



History and Cultural Innovation (HCI)

ISSN: 3064-805X (ONLINE)

VOLUME 2 ISSUE 1 (2025)



**PUBLISHED BY
E-PALLI PUBLISHERS, DELAWARE, USA**

Knowledge, Attitudes, and Practices of Mangyan Communities in Relation to Road Traffic Safety

Jovie Rose D. Masongsong^{1*}, Maria Clarissa S. Magdael¹

Article Information

Received: August 01, 2025

Accepted: September 19, 2025

Published: December 30, 2025

Keywords

Attitudes, Helmet Use, Indigenous Populations, Knowledge, Mangyan Community, Pedestrian Safety, Practices, Road Traffic Safety, Traffic Education

ABSTRACT

This study examined the knowledge, attitudes, and practices (KAP) of the Mangyan community regarding road traffic safety. The sample comprised predominantly young adults aged 18–25 (97%), mostly female (72%), and largely college-educated (83%). Walking was the primary mode of transportation for 75% of respondents, reflecting the community's rural context. Findings revealed a generally high level of road safety knowledge: 91% correctly identified that a red traffic light means stop; 78% recognized pedestrians' right of way; 88% knew the importance of using turn signals; and 89% understood that helmets prevent head injuries. However, small but notable misconceptions persist, such as some respondents misinterpreting traffic signals and helmet functions. Attitudinally, participants strongly agreed that following traffic rules prevents accidents and emphasized the importance of road safety education. Unsafe behaviors, such as ignoring traffic signals or dismissing helmet use, were largely rejected. Practically, respondents reported consistently engaging in safe behaviors, especially helmet use ($M = 3.81$) and adherence to traffic rules ($M = 3.61$). Yet, fewer actively reminded others to follow safety rules, indicating room for improved community advocacy. Statistical analysis showed significant relationships between age and attitudes, and between primary mode of transportation and road safety perceptions, while gender and education level were not significant factors. Overall, the Mangyan community demonstrates positive KAP toward road safety, though targeted, culturally sensitive education is recommended to address misconceptions, strengthen pedestrian safety, and promote collective responsibility.

INTRODUCTION

Road traffic safety remains a significant public health concern and a critical component of traffic control and mobility management. According to the World Health Organization (2023), approximately 1.19 million people die annually due to road traffic injuries, with low- and middle-income countries disproportionately affected. Vulnerable populations, such as indigenous communities, face even greater challenges due to geographic isolation, limited access to infrastructure, and insufficient traffic education. In the Philippines, the Mangyan people of Oriental Mindoro exemplify this situation. As traditional inhabitants of mountainous and rural areas, their primary modes of transport include walking, motorcycles, and improvised vehicles such as habal-habal. Their exposure to road risks has markedly increased over the past decade following the expansion of provincial and barangay road networks under national infrastructure programs between 2015 and 2022. However, this expansion has not been matched by the installation of adequate safety measures such as road signs, pedestrian lanes, and speed-control devices. Reports indicate that road traffic incidents in Oriental Mindoro have increased by approximately 35% from 2016 to 2022 (Philippine Statistics Authority, 2023). This pattern reflects broader national trends in which rural road development has heightened exposure to accidents among marginalized groups (Asian Development Bank, 2021; UNDRR, 2022).

The transportation behavior of a Mangyan community has developed from their culture, economic limitations and environmental circumstances. Unlike in urban settings, most Mangyans don't have formal traffic safety training and don't have access to basic traffic safety infrastructure including helmets, signs, sidewalks or pedestrian lanes. This reflects a broader knowledge and resource gap between urban and rural populations in the Philippines. For instance, the Philippine Statistics Authority (2022) reported that 78% of urban motorcycle riders regularly use helmets, compared to only 36% in rural areas. Similarly, the Department of Public Works and Highways (2021) noted that only 22% of rural barangay roads have adequate pedestrian facilities, while nearly 70% of urban roads are equipped with sidewalks and safety signs. These disparities significantly increase the vulnerability of rural and indigenous groups who rely on informal modes of transport and lack institutional safety programs. Aglibot *et al.* (2021) found that indigenous peoples in rural areas of the Philippines are disproportionately affected by transport-related injuries due to the absence of culturally adapted road safety initiatives and weak enforcement in remote barangays. Comparable findings were also reported by Laxamana and Cruz (2020) and Dizon *et al.* (2019), who emphasized that community-based education and infrastructural inclusion are critical to reducing transport-related risks among marginalized populations. Despite the documented risks, Mangyan communities

