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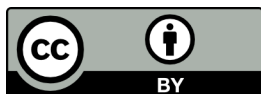
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# The Inconvenient Truth About Mobile Phone Distraction: Understanding the Means, Motive and Opportunity for Driver Resistance to Legal and Safety Messages

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Evidence for how phone-use impacts driving is clear: phone-using drivers are four times more likely to crash; demonstrate poor hazard detection ability; take longer to react to any hazards they notice; and can look yet fail to *see*. However, drivers are often resistant to research findings and, despite it being an enforceable offence, many still admit to using their phones. This paper combines what is known about the dangers of distracted driving with what research tells us about how drivers think about themselves, the law, and their risk of both crashing and being prosecuted. These blended insights explain why evidence may be resisted both by drivers and policymakers, highlighting the inconvenient truth of the distraction caused by mobile phone-use.

**Key Words:** mobile phone, distraction, roads policing, driving, risk, resistance

## INTRODUCTION

Mobile phone-use<sup>1</sup> by drivers continues to be a significant issue for road safety worldwide, despite legislation banning *handheld* use in many countries ([World Health Organization 2011](#); [European Commission 2018](#)).<sup>2</sup> Within the United Kingdom, data from a recent survey (RAC

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1 We use the term 'phone-use' throughout this paper to refer to both handheld and handsfree use. Where we discuss, or refer to findings that relate to one kind of use, rather than the other, we specify this.

2 Drivers using a handsfree phone while driving may still be prosecuted for careless and inconsiderate driving where their actions can be described as driving without due care and attention, or without reasonable consideration for other persons, and for failing to have proper control of the vehicle.

2019) found that phone-use was the most commonly cited concern amongst drivers, yet still 23 per cent of respondents admitted to using their mobile phone to make or receive calls illegally (i.e., without a handsfree kit). Of those aged under 25, 35 per cent reported checking texts and social media while driving and 51 per cent admitted to making and receiving handheld calls. These numbers indicated an increase in previous years (RAC 2017; 2018) despite the penalties associated with the offence increasing in 2017 (DfT 2017), and high visibility safety campaigns highlighting the dangers (Think! 'Designated Driver' Campaign 2017; 2020). A Direct Line and Brake (2020) survey further revealed that 3 per cent of drivers admitted to sending texts and making handheld calls on *every journey* they had taken over the last year, with a further 8 per cent claiming to do so on more than half of their journeys in the same time frame.

In the United Kingdom in 2019, 637 incidents were reported in which illegal phone-use was recorded as a 'contributory factor' by an attending police officer. Of those, 135 resulted in serious injury, and 18 were fatal (DfT 2019). These numbers may appear low, given the number of drivers who admit to phone-use, but it is likely that they underestimate the real contributory role of phone-use in serious crashes (Rolison *et al.* 2018). These data do not represent incidents that were not attended by a police officer; phone-use will not have been identified in all cases where it was a factor, and officers may be reluctant to record a contributory factor that they are unsure of being able to prove (Rolison *et al.* 2018). Most importantly, these data only reflect the contribution of *handheld* phone-use to collisions. While handsfree phone-use is legal, research shows that it offers no safety benefit over handheld use in terms of crash risk (Dingus *et al.* 2016) and likelihood of noticing hazards, amongst other factors (see Caird *et al.* 2018). Indeed, phone-use has been shown to impair driving more than having a blood alcohol level at the UK legal limit (TRL 2002). A European Commission review suggested that between 10 per cent and 30 per cent of all road collisions in Europe each year have 'distraction' as a likely factor, with phone-use likely to be a significant contributor to this statistic (TRL, TNO and RappTrans 2015).

Whilst the exact scale of the problem is unknown, the increase in self-reported phone-use suggests that drivers are unconvinced of the connection between their behaviour and the risk of crashing and undeterred by the prospect of prosecution. This is at odds with academic research which has identified how and why phone-use selectively interferes with driving performance. Findings demonstrate that *any* phone-use is a distraction (Caird *et al.* 2018), leading to reduced hazard detection and increased crash risk (Dingus *et al.* 2016; Atchley *et al.* 2017). However, this research not only reveals the negative effects of multitasking on driving performance, it also provides theory-based explanations for *why* performance is affected. Collectively, findings show that phone-using drivers are four times more likely to crash (McEvoy *et al.* 2007); demonstrate poor hazard detection (Strayer 2015; Briggs *et al.* 2016); take longer to react to any hazards they do notice (Briggs *et al.* 2018); show reduced awareness of the driving situation (Fisher and Strayer 2014; Heenan *et al.* 2014) and fail to look sufficiently around the driving scene (Recarte and Nunes 2000; Desmet and Diependaele 2019). These factors are largely explained by the cognitive, rather than manual, distraction that phone-use imposes. However, while these findings are compelling for the research community, at least, they are not fully reflected in legislation or in reported driver attitudes.

The purpose of this paper is therefore to explore and explain the reasons for these disconnects. We suggest that drivers are readily able to access the motives, means and opportunities that allow them to resist and reject the inconvenient truth of the negative consequences of mobile phone-use (legal and illegal) on driving, contributing to the challenge posed by this behaviour. Several research projects underpinning this paper will be presented below, followed by current academic knowledge concerning the nature of phone-based distraction. This literature, as well as applicable criminological, psychological and sociological theory, will then be explored in terms of three key themes emerging from the analysis; (1) driver motives for resisting the

evidence relating to the dangers of mobile phone-use, (2) the means by which drivers resist that evidence and (3) opportunities taken from the external environment to verify or support the motive and means to resist. Key arguments will be summarized to conclude the paper.

