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The missing piece in deterring phone use while driving: Police perspectives after legislative and penalty changes

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ABSTRACT

Objective: Engagement in illegal phone use while driving continues to increase. To obtain a more in depth understanding of the deterrent impact of the current legal countermeasures for this behavior, this study conducted a qualitative investigation from those on the frontline of enforcement: police officers. *Method:* A total of 26 police officers from Queensland, Australia, completed interviews on how they view the deterrent impact of the current phone use while driving legislation, penalties, and their enforcement, using classical deterrence theory as a framework. Police officers were interviewed during and after changes to the phone use while driving legislation and penalty in their jurisdiction. A reflexive thematic analysis was conducted to analyze the data and themes were created based on the constructs within classical deterrence theory: certainty of apprehension, severity of punishment, and swiftness of punishment. *Results:* The findings demonstrate the factors that contribute to both strengthening and weakening the legal deterrent effect for phone use while driving from a police perspective and have important theoretical and practical implications. For example, it is suggested that phone use while driving legislation that does not differentiate the types of phone behavior can make enforcement of this offense easier, yet a higher penalty may result in drivers concealing their phones more.

1. Introduction

Using a hand-held mobile phone while driving is both dangerous and illegal, associated with reduced driving performance (Oviedo-Trespalacios et al., 2016) and an increased crash risk (Dingus et al., 2016). In recent self-report studies, illegal mobile phone use while driving (MPUD) has been reported by around 37–63% of participants (37% Kaviani et al., 2020a; 63%, Stefanidis et al., 2022; 56%, Truelove et al., 2023b). One of the most common reasons that motorists use a mobile phone while driving is for reading and monitoring messages (Stefanidis et al., 2022; Oviedo-Trespalacios et al., 2019), although other behaviors are also reported, including watching videos (Gao, et al., 2023), social media use (George et al., 2018), and taking photos/videos (Truelove et al., 2019). Many jurisdictions have been increasing the penalty and changing the wording of legislation for MPUD to try and make it easier to enforce this law and deter drivers. However, an optimal, universally accepted approach for preventing MPUD remains elusive. Research has highlighted substantial variations in distracted driving legislation (Rejali et al., 2024a). Drivers may perceive these rules as ineffective in guiding better choices, as they often lack coherence and fail to address the full scope of distraction risks (Rejali et al., 2024b). As such, research is needed to further determine what works, and what needs to be changed when it comes to deterring drivers from MPUD. In particular, research is needed from those on the frontline of enforcement: police officers.

Legal countermeasures for MPUD are underpinned by classical deterrence theory. According to deterrence theory, a person is unlikely to use their mobile phone while driving if they perceive there is a high likelihood they will be caught and perceive the penalty to be severe and swiftly applied (Beccaria, 1764/2007; Bentham, 1780/1970). The perceived certainty is considered the most important of the three deterrence theory constructs, as the perceived swiftness and severity of punishment are unlikely to have an effect if the risk of detection is perceived as low (Grasmick & Bryjak, 1980; Mungan, 2017; Stafford, Gray, Menke, & Ward, 1986). Research has demonstrated that legal bans on hand-held phone use while driving have resulted in reductions in crashes (Regan & Oviedo-Trespalacios, 2022), and drivers engaged in hand-held MPUD less often than in areas that did not have the ban

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(Rudisill & Zhu, 2017). Nevertheless, when drivers' deterrence related perceptions are examined, several studies showed that the perceived certainty of apprehension and severity and swiftness of punishment for MPUD did not deter offending (Truelove et al., 2023b; Kaviani, et al., 2020b; Truelove et al., 2019). A possible explanation for this is that the severity and swiftness of punishment were not sufficient deterrents and drivers were frequently engaging in the behavior and avoiding being caught, resulting in low perceptions of certainty of apprehension.

This is consistent with Stafford and Warr's (1993) reconceptualization of deterrence theory, that states the perceived certainty of being apprehended can be influenced by direct (personal) and indirect (vicarious) experiences of punishment and punishment avoidance. Previous research has demonstrated that direct punishment avoidance significantly predicts more frequent MPUD (Truelove et al., 2023a; Truelove et al., 2021). Punishment avoidance may occur passively, whereby a motorist organically avoids police detection, or it may occur actively, through intentional attempts to avoid detection. Drivers have been known to engage in concealed MPUD (Eren & Gauld, 2022), which make it more difficult for police to detect offending. Likewise, another study in Australia demonstrated that when drivers engage in risk-compensatory strategies to avoid police—such as concealing their phones and watching for law enforcement—they also report higher rates of texting and punishment avoidance behaviors (Oviedo-Trespalacios, 2018). More recently, it has been noted that drivers may use online groups and navigation tools for knowledge regarding the location of enforcement (Truelove et al., 2023a; Mills et al., 2023). This information gives drivers the opportunity to stop using their phone in areas where they may be detected, which can mean drivers may experience punishment avoidance more often. These experiences of punishment avoidance can then result in low perceptions of the certainty of being apprehended. This can provide some explanation for the non-significant deterrence results for MPUD. However, it is important to acknowledge that there are numerous additional complexities that underlie this issue.

