarely	Not often	Sometimes	Slightly often	Often	Very often

b) How often in the past week have you **answered a call in hand-held mode** on your mobile phone while driving? **(Please mark one response)**

Never	Rarely	Not often	Sometimes	Slightly often	Often	Very often

c) How often in the past week have you **read a text message (or another form of communication, such as a Facebook message, Snapchat, an email, or a tweet)** on your mobile phone while driving? **(Please mark one response)**

Never	Rarely	Not often	Sometimes	Slightly often	Often	Very often

d) How often in the past week have you **answered a text message (or another form of communication, such as a Facebook message)** on your mobile phone while driving? **(Please mark one response)**

Never	Rarely	Not often	Sometimes	Slightly often	Often	Very often

e) How often in the past week have you **changed music (using Spotify, iTunes)** on your mobile phone while driving **(Please mark one response)**

Never	Rarely	Not often	Sometimes	Slightly often	Often	Very often

SECTION C: Attitudes

a) For me, **checking my mobile phone** for missed calls while driving in the next week would be: **(Please circle a number on each line)**

Bad	1	2	3	4	5	6	7	**Good**
Unfavourable	1	2	3	4	5	6	7	**Favourable**
Harmful	1	2	3	4	5	6	7	**Harmless**
Unacceptable	1	2	3	4	5	6	7	**Acceptable**

b) For me, answering **a phone call in hand-held mode on my mobile phone** while driving in the next week would be: **(Please circle a number on each line)**

Bad	1	2	3	4	5	6	7	**Good**
Unfavourable	1	2	3	4	5	6	7	**Favourable**
Harmful	1	2	3	4	5	6	7	**Harmless**
Unacceptable	1	2	3	4	5	6	7	**Acceptable**

c) For me**, reading a text message (or another form of communication, such as a Facebook message, Snapchat, an email, or a tweet)** on my mobile phone while driving in the next week would be: **(Please circle a number on each line)**

Bad	1	2	3	4	5	6	7	**Good**
Unfavourable	1	2	3	4	5	6	7	**Favourable**
Harmful	1	2	3	4	5	6	7	**Harmless**
Unacceptable	1	2	3	4	5	6	7	**Acceptable**

d) For me, **answering a text message (or another form of communication, such as a Facebook message, Snapchat, an email, or a tweet)** on my mobile phone while driving in the next week would be: **(Please circle a number on each line)**

Bad	1	2	3	4	5	6	7	**Good**
Unfavourable	1	2	3	4	5	6	7	**Favourable**
Harmful	1	2	3	4	5	6	7	**Harmless**
Unacceptable	1	2	3	4	5	6	7	**Acceptable**

e) For me, **changing music** (using Spotify, iTunes) on my mobile phone while driving in the next week would be: **(Please circle a number on each line)**

Bad	1	2	3	4	5	6	7	**Good**
Unfavourable	1	2	3	4	5	6	7	**Favourable**
Harmful	1	2	3	4	5	6	7	**Harmless**
Unacceptable	1	2	3	4	5	6	7	**Acceptable**

SECTION D: Intention, Perceived Behavioural Control, Subjective Norm

For the table below, please circle the answer most appropriate to you on each line:

Strongly disagree	Disagree	Somewhat disagree	Somewhat agree	Agree	Strongly agree
I **intend** to **check my mobile phone** for missed calls while driving in the next week					
1	2	3	5	6	7
It is **likely** that I will **check my mobile phone** for missed calls while driving in the next week.					
1	2	3	4	5	6
Most **people important to me** would **approve** of me **checking my mobile phone** for missed calls while driving in the next week.					
1	2	3	4	5	6
Most **people important to me** would think that I **should check my mobile phone** for missed calls while driving in the next week.					
1	2	3	4	5	6
I have **complete control** over whether or not I **check my mobile phone** for missed calls while driving in the next week.					
1	2	3	4	5	6
I am **confident** that I could **check my mobile phone** for missed calls while driving in the next week.					
1	2	3	4	5	6
I **intend** to answer calls **in hand-held mode** on **my mobile phone** while driving in the next week.					
1	2	3	4	5	6
It is **likely** that I will answer calls **in hand-held mode** on **my mobile phone** while driving in the next week.					
1	2	3	4	5	6
Most **people important to me** would **approve** of me **answering calls in hand-held mode on my mobile phone** while driving in the next week.					
1	2	3	4	5	6