## METHODOLOGY

The research drawn upon here relates to a number of projects conducted by the authors between 2004 and 2020. Whilst we do not present new data, we have sought to re-imagine existing findings to contribute to an understanding of why ‘evidence-based’ and ‘research-informed’ practice is not a simple matter of doing what the research says, to the people it says to do it to. In the case of roads-related offending, particularly, we note the challenges of tackling behaviours that many ‘law-abiding’ members of the public, policymakers and practitioners themselves report engaging in. Psychological and criminological approaches are used to explain both the evidence related to driver distraction caused by phone-use and the apparent resistance of drivers (wherever we may find them), to the inconvenient truth that *any* type of phone-use is a significant danger. In addition to the data generated directly from these projects, we draw our inspiration from the familiar challenges to the research evidence that we have heard in our work with practitioners, our social media engagements, our media work and when presenting our findings.

Specifically, this paper is underpinned by four projects. Savigar conducted a longitudinal evaluation of a driver education course offered as an alternative to prosecution to drivers caught using their mobile phone (Savigar 2019). This involved observations of the course in progress, interviews with course providers, police officers and course attendees, and a survey of course attendees pre-course attendance, immediately post-attendance and up to six months later.<sup>3</sup> Wells and Savigar conducted a survey to identify areas of practice aimed at tackling mobile phone-use by drivers, followed by bespoke knowledge exchange consultations with individuals representing over 25 different schemes, projects and approaches. Those consultations involved discussion of relevant academic literature and theory and how that could be implemented into the work, alongside support with evaluation. The project produced a 160-page compendium of information and ideas drawing on the academic literature in ways that could be translated into practice by those on the frontline<sup>4</sup> (Wells and Savigar 2019b). Briggs has completed a series of psychological investigations aimed at identifying the cognitive roots of mobile phone-imposed distraction.<sup>5</sup> This experimental work, using both driving simulators and video-based driving tasks, measured eye movements, reaction times for critical events and hazard detection abilities of both distracted and undistracted drivers. This allowed for direct comparison of the attentional and perceptual abilities of phone-using drivers, along with measures of impaired driving performance, compared to their undistracted counterparts. This work has provided new theoretical explanations, based on attentional processes, for how and why phone-use negatively affects driving performance (Briggs et al. 2011; 2016; 2018).

## THE EVIDENCE FOR PHONE-BASED DISTRACTION

The evidence linking mobile phone-use (handheld and handsfree) to impaired driving is clear and, in research terms, convincing (see Young and Regan 2007; Llerena et al. 2015 for reviews). While early research (Alm and Nilsson 1994) demonstrated how the increased cognitive workload imposed on a driver who attempts to multitask can affect driving performance, more con-

3 Full methodological detail can be found in Savigar 2019 and Wells and Savigar 2019a.

4 More methodological detail can be found in Wells and Savigar 2019b.

5 Full methodological detail can be found in Briggs et al. (2011; 2016; 2018).

temporary work has established why this is the case. Research shows that phone-use affects how drivers apply their attention, and therefore, how they perceive the driving situation. For example, phone-using drivers tend to focus their visual attention primarily to the centre of the driving scene rather than peripheral areas (Recarte and Nunes 2000), leading them to fail to look at important aspects of the scene (Desmet and Diependaele 2019) and to reduce their eye movements overall compared with undistracted drivers (Harbluk and Noy 2002; Briggs *et al.* 2016). This explains the failure of distracted drivers to notice and react to hazards, particularly those in the peripheral areas. However, further work on ‘inattention blindness’ (Mack and Rock 1998)—the phenomenon whereby viewers fail to notice items in a scene when they are also completing another cognitively demanding task—shows that phone-using drivers can look at hazards yet fail to see them (Strayer *et al.* 2003; Strayer 2015<sup>6</sup>).

As phone-distracted drivers look around a scene less, it is perhaps unsurprising that they also show diminished awareness of the driving situation (Heenan *et al.* 2014; Chen *et al.* 2020). This has also been shown to be the case for other distracting actions within vehicles, including glancing at in-vehicle displays (Horrey and Wickens 2007). Research on phone-using drivers reveals that their situational awareness can be depleted to the extent that they are unaware of key aspects of the driving situation (Ebadi *et al.* 2019), including the position of other vehicles (Gugerty and Tirre 2000) particularly those which are behind the driver’s vehicle or in the oncoming lane (Heenan *et al.* 2014). Interestingly, when phone-using drivers are asked to rate their confidence in their hazard detection, high levels of confidence do not correlate with accurate hazard perception, suggesting that drivers are largely unaware of the events in the driving scene which they miss and, therefore, the negative effects on performance of multitasking (Lee *et al.* 1997).

Taken together with research documenting increased crash risk, longer reaction times and reduced hazard detection (see above), findings compellingly present the case that phone-use causes cognitive distraction in drivers, resulting in serious detriments to driving performance.

## DRIVER RESISTANCE TO THE EVIDENCE

While research demonstrates why phone-use is problematic, driver attitude data show that increasing numbers of drivers seem to be *willing and able* to resist messages that are designed to benefit their safety. Resistance is by no means a new phenomenon (within the driving context or beyond) but closer examination of this particular context reveals why contemporary society presents what might be called a ‘perfect storm’ in terms of the convergence of a variety of factors that explain resistance in ways that predict an enduring challenge.

In this section, we explore what enables drivers<sup>7</sup> to construct a narrative that allows them to choose to continue to drive distracted. We have categorized these responses as the motives, means and opportunities to resist the evidence.