While some jurisdictions have implemented mobile phone detection cameras that use AI technology to detect drivers illegally using their phone, the primary enforcement method for MPUD worldwide is via police officers. Research has predominantly explored challenges associated with police officer enforcement of MPUD in the US and Australia. It has been found in qualitative research that some of the major barriers experienced by police officers when enforcing this law includes unclear legislation and phones having multiple functions, making it difficult to detect the exact phone function being engaged in, which can result in difficulty enforcing this law (Rudisill et al., 2019). Further, it has been reported that it can be difficult to detect the driver using their phone and there can be safety risks with pulling drivers over to give them an infringement notice (Rudisill et al., 2019). Meanwhile, a quantitative study of U.S. police officers found the most common barriers to MPUD enforcement included concealed phone use and the inability to determine what phone function the driver was engaging in (Rudisill & Zhu, 2021). This research that has focused on police perceptions of MPUD have primarily focused on factors that weaken the certainty of apprehension. However, research is needed to also determine if there are other factors that heighten the certainty of apprehension and impact the severity and swiftness of punishment, consistent with the full deterrence framework. Further research is also needed to determine the challenges police officers face in jurisdictions outside of the United States.

While the above research has identified legislation that bans certain functions of phones while driving presents a large challenge to police enforcement of this law, research is also needed in areas that have changed their legislation to a more general law, to determine how this impacts deterrence and enforcement of the law. In Queensland, Australia, where this study takes place, the legislation for use of a mobile phone by particular driver license holders was amended in July 2021 to clarify that use of a phone refers to "(a) operating the phone or a function of the phone in any way; or (b) holding the phone in the person's hand or resting the phone on any part of the person's body – (i) whether or not the phone is on or operating; and (ii) whether or not for the purpose of operating the phone or a function of the phone; and (iii) whether or not the phone is partially or wholly supported by another part of the person's body or another thing" (Queensland Legislation, 2021). Such changes meant that police did not have to clarify what phone function the driver was engaging in or whether it was in use, and that the phone could be anywhere on a person's body, not just in their hand (e.g., it could be on their lap) to be violating the legislation. Notably, individuals who hold a driver's license that allows them to use hands-free phone functions (not including novice drivers), are allowed to touch their phone if it is in a cradle for hands-free phone functions (e.g., skipping a song, answering a call, using navigation applications; Queensland Government, 2024a). Research has yet to investigate the effectiveness of MPUD enforcement since these major legislation changes.

Penalties for violating phone use while driving laws vary widely worldwide, with limited research on how different penalties impact deterrence. In Queensland, the penalty increased in February 2020 from a $400 fine and 3 demerit points to a $1,000 fine and 4 demerit points (Queensland Police, 2020). Due to inflation, the fine has increased to $1,209 as of 2024 (Queensland Government, 2024a). Additionally, double demerit points apply for a second offense within a year (Queensland Government, 2024a). There is a large gap in the literature related to understanding how larger penalties influence MPUD, especially from the perspective of police officers.

1.1. The current study

Despite legislative changes and increased penalties aimed at deterring mobile phone use while driving (MPUD), an optimal approach for preventing this behavior remains elusive. Additionally, there is limited research on the deterrent impact of these measures from the perspective of police officers, particularly in jurisdictions with recent legal amendments. Therefore, this study addressed the following aim:

Aim: To explore how police officers view the deterrent impact of the current phone use while driving legislation, penalties, and their enforcement, using classical deterrence theory as a framework.

Identifying a police perspective on these issues will not only add valuable context to deterrence research on MPUD, but also provide important implications related to the deterrent effects of police MPUD enforcement from those on the frontline of enforcement. Such research is timely given the MPUD legislation and penalty changes.

2. Method

The procedure is outlined in Fig. 1 and explained in detail below.

2.1. Procedure

This study implemented a qualitative design to explore how Queensland police officers perceive enforcement for MPUD. A total of 26 officers were involved in the study, which included an online survey to obtain their consent and demographic information. Email addresses of eligible participants were provided to the researchers by senior police. The researchers sent emails with study details and the sign-up link to the eligible participants. Only details about police officers' years of experience are reported to maintain confidentiality of officers. Following the completion of this brief online survey, an interview time was organized. All interviews took place on the phone and included the researcher and transcriber. Interviews were not recorded for confidentiality reasons but were transcribed as they occurred. The transcriptions were reviewed by both the transcriber and researcher immediately following the interview to ensure accuracy and fix any typos. Previous research has identified that the quality of data from live transcriptions can be comparable to audio recorded transcripts, highlighting how live transcriptions can be the best option, especially when it may elicit more information about

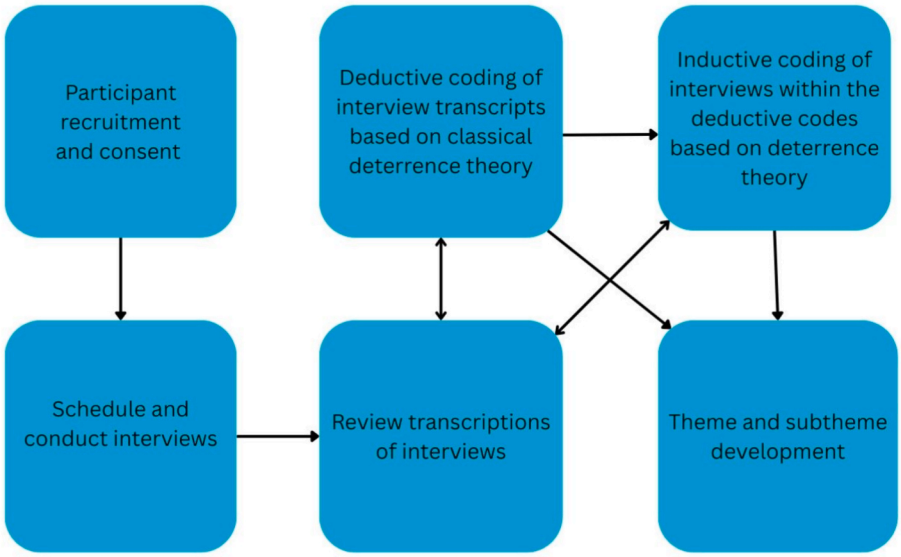

Fig. 1. Procedure and data analysis.