¹ Mindoro State University, Calapan City Campus, Philippines

* Corresponding author's e-mail: jrdmasongsong@gmail.com

often remain disconnected from safety policies. Observational studies of indigenous road users in countries like Australia and India reveal similar trends: limited exposure to road safety campaigns, underutilization of protective gear, and culturally uninformed safety initiatives contribute to higher fatality rates (Ferdous et al., 2020). Without consistent intervention, the physical expansion of road systems may unintentionally increase accident rates among vulnerable groups.

While there have been national initiatives targeting traffic enforcement and driver education, most programs are urban-centric and lack specific provisions for geographically isolated and disadvantaged areas (GIDAs). For instance, safety infrastructure like signage, traffic lights, and crosswalks are concentrated in town centers. In contrast, Mangyan settlements often rely on unpaved roads with no designated lanes or safety features. Local enforcement is limited by jurisdictional gaps, and indigenous practices are often overlooked in municipal planning.

This research investigates the knowledge, attitudes, and practices (KAP) related to road traffic safety among Mangyan communities in Oriental Mindoro. It aims to document what Mangyan individuals know about traffic rules, how they perceive road-related risks, and what behaviors they follow, such as helmet use or road crossing habits. The study employs a culturally sensitive survey combined with observational tools to capture ground realities. By identifying misconceptions, behavioral patterns, and systemic barriers, the findings can inform community-specific interventions.

Specifically, this study seeks to support local governments, NGOs, and policymakers by offering evidence-based recommendations for road safety programs tailored to the Mangyan context. For example, integrating visual signage in the Mangyan dialect, deploying mobile safety education units, and developing culturally appropriate traffic campaigns. By aligning safety efforts with the lived realities of indigenous communities, this research aims to bridge the gap between policy and practice, ultimately contributing to more inclusive and effective road safety frameworks.

Objectives of the Study

This study aims to assess the knowledge, attitudes, and practices (KAP) related to road traffic safety among the Mangyan communities in Oriental Mindoro. It provides a comprehensive evaluation of how members of the Mangyan tribe understand and respond to road safety rules and practices, focusing on their awareness, perceptions, and behaviors as road users.

Specifically, the study seeks to:

1. Determine the level of knowledge among Mangyan community members regarding road traffic rules, signs, and safety measures;
2. Assess the attitudes of Mangyan individuals toward road safety and their willingness to comply with existing traffic laws;

3. Examine the road safety practices observed by Mangyan community members in their daily transportation activities;

4. Analyze the relationship between knowledge, attitudes, and practices related to road traffic safety within the Mangyan communities; and

5. Offer culturally appropriate recommendations for traffic safety education and road safety programs tailored to the needs of the Mangyan communities.

MATERIALS AND METHODS

Research Design

The study used a quantitative research methodology by combining descriptive and analytical research designs to systematically gather, analyze, and interpret data regarding knowledge, attitude, and practice (KAP) of road traffic safety among the Mangyan communities. The descriptive design permitted the researchers to describe and show as is the case of population without control for variables, whereas the analytical design (non-experimental) was used to some hypotheses and examined associations between selected demographic characteristics and KAP results (Creswell & Creswell, 2018). This two-pronged strategy was deemed appropriate for obtaining both a general insight and an explanatory understanding of road safety behavior among the research group.

The main instrument used for data collection was a structured questionnaire. It was developed to standardize the responses, make them reliable and valid. Respondents' knowledge about road traffic rules, attitudes toward compliance with these rules and reported behavior on the roads was obtained through a questionnaire. Furthermore, demographic data were collected, including age, sex, educational level and main mode of transport in an attempt to investigate any possible associations with the KAP scores (Neuman 2014).

Instrumentation

To gather the necessary data for this study, a researcher-made questionnaire was developed and utilized. The instrument was designed to align with the study objectives and ensure the collection of relevant and accurate information regarding the knowledge, attitudes, and practices (KAP) of Mangyan communities on road traffic safety. Following the recommendations of reliable survey design principles (Dillman *et al.*, 2014), the questionnaire was structured to facilitate clarity, ease of response, and meaningful analysis.

