Accident Analysis and Prevention 62 (2014) 285–293

Contents lists available at ScienceDirect

Accident Analysis and Prevention

journal homepage: www.elsevier.com/locate/aap

Concealing their communication: Exploring psychosocial predictors of young drivers' intentions and engagement in concealed texting

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ARTICLE INFO

Article history:
Received 25 January 2013
Received in revised form
27 September 2013
Accepted 13 October 2013

Keywords:
Theory of Planned Behaviour
Intentions
Behaviour
Concealed texting
Young drivers
Moral norm
Mobile phone involvement
Anticipated regret

ABSTRACT

Making a conscious effort to hide the fact that you are texting while driving (i.e., concealed texting) is a deliberate and risky behaviour involving attention diverted away from the road. As the most frequent users of text messaging services and mobile phones while driving, young people appear at heightened risk of crashing from engaging in this behaviour. This study investigated the phenomenon of concealed texting while driving, and utilised an extended Theory of Planned Behaviour (TPB) including the additional predictors of moral norm, mobile phone involvement, and anticipated regret to predict young drivers' intentions and subsequent behaviour. Participants ($n = 171$) were aged 17–25 years, owned a mobile phone, and had a current driver's licence. Participants completed a questionnaire measuring their intention to conceal texting while driving, and a follow-up questionnaire a week later to report their behavioural engagement. The results of hierarchical multiple regression analyses showed overall support for the predictive utility of the TPB with the standard constructs accounting for 69% of variance in drivers' intentions, and the extended predictors contributing an additional 6% of variance in intentions over and above the standard constructs. Attitude, subjective norm, PBC, moral norm, and mobile phone involvement emerged as significant predictors of intentions; and intention was the only significant predictor of drivers' self-reported behaviour. These constructs can provide insight into key focal points for countermeasures including advertising and other public education strategies aimed at influencing young drivers to reconsider their engagement in this risky behaviour.

1. Introduction

Ninety-eight percent of young Australians aged 15–24 years have a mobile phone, and 79% report using it while driving (Petroulis, 2011). A recent study by the National Roads and Motorists' Association (NRMA) Insurance found that 88% of NSW drivers make calls while driving, and 68% send text messages (Campbell, 2012). Despite the fact that 17–25 year olds are represented in over 20% of deaths in road crash fatalities (Australian Government, 2012) yet constitute only 12.4% of the population (Australian Bureau of Statistics, 2011), younger drivers aged 18–30 years are more likely to use a mobile phone while driving (McEvoy et al., 2006). General mobile phone use (including talking and texting) while driving has been associated with a two to fourfold increase in the chance of road crash (McEvoy et al., 2005; Svenson and Patten, 2005), largely due to diversion of attention away from the road and the primary task of driving.

1.1. Texting while driving

Texting while driving may be more dangerous than talking on a mobile phone while driving as it involves higher levels of cognitive distraction (e.g., reading and composing a text message), physical distraction (e.g., finding the phone), and visual distraction (e.g., eyes focusing inside the car) (Drews et al., 2009; Nemme and White, 2010; World Health Organisation, 2011). Despite this distraction and regardless of the illegal nature of using a handheld mobile phone while driving in Australia, drivers continue to send and receive text messages. In particular, 15–24 year olds, as the most prolific users of text messaging services appear to have a heightened crash risk (World Health Organisation, 2011). A simulated driving study at Monash University Accident Research Centre in Victoria found that novice drivers aged between 18 and 21 years spent 400% more time looking away from the road when they were texting than when they were not texting (Hosking et al., 2006).

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0001-4575/$ – see front matter © 2013 Elsevier Ltd. All rights reserved.
http://dx.doi.org/10.1016/j.aap.2013.10.016

It has been suggested that laws banning texting are not reducing the prevalence of texting while driving because they are difficult to implement or enforce, that is, it is difficult to catch a driver texting (Farris, 2011; Gilbert et al., 2010). Texting is an intermittent activity that may not be clearly seen from outside the vehicle due to privacy mechanisms in the car (e.g., tinted windows) or the driver consciously and deliberately concealing their behaviour to avoid being fined (Farris, 2011; Gilbert et al., 2010). The US Highway Loss Data Institute and Bulletin (2010) investigated 3,313,507 collision claims from 30 US states to determine whether recently introduced laws banning motorists from texting have resulted in reduced collision claims. Results of regression analyses showed that, rather than a reducing collision claims there had actually been a small increase relative to neighbouring states without such laws. The authors hypothesised that drivers may be responding to the law by continuing to text while driving, but in a more dangerous, concealed manner, thereby increasing crash risk (Highway Loss Data Institute and Bulletin, 2010).

