Exploring perceived legitimacy of traffic law enforcement

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www.carrs.qut.edu.au
Introduction

• Drink driving, speeding, driving while fatigued, and driving without a seatbelt contribute substantially to serious casualty crashes

• Traffic law enforcement and education campaigns can modify driver behaviours

• The ability of authorities to modify driver behaviours is limited by practical constraints

• A potential disparity exists between the perceptions of risk and actual behaviour, which could influence attitudes
Introduction (2)

• Different attitudes towards the behaviours and their enforcement may lead to disparate perceptions of legitimacy

• If the behaviour and its enforcement method are perceived as legitimate, then it could be expected that compliance is more likely

• Enhancing our understanding of the factors that influence willingness to comply with traffic laws could be important for road safety
Research Questions

1) Does self-reported likelihood of engaging in drink driving, speeding, driving while fatigued, and driving without a seatbelt differ between behaviours?

2) Does perceived legitimacy of enforcement of drink driving, speeding, driving while fatigued, and seatbelt laws differ between behaviours?

3) Do attitudes toward drink driving, speeding, driving while fatigued, and driving without a seatbelt differ between behaviours?

4) What are the associations between self-reported likelihood of engaging in these illegal behaviours, perceived legitimacy of enforcement and attitudes toward drink driving, speeding, fatigued driving, and driving without a seatbelt?
Method

• Participants
  – Drive on Queensland roads, have held an Open (unrestricted) drivers licence
  – A total of 312 respondents, only 293 were valid

• Procedure
  – Invited to participate via QUT email distribution lists, social networking sites, and the CARRS-Q research participation webpage
  – Online survey took approximately 10-15 minutes to complete
  – Could enter draw for one of six $50 petrol vouchers as small thank you gift for taking part in survey
Method (2)

- Variables and measures
  - 5-point Likert scales, higher scores indicate greater agreement
  - **DV**: Self-reported likelihood of engaging in drink driving, speeding, driving fatigued, and unrestrained in next month
  - **IV1**: Perceived legitimacy of traffic law enforcement practices of the four driving behaviours
    - Purpose designed items based on work by Poulter and McKenna (2007)
  - **IV2**: Attitudes towards the four driving behaviours
    - Items based on the definitions component of Akers’ SLT
    - Each behaviour had two positive, two neutral, and two negative items
Results

• Data cleaning and screening
  – Small amount of missing data (< 5%)
  – Departures from normality and some heterogeneity
  – Therefore, non-parametric tests were performed
  – Research question 1-3: Friedman’s test with Wilcoxon signed-rank tests for post hoc comparisons ($p < .0083$)
  – Research question 4: Spearman’s Rho correlation coefficient

• Sample characteristics
  – Mean age of 39 yrs ($SD = 14.96$; range = 20-84) with over half being female (58.7%)
  – Driving 1-10hrs/week (61.1%) and licensed for 19.6 yrs
## Results (2)

<table>
<thead>
<tr>
<th>Item</th>
<th>$M$</th>
<th>$SD$</th>
<th>$\alpha$</th>
<th>No of items</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Likelihood of behaviour</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drink driving</td>
<td>1.30</td>
<td>0.62</td>
<td>.71</td>
<td>3</td>
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<tr>
<td>Speeding</td>
<td>2.94</td>
<td>1.33</td>
<td>.95</td>
<td>4</td>
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<tr>
<td>Fatigued driving</td>
<td>2.54</td>
<td>1.15</td>
<td>.85</td>
<td>2</td>
</tr>
<tr>
<td>Driving without a seatbelt</td>
<td>1.06</td>
<td>0.40</td>
<td>.92</td>
<td>4</td>
</tr>
<tr>
<td><strong>Perceived legitimacy</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drink driving</td>
<td>4.50</td>
<td>0.52</td>
<td>.72</td>
<td>4</td>
</tr>
<tr>
<td>Speeding</td>
<td>3.66</td>
<td>0.98</td>
<td>.91</td>
<td>7</td>
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<tr>
<td>Fatigued driving</td>
<td>3.52</td>
<td>0.87</td>
<td>.77</td>
<td>3</td>
</tr>
<tr>
<td>Driving without a seatbelt</td>
<td>3.89</td>
<td>0.85</td>
<td>.81</td>
<td>4</td>
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<tr>
<td><strong>Attitudes</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drink driving</td>
<td>1.51</td>
<td>0.57</td>
<td>.75</td>
<td>6</td>
</tr>
<tr>
<td>Speeding</td>
<td>2.29</td>
<td>0.96</td>
<td>.89</td>
<td>6</td>
</tr>
<tr>
<td>Fatigued driving</td>
<td>2.10</td>
<td>0.69</td>
<td>.81</td>
<td>6</td>
</tr>
<tr>
<td>Driving without a seatbelt</td>
<td>1.79</td>
<td>0.67</td>
<td>.82</td>
<td>6</td>
</tr>
</tbody>
</table>
Results – RQ1