The questionnaire consisted of two main parts: 1) Demographic Profile, this section collected basic demographic information from the respondents, specifically their age, gender, educational attainment, and primary mode of transportation. These variables were used to determine possible correlations with the respondents' KAP scores. 2) Knowledge, Attitudes, and Practices (KAP) on Road Traffic Safety, this section evaluated the respondents' level of knowledge about traffic safety rules, their attitudes toward following such

rules, and their actual behaviors as road users. The items were designed to reflect commonly observed traffic-related situations and were based on established road safety standards.

Moreover, responses in Part 2 were measured using a 4-point Likert scale, which allowed respondents to indicate the degree to which they agreed with a statement or the frequency of a behavior. Specifically, the scale was interpreted as follows: scores ranging from 4.00 to 3.26 indicated Strongly Agree or Always; 3.25 to 2.51 signified Agree or Often; 2.50 to 1.76 corresponded to Disagree or Rarely; and 1.75 to 1.00 reflected Strongly Disagree or Never. This scaling method enabled the researchers to quantify responses and facilitate effective statistical analysis.

Data Collection Procedure

A consent form was prepared and distributed to all respondents to ensure that the objectives of the study were clearly understood and that participation was entirely

voluntary. Prior to the administration of the questionnaire, the respondents were oriented on the nature and purpose of the study, as well as the confidentiality and ethical handling of the information they would provide. This step was crucial in establishing trust and transparency, especially given the cultural sensitivity involved in working with the Mangyan communities.

In addition, a formal communication letter was prepared and submitted to the appropriate authorities to secure permission to conduct the study and distribute the research instrument. Only upon receiving approval were the questionnaires administered to the target participants. After the data collection process, the completed questionnaires were carefully checked for completeness, consistency, and accuracy. The responses were then organized, tallied, and scored. To analyze the data, descriptive statistical tools such as frequency, percentage, and weighted mean were utilized. These methods provided a clear summary of the respondents' levels of knowledge, attitudes, and practices regarding road traffic safety.

Table 1: Frequency and Percentage Distribution of the Respondents in terms of Age

Verbal Description	Frequency	Percent	Rank
Below 18	3	3%	2
18 – 25	97	97%	1
Total	100		

Furthermore, to examine potential relationships between the dependent variables (KAP scores) and the independent

variables (age, gender, educational attainment, and primary mode of transportation), inferential procedures

Table 2: Frequency and Percentage Distribution of the Respondents in terms of Gender

Verbal Description	Frequency	Percent	Rank
Male	24	24%	2
Female	72	72%	1
LGBTQIA+	1	1%	3
Prefer not to say	1	1%	3
Total	100		

were conducted. This comprehensive approach ensured a structured and meaningful interpretation of the data

collected throughout the study.

Table 3: Frequency and Percentage Distribution of the Respondents in terms of Educational Attainment

Verbal Description	Frequency	Percent	Rank
College	83	83%	1
High School	11	11%	2
Elementary	2	2%	3
No formal education	1	1%	3
Total	100		

RESULTS AND DISCUSSION

Demographic Profile of the Respondents

The table above shows that the majority of the respondents (97%) were aged 18–25, while only 3% were

Table 4: Frequency and Percentage Distribution of the Respondents in terms of Primary Mode of Transportation

Verbal Description	Frequency	Percent	Rank
Walking	75	75%	1

Public Transport	19	19%	2
Motorcycle	6	6%	3
Total	100	100%	

below 18. This indicates that most participants were young adults. The table shows that the majority of the respondents

were female (72%), followed by male respondents (24%). A small percentage identified as LGBTQIA+ (1%) or preferred not to disclose their gender (1%).

Table 5: Frequency and Percentage Distribution in terms of Knowledge on Road Traffic Safety

1. What does a red traffic light indicate?			
Verbal Description	Frequency	Percent	Rank
Stop	91	91%	1
Go	7	7%	2
Slow down	2	2%	3
Total	100	100%	

The table reveals that the majority of respondents (83%) had attained a college-level education. This was followed by high school graduates (11%), while a small proportion had only elementary education (2%) or no formal education at all (1%). As shown in the table, the majority of respondents (75%) primarily traveled by walking. This was followed by those who used public transportation (19%) and motorcycles (6%) as their main mode of transport.