### Motive

In a departure from legal convention, we begin our unpicking of driver resistance with *motive*. Until we understand what compels or encourages drivers to use their mobile phone, we will

6 Note that this research considered a range of potential in-vehicle distractions including phone-use and other handsfree, voice-operated, technology. Findings revealed that even voice-activated commands significantly increased the mental workload in drivers.

7 For the purposes of our analysis we consider ‘drivers’ to be a homogenous group as we discuss generalized resistance to research findings and safety messaging which is commonly and broadly shared across different groups of drivers. However, we acknowledge that research has shown differences in demographic groups (e.g., age and gender) in terms of crash risk and attitudes to phone-use. We also acknowledge that ‘phone-use’ is used broadly here to include any interaction with a phone, and that different types of phone-use (e.g. texting, social media use, etc.) are often linked primarily to specific demographic groups (drivers under 25 years).

be unable to target the behaviour effectively. If mobile use was not in some way attractive to drivers, they would not be choosing to do it, and we would not need to persuade them not to do it. Below, we take a series of motivations in turn and explain them with reference to wider sociological and criminological literature. We have paraphrased common justifications that we have encountered throughout our research and explore each in turn, but first we seek to explain the motives for mobile phone-use by situating them in the concepts of risk society and the acceleration society.

Underpinning these concepts is a generalized sense of uncertainty, instability and insecurity with identity, relationships and employment being increasingly temporary and fluid. Beck (1992) highlights changes in the nature and structure of employment during post-modernity particularly. He notes that these changes have seen the status of 'employee' become more temporary and contingent, with all employees now required to be both flexible and mobile, willing and able to respond to changes in demands placed upon them or otherwise be replaced by other more flexible and mobile individuals (Beck 1992: 94). 'Keeping up' is the responsibility of the individual and blame for failure lies there, rather than in the system that rendered them expendable (Beck 1992: 89). They are surplus to requirements as a result of their own shortcomings—replaced by more 'resilient' competitors. This increased and continual need to prove worth and value, as well as the ever-present threat of unemployment, results in longer working hours and increased work effort (Nolan *et al.* 2000), impacting negatively on life outside of work (if such a place exists) and the personal and social relationships that *also* need to be actively maintained.

For Rosa, this is also characteristic of the 'acceleration society' (2013) where the pace of life increases exponentially, creating a world of increasing fluidity where roles are increasingly transitory. Relationships, like jobs, come and go and cannot be taken for granted, meaning that the citizen of post-modernity must actively strive to maintain their attractiveness as a partner, a friend, an employee—to perpetuate their 'viability' as a 'human resource' (Ericson and Haggerty 1997: 197). Via a 'contraction of the present' we see familiar reference points from the past ('jobs for life', long-term relationships, *e.g.*) become suddenly and unpredictably irrelevant or unreliable. Life, according to Rosa, becomes a constant battle to scale 'slippery slopes' (2003: 11), with the ever-present spectre of imminent descent hanging over us.

Such pressures do not dissipate when the individual is driving but may actually intensify. Driving time may indeed be seen as 'wasted', a liminal time and space simply to be traversed between the *real* business of the day (Lyons and Urry 2005). Little wonder, perhaps, that there is a temptation to make time spent driving more productive—to merge it with the workplace (Laurier 2004) or with home life, and to see it as an opportunity to *achieve* something of value, rather than as a hiatus in productivity (Wajcman 2015). Indeed, business-related activities have been reported to be one of the most likely reasons for mobile phone-use while driving (Walsh *et al.* 2008; Shi *et al.* 2016). Whilst the pressure to perform therefore follows the individual into their vehicle so, increasingly, does the mobile phone—with all its associated potential for blurring the boundaries of productive time and space, through its capacity to allow us to communicate, to organize, to plan across the multiple and demanding planes of life. Having promised to free up time (Keynes 1930/1963), technology has, it transpires, only increased expectation (Rosa and Scheuerman 2009: 8).

Rosa and Scheuerman (2009: 5), significantly, characterize the process of acceleration as resulting from the 'profound effects of the acceleration in *transportation* and *communication*' (emphasis added) over recent centuries. The car and the mobile phone (in isolation, but even more so in combination) are therefore a blessing and a burden as the driver must navigate a path that allows them to experience their benefits but avoid their harms. 'Deceleration', we suggest, may weigh on the consciousness more perceptibly than the risk of a collision or being caught committing a traffic offence (explored in more detail below). We argue that the pressures of existing

in such a society manifest in particular rebuttals of the research evidence and messaging, and hence that this context provides the motivation for mobile phone-use.

*Justifying motive 1: 'I need to be contactable'/'I can't be out of touch'*

One of the most common reasons given by drivers<sup>8</sup> across our projects for their (legal and illegal) phone-use whilst driving was a perceived need to be constantly available should anyone need to contact them. As the mobile phone has made this a theoretical possibility, it has become an expectation for many drivers.<sup>9</sup> Those needing to make contact are variously imagined as children in peril, irate managers or distressed friends, and those who drove for a living, particularly, felt the need to remain contactable at all times (Savigar 2019). Justifications for this view often take the form of manager expectations, company policy (which can differ from manager expectations, *Driving for Better Business* 2019) and the fear of reduced productivity (see Christie and Ward 2018). Phone-use is therefore explained as being required by others, as well as by the individual driver.

This justifying motive also situates the individual driver in a social context where a perception that things of relevance are happening 'out there' produces a fear of missing out (FOMO): 'a pervasive, unpleasant sensation that others might be having rewarding experiences of which one is not part, as well as the desire to stay continually connected with what others are doing' (Fuster *et al.* 2017: 23). The mobile phone is a key co-conspirator here with its offer of access to social media accounts and messaging platforms predicated on a model of constantly refreshing content and rapid-fire (and sometimes disappearing) messaging. Research is beginning to identify a very real anxiety resulting from being separated from a phone, bred from both being used to being in constant contact, and from other people's expectations that you will be in constant contact (Cheever *et al.* 2014).