certain topics (Rutakumwa et al., 2020). To be eligible to participate, individuals had to be aged over 18 years, be a current Queensland Police Service officer, and have experience with enforcing the law for MPUD. On average, the officers in the study had 15.8 years' experience working as a Queensland police officer. Ethics approval for this study was obtained from the University of the Sunshine Coast Human Research Ethics Committee (ethics number A211520). Approval for this study was also obtained from the Assistant Commissioner of Road Policing and Regional Support Command in 2021.

Interviews lasted between 30 and 60 min and took place between 2021 and 2022, during and after the previously mentioned changes to the Queensland MPUD penalty and legislation changes. The interviews were part of a larger project on police experiences with road safety enforcement; however, this study is focused on applying a deterrence theory framework to police enforcement of MPUD. The interview questions that were relevant to this study explored officers' perceptions of MPUD enforcement, including their perception of factors that influence motorists' deterrence perceptions (i.e., their perceived likelihood of apprehension, and the perceived severity and swiftness of punishment), as well as their perceptions towards the legislation and penalty changes for MPUD. Example questions included "What do you think of the phone use while driving legislation?," "Do you think the law deters people from using their phone while driving?," "What would make it easier to enforce phone use while driving laws?," "What are your experiences giving a penalty to a driver of a moving vehicle?," "How are tickets for phone use while driving issued?," and "Have there been any changes since the higher penalty for phone use while driving has been implemented?" Where necessary, the interviewer used prompts to encourage participants to elaborate on their answers (e.g., can you tell me more about that, can you explain why, can you give me an example from your experience). Transcripts of the interviews were produced, and data analysis commenced.

2.2. Data analysis

Braun and Clarke's six phases of thematic analysis were utilized to analyze the data (Braun & Clarke, 2006; Braun & Clarke, 2021). The analytic approach taken was a hybrid approach of deductive and inductive analysis. With a deductive approach, data analysis is guided by pre-existing knowledge or a theoretical framework (Clarke & Braun, 2017). In contrast, an inductive approach looks at patterns in data to form new knowledge or theories (Clarke & Braun, 2017). As the aim of this study was to understand police officers' perspectives regarding the three deterrence theory concepts (as applied to MPUD enforcement), a deductive approach was first undertaken. The analysis of the data began with the first phase in Braun and Clarke's six phases of thematic analysis: data familiarization. This entails the reading and re-reading of interview scripts, with the goal of immersing oneself in the data. Subsequently, the data were coded according to the three deterrence theory constructs and organized to create themes: (1) certainty of apprehension, (2) severity of punishment, and (3) swiftness of punishment. Once coded, the relevant quotes were sorted into each of the three themes. As there was a wide variety of topics that fit into each theme, codes were elaborated on to fit within patterns that were identified in the data. This was an inductive approach, where the elaborated codes were guided by the data. The codes that were created within each of the deterrence constructs are consistent with the subthemes presented below, where quotes were categorized according to these codes. The codebook is included in the supplementary material. Two road safety researchers, both experts within the road policing and MPUD field, were involved in the coding of data. Any disagreements were discussed by all researchers until resolved. In the final step of the analysis, themes were reviewed and refined. Fig. 2 displays the themes and final topics that were included in each theme. The full themes and sub-themes are presented below, with relevant quotes to support the results. The results and discussion are combined, allowing more interpretation within the results.

3. Results and discussion

3.1. Certainty of apprehension

3.1.1. Wording of legislation

With the introduction of changes to the phone use while driving legislation, it was consistently mentioned that it was easier to enforce this offense. The easier it is to enforce the law, the more offenses are likely going to be detected, which may increase driver's perceptions of the certainty of being apprehended. The change to legislation resulted in illegal hand-held phone use while driving being defined as not only holding the phone but also resting the phone on any part of the body, whether or not the phone is on and operating. It was noted that prior to this change in legislation, it was more difficult to prove that the driver was committing the offense. This finding is supported by previous research that found police officers in the United States believed it would be easier to enforce the phone use while driving law if the legislation