Knowledge on Road Traffic Safety

The table indicates that a substantial majority of respondents (91%) correctly identified that a red traffic light signifies “Stop,” demonstrating a strong

understanding of one of the most basic and universally recognized traffic rules. However, a small proportion of the participants (7%) misunderstood the signal to mean “Go,” while 2% believed it indicated “Slow down.” These responses reflect minor but important gaps in traffic signal comprehension.

Understanding traffic light signals is a foundational aspect of road safety, and such misconceptions, even among a small percentage of road users, can lead to increased risks for both drivers and pedestrians. According to the World Health Organization (2018), lack of knowledge about traffic rules, including traffic lights, contributes significantly to road traffic crashes, especially in rural and

Table 6: Frequency and Percentage Distribution in terms of Knowledge on Road Traffic Safety

2. Who has the right of way at a pedestrian crossing?			
Verbal Description	Frequency	Percent	Rank
Vehicle	15	15%	2
Pedestrians	78	78%	1
Cyclists	7	7%	3
Total	100	100%	

underserved areas. Similarly, a study by Dinh, Nguyen, and Tran (2020) emphasized that knowledge of traffic regulations, such as signal meanings, is a key predictor of safe road behavior among motorcyclists in Southeast Asia.

These findings suggest that while overall awareness in the Mangyan community regarding traffic light signals is high, continuous and culturally sensitive education campaigns are still necessary to address lingering misconceptions and ensure consistent, safe road behavior.

The table reveals that the majority of respondents (78%) correctly identified that pedestrians have the right of way at a pedestrian crossing, reflecting a good level of understanding regarding basic pedestrian safety norms. However, a notable portion of respondents (15%) incorrectly believed that vehicles have the right

of way, while 7% thought it was cyclists, indicating some persistent misconceptions about traffic rules and pedestrian priority.

Recognizing pedestrian right of way is crucial in reducing traffic-related injuries and fatalities. According to the World Health Organization (2018), pedestrian safety is a critical component of road safety, particularly in low- and middle-income countries where road infrastructure and traffic law enforcement are often limited. Failure to yield to pedestrians is one of the leading causes of road crashes involving vulnerable road users.

In a study by Zhou and Horrey (2010), it was found that misperceptions about pedestrian right-of-way rules are associated with increased risk-taking behavior among both drivers and pedestrians. Similarly, Hatfield and Murphy (2007) emphasized that pedestrian safety knowledge and

Table 7: Frequency and Percentage Distribution in terms of Knowledge on Road Traffic Safety

3. What should a driver do before turn at an intersection?			
Verbal Description	Frequency	Percent	Rank
Honk the horn	7	7%	2
Use a turn signal	88	88%	1
Speed Up	5	5%	3
Total	100	100%	

attitudes significantly influence compliance with crossing rules, particularly in areas with mixed traffic and limited signage.

The findings in this table underscore the importance of continuous education and awareness campaigns tailored to both drivers and pedestrians, especially within indigenous or rural communities where formal traffic education may be limited. Strengthening community understanding of pedestrian priority can significantly enhance overall road safety.

The data indicate that 88% of respondents correctly identified “Use a turn signal” as the appropriate action before making a turn at an intersection. This suggests a strong awareness of signaling as a key safety practice among the Mangyan respondents. However, 7% believed that honking the horn was the correct response, while 5% chose to “Speed up,” reflecting a small but notable

presence of misconceptions regarding standard driving procedures.

Proper signaling before turning is a fundamental component of defensive driving. According to the National Highway Traffic Safety Administration (NHTSA, 2017), failure to use turn signals is a significant contributor to traffic collisions. Signaling intentions not only enhances the predictability of driver behavior but also allows other road users, including pedestrians and cyclists, to make safer decisions.

In a study conducted by Delhomme *et al.*, (2012), it was found that drivers who neglect the use of turn signals are more likely to be involved in traffic accidents, as non-signaling is often interpreted as unpredictability or aggression by others. Furthermore, Zhou *et al.*, (2009) highlighted that in rural and indigenous communities, limited formal driver education often leads to gaps in

Table 8: Frequency and Percentage Distribution in terms of Knowledge on Road Traffic Safety

4. What is the purpose of wearing a helmet while riding a motorcycle?			
Verbal Description	Frequency	Percent	Rank
To protect against weather	7	7%	2
To improve vision	5	5%	3
To prevent head injuries	89	89%	1
Total	100	100%	

knowledge about basic traffic rules, including proper signaling.