*Justifying motive 2: 'Everyone's doing it ...'*

A perceived social norm of using a mobile phone while driving presents as a significant predictor of the variance in self-reported mobile phone-use, particularly for young drivers. Hill *et al.* (2015) found that 98 per cent of student participants reported observing other drivers using their mobile phones while driving, with 91 per cent having been a passenger whilst the driver was using a mobile phone.<sup>10</sup> Beck and Watters (2016) found that drivers were more likely to text and drive where those closest to them had also been observed texting while driving.

This response is notable because it situates the speaker *in the context of other drivers* who may be viewed as competitors in the previously mentioned race to scale the slippery slope of post-modernity. These 'other people' are completing tasks, are being available to their colleagues and bosses, are making plans, catching up, ordering their Big Shop—are *getting ahead*, and being more productive. As discussed below, those other phone-using drivers rarely, if ever, seem to suffer any negative consequences. To not use your phone, therefore, is to deliberately render yourself less competitive, to inflict deceleration on yourself whilst watching everyone else achieving little wins like finishing an email, arranging a social event, making sure the kids are picked up, or ticking off a task that would otherwise have to be completed later, in your 'own' time.

Phone-use satisfies needs (Corbett and Simon 1992), here relevant to the comparative other and desire to progress in productivity at the perceived speed of others. Similarly, the motives presented above, combined with driver attitudes to phone-use, can be tied to neutralization

8 It should be noted that the drivers being discussed here are not just the participants in the research, but are in some cases practitioners, police officers, conference audiences and our own colleagues and acquaintances.

9 Even though some research has suggested that this is more of a perception than a reality (Bittman *et al.* 2009).

10 It is not entirely clear if this research asked participants about handheld use only, but the reference to 'phoning and/or texting' would imply this.

theory (Sykes and Matza 1957). While drivers acknowledge and theoretically support laws on phone-use, they nevertheless continue to offend, and therefore must devise approaches to deflect and neutralize cognitive dissonance. Techniques such as the claim that ‘everyone is doing it’ (Coleman 1994) and appeal to higher loyalties (‘my work/family needs me’) (Sykes and Matza 1957) allow the driver to legitimize their behaviour while still considering themselves to be a law-abiding citizen. As such, the need to ‘keep up’ (let alone get ahead) combines with the mobile phone’s tempting offer of the practical means to do just that. Resistance to that offer must be motivated either by the individual’s internal belief that they may well be distracted, and may well crash, or by a belief in the likelihood of enforcement. As the discussion below demonstrates, these sources of deterrence are also less influential in this particular context than they might be, making phone-use appear to be the rational choice for some drivers.

### Means

Having established that phone-use may be attractive to drivers, we turn to the means by which drivers resist the evidence and messaging around the dangers of phone-use. We consider what it is about this particular audience—‘drivers’—that makes it particularly possible for them to find ways to resist.<sup>11</sup>

The ‘means’ element of this approach is therefore about drivers *wanting to find*, and *being able to find*, ways to rebut the evidence underpinning the message that mobile phone-use is distracting. This often involves counterclaims based on other ‘research’ that offers a more palatable ‘truth’ and that seems to contradict the findings that many drivers do not—for the reasons explored in the previous section—want to believe are true. ‘Common sense’ and ‘experience’ are often the alternatives drawn upon, as they are in other driving contexts (Wells 2011). Drivers would rather believe what seems likely to be true, or what their own eyes seem to be telling them, as this allows them to continue to do the things that they feel compelled to do. The rebuttals that we feature here are deliberately paraphrased to highlight their relationship to the research data.

#### *Means 1: ‘That’s all very well, but I’m a better than average driver’*

Drivers are well known for their self-enhancement bias and crash-risk optimism. Research has consistently found that drivers identify their own driver skill as superior to other drivers (e.g., McKenna *et al.* 1991; Harré and Sibley 2007) with up to 90 per cent of drivers believing that their skills are better than average (Delhomme 1991). Through such beliefs, drivers acquire the means to dismiss research findings on the grounds that they represent the outcomes/risks to ‘normal’ or ‘average’ drivers and therefore not themselves. Again, neutralization techniques support this approach and allow drivers to legitimize their behaviour: denial of victim (‘[my] phone use doesn’t hurt anyone’) and the illusion of control (‘I am more capable than others’, Ashforth and Anand 2003), e.g., allow drivers to offer rationalization for otherwise unacceptable behaviours (Maruna and Copes 2005), as demonstrated in the neutralization of drink-drivers (Kobin 2013). Considering this in relation to mobile phone-use, Hill *et al.* (2015) found that whilst 46 per cent of drivers claimed they themselves were capable of talking on a mobile phone while driving, only 8.5 per cent perceived ‘other drivers’ as capable. This helps to explain why phone-use can simultaneously be raised as one of the main dangers on the roads, but self-reported offending continues to rise (RAC 2019). Similarly, the findings from Direct Line and Brake (2020) support this view: when asked if other drivers

11 It is noteworthy that this group is not actually a ‘they’ at all, but an ‘us’. As researchers, we have been struck by the number of times we have spoken to a room of practitioners who need convincing that the research applies to themselves, as well as to their intended audiences, and by the times those engaged in the field will happily attempt to engage in handsfree phone conversations with us.



seem more distracted now than five years ago, 35 per cent of respondents strongly agreed. When asked if they themselves were more distracted now than five years ago, only 9 per cent strongly agreed. Hence educational campaigns that focus on the tragedies that have befallen other people may be resisted because they simply appear to confirm what drivers ‘know’—that *they* can handle it and others cannot. Inferior drivers may be seen to account for the statistics. As such drivers may support the idea that all mobile phone-use should be discouraged, even illegal, but will continue to offend themselves. In this context, self-enhancement bias persists. However, confidence, perception of safety and distraction-related crash history were three of the four strongest predictors explaining variance in distracted driving found by Hill *et al.* (2015). This hypocrisy makes it very difficult to communicate research findings effectively and suggests a need for more interactive education which allows participants to experience the effects of phone-use *on themselves specifically* rather than communicating the effects on others,<sup>12</sup> which can be dismissed.