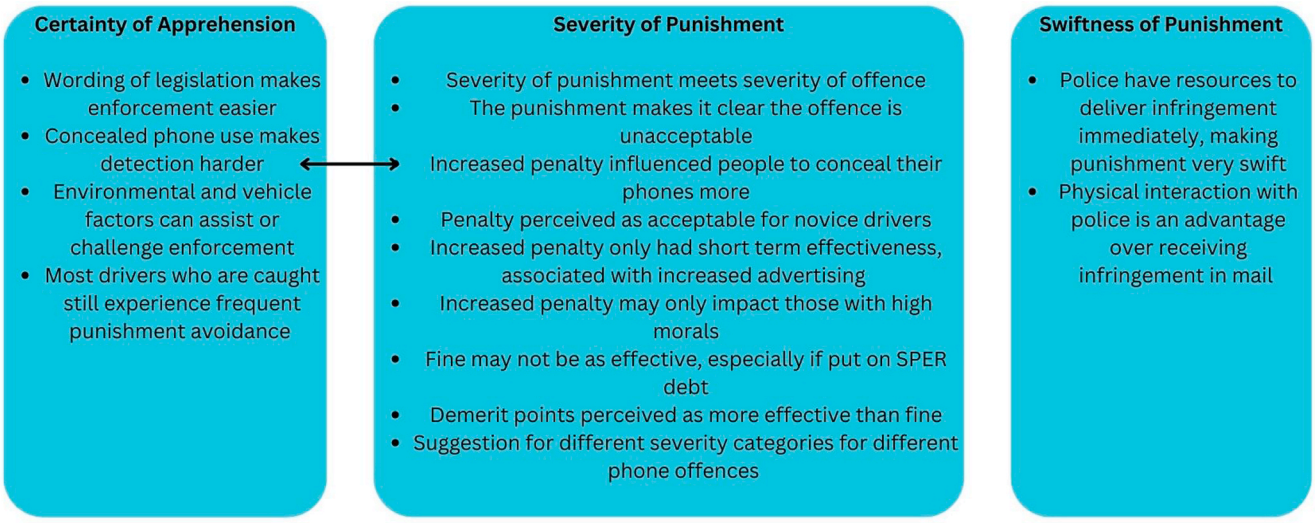

Fig. 2. An overview of findings within each classical deterrence theory construct.

prohibited any type of hand-held phone use while driving (Rudisill et al., 2019; Rudisill & Zhu, 2021). Further, a multitude of issues have risen with the ambiguity of the term "use" of a phone in legislation that bans this behavior while driving (Jessop, 2008), which further supports the current wording that states a phone cannot be used while driving if it is on a person's body, "whether or not the phone is on or operating" (Queensland Legislation, 2021). The following quotes demonstrate these perceptions:

It was particularly difficult behavior, certain elements need to be proved in case it goes through the court, it makes it hard for us. But you have to make sure you prove use of the phone. Now it's changing it makes it a lot easier for us.

Yeah, it makes it easy for us. If it's not in the cradle we got you.

Essentially once we see that is has occurred it makes our job a little bit easier. It used to be an argument "I wasn't on it," whereas now it is on the body while you are driving and technically that is an infringement.

3.1.2. Concealed MPUD

Despite the changes in legislation making it somewhat easier to detect drivers violating the MPUD offense, it was expressed that a number of challenges remained in detecting this offense and obtaining evidence. In particular, it was revealed that drivers were making increased efforts to conceal their use of a phone while driving. This is consistent with previous research that has demonstrated drivers are frequently engaging in this concealed phone behavior in an attempt to avoid being caught (Oviedo-Trespalacios, 2018; Truelove et al., 2021). In particular, holding the phone down low, below window height presented a large challenge to detection. This is presented in the below quotes:

It's a difficult offense to detect. Once we detect, the legislation allows us to enforce it quite easily, detection is quite difficult.

It's harder to detect because people are less obvious than they used to be. When mobile phone rules first came in it was fairly easy, but people are sneakier now.

Harder and harder to detect, because people have crafty ways of hiding it. It's not up to their ear anymore. Most of the time it's at a set of traffic lights where they are browsing social media.

Holding the phone down low, having it on speaker phone, resting in your lap. Not holding it up in front of your face where it is obvious to everyone.

3.1.3. Body camera footage

Further, to enforce the phone use while driving law, police officers typically need video footage of the offense. It was revealed that the concealed use of a phone can make obtaining that video footage more difficult, even if a police officer did witness the offense taking place. However, police officers wear body cameras that do assist with capturing this behavior, highlighting the importance of this technology for police enforcement of MPUD. In particular, it was mentioned that the cameras can assist with capturing the behavior before the police officer sees the offense themselves. These perceptions are discussed in the below quotes:

We have all got recorders, we can record things before we see them. If it is my word against them talking to a passenger, and my colleague didn't see it, we can go to the camera now and you can see it was in her hand and she dropped it when she saw us. Far better equipped now with technology to address anything that could potentially be lost.

I Know the mate I have with the motorbike says they have footage and people don't believe them and they show the footage and there they are clearly talking on their phone and storm out. So that is effective.

We have all got recorders, we can record things before we see them.

3.1.4. Environmental and vehicle factors

In addition to the challenges associated with concealed phone use, it was also revealed that sun exposure, tinted windows, and small vehicles with smaller windows also makes it more difficult to enforce the phone use while driving law. Previous research corroborates these findings, where tinted windows was found to be a challenge for enforcing this law (Jessop, 2008). Previous research also suggested that it is more difficult to detect this offense at nighttime since visibility may be limited (Jessop, 2008), yet this study found that night can assist with the detection of the phone offense. Specifically, the light from the phone makes it easier for police to see that a driver is violating this offense. The following quotes provide examples of these perceptions:

A lot of the windscreens these days, all it takes is the sun in the wrong spot and you can't see into the car half the time.

Tinted windows, becoming a lot more common harder to see into cars.

People concealing it really, modern vehicles are quite hard to see into a lot smaller windows now with vehicle design and window tinting that type of thing.

It's incredibly difficult to enforce, unless at nighttime where the screen is lit up.

They will hold them down just below the window level to hide that. At night-time they will do that but the whole car lights up and people don't realise.