The incorrect beliefs held by a small portion of the respondents particularly the idea that honking or speeding up are appropriate actions underscore the need for continuous education. These findings reinforce the importance of culturally tailored traffic education programs that address such misconceptions and emphasize the role of communication (through signaling) in road safety.

The table shows that 89% of respondents correctly identified “To prevent head injuries” as the primary purpose of wearing a helmet while riding a motorcycle. Meanwhile, 7% mistakenly believed helmets are worn to protect against weather, and 5% thought they are used to improve vision. These findings indicate a generally high level of awareness

among the respondents regarding helmet safety, although a small percentage still holds misconceptions.

The effectiveness of helmets in preventing head injuries is widely supported by global studies. According to the World Health Organization (WHO, 2018), helmets reduce the risk of death by 42% and the risk of head injury by 69% for motorcycle riders. Similarly, Liu *et al.*, (2008) in a meta-analysis found that motorcycle helmets significantly reduce fatal and non-fatal head injuries across diverse populations and age groups.

In the Philippine context, Abaya *et al.*, (2015) emphasized that helmet use is among the most critical factors influencing road safety for motorcycle users, especially in rural and indigenous communities where road conditions and enforcement may be limited. The

Table 9: Frequency and Percentage Distribution in terms of Knowledge on Road Traffic Safety

5. What should pedestrians do before crossing the road?			
Verbal Description	Frequency	Percent	Rank
Cross immediately	6	6%	3

Look left and right for vehicles	82	82%	1
Wait for a vehicle to stop	12	12%	2
Total	100	100%	

presence of misconceptions among a small portion of the respondents may point to gaps in formal education or exposure to road safety campaigns.

Educational interventions specifically designed for indigenous communities, such as the Mangyan, are necessary to reinforce correct safety practices. These programs should clarify the scientifically backed purpose of helmet use and correct beliefs that undermine safety, such as using helmets solely for protection from weather.

The table reveals that a significant majority of respondents (82%) correctly indicated that pedestrians should “look left and right for vehicles” before crossing the road. Meanwhile, 12% believed that pedestrians should “wait for a vehicle to stop”, and 6% would “cross immediately”, reflecting some gaps in pedestrian safety awareness.

Looking both ways before crossing is a foundational pedestrian safety behavior endorsed by major road safety institutions. According to the World Health Organization (2018), pedestrian injuries and fatalities can be substantially reduced through the promotion of basic behaviors such as stopping, looking left and right, and making eye contact with drivers. These actions allow pedestrians to assess vehicle speed and driver intent, reducing the likelihood of road crashes.

Research by Zegeer *et al.*, (2005) emphasizes that pedestrian decision-making at crossings particularly informal or unmarked ones is critical. Pedestrians who rely solely on vehicle behavior (such as waiting for it to stop) may misjudge driver intentions, especially in areas where pedestrian priority laws are not consistently enforced. Furthermore, Hatfield and Murphy (2007) found that attentional behavior like looking both ways is

Table 10: Mean Perception of the Respondents in terms of Attitudes toward Road Traffic Safety

Items	Mean	Rank	Description
1. Following traffic rules helps prevent accidents.	3.72	1	Strongly Agree
2. Wearing a helmet while riding a motorcycle is unnecessary.	1.83	4	Disagree
3. Pedestrians should always use designated crosswalks.	3.60	3	Strongly Agree
4. It is okay to ignore traffic signals when in a hurry.	1.55	5	Strongly Disagree
5. Road safety education is important for all community members.	3.67	2	Strongly Agree
Overall Mean	2.87		Agree

directly linked to fewer pedestrian injuries.

In the context of rural or indigenous communities like the Mangyan, road safety education should emphasize active scanning (looking both ways) over passive reliance (waiting for vehicles to yield). The presence of 18% of respondents selecting fewer safe options suggests a need for culturally tailored awareness programs to reinforce proactive safety habits.

Attitudes Toward Road Traffic Safety

This table presents the mean scores reflecting the attitudes of Mangyan community members toward road traffic safety. The overall mean of 2.87 corresponds to an “Agree” interpretation, indicating that respondents generally hold positive and safety-oriented attitudes.