Strongly disagree	Disagree	Somewhat disagree	Somewhat agree	Agree	Strongly agree
Most **people important to me** would think that I **should answer calls in hand-held mode on my mobile phone** while driving in the next week.					
1	2	3	4	5	6
I have **complete control** over whether or not I **answer calls in hand-held mode on my mobile phone** while driving in the next week.					
1	2	3	4	5	6
I am **confident** that I could **answer calls in hand-held mode on my mobile phone** while driving in the next week.					
1	2	3	4	5	6
I **intend** to **read text messages (or another forms of communication, such as a Facebook message, Snapchat, an email, or a tweet)** on my mobile phone while driving in the next week					
1	2	3	4	5	6
It is **likely** that I will **read text messages (or another forms of communication, such as a Facebook message, Snapchat, an email, or a tweet**) on my mobile phone while driving in the next week					
1	2	3	4	5	6
Most **people important to me** would **approve** of me **reading text messages (or another forms of communication, such as a Facebook message, Snapchat, an email, or a tweet)** on my mobile phone while driving in the next week.					
1	2	3	4	5	6
Most **people important to me** would think that I **should read text messages (or another forms of communication, such as a Facebook message, Snapchat, an email, or a tweet)** on my mobile phone while driving in the next week.					
1	2	3	4	5	6
I have **complete control** over whether or not I **read text messages (or another forms of communication, such as a Facebook message, Snapchat, an email, or a tweet)** while driving in the next week.					
1	2	3	4	5	6

Strongly disagree	Disagree	Somewhat disagree	Somewhat agree	Agree	Strongly agree
I am **confident** that I could **read text messages (or another forms of communication, such as a Facebook message, Snapchat, an email, or a tweet)** while driving in the next week.					
1	2	3	4	5	6
I **intend** to **answer text messages (or another forms of communication, such as a Facebook message, Snapchat, an email, or a tweet)** on my mobile phone while driving in the next week.					
1	2	3	4	5	6
It is **likely** that I will **answer text messages (or another forms of communication, such as a Facebook message, Snapchat, an email, or a tweet)** on my mobile phone while driving in the next week.					
1	2	3	4	5	6
Most **people important to me** would **approve** of me **answering text messages (or another forms of communication, such as a Facebook message, Snapchat, an email, or a tweet)** on my mobile phone while driving in the next week.					
1	2	3	4	5	6
Most **people important to me** would think that I **should answer text messages (or another forms of communication, such as a Facebook message, Snapchat, an email, or a tweet)** on my mobile phone while driving in the next week.					
1	2	3	4	5	6
I have **complete control** over whether or not I **answer text messages (or another forms of communication, such as a Facebook message, Snapchat, an email, or a tweet)** on my mobile phone while driving in the next week.					
1	2	3	4	5	6
I am **confident** that I could **answer text messages (or another forms of communication, such as a Facebook message, Snapchat, an email, or a tweet)** on my mobile phone while driving in the next week.					
1	2	3	4	5	6
I **intend** to use **my mobile phone to change music** (using Spotify, iTunes) while driving in the next week.					
1	2	3	4	5	6