3.1.5. Punishment avoidance experiences

Importantly, it was recognized that even if a driver is caught and punished for using a phone while driving, it was likely that they would

have still engage in this behavior a number of times without being caught, or see others engaging in the behavior without being caught. This highlights that drivers need to be caught more often for enforcement to have a longer lasting impact on drivers' perceptions of the certainty of being caught and the resulting engagement in offending behavior. The below quotes demonstrate these perceptions:

They were doing the wrong thing, people like that, they accepted doing the wrong thing. More than half say "I have been doing it for so long and I have only been caught once."

I think that's the whole reward system. Either seeing someone else doing it or they are getting away with it and nothing happens, no crash or enforcement nothing happens. That behavior is learnt.

Drivers' experiences with avoiding being caught is consistent with Stafford and Warr's (1993) extension of deterrence theory, which identifies an individual's perceived certainty of apprehension can be influenced by their direct and indirect (i.e., vicarious) experiences of punishment and punishment avoidance (i.e., engaging in the behavior and not being caught). Previous research on phone use while driving has found that punishment avoidance is one of the most pertinent variables in predicting continued engagement in the behavior (Truelove et al., 2019; 2021; 2023b). As such, these findings serve to further highlight the necessity of catching drivers engaging in MPUD more frequently to lower punishment avoidance experiences. Overall, the results from this highlight numerous factors that can both strengthen and diminish the perceived certainty of being caught for MPUD.

3.2. Severity of Punishment

3.2.1. Increased penalty can strengthen deterrence

Based on the responses from police officers, it was evident that the increased penalty for phone use while driving (initially introduced as 4 demerit points and $1000) had both positive and negative effects on driver behavior. First, there was the perception that the increased penalty acted as a good deterrent. One of the reasons for this was the idea that the higher severity of penalty now meets the severity of the offense, as using a phone while driving significantly increases the risk of a crash (Dingus et al., 2016). Another reason that was given in support of the punishment was that the high penalty makes it clear the offense is unacceptable. These findings highlight some of the positive benefits of the increased penalty for illegal phone use while driving. The below quotes demonstrate some of these perceptions.

I Think it's been a big deterrent with the $1000 fine. With such a big penalty its really turned a few people away from it for the better. The 4 demerit points are an adequate punishment. It's a step in the right direction to deter people from phone use.

The penalty now is $1000, obviously that means there has been a fairly big contribution to crashes and fatalities from phone use, otherwise there wouldn't have such a hefty penalty.

Since the fine has gone up to $1000 the message is very clear, although hasn't stopped it, but it is clear it is not acceptable.

3.2.2. Punishment for provisional license holders

While the penalty was technically the same for all drivers, it can be considered more severe for drivers on their provisional license because they can only accrue 4 demerit points before facing license suspension, while drivers on an open license can accrue 12 demerit points in a 3-year period before facing license suspension. As the punishment for the mobile offense includes 4 demerit points, this means that provisional license drivers who are caught once for this offense can face license suspension, while drivers on an open license have to be caught at least twice before they face license suspension (due to the double demerit points associated with a second offense). It was commonly perceived that this higher severity of punishment for provisionally licensed drivers was beneficial. This was primarily due to the idea that novice drivers should not be using their hand-held phone while driving when their concentration should be on the road, and they should have the additional deterrent of possible license suspension to prevent this behavior. Further, it was noted that this higher penalty can help instill good driving behavior early on. Previous research has demonstrated that young drivers are significantly more likely to be involved in a crash (Oviedo-Trespalacios, 2018), which provides some support for these perceptions. Further, research has found that drivers on a provisional license can be more deterred from road rule violations as a result of their low demerit points (Scott-Parker, 2018; Truelove, 2020), providing additional support for this finding. The following quotes demonstrate some of these perceptions.

P platers it's a loss of licence, I think it's a reasonable penalty when they are aware of it straight away. And they have only recently been through driver training, they should be aware of the penalty. I think it's a reasonable penalty and reasonable outcome.

I think it's an adequate punishment for someone so junior into their driving experience. It's about stopping the behavior before it starts.

I still think it's a good idea, they need to start with good driving behaviors. I think it's a good penalty looking at loss of licence almost straight away if they are caught. Good way to be introduced to driving, more likely to cost them their licence but it is a good thing. They are the ones who use social media most so good to install those habits when first starting because they can feel invincible.

3.2.3. Temporary effects of increased penalty

While there was some support behind the idea that the increased penalty increased the deterrent effect, it should also be acknowledged that it was also viewed to only have a temporary effect on the reduction in illegal hand-held phone use while driving. This was perceived to be connected to the heightened advertising that occurred in conjunction with the increased penalty, and a drop in this advertising after a period of time. In support of this finding, previous research has suggested road safety campaigns typically only have short-term effectiveness (Truelove et al., 2023c). Example quotes are included below:

Definitely for the first 3 to 6 months, I think that would have corresponded with the advertising done for it whether on radio or billboards it was all displayed everywhere, but now it has been taken away. The shock value for the penalty has eased, there is not that big shock attached to it. A lot of people's minds are 'yes, it is big but I am willing to risk it now.'

When all the advertising for the legislation changed regarding the amount, I feel there were definitely less people you could see, even the ones 'were they on their phone?' did drop, but slowly has picked up again.

We definitely saw a reduction, when the increase in penalties came out there was a reduction, but it has since gone up. Before, with the marketing and advertising from the big jump from $400 to $1000 and double demerit points it definitely dropped, but since that time is has started to increase again and probably back on par from where it was.