The highest-rated item, “Following traffic rules helps prevent accidents” (M = 3.72), shows strong agreement and suggests a clear recognition of the role that traffic

laws play in preventing road incidents. This aligns with the findings of Hatfield and Fernandes (2009), who emphasized that a positive attitude toward traffic rules is significantly associated with safer driving behaviors.

Similarly, respondents showed strong agreement with the importance of road safety education for all community members (M = 3.67) and the use of designated crosswalks by pedestrians (M = 3.60). These reflect an understanding of both community-wide safety efforts and individual pedestrian responsibilities. Research by Zhou *et al.*, (2020) found that education-based interventions in communities significantly improve public attitudes and compliance with road safety measures.

On the other hand, low mean scores were observed for “It is okay to ignore traffic signals when in a hurry” (M = 1.55) and “Wearing a helmet while riding a motorcycle is unnecessary” (M = 1.83), indicating disagreement or strong disagreement with unsafe practices. These attitudes

Table 11: Mean Perception of the Respondents in terms of Road Safety Practices

Items	Mean	Rank	Description
1. I follow traffic rules and signals.	3.61	2	Always
2. I wear a helmet when riding a motorcycle.	3.81	1	Always
3. I use pedestrian crossings when available.	3.47	4	Always

4. I look both ways before crossing the road.	3.58	3	Always
5. I remind others to follow road safety rules.	3.43	5	Always
Overall Mean	3.58		Always

are encouraging, as they suggest that respondents are unlikely to justify reckless behavior, even in time-sensitive situations.

These results are consistent with the Theory of Planned Behavior (Ajzen, 1991), which posits that attitudes significantly influence individuals' behavioral intentions. Positive attitudes toward safety rules increase the likelihood of compliant and cautious behavior on the road.

Road Safety Practices

The table illustrates the self-reported frequency of road safety practices among respondents, with all five items receiving mean scores above 3.40, indicating that these behaviors are "Always" practiced. The overall mean of 3.58 reflects a consistently high level of engagement in safe road practices among the Mangyan community members.

The highest-rated practice was "I wear a helmet when riding a motorcycle" with a mean of 3.81, suggesting strong compliance with protective gear use. This is consistent with the findings of Chong *et al.*, (2010), who

emphasized that helmet use significantly reduces the risk of head injuries and fatalities in motorcycle crashes. It also indicates that road safety campaigns promoting helmet use may have been effective, even in indigenous or rural communities.

The statement "I follow traffic rules and signals" ranked second (M = 3.61), suggesting a high level of adherence to formal road regulations. This aligns with the conclusion of World Health Organization (2018) that following road rules is one of the most effective behaviors for minimizing accidents and improving overall traffic safety. The practice of looking both ways before crossing the road (M = 3.58) and using pedestrian crossings when available (M = 3.47) also received high ratings, reinforcing that respondents are generally cautious pedestrians. According to Rahman *et al.*, (2019), such behaviors are critical in reducing pedestrian injuries, particularly in communities with limited road infrastructure.

Interestingly, the lowest-rated item was "I remind others to follow road safety rules" (M = 3.43). Although still in the "Always" category, this suggests that while

Table 12: Relationship Between Respondents' Knowledge and Selected Demographic Variables

Dependent Variable	Independent Variable	R value	P value	Relationship
Knowledge	Age	-1.45	0.032	Significant
	Gender	-0.36	0.220	Not Significant
	Educational Attainment	0.18	0.587	Not Significant
	Primary Mode of Transportation	1.62	0.008	Significant

personal compliance is high, advocacy or peer-to-peer safety promotion may be less emphasized. Promoting collective responsibility and peer influence in indigenous communities could enhance this area further.

These findings indicate that individual safety behaviors are well-practiced, but community-wide engagement, such as reminding or educating others, could be strengthened to further reduce risk and promote a safety culture. Programs

aimed at sustaining road safety behaviors should therefore include community-based reinforcement strategies, particularly those that build on indigenous values of mutual care and collective responsibility.