Strongly disagree	Disagree	Somewhat disagree	Somewhat agree	Agree	Strongly agree
It is **likely** that I will use **my mobile phone to change music** (using Spotify, iTunes) while driving in the next week.					
1	2	3	4	5	6
Most people important to me would **approve** of me using **my mobile phone to change music** (using Spotify, iTunes) while driving in the next week,					
1	2	3	4	5	6
Most people important to me would think that I **should use my mobile phone to change music** (using Spotify, iTunes) while driving in the next week.					
1	2	3	4	5	6
I have **complete control** over whether or not I use **my mobile phone to change music** (using Spotify, iTunes) while driving in the next week.					
1	2	3	4	5	6
I am **confident** that I could use **my mobile phone to change music** (using Spotify, iTunes) while driving in the next week.					
1	2	3	4	5	6

SECTION E: Specific Subjective Norms

For the following five questions, please indicate the extent to which you agree or disagree that the **following person/ people would approve of you**.....

a. **Checking my mobile phone** for missed calls while driving in the next week:

	Strongly disagree	Disagree	Somewhat disagree	Somewhat agree	Agree	Strongly agree	N/A
Friends	1	2	3	4	5	6	7
Partner	1	2	3	4	5	6	7
Parent(s)	1	2	3	4	5	6	7

b. **Answering a call in hand-held mode** on my mobile phone while driving in the next week:

	Strongly disagree	Disagree	Somewhat disagree	Somewhat agree	Agree	Strongly agree	N/A
Friends	1	2	3	4	5	6	7
Partner	1	2	3	4	5	6	7
Parent(s)	1	2	3	4	5	6	7

c. **Reading a text message** (or another form of communication, such as a Facebook message, Snapchat, an email, or a tweet) on my mobile phone while driving in the next week:

	Strongly disagree	Disagree	Somewhat disagree	Somewhat agree	Agree	Strongly agree	N/A
Friends	1	2	3	4	5	6	7
Partner	1	2	3	4	5	6	7
Parent(s)	1	2	3	4	5	6	7

d. **Answering a text message** (or another form of communication, such as a Facebook message, Snapchat, an email, or a tweet) on my mobile phone while driving in the next week:

	Strongly disagree	Disagree	Somewhat disagree	Somewhat agree	Agree	Strongly agree	N/A
Friends	1	2	3	4	5	6	7
Partner	1	2	3	4	5	6	7
Parent(s)	1	2	3	4	5	6	7

e. **Changing music** (using Spotify, iTunes) on my mobile phone while driving in the next week:

	Strongly disagree	Disagree	Somewhat disagree	Somewhat agree	Agree	Strongly agree	N/A
Friends	1	2	3	4	5	6	7
Partner	1	2	3	4	5	6	7
Parent(s)	1	2	3	4	5	6	7

SECTION F: Final feedback

We welcome any final comments that you may have about any aspect of this research. Please feel free to share your comments in the space provided. As all data is to remain non-identifiable, please ensure that you do not record your name or any other information that could identify you in this section.

_____
_____
_____

SECTION G: Unique participant code

We would like to ask you to provide us with a unique participant code. This code will be our means of matching your data anonymously. We cannot identify you from this code. To create your 6-digit/letter code, please answer the following questions:

	What are the last two letters of your first name? (e.g., Emma Jane Smith = MA).
	What are the last two letters of your middle name? (e.g., Emma Jane Smith = NE. If you do not have a middle name please write 'NA').
	What is the month of your birthday? (e.g., 6th April, 1999 would be 04)

Appendix E: Main study findings (correlation and linear regressions)

Correlations

Table D.1. Descriptive statistics and bivariate correlations for attitudes, intentions, subjective and specific norms, and PBC, for checking mobile phone for missed calls while driving in the next week.