• Does self-reported likelihood of engaging in the four behaviours differ?
  \[ \chi^2 (3) = 480.86, p < .001 \]
  • All pairwise comparisons were significant at \( p < .0083 \)
Results – RQ2

• Does perceived legitimacy of law enforcement differ between the four behaviours?
  \[ \chi^2 (3) = 281.02, \ p < .001 \]
  • All pairwise comparisons were significant at \( p < .0083 \), except fatigue versus speeding (\( p = .028 \))
Results – RQ3

• Do attitudes differ between the four behaviours?
  – $\chi^2 (3) = 363.55, p < .001$
  • All pairwise comparisons were significant at $p < .0083$

Negative attitude

Positive attitude
## Results – RQ4

<table>
<thead>
<tr>
<th>Variable</th>
<th>1.</th>
<th>2.</th>
<th>3.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Drink Driving</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Likelihood</td>
<td>~</td>
<td>-0.15*</td>
<td>~</td>
</tr>
<tr>
<td>2. Perceived legitimacy</td>
<td>~</td>
<td>0.34**</td>
<td>~</td>
</tr>
<tr>
<td>3. Attitudes</td>
<td>~</td>
<td>-0.44**</td>
<td>~</td>
</tr>
<tr>
<td><strong>Speeding</strong></td>
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<td></td>
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<tr>
<td>1. Likelihood</td>
<td>~</td>
<td>-0.41**</td>
<td>~</td>
</tr>
<tr>
<td>2. Perceived legitimacy</td>
<td>~</td>
<td>0.65**</td>
<td>~</td>
</tr>
<tr>
<td>3. Attitudes</td>
<td>~</td>
<td>-0.69**</td>
<td>~</td>
</tr>
<tr>
<td><strong>Driving while fatigued</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Likelihood</td>
<td>~</td>
<td>-0.23**</td>
<td>~</td>
</tr>
<tr>
<td>2. Perceived legitimacy</td>
<td>~</td>
<td>0.41**</td>
<td>~</td>
</tr>
<tr>
<td>3. Attitudes</td>
<td>~</td>
<td>-0.48**</td>
<td>~</td>
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<tr>
<td><strong>Driving without a seatbelt</strong></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>1. Likelihood</td>
<td>~</td>
<td>-0.08</td>
<td>~</td>
</tr>
<tr>
<td>2. Perceived legitimacy</td>
<td>~</td>
<td>0.09</td>
<td>~</td>
</tr>
<tr>
<td>3. Attitudes</td>
<td>~</td>
<td>-0.55**</td>
<td>~</td>
</tr>
</tbody>
</table>

*p < .05; **p < .001
Likely behaviour

• Overall, driving without a seatbelt was the least likely behaviour reported, followed by drink driving, driving while fatigued, and speeding

• Self-reported likelihood of behaviours similar to previous studies

• Driving while fatigued and speeding were most likely behaviours

• Continued education and enforcement of all high-risk driving behaviours is necessary, perhaps greater emphasis is warranted for driver fatigue and speeding
Perceived legitimacy

- Perceived legitimacy of traffic law enforcement has received limited attention
- Consistent with low self-reported levels of drink driving and driving without a seatbelt, enforcing these behaviours was perceived as the most legitimate
- Speed and fatigue enforcement were perceived as the least legitimate and were the two highest of the self-reported driving behaviours
- However, enforcement of the four behaviours were perceived as legitimate (on average)
Attitudes

• Attitudes towards the four behaviours were significantly different from one another
• The pattern of attitudes is consistent with likelihood of behaviour and perceived legitimacy of enforcement
• Most positive attitude was for speeding, then fatigues driving, driving without a seatbelt, and drink driving
• On average, the sample did not have particularly favourable attitudes towards the four behaviours
• Generally, a compliant and low risk sample
Associations between variables

- For drink driving, speeding and driving fatigued, significant correlations between behaviour, perceived legitimacy, and attitudes were found.

- The largest correlations between perceived legitimacy and likelihood of behaviour scores were for speeding and driving fatigued.

- Largest correlations were found between perceived legitimacy and attitudes.

- Previous work has shown that a speeding intervention can modify individuals perceived legitimacy of speeding enforcement.
Next steps

• Address limitations of current study
  – Convenience sample
  – Self-selection bias
  – Self-report, social desirability, and illegal driving behaviours
  – Preliminary investigation with simple quantitative analyses

• Future research
  – Refinement of measures
  – Larger sample
  – Other illegal driving behaviours (e.g., drug driving, hooning, driver aggression)
  – Longitudinal methodologies
Conclusion

• Each year, the amount of road fatalities and serious injuries that are attributed to one of the fatal four are substantial

• Self-reported likelihood of behaviour, perceived legitimacy of enforcement, and attitudes differ between these four behaviours

• The strength of associations have consistent patterns

• The perceived legitimacy of enforcement may have important implications for road safety
Comments or Questions?

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