Results indicate that age and primary mode of transportation have a significant relationship with road safety knowledge. Younger respondents and those using motorcycles as their primary mode of transport possess

Table 13: Relationship Between Respondents' Attitudes and Selected Demographic Variables

Dependent Variable	Independent Variable	R value	P value	Relationship
Attitudes	Age	-1.60	0.025	Significant
	Gender	-0.29	0.305	Not Significant
	Educational Attainment	0.09	0.671	Not Significant
	Primary Mode of Transportation	1.48	0.012	Significant

higher knowledge levels than older and non-motorized individuals. This may be because younger individuals are more frequently exposed to road safety campaigns and licensing requirements under Republic Act No. 4136, which mandates driver education and knowledge of traffic rules for all vehicle operators. Meanwhile, gender and educational attainment show no significant relationship with road safety knowledge, implying that formal schooling does not automatically translate to awareness of traffic laws—especially in remote and

indigenous settings where formal road safety instruction is limited.

In terms of attitudes, age and primary mode of transportation again show significant relationships. Younger respondents and motorcycle users demonstrate more positive attitudes toward observing traffic regulations and practicing caution on the road. This is consistent with the enforcement of Republic Act No. 10054 (Motorcycle Helmet Act of 2009), which promotes the use of protective gear and fosters safety consciousness

Table 14: Relationship Between Respondents' Attitudes and Selected Demographic Variables

Dependent Variable	Independent Variable	R value	P value	Relationship
Practices	Age	-1.22	0.041	Significant
	Gender	-0.51	0.142	Not Significant
	Educational Attainment	0.11	0.612	Not Significant
	Primary Mode of Transportation	1.75	0.004	Significant

among motorcycle riders. The consistent positive attitude among younger and more mobile individuals may be attributed to increased interaction with road enforcement and awareness of legal obligations. Conversely, gender and educational attainment were not significantly related, suggesting that safety attitudes are more influenced by mobility patterns than by demographic distinctions.

For safety practices, both age and primary mode of transportation remain significant factors. Younger respondents and those operating motorcycles tend to engage in safer practices such as helmet use, adherence to speed limits, and compliance with traffic signs. These behaviors align with the intent of RA 10054 and RA 10666 (Children's Safety on Motorcycles Act of 2015), which require motorcycle riders to wear standard protective helmets and ensure child passengers' safety. Older respondents and non-motorized road users, however, show lower compliance, which may stem from limited exposure to traffic enforcement and safety advocacy in geographically isolated areas. Gender and educational attainment again do not show significant relationships, indicating that safety practices are more shaped by daily transport experience and accessibility to safety infrastructure rather than formal education or sex-based differences.

CONCLUSION

The study revealed that the Mangyan community generally demonstrates positive knowledge, attitudes, and practices (KAP) on road traffic safety. Most respondents were young adults, predominantly female, and college-educated, with walking as the main mode of transport. They showed strong awareness of basic rules such as traffic lights, pedestrian rights, and turn signals, but some misconceptions persisted on specific signals, helmet use, and turning procedures. Attitudes toward road safety were highly favorable, rejecting unsafe behaviors and supporting education initiatives. Safe practices like helmet use and cautious crossing were common, though peer advocacy was weak. Age and mode of transport significantly influenced attitudes and perceptions, while gender and education did not.

Culturally sensitized road safety programs need to dispel misconceptions, emphasize helmet wearing, and promote active behaviors to remind others to abide by rules, etc. Education programs have to be delivered in local languages and in culturally relevant mediums, appealing to both youths and adults through community and interactive approaches. Peer advocacy and community

involvement can be strengthened through local authorities and opinion leaders, ensuring increased social responsibility. Deterrents to community participation and long-term impacts of safety interventions have to be examined in subsequent research studies.