As concealed texting while driving may be less easily policed than other major road safety issues, such as speeding and drink-driving, there is a need to investigate alternate measures that could potentially reduce the prevalence of this behaviour to support enforcement efforts. One such method is to investigate the underlying motivations of concealed texting while driving that may provide focal points for the development of alternate preventative measures such as advertising and public education strategies. Such an approach, in identifying key motivations underpinning behaviours has been useful in developing message content for other risky driver behaviours, such as speeding (e.g., Horvath et al., 2012; Lewis et al., 2013). It is important to note, however, that advertising is not the only strategy that could be used to address concealed texting while driving; rather, consistent with the broader view of advertising as a road safety countermeasure, it is one long-standing and on-going countermeasure within an array of strategies and policies implemented to reduce risky driver behaviour.

The term 'concealed' implies a deliberate, pre-meditated behaviour, carried out by a driver who is cognisant of wrongdoing and yet chooses to engage in the activity anyway. Despite a growing body of literature on general mobile phone use while driving, only minimal research to date has examined texting while driving, and few, if any researchers have carried out theoretically-driven investigations with explicit reference to concealed texting while driving. While previous studies have tended to focus on general mobile phone use and thus, tended to regard talking and texting as a homogenous general phone use behaviour, a few studies (e.g., Nemme and White, 2010; Walsh et al., 2007) have found support for talking and texting as distinct behaviours (i.e., with different factors found to predict people's intentions to engage in such behaviours). Although these previous studies did not refer specifically to investigating concealed texting, it is likely this behaviour was included, along with other methods of texting, such as obvious texting.

A study of concealed texting as a discrete and particularly problematic form of texting behaviour requiring further diversion from the task of driving, would build on this emerging idea that general mobile phone use while driving may be more complex than first considered, comprising a number of distinct sub-behaviours. An understanding of the psychological predictors of the specific behaviour of concealed texting while driving may be of benefit to potentially reduce and ultimately prevent this high risk behaviour among young drivers.

1.2. The Theory of Planned Behaviour

The Theory of Planned Behaviour ([TPB], Ajzen, 1985) is a well-validated decision-making model that has been utilised successfully to predict people's intention across a range of behaviours (Armitage and Conner, 2001) including general mobile phone use while driving (e.g., Walsh et al., 2007, 2008; White et al., 2010) and general texting (i.e., not defined explicitly as concealed or otherwise) while driving (e.g., Nemme and White, 2010). It follows then, that the TPB should also be an effective model for predicting concealed texting while driving.

The TPB (Ajzen, 1985) is a widely used model for the explanation of human social behaviour with attitude, subjective norm, and PBC said to predict intention. Attitude is defined as how positively the behaviour is evaluated, subjective norm is the perceived social pressure to perform or not perform the behaviour and comply with social standards, and perceived behavioural control (PBC) is the perceived ease or difficulty of performing the behaviour and can reflect past experience as well as consideration of obstacles (Ajzen, 1991). The relative importance of each of these constructs varies across behaviours and situations (Ajzen, 1991). Overall, studies have shown attitude and PBC to be reliable predictors of intention whereas, subjective norm has shown mixed results (Ajzen, 1991). Although intention is the immediate determinant of behaviour in the TPB model, in reality there are many factors, both internal (e.g., will power) and external (e.g., money), that can block this pathway. Actual engagement in the behaviour can depend on the amount of control one has over these factors (Ajzen, 1985), and therefore, PBC and intention together are said to predict behaviour. In a meta-analysis of 185 studies, Armitage and Conner (2001) found the standard TPB constructs accounted for 27% of the variance in behaviour and 39% of the variance in intention to perform the behaviour. Nemme and White (2010) found that the TPB accounted for a significant proportion of the variability in young drivers' intentions to send and read texts (i.e., 28% and 29% respectively) and variance in the actual behaviour of sending and receiving texts while driving (i.e., 10% and 14.2% respectively).

As stated by the TPB, therefore, in the current study it was hypothesised that the standard TPB constructs of attitude, subjective norm, and PBC would predict drivers' intentions to text in a concealed manner in the next week. In particular, the more positive their attitude towards this behaviour, the more they believed it would be approved of by important referents, and the more control they perceived having over the behaviour the more likely they would be to engage in the behaviour. Also consistent with the TPB, it was expected that intention and PBC would together predict subsequent concealed texting behaviour.

1.3. Additional variables

Despite these previous studies supporting the ability of the standard TPB constructs to predict people's intentions and behaviour, as highlighted by the meta-analysis findings cited previously a significant amount of variance remains unexplained. It has been suggested that extending the TPB to include other predictors may help account for additional variance in behavioural decisions over and above the standard TPB constructs (Ajzen, 1991, 2011; Armitage and Conner, 2001; Conner and Armitage, 1998). According to Ajzen (1991), inclusion of additional predictor variables is warranted if they make theoretical sense and add significant variance to people's intentions and/or behaviour.

Studies investigating predictors of people's intention to use a mobile phone in general while driving have typically utilised an extended TPB. In addition to the standard TPB constructs of attitude, subjective norm, and PBC, other predictors, such as moral norm (Nemme and White, 2010) and mobile phone involvement (White et al., 2012) have been added. This study builds on the results of these studies, examining the additional predictors of moral norm and mobile phone involvement, as well as considering the role that anticipated regret plays, in testing the utility of an extended TPB for predicting young people's intention to engage