*Means 2: ‘That’s all very well, but I’ve done it hundreds of times and never had a crash’*

Self-styled superior drivers can see every journey completed without incident, whilst using a phone, as confirmation of their greater skill and a denial of the research evidence. Drivers are provided with first-hand, ‘common sense’ accounts of what does (or, in most cases, does not) happen when they use a mobile phone. To link back to the risk literature, these are repeated false negatives—with those drivers who did experience the suggested negative outcomes being unwilling (or indeed unable) to bear witness to them. Whilst in many risk contexts (perhaps such as global warming, global pandemics and genetically modified food) the causal chains being proposed by scientific experts are inaccessible to the layperson, who is thus forced to be reliant on scientific explanations that they cannot test, the driving context represents an apparently more accessible and replicable situation—an ‘everyday risk’ (Hunt 2003: 167). Drivers may not see themselves as dependent on ‘the crumbs of information’ (Beck 1992: 223) falling from the tables of distant experts, and may not see themselves as excluded from, or ‘left panting in ignorance’ (Beck 1998: 13) by, scientific debates when it comes to driving. Instead, their daily encounters with driving may be viewed as their own ‘everyday experiments’ in risk (Beck *et al.* 1994: 59)—experiments which, in the majority of cases, will not produce the negative outcomes that the research tells them they should expect, and which will therefore make those arguments less persuasive. Viewed in the context of self-enhancement bias, evidenced above, it is easy to see why drivers may fail to be persuaded that mobile phone-use constitutes a risk:

Lived experience therefore appears directly to challenge the causal interpretations favoured by the authorities, and a probabilistic risk issue can be rejected on the grounds that it has failed to be deterministic. (Wells 2011: 236)

Experimental research lends support to this view, particularly when addressing the reduced situational awareness of phone-using drivers (Kaber *et al.* 2016; Briggs *et al.* 2018). Importantly, in the absence of any obvious incident, such as a collision, drivers are largely unaware of how their phone-use negatively affects their driving (Richards and Charlton 2020). This might explain why many consider they are unaffected by phone-use: they are not simply ignoring their deteriorated driving; they are not *experiencing* any deterioration.

12 For example, the Open University’s ‘Are you a focused driver’ online activity, AT&T’s ‘It can wait’ campaign, Road Safety Scotland’s ‘Don’t Risk it’ project and Leicestershire Fire and Rescue’s ‘Virtual Fatal 4 360’ approach. The RAC Foundation, Road Safety Trust and VSA are also currently working with Nottingham Trent University to design a VR version of the Hazard Perception Test.

*Means 3: 'That's all very well, but I can do two things at once'*

The assumption underlying the view that driving can be safely combined with phone-use is that drivers can successfully divide their attention between tasks. This is not, however, supported by research on how humans allocate attention: rather than dividing attention between tasks, we tend to shift it quickly back and forth between them, resulting in momentary gaps in our awareness when we focus on the other task (Costa *et al.* 2012). Performance in both tasks is likely to be worse than if the tasks were completed separately, but this results in the subjective experience of multitasking, leading us to believe that we can indeed multitask effectively. A driver who manages a hands-free phone conversation while driving along an empty, straight road, may feel that this experience of multitasking shows their competence. That same driver, faced with a busy intersection may have far fewer attentional resources available to allocate to a phone conversation, but based on prior experience may feel they have 'spare' attention to apply to this other task. Again, drivers will want to believe that they can multitask because that allows them to do what they feel compelled to do (above).

*Means 4: 'That's all very well, but how can I be distracted when I've got both hands on the wheel and my eyes on the road?'*

Here, again, 'common sense' mitigates against acceptance of the research evidence: if a driver is looking where they are going, there should be no problem. However, as previously noted, the cognitive distraction imposed by phone-use can lead to inattentive blindness (looking without seeing). As such, phone-using drivers can have both hands on the steering wheel and both eyes on the road but can fail to notice pertinent parts of the driving situation—even when they are looking directly at them—leading to reduced hazard detection and increased crash risk (Strayer *et al.* 2003; Dingus *et al.* 2016). The same has been found of listening to music, with different types of music-listening affecting driver behaviour in different ways (Brodsky *et al.* 2018). The motivation for wanting to believe this to be true comes from the perceived need to use a phone while driving, whilst 'common sense' explanations based on the *physical and observable* aspects of driving—sitting correctly, with hands on the wheel—provide the evidence, or means, to reject safety messages. The *cognitive and unobservable* aspects of the distraction caused are simply less persuasive to the 'above average', 'experienced', driver.