	n	M(SD)	1	2	3	4	5	6	7	8
1. Attitudes	162	2.10 (1.05)	-							
2. Intentions	163	2.25 (1.22)	.588**	-						
3. Subjective norms	163	1.50 (0.70)	.442**	.306*	-					
4. Specific norm (friends)	163	2.85 (1.30)	.338**	.193*	.384**	-				
5. Specific norm (partner)	133	2.16 (1.28)	.361**	.111	.470**	.500**	-			
6. Specific norm (parents)	161	1.60 (1.06)	.241**	.012	.531**	.188*	.511**	-		
7. PBC controllability	163	5.31 (1.15)	-.117	-.210**	-.037	.139	.059	.080	-	
8. PBC capability/ self-efficacy	163	2.97 (1.49)	.498**	.608**	.322*	.259**	.170	.090	-.027	-

Note. Attitudes Scale (1 = bad, unfavourable, harmful, unacceptable; 7 = good, favourable, harmless, acceptable). Intentions, Subjective norms, specific norms, and PBC Scales (1 = strongly disagree, 6 = strongly agree). ** $p < 01$; * $p < .05$.

Table D.2. Descriptive statistics and bivariate correlations for attitudes, intentions, subjective and specific norms, and PBC, for answering a phone call in hand-held mode while driving in the next week.

	n	M(SD)	1	2	3	4	5	6	7	8
1. Attitudes	161	1.79 (1.04)	-							
2. Intentions	163	1.82 (1.11)	.694**	-						
3. Subjective norms	160	1.44 (0.71)	.562**	.475**	-					
4. Specific norm (friends)	162	2.57 (1.47)	.490**	.436**	.510**	-				
5. Specific norm (partner)	133	1.98 (1.29)	.507**	.486**	.547**	.702**	-			
6. Specific norm (parents)	161	1.68 (1.10)	.545**	.369**	.539**	.573**	.678**	-		
7. PBC controllability	163	5.29 (1.15)	-.078	-.062	-.001	.021	.089	.006	-	
8. PBC capability/ self-efficacy	163	2.90 (1.49)	.501**	.541**	.311**	.379**	.392**	.224**	.078	-

Note. Attitudes Scale (1 = bad, unfavourable, harmful, unacceptable; 7 = good, favourable, harmless, acceptable). Intentions, Subjective norms, specific norms, and PBC Scales (1 = strongly disagree, 6 = strongly agree). ** $p < 01$; * $p < .05$.

Table D.3. Descriptive statistics and bivariate correlations for attitudes, intentions, subjective and specific norms, and PBC, for reading a text message (or another form of communication, such as a Facebook message, Snapchat, an email or a tweet) while driving in the next week.

	n	M(SD)	1	2	3	4	5	6	7	8
1. Attitudes	161	2.07 (1.08)	-							
2. Intentions	163	2.72 (1.40)	.567**	-						
3. Subjective norms	162	1.49 (0.75)	.409**	.316**	-					
4. Specific norm (friends)	162	2.87 (1.45)	.420**	.372**	.416**	-				
5. Specific norm (partner)	132	2.17 (1.40)	.430**	.325**	.524**	.722**	-			
6. Specific norm (parents)	160	1.54 (0.94)	.349**	.302**	.650**	.464**	.546**	-		
7. PBC controllability	162	5.15 (1.27)	-.086	-.058	-.070	.151	.077	.010	-	
8. PBC capability/ self-efficacy	163	3.21 (1.54)	.528**	.678**	.285**	.336**	.308**	.258**	.106	-

Note. Attitudes Scale (1 = bad, unfavourable, harmful, unacceptable; 7 = good, favourable, harmless, acceptable). Intentions, Subjective norms, specific norms, and PBC Scales (1 = strongly disagree, 6 = strongly agree). ** $p < 01$; * $p < .05$.