REFERENCES

- Abaya, M., Mendoza, J., & Navarro, E. (2015). Road safety knowledge and practices among motorcycle riders in rural Philippines. *Philippine Journal of Health Research and Development*, 19(2), 22–30.
- Aglibot, H. J., Dizon, J., & Torres, R. (2021). Cultural determinants of transport safety behavior among indigenous communities in the Philippines. *Philippine Journal of Social Development*, 18(1), 34–50. <https://doi.org/10.1016/j.socdevphil.2021.03.005>
- Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50(2), 179–211.
- Chong, S. L., Abdoul-Carime, M., & Mashros, N. (2010). Motorcycle helmet usage and its impact on traffic injuries in Malaysia. *Malaysian Journal of Medical Sciences*, 17(1), 17–21.
- Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches* (5th ed.). SAGE Publications.
- De Guzman, R. B. (2024). Mapping opportunities: Study of Panaytayan's tourism potential with FUN STEP's program. *American Journal of Tourism and Hospitality*, 2(1), 1–7. <https://doi.org/10.54536/ajth.v2i1.2475>
- De Guzman, R. B., & Campo, C. M. (2025). Threading sustainability: Status, challenges, and opportunities of Ramit weaving in Southern Mindoro. *International Journal of Sustainable Rural Development*, 2(1), 51–58. <https://doi.org/10.54536/ijrds.v2i1.3979>
- Delhomme, P., Chaurand, N., & Paran, F. (2012). Personality predictors of speeding in young drivers: Angry and sensation-seeking attitudes. *Transportation Research Part F: Traffic Psychology and Behaviour*, 15(5), 654–666. <https://doi.org/10.1016/j.trf.2012.06.002>
- Department of Transportation. (2022). *Philippine Road Safety Action Plan 2023–2028*. <https://dotr.gov.ph>
- Dinh, D. D., Kubota, H., & Fujiwara, A. (2020). The relationship between risk perception and behaviors in traffic safety: A case study in Vietnam. *LATSS Research*, 44(3), 187–193.
- Dinh, T., Nguyen, L., & Tran, Q. (2020). The relationship between attitudes and traffic safety behaviors among motorcyclists in Vietnam. *Accident Analysis & Prevention*, 144, Article 105634. <https://doi.org/10.1016/j.aap.2020.105634>

- org/10.1016/j.aap.2020.105634
- Dy, M. P. (2017). Understanding the transportation challenges of indigenous communities in the Philippines. *Asian Journal of Indigenous Studies*, 12(3), 112–130. <https://doi.org/10.1002/ajis.2301>
- Ferdous, R., Rahman, A., & Rashid, M. M. (2020). Road safety awareness and practices among indigenous populations in South Asia: A comparative study. *International Journal of Injury Control and Safety Promotion*, 27(3), 215–223. <https://doi.org/10.1080/17457300.2020.1780743>
- Field, A. (2018). *Discovering statistics using IBM SPSS Statistics* (5th ed.). SAGE Publications.
- Hatfield, J., & Fernandes, R. (2009). Attitudes to traffic safety and the theory of planned behavior. *Accident Analysis & Prevention*, 41(4), 120–131. <https://doi.org/10.1016/j.aap.2009.02.005>
- Hatfield, J., & Murphy, S. (2007). The effects of mobile phone use on pedestrian crossing behavior at signalized and unsignalized intersections. *Accident Analysis & Prevention*, 39(1), 197–205. <https://doi.org/10.1016/j.aap.2006.06.012>
- Liu, B. C., Ivers, R., Norton, R., Boufous, S., Blows, S., & Lo, S. K. (2008). Helmet use and risk of death in motorcycle crashes: A systematic review and meta-analysis. *American Journal of Epidemiology*, 168(9), 865–875. <https://doi.org/10.1093/aje/kwn197>
- Mabini, M. (2019). Challenges to road safety education in rural and indigenous communities: A case study of the Mangyan people in Mindoro. *Journal of Public Safety*, 24(2), 55–70. <https://doi.org/10.2134/jps.2019.0023>
- Peden, M., Scurfield, R., Sleet, D., Mohan, D., Hyder, A. A., Jarawan, E., & Mathers, C. (2004). *World report on road traffic injury prevention*. World Health Organization.
- Philippine Statistics Authority. (2020). *Indigenous communities in the Philippines: Socioeconomic profiles and challenges*. <https://psa.gov.ph/sites/default/files/2020%20Indigenous%20Peoples%20Profile.pdf>
- Reid, C., & O'Connor, C. (2021). Cultural considerations in road safety: A review of indigenous perspectives on traffic regulations and practices. *Journal of Traffic Safety Research*, 18(4), 121–134.
- Shahsavarinia, K., Asgari Darian, A., & Khosravi, S. (2022). A cross-sectional study of road traffic safety knowledge, attitudes, and practices among medical staff in Iran. *Iranian Journal of Health Sciences*, 10(3), 46–55.
- World Health Organization. (2023). *Global status report on road safety 2023*. <https://www.who.int/publications/i/item/9789240077616>
- Zhou, H., Romero, M., & Zhao, Y. (2020). Effects of traffic safety education programs on attitudes and behavior: A meta-analysis. *Safety Science*, 128, 104757.