3.2.4. Limited effectiveness of increased penalty

While some police officers believed the larger penalty increased the deterrent effect, a number of other police officers instead believed that the increased penalty was not impacting behavior. This is supported by previous research that has found a doubled penalty for phone use while driving did not result in the number of serious or fatal crashes over a 6-week period following the implementation (Fry, 2023). This may be connected to the finding above, that the higher penalty may have only had a short-term effect. It was pointed out that it was still common to see drivers illegally using their phone. Further, despite options to use a phone legally, such as with the use Bluetooth or a phone cradle, many drivers still do not use these options. It was also mentioned that the punishment may not influence some drivers but instead may only influence those with high morals. This is supported by previous research that identified issues with deterring problematic drivers who frequently engage in road rule violations (Scott-Parker et al., 2013). It should also be noted that these perceptions related to the ineffectiveness of the increased penalty are primarily associated with a general deterrent, such that it is referring to deterring the general public from committing the

offense. However, more research is needed to further examine the specific deterrent effect of the increased penalty on behavior (i.e., the effect the punishment has on those who have already been caught and punished from committing the offense in the future). The following quotes demonstrate some of these perceptions from participants:

Figures would suggest not, the penalty is almost $1000 yet they still continue to do so. People think they have the right to do it. Everything has to be done right now, they can't wait to get to the end of their journey to look or reply to that text, got to be done right now. Doesn't appear to be effective.

Nah, no change [after increased penalty]. People just go back to the normal way of using a phone. Modern cars all have Bluetooth and they still won't hook it up.

This morning going to the shops I saw 4 to 5 people on their phone, and they weren't waiting at a red light. They keep their phone down on their lap so police can't see it, but they aren't looking at the road with their head down. These days, kids are on motorised scooters and they are ducking in and out of traffic, and it only takes a second for them to be on the road. You need to have someone receptive of the idea of being punished, rather than those who don't receive the message.

It deters some people, but you know, they are the kind of people who are more generally quite law obeying in the first place.

3.2.5. Increased penalty contributed to concealed phone use

While the increased penalty had some benefits for reducing illegal phone use while driving, it was identified that this penalty also counterintuitively was perceived to influence drivers engaging in concealed phone use while driving. This involved holding the phone down low in an attempt to avoid detection. Previous research has found that concealed phone has become quite common (Oviedo-Trespalacios, 2018) and can be an additional road safety risk due to the additional visual demands of the behavior (Alconera et al., 2017). The finding from this study extends on this previous research by identifying how concealed phone use can also be connected to a higher penalty. As outlined in the certainty theme above, the concealed use of a phone can make it more difficult for police to detect this offense, which can result in drivers getting away with this behavior more frequently. While this highlights additional problems associated with a higher penalty for phone use while driving, it should also be acknowledged that the use of AI cameras can be used to detect this behavior, as they are positioned in a way to see onto a driver's lap. However, cameras can also be detected by drivers though ubiquitous applications such as Google Maps, Apple Maps and Waze that disclose traffic enforcement locations (Truelove et al., 2023a; 2024). The following quotes demonstrate some of these perceptions:

It certainly does deter, just after the penalty increased substantially from the $300 mark to the $1000 plus, it was much harder to catch people on their phone. People wouldn't have it up to their ear it would be down in their lap. You would need to be in an unmarked car to see it. Increasing the penalty is good to deter but people are trying to conceal it now, so they don't get caught.

No, the new legislation $1000 introduced a year ago, before then I would be issuing a mobile phone ticket once a month going to jobs, I haven't issued one in the last year. People have become a lot more protective in how they go about using their phone. They hold it just below window level. If we can't see the phone, we can't prove they were touching the phone without their admission.

Yeah, since the price has gone up people try much harder to conceal it. I have caught people where it is so far down their leg at the door, and at the lights you walk out and tap on the window and they go "barzerg" (they don't see us walk up). I think the price of the ticket now, and that sort of thing has made people more aware. Sneakier about it too.

3.2.6. Deferred payment of penalty

A number of viewpoints were also shared in relation to the specifics of the phone use while driving penalty. It was noted that many drivers would defer payment of the fine using the State Penalties Enforcement Registry (SPER) voluntary enforcement plan (Queensland Government, 2024b), colloquially referred to as having SPER debt. As such, it was suggested that the fine would not have a large impact on drivers who would do this. Research that has examined SPER fine payment for speeding has found that drivers who live in communities that have a high fine debt take longer to pay off their own fines, and those that have a recent record of speeding also take longer to pay off their fine (Zahnow et al., 2024). While research has yet to analyze SPER fine payment for phone use while driving offenses specifically, the results from Zahnow et al. (2024) support the police officers' perceptions. It was also mentioned that demerit points were perceived as a more effective penalty than the fine. Part of this reasoning was attributed to drivers putting their fine on SPER debt. However, a primary reason for this was associated with the perception that the potential to face license suspension was a larger deterrent than a fine. These perceptions are demonstrated in the below quotes:

Giving a $1000 fine which people instantly refer to SPER is ineffective to stop them from doing it again in the future.

No, they don't care about the fine, because it is the amount it is anyway, they can pay it off. 10 or 20 dollars a week they come to an agreement and doesn't really hurt them.

People don't care about the fines, its loss of licence they care about at the end of day. People put fines on SPER. Do the points need to go up with the fine to correlate with the danger and if you do it again you will lose your licence?

The legislation is fine, the penalty might be too high. Regardless of how high it is we are still getting people. If anything, there needs to be more demerit points, people are more afraid of losing their licence than putting the fine onto spur for years.