*Means 5: 'That's all very well, but it's the same as talking to a passenger'*

Carrying forward the notion that if a driver is looking at the road, they must be paying attention to it; and that humans can multitask, it is perhaps understandable that drivers are resistant to the claim that phone conversation differs from conversation with a passenger. However, research has shown important distinctions between the two. Primarily this can be considered an issue of shared environment: while a passenger can see what a driver sees and regulate their conversation accordingly (even assisting the driver, Charlton and Starkey 2020), someone on the other end of a phone will likely continue to demand the driver's attention even when it is needed for a challenging driving situation (Crundall *et al.* 2005).

Further evidence for the distinction between phone and passenger conversation comes from experimental research (Briggs *et al.* 2016) which identified that phone conversation, as opposed to conversation with a passenger, makes use of visual resources and processing which are also needed for driving. The cognitive resources, processes and brain areas required for phone conversation are the same as those needed for accurate visual perception of the driving scene, causing competition for limited cognitive resources (Wickens 1984). This research explains *why* phone conversation negatively affects driving performance and demonstrates that, in cognitive terms, handsfree phone-use is not equivalent to conversation with a passenger. These findings

also address resistance focused on the ‘common sense’ view of the equivalence of handsfree distraction and other in-vehicle distractors, such as screaming children, suggesting that if handsfree is dangerous then so too is having a child in the car.

Nevertheless, experience may try to convince us that research findings like this feel incorrect. Handsfree phone-use looks, and may feel, the same as talking to a passenger. Given our argument around motives we suspect that if drivers were told that talking to a passenger and talking on handsfree *were* the same in terms of distraction, they *would not* demand that conversations with passengers should also be prohibited or discouraged. The deployment of this challenge is designed to argue the case for the *unproblematic* nature of handsfree, not the problematic nature of talking to a passenger. It is wielded as a trump card to undermine unpalatable messages that, if accepted, would necessitate a change in behaviour that they would find disadvantageous.

### Opportunity

Drivers are also able to look to the broader context in which their distracted driving occurs to find arguments that support their ‘case’. If we view the ‘means’ as coming from within the driver, the ‘opportunities’ may be seen as originating from the external environment—from the signals that wider society sends. Below, we consider the messages sent by the law as it applies (or does not) to the behaviour, as well as the realities and practicalities of enforcing that law. A further theme considers the example set by the government and other authorities.

#### *Opportunity 1: ‘If handsfree was dangerous it would be illegal’*

The first window of opportunity to resist claims that mobile phone-use is dangerous comes from the fact that in the United Kingdom at least, handsfree mobile phone-use is ‘legal’.<sup>13</sup> Handsfree use is an important topic because it *appears* to offer the compromise motivated drivers are looking for: the chance to keep using their phone without the risk of getting caught and/or (depending on the mindset) causing a collision. However, removing the need to hold a device does not alleviate the cognitive load imposed on drivers by phone conversation (Briggs and Hole 2019). Nevertheless, the physical effects make more common sense—and the law (as it currently stands) seems to offer support for that understanding.

The law (or absence thereof) provides the framework into which drivers who are so inclined can deploy their means and motives. It implies that purchasing a handsfree kit, or having a phone on loudspeaker, will protect the driver from enforcement and/or collision, while the research shows that it actually (with what we consider permissible hyperbole) only represents a legal (rather than illegal) way to die.

As Luban argues, laws should ‘provide the necessary architecture in which people can plan and carry out good-faith social cooperation’ (2002: 296) giving us reliable signals about what is good and what is bad, what is harmful and what is safe. This challenge uses the absence of prohibitive legislation as indication of an absence of risk. If the law was consistent with what causes danger, there would be less opportunity to reach for and deploy the challenges discussed above.

Based largely on the law (as it stands, and as a more general concept) the ‘opportunity’ element of our argument demonstrates how discussions around the use and usefulness of the law fuel the idea that mobile phone-use (of some types specifically) must actually be safe. Beyond this, the inability of the law to be meaningful, even if such behaviour *were* shown to be dangerous, is also used as evidence to support the case for mobile phone-use that many drivers are desperate to justify. This is discussed below.

13 See The Road Vehicles (Construction and Use) (Amendment) (No. 4) Regulations 2003. Drivers using a handsfree phone while driving may still be prosecuted for careless and inconsiderate driving where their actions can be described as driving without due care and attention, or without reasonable consideration for other persons, and for failing to have proper control of the vehicle.

*Opportunity 2: 'Who is going to catch me?'*

For those who are unconvinced (for the reasons explored above) about the safety consequences of phone-use, more instrumental concerns may be the only deterrent to offending. If, however, enforcement is not thought to be realistic or likely, then this influence will also be discounted and there will appear to be no risks associated with the behaviour.

First, it may be believed that the chance of being seen by a police officer while driving using a phone, and of that officer doing anything about it, is fairly slim. In recent years, numbers of dedicated road traffic officers have declined (PACTS 2020), and the public has, apparently, noticed to the extent that they believe they will 'get away with'<sup>14</sup> offending on the roads (AA 2018).<sup>15</sup> Recent developments such as the Barreto decision<sup>16</sup> are also likely to have given drivers the idea that they can challenge an officer's evidence about 'use' (Kyd 2019; Snow 2019).<sup>17</sup> As such, drivers who think that their performance is unimpaired by phone-use may be unable to identify any realistic consequences of doing so (whilst aware of what appear to be significant benefits as set out in the 'motive' section).

