Improving Adolescents’ Driving Behaviors through a Personal Narrative-Based Psychosocial Intervention in Serbia

Hagere Yilma¹, Rajiv Rimal¹, Nargis Ryskulova²
¹The George Washington University, Department of Prevention and Community Health
²The World Bank Group

Introduction

Gender, Youth, and Road Fatalities

- Road traffic collisions: leading cause of death and injury globally
- Globally, young drivers constitute a high-risk group of road users (WHO, 2017)
- Gender effects on road collision risks:
  - 75% road deaths occur males < 25 years old
  - Young males more likely than young females to be killed in road crashes
  - Psychological explanations: optimistic bias, risk perception, and normative perceptions

The Intervention

- Gender-sensitive educational intervention
- Use of personal narratives for high schools in and around Belgrade, Serbia
- Goals: increase risk perception and normative beliefs among males and females to improve road safety

Hypotheses

H1: Lower risk perception, higher overconfidence bias, lower pro-safety descriptive norms, and weaker pro-safety injunctive norms will be associated with greater high-risk driving intentions

H2: Treatment will result in higher risk perceptions, lower overconfidence bias, greater descriptive and injunctive norms, and safer behavioral intentions

H3: Improvements in risk perceptions, overconfidence bias, and normative beliefs will be associated with improvements in behavioral intentions among both males and females.

Methods

Sample: High school students in and around Belgrade, Serbia (N= 1,449)

Design:

<table>
<thead>
<tr>
<th></th>
<th>Males</th>
<th>Females</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>722</td>
<td>727</td>
</tr>
</tbody>
</table>

Measures: Created using averaged responses reported on five-point scale regarding eight high-risk behaviors (speeding, texting while driving, talking on the phone, driving after drinking, reading a text, driving when sleeping, running a red light, and not stopping at a stop sign)

- Risk Perception
- Overconfidence Bias
- Descriptive Norms
- Injunctive Norms
- High Risk Driving Intentions

Results

Table 1. Multivariate Predictors of Intentions to Engage in High-Risk Driving Behaviors at Post-Intervention from Hierarchical Regression Equations

<table>
<thead>
<tr>
<th>Step</th>
<th>Predictors</th>
<th>Males</th>
<th>Females</th>
</tr>
</thead>
<tbody>
<tr>
<td>1: Baseline intentions</td>
<td>Adjusted R² = .397</td>
<td>Adjusted R² = .372</td>
<td></td>
</tr>
<tr>
<td>2: Demographics</td>
<td>.66***</td>
<td>.28***</td>
<td></td>
</tr>
<tr>
<td>3: Psychological factors</td>
<td>.37***</td>
<td>.26***</td>
<td></td>
</tr>
<tr>
<td>4: Risk perception</td>
<td>.01</td>
<td>.01</td>
<td></td>
</tr>
<tr>
<td>5: Descriptive norms</td>
<td>.23***</td>
<td>.25***</td>
<td></td>
</tr>
<tr>
<td>6: Injunctive norms</td>
<td>.19***</td>
<td>.11***</td>
<td></td>
</tr>
<tr>
<td>7: Gender</td>
<td>.06</td>
<td>.01</td>
<td></td>
</tr>
<tr>
<td>8: Treatment</td>
<td>-.02</td>
<td>.001</td>
<td></td>
</tr>
<tr>
<td>9: Interactions</td>
<td>-.09***</td>
<td>.000</td>
<td></td>
</tr>
</tbody>
</table>

Treatment x (Injunctive norms | -.11*** | .005*** |

(Hi adjusted R² (total) | .397 | .372 |

H1: Among both males and females, the following are predictors of high-risk driving intentions:

- Risk perception (β = -1.7, p < .001 for males; β = -1.6, p < .001 for females)
- Overconfidence bias (β = .23, p < .001 for males; β = .38, p < .001 for females)
- Descriptive norms (β = -3.4, p < .001 for males; β = -2.7, p < .001 for females)
- Injunctive norms were not associated with high risk driving behaviors for males or females.

H2: Treatment had an effect on risk perception (β = 1.87, p < .05 for males and t = 2.0, p < .01 for females)

- For females, increases in injunctive norms were greater in the treatment group (β = 1.86, p < .05)

H3: No direct treatment effect for males

- Overconfidence bias reduction is associated with less high-risk driving intentions.
- Decreases in descriptive norms are associated with decreases in behavior intentions
- Interaction between injunctive norms and treatment in males

Conclusions

Intervention Effect:

- Among males:
  - Risk perceptions were impacted by the intervention, but this impact did not, subsequently, affect behavioral intentions
  - Intervention was not able to affect overconfidence bias, descriptive norms, or injunctive norms among males
- For those that were able to increase their injunctive norms, the treatment had an effect on behavior intentions

- Among females:
  - Intervention increased risk perception and injunctive norms
  - Improvements in risk perceptions and injunctive norms were not associated with intentions to engage in risky behaviors

Lessons Learned:

- Creative ways to improve descriptive norms pertaining to the behavior of interest are needed
- Road safety interventions should focus on a ways of reducing overconfidence bias
- The window of influence available for reaching the group most resistant to change – young male drivers – may be provided through injunctive norms

References


Acknowledgments

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