3.2.7. Variations in penalty for different phone behaviors

Another view that was expressed was the idea that penalty should vary depending on the type of phone behavior that was being engaged in. For example, phone behaviors that require less visual-manual interaction, such as skipping a song, could have a lower penalty in comparison to behaviors with higher visual-manual interaction, such as texting. Notably, this view was not commonly expressed by participants and contrasted with perceptions in the above theme on certainty of apprehension surrounding acceptance of the legislation that classifies illegal phone use while driving as having the phone touch any part of the body, making it easier to enforce. Changes to the penalty for different categories of phone offenses would mean that enforcement would be more difficult, as the phone behavior being engaged in by the offender would need to be specified, most likely with evidence. The following quotes demonstrate some of these perceptions:

We need different categories for different offenses.

Different categories are required because someone can be at a light using their maps app and push one button on their phones. That's different. Someone driving and texting is much more severe.

Based on deterrence theory, a just punishment is required to be an effective deterrent, such that the punishment should be of a similar standard to the offense (Beccaria, 1764/2007). Specifically, the punishment should not be unjustly severe (as this would have a counterintuitive effect), yet the reward of committing the offense should not outweigh the punishment. Research has demonstrated significant crash risks associated with a wide range of phone use behaviors associated with the attention diverted from the road and the interaction with the phone (e.g., Basacik et al., 2011; Dingus et al., 2016; Lipovac et al., 2017; McNabb & Grey, 2016). As such, it may be suggested that the same penalty for all hand-held phone offenses could be considered a just punishment.

3.3. Swiftness of punishment

3.3.1. Ability to deliver infringement quickly

In terms of the swiftness with which the punishment is delivered, responses from the police officers highlighted that when an offender is detected, they will receive the infringement notice very quickly. Police have the option to send the notice electronically, such as by text or

email. However, it was noted that they also have the option of sending the infringement notice via the post and the driver was typically given a choice as to how they would receive the notice. Nevertheless, it was stated that most people receive these infringements electronically. This finding suggests that phone use while driving infringement notices issued by police officers are in line with the swiftness component of classical deterrence theory, where the punishment is meant to be delivered quickly, ensuring it does not add an extra layer of unnecessary punishment in the waiting process. Example quotes are provided below:

Whether they go to their SMS, email, or post depends on where their preferences lay.

Most enforcement notices are now issued electronically, either via SMS or email. In some cases, such as for international or interstate drivers, we issue a paper ticket. Some get it by registered post.

Three ways, by paper ticket, by text, or by email. To issue an infringement notice.

3.3.2. Advantage of police interaction

It was also mentioned that the swiftness of punishment and the physical interaction with police provide an advantage to police enforcement over camera enforcement. When a driver receives an infringement for phone use while driving via a mobile phone detection camera, they have to wait to receive a letter in the mail with the infringement notice to know if they have been caught, which can limit the deterrent effect due to the length of time between committing the offense and receiving the punishment. The following quote demonstrates this perception:

I am a little bit of a fan of the effect of getting a ticket. It is more beneficial if the person does it and gets caught, rather than getting it in the mail 2 weeks later. But you got to do it somehow. It's a little bit like that with speeding, you get caught one place there and they are stopped and have the consequence there and then, as opposed to getting it in the mail where it loses its effectiveness.

According to learning theorists, the closer the offense and punishment are, the greater the opportunity for an association to be made between the behavior (offense), and its consequences (Pavlov, 1927; Pathinayake, 2018). As such, the results suggest that police enforcement of MPUD may help strengthen the association between legal consequences and engagement in MPUD. This is due to the swiftness between engaging in the behavior, interacting with a police officer and receiving the infringement.

4. Implications

The findings from this research elucidate factors that contribute to both strengthening and weakening the legal deterrent effect for MPUD. The results expand on existing deterrence-based research for MPUD (that has primarily used aggregated survey-based data) that found legal sanctions are not significant deterrents for MPUD (Kaviani et al., 2020b; Truelove et al., 2019; 2023b) by identifying the nuances associated with deterrence for this offense. Specifically, the police perspective provided an in-depth, complex understanding of what factors can influence the certainty of apprehension, and severity and swiftness of punishment, with a particular focus on the deterrent effect since changes to the phone use while driving legislation and increased penalty were implemented. These findings have a number of important implications for policy, practice, and research.

The research findings highlight several critical policy implications for countries considering legislative changes around MPUD. Within the certainty of apprehension theme, police officers noted that the changes to the wording of the phone use while driving legislation assisted with making enforcement of the offense easier. The findings confirm suggestions made by previous research (Rudisill et al., 2019; Rudisill & Zhu, 2021) that changes to the wording of the MPUD legislation greatly assist with enforcing this law that is notoriously difficult to enforce. Specifically, it was highlighted in this study that the wording changes that were made to the Queensland legislation that clarified: (1) the phone can be on any part of the person's body and (2) the phone does not have to be on or operating (Queensland Legislation, 2021) were reported to be the most useful for MPUD enforcement. Nevertheless, it should be acknowledged that there were some suggestions among some officers for a varied MPUD punishment, depending on the type of phone behavior. Such a punishment would ultimately require the detection of the specific phone behavior during enforcement and revert back to further difficulties with experiencing enforcement. Considering that the perceived certainty of being apprehended is suggested to be the most important component of deterrence (Grasmick & Bryjak, 1980; Mungan, 2017; Stafford, Gray, Menke, & Ward, 1986), as the punishment is not going to have an effect if an offender is not first caught breaking the law, it may be suggested that the benefits to having a MPUD legislation that does not specify the type of phone behavior outweighs the costs. In further support of this, research has identified crash risks associated with a variety of hand-held phone functions (Basacik et al., 2011; Dingus et al., 2016; Lipovac et al., 2017; McNabb & Grey, 2016). As the severity of the punishment should be in line with the severity of the offense (Beccaria, 1764/2007), it can be argued that the risk posed by all types of illegal MPUD behaviors would mean that the same penalty for any type of MPUD behavior (for a first offense) is appropriate. However, drivers also need to be made more aware of the risks that different types of MPUD behaviors pose. Engaging drivers through comprehensive educational campaigns about the risks of all types of phone use can complement enforcement efforts. Implementing a dual system that combines clear regulations with driver education may better address the evolving nature of driver behavior and technological distractions, fostering a shared sense of responsibility between policymakers and drivers. However, this should be explored in future research.

