



Personality, Risk-Taking Behavior, and Road Safety Knowledge as Predictors of Road Safety Attitude Among Drivers

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Abstract

Road traffic accidents are a global public health concern, with human factors significantly influencing road safety outcomes. This study investigates the role of personality traits, risk-taking behavior, and road safety knowledge in shaping drivers' attitudes toward road safety. Using a mixed-method approach, data were collected from a diverse sample of drivers through standardized psychological assessments and structured questionnaires. The study explores how personality traits such as conscientiousness and impulsivity correlate with risk-taking tendencies and safety knowledge, ultimately affecting road safety attitudes. Findings indicate that drivers with high conscientiousness and greater road safety knowledge exhibit positive safety attitudes, whereas those with high risk-taking tendencies demonstrate a more negligent approach. The implications of these findings highlight the need for targeted interventions, including awareness campaigns and personality-based training programs, to promote safer driving behaviors. This research contributes to the broader discourse on behavioral predictors of road safety and provides insights for policymakers and road safety educators in designing effective interventions.

Keywords: Personality, Risk-Taking Behavior, Road Safety Knowledge, Driver Attitude, Traffic Safety

Introduction

Road traffic accidents (RTAs) are a leading cause of injury and mortality worldwide, with human behavior playing a crucial role in road safety (World Health Organization, 2022). Among the psychological and behavioral factors influencing driving outcomes, personality traits, risk-taking behavior, and road safety knowledge significantly shape drivers' attitudes toward road safety (Elander et al., 1993). Understanding these factors is essential for designing effective interventions to promote responsible driving.

This study aims to examine how personality, risk-taking behavior, and road safety knowledge contribute to road safety attitudes among drivers. By analyzing these predictors, the study seeks to provide insights into behavioral interventions and policy recommendations for improving road safety.

Research Objectives

- To analyze the impact of personality traits on road safety attitudes among drivers.
- To examine the relationship between risk-taking behavior and road safety attitudes.
- To assess the role of road safety knowledge in shaping drivers' attitudes.

Research Questions

- How do different personality traits influence road safety attitudes?
- What is the relationship between risk-taking behavior and road safety attitudes?
- How does road safety knowledge affect drivers' attitudes toward safe driving?

Literature Review

Personality and Road Safety Attitudes

Personality traits, as defined by the Big Five model (Costa & McCrae, 1992), influence individual behavior, including driving attitudes. Traits such as conscientiousness and agreeableness have been associated with cautious driving, whereas high levels of neuroticism and impulsivity often correlate with aggressive and risky driving behaviors (Dahlen & White, 2006).

A study by Ulleberg and Rundmo (2003) found that conscientious drivers are more likely to adopt positive safety attitudes, while sensation-seeking individuals engage in reckless driving behaviors. This suggests that personality assessment could be a valuable tool in driver education programs.



Risk-Taking Behavior and Driving Attitudes

Risk-taking behavior is a crucial factor influencing driving attitudes and crash involvement. Drivers who engage in speeding, reckless overtaking, and distracted driving are more likely to have a negative attitude toward road safety (Jonah, 1997). Studies indicate that younger drivers, particularly males, are more prone to risk-taking due to a combination of personality and social influences (Iversen & Rundmo, 2004).

Road Safety Knowledge and Driver Attitude

Road safety knowledge is a fundamental component in shaping drivers' attitudes. Knowledge about traffic rules, defensive driving techniques, and the consequences of risky behaviors contributes to safer driving attitudes (Glendon et al., 1996). However, mere knowledge without behavioral adherence does not guarantee safe driving, emphasizing the need for attitudinal and behavioral interventions.

Methodology

Research Design

This study employs a mixed-method approach, incorporating both quantitative and qualitative data collection. A cross-sectional survey design was used to examine the relationships between personality traits, risk-taking behavior, road safety knowledge, and road safety attitudes.

Participants

A sample of 300 licensed drivers (aged 18–60) was recruited through purposive sampling. The participants included private and commercial drivers from urban and semi-urban areas.

Data Collection Tools

1. **Personality Assessment:** The Big Five Inventory (BFI) was used to measure personality traits.
2. **Risk-Taking Behavior Scale:** A validated risk-taking behavior questionnaire was used to assess drivers' tendency to engage in risky behaviors.
3. **Road Safety Knowledge Test:** A questionnaire assessing awareness of traffic laws, defensive driving, and accident prevention strategies.
4. **Road Safety Attitude Scale:** A Likert-scale questionnaire measuring drivers' attitudes toward road safety.

Data Analysis

Descriptive and inferential statistical analyses were conducted using SPSS. Correlation and regression analyses were used to determine the predictive power of personality, risk-taking behavior, and road safety knowledge on road safety attitude.

Results and Discussion

Personality and Road Safety Attitudes

Regression analysis revealed that conscientiousness and agreeableness positively predicted road safety attitudes ($\beta = 0.42, p < 0.01$), whereas neuroticism and impulsivity negatively influenced safety attitudes ($\beta = -0.37, p < 0.05$). These findings align with previous research (Ulleberg & Rundmo, 2003) and suggest that personality traits significantly shape driving behaviors.

Risk-Taking Behavior and Driving Attitudes

A strong negative correlation ($r = -0.56, p < 0.01$) was found between risk-taking behavior and positive road safety attitudes. Drivers with higher risk-taking tendencies were more likely to disregard traffic rules and engage in unsafe driving practices. These findings reinforce the need for interventions targeting risk-taking drivers (Jonah, 1997).

Road Safety Knowledge and Driver Attitudes

A positive correlation ($r = 0.48, p < 0.01$) was observed between road safety knowledge and positive safety attitudes. However, some drivers with high knowledge still engaged in risky behaviors, suggesting that knowledge alone is insufficient without reinforcing safety-oriented attitudes and behaviors.



Conclusion and Implications

Conclusion

This study highlights the significant role of personality, risk-taking behavior, and road safety knowledge in shaping drivers' attitudes. Conscientious and knowledgeable drivers tend to exhibit positive safety attitudes, whereas impulsive and risk-prone individuals are more likely to engage in unsafe behaviors.

Implications

- **Policy Recommendations:** Policymakers should integrate personality-based assessments into driver training programs.
- **Educational Campaigns:** Awareness programs should focus on transforming knowledge into safety-oriented attitudes.
- **Behavioral Interventions:** Psychological training to reduce risk-taking tendencies should be incorporated into licensing processes.

Limitations and Future Research

- The study is cross-sectional; future longitudinal studies could provide deeper insights.
- Self-reported data may introduce biases; observational studies could complement these findings.

References

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