Legal consequences may be seen as even less likely for handsfree use, where the chances of (a) being seen, (b) being charged and (c) being successfully prosecuted are even more remote—and in any case depend on (d) impaired driving skills (that drivers do not believe will result from their handsfree use) or (e) an incident that the police become aware of. Closely related to this challenge is the idea that handsfree use *cannot* be made illegal as it is essentially 'unenforceable' (that the police would be unable to identify when a driver was simply singing or talking to themselves rather than having a handsfree phone conversation). It sidesteps the preceding debates and arguments about distraction, focussing on the pointlessness of a law that cannot be enforced (and ignoring any suggestion that the existence of a law sends out a message about acceptability) sometimes accompanied by the suggestion that making something illegal when it is unenforceable will bring the law into disrepute. Successive governments have shared some of these concerns. In 2019, the Transport Select Committee recommended that the Government explored options for banning handsfree mobile phone-use while driving—suggesting that a difficulty in enforcing actions should not equate to a failure to try (Transport Select Committee 2019a). The Government replied that 'there are many difficulties associated with a potential ban on hands-free use, including enforcement which would be hugely problematic' (Transport Select Committee 2019b: 2) This is discussed in more detail below.

*Opportunity 3: 'Can I...?'*

As researchers in this area, we are frequently asked (by colleagues, friends, media contacts and those within the road safety context itself) if x or y behaviour is legal or illegal.<sup>18</sup> That these questions are asked demonstrates that many drivers are actively looking for loopholes and opportunities within the law to allow them to continue to stay in touch whilst driving (dismissing the 'safety' aspect). 'Opportunities' of this nature range from using a phone in a cradle, using a phone as a Sat Nav, using a Google Watch or other device that is 'worn' not 'held', using a phone as a music player, or using an iPad, with the person asking the query seemingly wanting to know

14 Respondents were only asked about the legal consequences of offending (or lack of them) not the safety consequences.

15 In recent years, various technologies have been developed in an attempt to 'techno-fix' this problem. To date, the United Kingdom only has advisory detection technology in a few locations, and has not deployed the enforcement cameras widely reported as being in use in some Australian states. Road users are able to submit dashcam, helmet camera and mobile phone footage of drivers using mobile phones whilst driving to most police forces, and action may be taken against them, but more research is needed to establish if this is sufficiently known and understood to act as a deterrent.

16 Where a driver successfully argued that, in using his phone to film an incident, he was not using it for a 'communicative function' and therefore was not in breach of the 2003 law, even though it was a handheld device.

17 Anecdotally, we also understand that the Barreto decision has left some officers unsure of what action they can take and therefore reluctant to take any.

18 Our response has been to ask them to consider what they *should* be doing, not what they *can* get away with.

if the law has caught up with the technology they want to be able to use, and hence whether they are at risk of the law catching up with them. Presumably if we were to confirm that they had, in fact, identified a loophole, they would feel 'safe' continuing to use their device in that way, 'safe' in the knowledge that they could not be 'done' for it. Again, if the risk of crashing seems remote, it will not be factored into the cost-benefit equation determining use or non-use. The lack of normative commitment to the law leaves it exposed to gaming that allows the individual to 'get around' the law and 'get on' with what they want to be doing (Wells 2015). The focus of the debate becomes the construction of the law, rather than the underlying danger that it was meant to address.

*Opportunity 4: 'The Government (et al) says handsfree use should be allowed'*

This opportunity stems from the absence of a clear commitment to preventing dangerous behaviour in government statements on the issue, but also from wider 'authorities' such as employers and manufacturers. It again relates to the idea of expertise and the idea that people who we might expect to be 'in the know' are endorsing the behaviour, or at least failing to wholeheartedly condemn it.

Following some quite strident recommendations in the Twelfth Report of the Transport Select Committee (2019a), the Government, in its response, effectively declared itself unconvinced by the research to date (Transport Select Committee 2019b),<sup>19</sup> and warned of the need to weigh up the advantages and disadvantages of handsfree use—to 'take time to consider the full implications and ramifications' (Transport Select Committee 2019b: 7) of a ban. This holding statement suggests (a) a discomfort with the existing research and its clear findings in relation to handsfree use and (b) a desire to establish whether the safety benefits are 'worth' the inconvenience to drivers and the impact on the economy. As the Response makes clear, reductions in deaths and serious injuries are not a goal to be pursued per se, but must be balanced against other goals:

The Government would want to ... make some initial assumptions about the likely road safety benefits; identify the sectors that would be most severely affected by a ban; make some initial assumptions about the likely costs to both those sectors and wider business. (Transport Select Committee 2019b: 2)

Furthermore, it noted that the 'Government Car Service gives advice to its drivers not only to adhere to the law regarding handheld mobile phones but also to ensure that they limit hands-free use to urgent matters' (Transport Select Committee 2019b: 7) in complete defiance of the existing research, which would advocate a total ban. It might be questioned whether *urgent* calls are really the most suitable for responding to whilst driving, and that perhaps these are the very calls that are likely to create the most distraction (see Briggs *et al.* 2011), but the response is clearly designed to confirm that the service acts within the law and in pursuit of operational efficiency and effectiveness. Safety is an (unacknowledged) lesser consideration, presumably. The response also highlights the efforts of other government agencies to discourage mobile phone-use, including the Driver and Vehicles Standards Agency (DVSA) and the Driver and Vehicle Licensing Agency (DVLA), which provide advice to staff who drive for work and guidance to drivers on mobile phone laws. This appears to attempt to show a responsible attitude to distracted driving that nonetheless permits it.

19 During the debate around speed camera use, the Government kept commissioning more and more research to prove its point to a sceptical public. In this case, the Government itself is apparently part of that sceptical audience that is yet to be convinced.

Whilst we would not expect the average driver to be familiar with the contents of this report, it does capture the general attitude of government to the issue—something which potentially migrates across into public consciousness if only in the sense that it manifests in a reluctance to address the issue of handsfree use in a more formal, legislative, sense. This provides the wider context of permissiveness when it comes to mobile use, where peril and profit, risk and revenue must be balanced. Drivers are caught in a microcosmic version of the same quandary, weighing up tangible short-term gains and (apparently unlikely) longer-term negative consequences.