Further, while increasing penalties may initially deter illegal phone use by emphasizing the severity of the offense, such measures are not a panacea. Within the severity of punishment theme, it was revealed that police officers believed high fines may deter some drivers but leave others unaffected, especially those who view fines as manageable debts. Police also mentioned that while the larger penalty may help solidify the severity of the offense in drivers' minds, the effectiveness of the larger fine was perceived to have a temporal limit. Specifically, once the initial shock value wears off and there is less media attention, the deterrent effect of the larger penalty was perceived to diminish, with police officers noting the number of drivers they saw engaging in the phone offense seemed to go back to normal after a few months. Notably, the significantly higher penalty not only had the potential disadvantage of short-term effectiveness, it also was perceived to counteractively contribute to drivers concealing their phone use while driving more often. This demonstrates that excessive reliance on punitive measures can lead to unintended consequences, such as the increased concealed phone use, which poses greater risks due to higher visual demands (Alconera et al., 2017). As such, these consequences should be considered in other jurisdictions that are considering substantial increases to the phone use while driving penalty. Nevertheless, police officers did note that high demerit points were perceived as more of a deterrent than high fines, especially considering the ability for drivers to put the fines on a dept payment system, which would limit the severity of the punishment. As the punishment does need to be viewed as severe to create a deterrent effect, this research highlights that high demerit points should be considered as a penalty for this offense. However, this does need to be explored further among a driver cohort.

In relation to the swiftness of punishment, the results highlight the advantages of police officer enforcement of the phone use while driving legislation. Specifically, it was noted that police enforcement of this offense can be very quick, from talking to the driver immediately after they have been caught, to the ability to send an electronic infringement that would be received by the offender immediately. This would largely strengthen the association between engaging in the offense and receiving a punishment (Pavlov, 1927, Pathinayake, 2018). As such, it

can be suggested that even though there are now mobile phone detection cameras, police deployment efforts surrounding mobile phone enforcement should not decrease. In fact, combining the existing police enforcement efforts, or even increasing the deployments aimed at capturing this behavior, in addition to the mobile phone detection cameras is needed to maximize drivers' certainty of apprehension for this offense. This is especially pertinent considering the number of times drivers have used a hand-held phone while driving and avoided punishment (as mentioned in the certainty of apprehension theme), which would be strengthening their association between engaging in the behavior and not being caught.

4.1. Limitations and future directions

While this study provides important insights into MPUD and deterrence after legislation and penalty changes, there are a number of limitations that need to be considered when interpreting the findings. First, the self-report nature of this study needs to be acknowledged. Self-report studies can result in social desirability bias, where responses are framed to make the participant look better (Fisher, 1993). As participants were from an organizational structure, it is also possible that some responses may have been skewed more positively towards the organization. Further, while phone interviews provided the flexibility to recruit more participants, this should also be acknowledged as a potential limitation as in-person interviews can have advantages with the potential for more engaging interactions. The requirement for live transcription of the interviews, as opposed to audio recorded transcribing, should also be acknowledged as a potential limitation. While live transcription does have benefits, especially in relation to promoting more information (Rutakumwa et al., 2020), there can be some dialogue that is missed. In addition, participants consisted of police officers from Queensland, Australia. While the study provided insight into the MPUD legislation and penalty for this jurisdiction, more studies from police officers are needed worldwide for comparison. Further, as this study was from the police officer perspective, more research from the driver perspective is needed. Additional quantitative investigation of the police officer perspective of MPUD and deterrence is also required to provide a more in depth understanding of the topic.

4.2. Conclusion

These findings provide important insights into deterrence for MPUD, allowing a more nuanced understanding of the topic by utilizing a qualitative approach with police officers after legislation and penalty changes. The results serve to highlight the need to continuously evaluate and adapt road safety strategies, particularly in the context of Vision Zero—a strategy aiming to eliminate all traffic fatalities and severe injuries. Achieving such ambitious goals requires a proactive approach that acknowledges the dynamic nature of driver behavior and road safety risks. Engaging with all stakeholders, including law enforcement and drivers, is crucial. By fostering open communication and increasing knowledge about effective measures, policymakers can better navigate the complexities of road safety and work towards meaningful reductions in phone-related driving incidents.

CRediT authorship contribution statement

Verity Truelove: Writing – review & editing, Writing – original draft, Project administration, Methodology, Funding acquisition, Formal analysis, Data curation, Conceptualization. **Laura Mills:** Writing – review & editing, Writing – original draft. **Oscar Oviedo-Trespalacios:** Writing – review & editing, Writing – original draft, Methodology, Formal analysis, Conceptualization.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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Appendix A. Supplementary data

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