

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

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Public Health

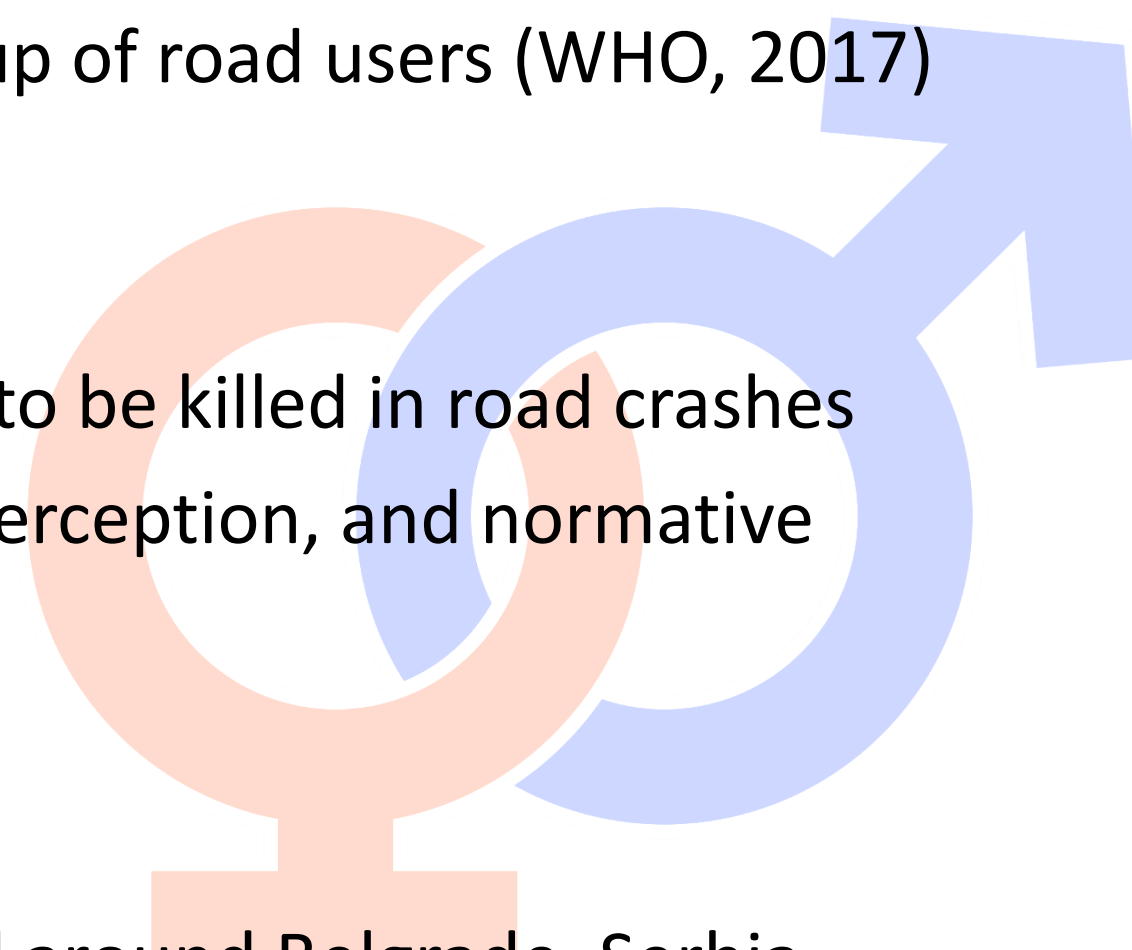
Introduction

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:

N O X O O
N O O

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 Intention to Engage in High-Risk Driving Behaviors at Post-Intervention from Hierarchical Regression Equations

Predictors	Males		Females	
	β	ΔR^2	β	ΔR^2
Step 1: Baseline intentions	.60***	.298***	.57***	.267***
Step 2: Demographics		.008		.007
Age	.01		-.02	
Owning a license	.08		.08	
Driving a car	.05		-.01	
Step 3: Psychosocial factors		.097***		.11***
Δ Risk perception ^a	-.01		.01	
Δ Overconfidence bias ^b	.21***		.25***	
Δ Descriptive norms ^c	-.15***		-.11**	
Δ Injunctive norms ^d	-.06		.01	
Step 4: Treatment	-.02	.001	-.09*	.000
Step 5: Interactions				
Treatment x Δ Injunctive norms	-.11*	.006*	-.10*	.005*
(Total adjusted R-squared)		(.397)		(.372)