*Opportunity 5: 'My car has handsfree infotainment built-in, so it must be safe'*

Most new vehicles come preinstalled with a range of technologies which, at the very least, allow the driver to make and receive handsfree calls, text messages and program a sat nav. Additional available technology includes the use of digital assistants (such as Alexa or Google) which can be used for general information searching, sending emails and updating documents while driving. All this technology is marketed as 'safe' due to its handsfree nature, despite the cognitive distraction it imposes and its detrimental effect on driving performance (see section 3). Car manufacturers sell this technology by highlighting the benefits to the driver: their driving can be 'more rewarding' as they can complete other tasks while 'staying focused on the road ... [and in] ... absolute control' of their vehicle (Mazda 2019) in a way that is clearly targeting the concerns we identify as the 'motives' for phone-use. Others highlight the relative importance of infotainment over safety: 'All functions ... are consistently focused on three objectives: improving comfort and convenience, offering new dimensions of infotainment and ensuring optimal safety for drivers and passengers' (BMW Group 2019). As such, drivers are being provided with the means and opportunity to engage in distracted driving by car manufacturers who are not required to acknowledge the serious safety implications of handsfree technology, and who are aware that infotainment helps to sell vehicles. Manufacturers are simply providing drivers with a version of 'safety' that sells vehicles. Nevertheless, the presence of such technology in vehicles sends the message to drivers that its use is both safe and encouraged, feeding into the narrative that drivers have 'spare' attention while driving which can be usefully deployed to other important tasks.

## CONCLUSIONS

Research evidence convincingly and consistently presents both handheld and handsfree mobile phone-use as a risk to safety, with cognitive distraction key to consequent deterioration in driver ability. Evidence also suggests, however, that this is an increasingly popular driver behaviour.

This work was motivated by the significant number of conversations we have had in professional and social contexts, and in our consumption of (and participation in) media coverage of the issue, in which we were offered various challenges to the dangerousness of any type of mobile phone-use whilst driving. These challenges were often offered as a kind of 'trump card' that the person deploying them believed would be sufficient for us to agree that they had made a good point and, therefore, could continue to do something they clearly felt strongly motivated to do. We therefore concluded that continued mobile phone-use by drivers was a consequence of resistance to the research evidence, not ignorance of it (or at least its basic conclusions).

We suggest that when drivers challenge research findings, they are deploying deliberate strategies to resist a logic that is unpalatable because they wish to continue to behave in a way that they believe benefits them and which has become part of their day-to-day negotiation of the acceleration society and its associated pressures. As such, phone-using drivers can neutralize and rationalize their behaviour, enabling them to continue multitasking without any associated feelings of unease (Sykes and Matza 1957). The protestations and resistance of those who use their

phones behind the wheel could therefore be seen as overt demonstration of the need to neutralize a behaviour that they feel they need to continue. Mobile phone-use is an outcome of a series of processes and changes that the driver navigates among and between. Drivers are likely to feel pressure to engage in the behaviour—pressure that stems from broader societal changes and expectations that render relationships more vulnerable. Phone-use appears to offer a solution to demanding job roles and fluid boundaries between work and home. ‘Missing out’ on these things becomes problematic and puts the individual at risk of failing to ‘keep up’. Challenges of the type considered here as ‘motives’ are deliberate strategies deployed to resist a logic and a stock of research findings that, if accepted, would necessitate a change in behaviour that would be uncomfortable, at best and intolerable at worst. Research findings may thus appear to be trying to steal time from drivers who have probably never experienced any negative effects, but have experienced the apparent benefits of staying connected on the move.

A range of arguments presented here also demonstrate that drivers have identified the means by which they can resist evidence and messaging concerning the dangers of mobile phone-use. Not only do many drivers use the roads frequently without experiencing harm, they are also familiar with multitasking and perceive themselves as better than other drivers. ‘Experience’ is used as ‘evidence’ that a mobile phone can be used without suffering associated consequences, easing any cognitive dissonance regarding what is safe for the individual compared with what is safe for others. The invisibility of cognitive distraction and shared environment awareness exacerbate the difficulties that drivers have in appreciating the risks posed by handsfree use, leading to supposed ‘common sense’ comparisons with other distractions, such as passengers.

The means and motives for justifying mobile phone-use are then deployed within a broader permissive context that provides a series of opportunities that can be capitalized on. The law, as it stands, is complicit in encouraging drivers to opt for a legal, rather than illegal, way to be distracted, to which drivers are drawn to facilitate their perception of ongoing productivity. Given decreasing numbers of roads policing officers, the credible threat of detection and the subsequent consequences of offending is diminished. At the same time, the prevalence of technology installed as standard in vehicles is sold to drivers by manufacturers as ‘safe’ due to its handsfree functionality.

The combination of means, motive and opportunity for using mobile phones while driving provides a significant challenge to efforts to deter their use, whether that be from police forces, charities or other organizations. Nonetheless, acknowledging areas of resistance to research evidence and safety messaging allows for counter-responses to be developed and points to different levels at which that resistance needs to be tackled—governmental, social and individual (for practical application of this learning to frontline contexts see [Wells and Savigar 2019b](#)). While a combination of approaches is likely required, it seems clear that the multifaceted nature of this issue requires multidisciplinary work, involving the collaborative efforts of practitioners and academics. By understanding both the theoretical and the real-world practicalities of resistance to research and safety messages, strategies that challenge the challengers could usefully be developed and deployed.

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