Table D.4. Descriptive statistics and bivariate correlations for attitudes, intentions, subjective and specific norms, and PBC, for answering a text message (or another form of communication, such as a Facebook message, Snapchat, an email or a tweet) while driving in the next week.

	n	M(SD)	1	2	3	4	5	6	7	8
1. Attitudes	160	1.49 (0.72)	-							
2. Intentions	163	2.19 (1.18)	.396**	-						
3. Subjective norms	163	1.42 (0.67)	.255**	.308**	-					
4. Specific norm (friends)	163	2.32 (1.36)	.309**	.281**	.460**	-				
5. Specific norm (partner)	133	1.86 (1.27)	.449**	.277**	.405**	.651**	-			
6. Specific norm (parents)	161	1.35 (0.79)	.367**	.159*	.459**	.396**	.464**	-		
7. PBC controllability	163	5.23 (1.22)	-.059	-.060	-.132	.064	.045	-.112	-	
8. PBC capability/ self-efficacy	163	2.74 (1.44)	.299**	.690**	.358**	.226**	.227**	.147	.069	-

Note. Attitudes Scale (1 = bad, unfavourable, harmful, unacceptable; 7 = good, favourable, harmless, acceptable). Intentions, Subjective norms, specific norms, and PBC Scales (1 = strongly disagree, 6 = strongly agree). ** $p < 01$; * $p < .05$.

Table D.5. Descriptive statistics and bivariate correlations for attitudes, intentions, subjective and specific norms, and PBC, for changing music (using Spotify, iTunes) while driving in the next week.

	n	M(SD)	1	2	3	4	5	6	7	8
1. Attitudes	162	3.24 (1.52)	-							
2. Intentions	163	3.76 (1.83)	.653**	-						
3. Subjective norms	163	2.52 (1.36)	.593**	.589**	-					
4. Specific norm (friends)	161	4.00 (1.61)	.592**	.572**	.592**	-				
5. Specific norm (partner)	131	3.44 (1.66)	.590**	.594**	.673**	.813**	-			
6. Specific norm (parents)	160	2.30 (1.44)	.421**	.390**	.709**	.529**	.619**	-		
7. PBC controllability	163	5.28 (1.23)	.091	.195*	.126	.161*	.246**	.129	-	
8. PBC capability/ self-efficacy	163	4.16 (1.71)	.608**	.729**	.563**	.575**	.576**	.405**	.167*	-

Note. Attitudes Scale (1 = bad, unfavourable, harmful, unacceptable; 7 = good, favourable, harmless, acceptable). Intentions, Subjective norms, specific norms, and PBC Scales (1 = strongly disagree, 6 = strongly agree). ** $p < 01$; * $p < .05$.

Linear regressions

Table D.6.

Linear regressions of Theory of Planned Behaviour (TPB) predictors of intentions to use a hand-held mobile phone while driving in the next week

	B	SE B	β	*p*
Checking mobile phone				
Attitudes	.360	.083	.310	**>.001**
Subjective norms	.035	.112	.020	.754
PBC: Capability/ self-efficacy	.364	.055	.442	**>.001**
PBC: Controllability	-.171	.061	-.162	**.006**
Answering a call in hand-held mode				
Attitudes	.490	.082	.444	**>.001**
Subjective norms	.248	.101	.167	.015
PBC: Capability/ self-efficacy	.191	.048	.259	**>.001**
PBC: Controllability	-.035	.052	-.038	.503
Reading a text message (or another form of communication)				
Attitudes	.308	.085	.240	**>.001**
Subjective norms	.092	.107	.050	.391
PBC: Capability/ self-efficacy	.519	.057	.580	**>.001**
PBC: Controllability	-.049	.060	-.044	.419
Answering a text message (or another form of communication)				
Attitudes	.313	.095	.198	**.001**
Subjective norms	.081	.108	.046	.458
PBC: Capability/ self-efficacy	.483	.050	.605	**>.001**
PBC: Controllability	-.089	.054	-.095	.099
Changing music (using Spotify, iTunes)				
Attitudes	.319	.080	.265	**>.001**
Subjective norms	.231	.087	.171	**.009**
PBC: Capability/ self-efficacy	.494	.070	.461	**>.001**
PBC: Controllability	.103	.074	.069	.167

Note. p-value significant at $p < .01$.