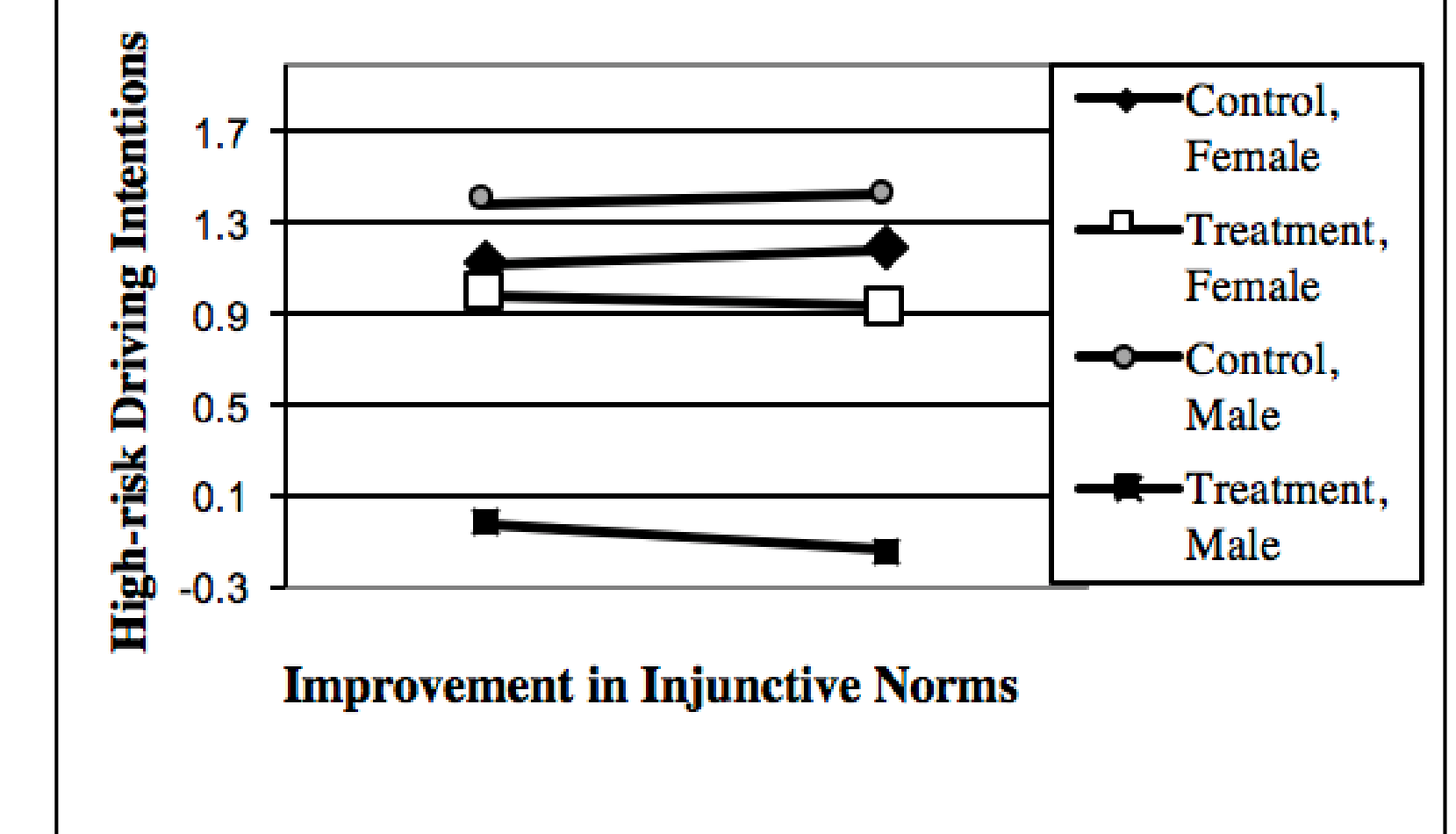
H1:

- Among both males and females, the following are predictors of high-risk driving intentions
 - Risk perception** ($\beta = -.17, p < .001$ for males; $\beta = -.16, p < .001$ for females)
 - Overconfidence bias** ($\beta = .23, p < .001$ for males; $\beta = .38, p < .001$ for females)
 - Descriptive norms** ($\beta = -.34, p < .001$ for males; $\beta = -.27, p < .001$ for females);
- Injunctive norms** were not associated with high-risk driving behaviors for males or for females.

H2:

- Treatment had an effect on **risk perception** ($t = 1.87, p < .05$ for males and $t = 2.0, p < .01$ for females)
- For females, increases in **injunctive norms** were greater in the treatment group ($t = 1.86, p < .05$)

Figure 1. High-risk Driving Intentions



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 **behavioral 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 traffic 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

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Acknowledgments

This project was funded by the World Bank Group. Dr. Rajiv Rimal served as the lead researcher in the evaluation study.