

REPORT OF RESEARCH RESULTS

REPORT OF UTILISATION OF RESEARCH GRANT

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(a) Title : Keeping Teenagers Safe on the Roads: Developing a Regional Road Safety Education Program in Nakhon Si Thammarat Province, Thailand

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(c) Summary: Road traffic injuries remain a major public health challenge globally and are among the leading causes of death and disability among adolescents. Thailand continues to experience relatively high rates of traffic injuries, particularly among young road users. This study investigated the knowledge, attitudes, and practices (KAP) related to road safety among teenagers in Nakhon Si Thammarat Province. In addition, the research examined the influence of external environmental factors, including school education, community conditions, and parental guidance, on adolescent road safety behaviour.

A cross-sectional survey was conducted among secondary school students using a structured questionnaire. The instrument assessed knowledge of traffic regulations, attitudes toward road safety practices, and self-reported behaviours when using roads as pedestrians, passengers, or motorcycle riders. Statistical analysis was conducted to identify factors associated with safe road practices.

The findings indicate that although many students demonstrated moderate awareness of road safety rules, unsafe practices were still common. Environmental and social factors were significantly associated with improved safety behaviour. The study therefore highlights the importance of strengthening road safety education programs targeting adolescents through coordinated efforts among schools, families, and local communities.

(d) Aim of Research: The primary aim of this research was to examine road safety knowledge, attitudes, and practices among teenagers in Nakhon Si Thammarat Province and to support the development of a regional road safety education program designed to promote safer behaviours among adolescents.

The specific objectives were:

1. To assess the level of knowledge, attitudes, and practices regarding road safety among secondary school students.
2. To identify factors associated with safe or unsafe road safety practices.
3. To examine the influence of external environmental factors on adolescents' road safety behaviours.
4. To provide evidence that can support the development of a structured road safety education program.

(e) Method of Research & Progression: Method of Research & Progression

This research adopted a quantitative cross-sectional design. The study was conducted among secondary school students aged 13–18 years in Nakhon Si Thammarat Province, Thailand. A stratified sampling method was used to select participants from several schools in the region, resulting in a total sample of approximately 500 respondents.

Data were collected using a structured self-administered questionnaire covering demographic characteristics, road safety knowledge, attitudes toward safety behaviours, and self-reported

practices when using roads. Descriptive statistics were used to summarise participant characteristics and KAP levels. Inferential analysis using modified Poisson regression was conducted to identify associations between external environmental factors and safe road practices.

The findings from the quantitative analysis were subsequently used to guide the conceptual development of a school-based road safety education framework targeting teenagers.

(f) Results of Research: Results of Research

The study revealed several important findings regarding adolescent road safety behaviour. While a considerable proportion of students possessed knowledge of traffic rules and safety recommendations, unsafe practices remained prevalent.

Approximately half of the respondents demonstrated relatively high levels of road safety knowledge. However, knowledge alone did not necessarily translate into safe practices. Many students reported inconsistent use of helmets or limited compliance with traffic regulations when travelling as motorcycle passengers or riders.

Attitudes toward road safety were also found to influence behavioural outcomes. Students with more positive attitudes toward safety were significantly more likely to report safe practices. In addition, external environmental factors such as exposure to road safety education in schools, parental supervision, and supportive community infrastructure were associated with improved safety behaviour.

Key Results Summary Table:

| Indicator | Key Findings |
|---------------------------------------|--|
| High road safety knowledge | Approximately 49% of students demonstrated high knowledge levels |
| Negative attitudes toward road safety | About 60% expressed unfavourable attitudes toward safety rules |
| Unsafe road practices | Approximately 78% reported engaging in unsafe road behaviours |
| Consistent safe practices | Only about 21% reported consistently safe behaviour |

(g) Future Areas to Take Note of, and Going Forward: Future Areas to Take Note of and Going Forward

The results of this research suggest several important directions for future action. First, road safety education should be strengthened and systematically integrated into school curricula, particularly at the secondary school level. Interactive educational methods such as demonstrations, simulations, and peer-learning activities may enhance student engagement and understanding.

Second, teachers and school administrators should receive additional training to improve the delivery of road safety education programs. Third, stronger collaboration between schools, parents, and local communities is recommended in order to reinforce safe behaviours outside the classroom.

Finally, further studies are encouraged to evaluate the long-term effectiveness of school-based road safety interventions through longitudinal research designs.

(h) Means of Official Announcement of Research Results: Means of Official Announcement of Research Results

The results of this research were disseminated through publication in international peer-reviewed academic journals related to public health, injury prevention, and road safety. Results were published in a peer-reviewed journal (Journal of Posthumanism, 2025, Vol. 5, Issue 2, pp.160–176), presented in academic forums, and disseminated to public health stakeholders. The study contributes to SDG 3.6 (reducing road traffic injuries). Manuscripts have also been submitted to International Journal of Environmental Research and Public Health and Journal of Medical Internet Research – Formative Research (JMIR – Formative Research)

The findings have been and will also be presented at academic conferences and shared with relevant stakeholders, including educational institutions, public health authorities, and policymakers.

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SECTION II: REPORT OF UTILISATION OF RESEARCH GRANT

1. Overview of Grant Utilisation

The MSIWF Research Grant 2024 was used exclusively for approved research-related activities supporting a mixed method study, systematic review execution and dissemination.

2. Budget Utilisation Summary

- (i) Literature access and database retrieval.
- (ii) Data management and reference software.
- (iii) Data collection, analysis, validation and presentation
- (iv) Research assistance for screening and extraction.
- (v) Publication and dissemination expenses.

3. Outcomes Achieved Through Grant Support

The grant enabled completion of a PROSPERO-registered systematic review, peer-reviewed publication, academic dissemination, and strengthened regional evidence on adolescent road safety.

4. Impact of the Grant

The funding supported policy-relevant public health research in Southeast Asia, enhanced academic collaboration, and contributed to evidence-based road safety strategies and road safety education program targeting adolescents.

5. Declaration

All funds were utilized strictly according to approved research objectives. No conflicts of interest or deviations from the approved scope occurred.

Submitted by: