

Effectiveness of Women Traffic Enforcers in Implementing Traffic Rules and Regulations as Perceived by the Drivers

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Abstract

This study aimed to determine the effectiveness of women traffic enforcers in Santiago City as perceived by the drivers. The researcher used a self-made survey instrument to gather the data and used purposive sampling in selecting the respondents of the study. To obtain specific responses and avoid a neutral option, a four-point Likert scale was used in this study. Frequency and percent were used in the profile of the respondents and weighted mean was used to measure the effectiveness of the women traffic enforcers in implementing traffic rules and regulations. Based on the findings of the study, the majority of the respondents are under 41 years old and above, married, high school graduates, and have 11-20 years of driving experience. Both of the results under the implementation of traffic laws, rules, and regulations and implementation of free and safe traffic movement, the respondents perceive it as agree. With the positive findings of the study, the researcher also encourages the Department of Public Order and Safety (DPOS) in Santiago City to a gender-neutral recruitment of traffic enforcers to promote gender-equality and women empowerment.

Keywords: Effectiveness, Women Traffic Enforcers, Drivers, Traffic

Introduction

Traffic congestion is a complex problem that affects the quality of life in cities. It cannot be solved by focusing on a single aspect and requires a holistic approach. Studies by Wen et al. (2019) and Prasanna et al. (2020) reveal that peak hour traffic is difficult to manage and can result in increased fuel consumption. Additionally, traffic congestion leads to wasted time and negatively impacts a city's economy (Samal et al., 2020). The social costs of traffic congestion, such as fuel costs, time, driver stress, and negative impacts on physical and mental health, are greater than what individuals bear (Ng et al., 2021). Traffic congestion causes delays, inconvenience to drivers as well as air pollution. Although there is no guarantee that traffic congestion can be resolved entirely (Yodo, 2020). The approach to implement the rules and regulations available to prevent road accidents is often ineffective and half-hearted. Awareness creation, strict implementation of traffic rules, and scientific engineering measures are the need of the hour to prevent this public health catastrophe, according to (Gopalakrishnan, 2012). According to Riaz & Sahid (2018) in their study it was mentioned that traffic rules are an important agenda for the developing countries. In Pakistan, the situation has become worsened wherein most of the road accidents are resulting due to lack of knowledge, negative attitudes and risky practices towards traffic rules and regulations.

To address this issue, coordination between transport and land-use policies is necessary (Kumar et al., 2021). Recently, traffic management groups have found that deploying female traffic enforcers can improve road safety on highways. According to Shoub et al. (2021), female officers are less likely to search drivers than their male counterparts, and political scientists are studying how citizen characteristics shape interactions with these enforcers. The United Nations has also recognized the benefits of deploying female personnel in peacekeeping operations. Evidence suggests that greater numbers of women peacekeepers lead to more credible protection responses that meet the needs of all members of local communities (UN, 2019). Manila is the capital of the Philippines. Traffic is a big problem there. The Philippine National Police- Highway Patrol Group (PNP-HPG) thinks putting women on the streets shows they want to manage traffic well. Having women enforce laws is new since men usually did that job. To see if women traffic enforcers from the Department of Public Order and Safety (DPOS) are good at making drivers follow rules, a study asked drivers what they think. This is an important step for gender equality and helping women have more power.

Theory/Conceptual Framework

This study is anchored on community policing and conflict theory. Community policing is based on organizational theory, open systems theory, critical theory, normative sponsorship theory, and public policy analysis, while police-community relations is based on conflict theory, intergroup relations theory, and communications theory. Community policing focuses on solving problems, whereas police-community relations aim to change citizen attitudes and improve police relationships with citizens (Trojanowicz, 1900). Although there are often arguments or conflicts between drivers and traffic enforcers over traffic law violations, it is still crucial to maintain positive community relations. To prevent such conflicts, the Department of Public Order and Safety has deployed women traffic enforcers to manage traffic safety on highways. The department believes that having women traffic enforcers on highways could help to soften the hard-headed drivers.

Illustration of the study

To gain a better understanding of the study, the first figure represents the respondent's profile, including their age, sex, educational attainment, years of driving experience and the effectiveness of the women traffic enforcers in implementing traffic laws rules, and regulations as perceived by the drivers represent in the first figure that serves as the study's input. The second circle represents the process, which includes a quantitative research design, survey questionnaire, and testing for significant differences. Lastly, the output of the study is represented by the last circle, which includes data on the effectiveness of women traffic enforcers and suggested programs to increase their effectiveness.

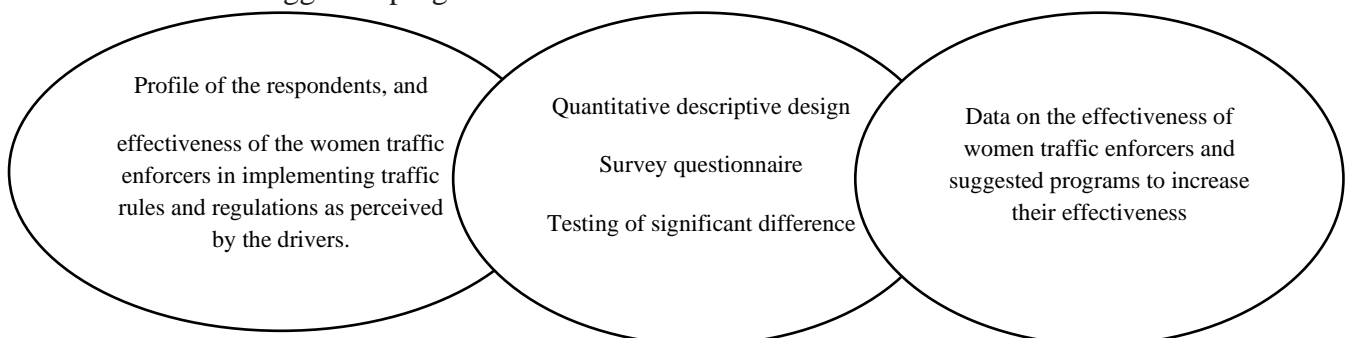


Figure 1. Illustration Framework

Objectives

The general objective of this study is to assess the effectiveness of women law enforcers in implementing traffic rules and regulations as perceived by the drivers in Santiago City.

Specific Objectives:

Specifically, this study has the following objectives:

1. To identify the profile of the respondents in terms of;
 - 1.1 Age;
 - 1.2 Civil status;
 - 1.3 Educational Attainment; and
 - 1.4 Years of driving experience
2. To determine the effectiveness of the women traffic enforcers in implementing traffic rules and regulations as perceived by the drivers.
3. To determine if there is a significant difference between the profile of the respondents and the effectiveness of the women traffic enforcers in implementing traffic rules and regulations as perceived by the drivers when grouped according to their profile.
4. To recommend a program for the women traffic enforcers.

Methodology

This study aims to assess the effectiveness of women traffic enforcers in implementing traffic rules and regulations, as perceived by drivers in Santiago City. The research design used in this study is descriptive research. A self-made research instrument was used to measure the effectiveness of women traffic enforcers. Purposive sampling was used by the researcher to select the respondents, who were drivers in Santiago City. Frequency and percent were used in the profile of respondents, while weighted mean was used to measure the effectiveness of women traffic enforcers in implementing traffic rules and regulations. To obtain specific responses and avoid a neutral option, a four-point Likert scale was used in this study. The respondents' perception of the effectiveness of women traffic enforcers in implementing traffic rules and regulations was differentiated using multivariate analysis of covariance (MANCOVA).

Results and Discussion

1. Profile of the respondents

Table 1.1 Frequency and Percentage Distribution of Respondents According to Age.

Age Range	Frequency	Percentage
18-25	3	6.0
26-30	6	12.0
31-35	7	14.0
36-40	15	30.0
41 and above	19	38.01
Total	50	100.0

Table 1 provides a detailed summary of the research participants' demographic profiles based on their age. The gathered data is classified into five distinct age categories. The participants aged 41 years and above represent the highest percentage of respondents, with nineteen (19) or 38% of the total. The next most common age group is 36-40, which includes 15 participants, accounting for approximately 30% of the

total. The age group of 31-35 includes 7 participants or 14% of the respondents. This is immediately followed by the age group of 26-30, which accounts for 12% of the participants. Lastly, the age group of 18-25 years includes only 3 or 6% of the research participants. The data shows that the majority of the respondents are under 41 years old and above.

Table 1.2 Frequency and Percentage Distribution of Respondents According to Civil Status.

Civil Status	Frequency	Percentage
Single	12	24.0
Married	32	64.0
Widow	4	8.0
Separated	2	4.0
Total	50	100.0

Table 1.2 provides a detailed summary of the demographic profile of the survey participants based on their civil status. The table includes four categories, namely single, married, widow, and separated. Of all the participants, 64% or 32 individuals were married, while 24% or 12 individuals were single. Additionally, 8% or 4 individuals were widowed, and only 4% or 2 individuals were separated. The data shows that the majority of the participants were married.

Table 1.3 Frequency and Percentage Distribution of Respondents According to Educational Attainment.

Educational Attainment	Frequency	Percentage
High School Undergraduate	7	14.0
High School Graduate	19	38.0
College Undergraduate	13	26.0
College Graduate	11	22.0
Total	50	100.0

Table 1.3 provides detailed information about the educational qualifications of the participants. It is divided into four categories: high school undergraduate, high school graduate, college undergraduate, and college graduate. The largest group is high school graduates, with 19 respondents, making up 38% of the total. The second largest group is college undergraduates, with 13 respondents, or 26% of the participants. The third largest group is college graduates, with 11 respondents, or 22% of the total. The smallest group is high school undergraduates, with only 7 respondents, or 14%. The data shows that the majority of the research participants have a high school graduate education.

Table 1.4 Frequency and Percentage Distribution of Respondents According to Years of Driving Experience.

Years of Driving Experience	Frequency	Percentage
10 years and below	19	38.0
11 years-20 years	30	60.0
21 years-30 years	1	2.0
Total	50	100.0

Table 1.4 provides a detailed overview of the demographic profile of the research participants based on their years of driving experience. The table indicates that the category of 11-20 years has the most significant number of participants, followed by the group with less than 10 years of experience, which includes 19 or 38% of the research participants. Only a small fraction of 1 or 2% of the respondents belong to the category of 21-30 years. From the data, the majority of the research participants have 11-20 years of driving experience.

2. Effectiveness of the women traffic enforcers in implementing traffic rules and regulations as perceived by the drivers.

Table 2.1 Implementation of Traffic laws, Rules and Regulations by Women Traffic Enforcers as perceived by the drivers.

Indicators	Mean	Verbal Interpretation
1. Acceptable tolerance while conducting traffic is implemented by the women traffic enforcers	3.60	Strongly Agree
2. Women traffic enforcers apprehend drivers who are under the influence of liquor or prohibited drugs while driving	2.62	Agree
3. Women traffic enforcers apprehend drivers with an overloading of passengers	2.98	Agree
4. Women traffic enforcers issue a written warning and notice of violation instead of a verbal warning to undisciplined drivers who are being	2.64	Agree
5. Women traffic enforcers give warning to first-time offender drivers who disregard traffic signs	3.16	Agree
6. Women traffic enforcers implement sanctions on operators arising from the violations of drivers.	2.62	Agree
7. Women traffic enforcers implement the cancellation of franchises when there is unauthorized use or display of body plate	2.42	Agree
8. Women traffic enforcers require the towing of and impounding of stalled vehicles on public highways and the imposition of corresponding fees.	2.92	Agree
9. Issuance of penalties to the drivers un-carrying and carrying expired documents are also being implemented by the women traffic enforcers	2.26	Agree
10. Women traffic enforcers require the towing of vehicles parked on sidewalks.	2.80	Agree
Over-all Weighted Mean	2.80	Agree

Table 2.1 presents the implementation of traffic laws, rules, and regulations by women traffic enforcers as perceived by the drivers. Each statement provides the respective mean score and its verbal interpretation. Acceptable tolerance while conducting traffic is implemented by the women traffic enforcers and received the highest mean score at 3.60 with a verbal interpretation of strongly agree. Women traffic enforcers give warning to first-time offender drivers who disregard traffic signs got the second highest mean score at 3.16 which signifies that the respondents agree with the issuance of warnings

to the first-time offenders of traffic laws. Women traffic enforcers apprehending drivers with an overloading of passengers got the third highest mean score at 2.98 with a verbal interpretation of agree. Women traffic enforcers require the towing of and impounding of stalled vehicles on public highways and the imposition of corresponding fees, marked as the fourth highest score of mean at 2.92 with a verbal interpretation of agree. The statement that women traffic enforcers require the towing of vehicles parked on the sidewalk, received the fifth highest score at 2.80 with a verbal interpretation of agree as perceived by the respondents which means that, women traffic enforcers are truly implementing the rule in towing the vehicles while on parked on the sidewalks. Issuance of penalties to the drivers un-carrying and carrying expired documents are also being implemented by the women traffic enforcers received the smallest mean score among the ten statements presented in table 2.1 with a mean score of 2.26 and a verbal interpretation of agree. It only proves that women traffic enforcers issue penalties to drivers carrying and un-carrying expired documents. An overall weighted mean of 2.80 with a verbal interpretation of agree indicates the general perception of the respondents in the implementation of traffic laws, rules, and regulations of the women traffic enforcers.

Table 2.2 Implementation of free and safe traffic movement by women traffic enforcers as perceived by the drivers

Indicators	Mean	Verbal Interpretation
1. Women traffic enforcers require the 24-hour traffic route for all motor vehicles, the lanes surrounding Mabini Circle, RC Miranda Boulevard, and from the old Calao Bridge to Mabini Circle	2.96	Agree
2. Women traffic enforcers prohibit all kinds of motor vehicles from parking along interior streets between Roque and Panganiban Street, namely: Arellano, Mabini, Alfonso, Bayang, Barrera, Quezon, and Turingan Street from Camacam to Alfonso Street.	3.12	Agree
3. Women traffic enforcers implement the no parking zones on any public road, street, or thoroughfare within Santiago City.	3.70	Strongly Agree
4. Women traffic enforcers allow the cargo trucks to load and unload cargo on business establishments along Maharlika highway (market area)	2.32	Agree
5. Women traffic enforcers implement the use of one-way traffic to Abauag St. Extension from the corner hi-way going directly to the road of La Salette Seminary exiting to the Camaacam St inform of the Santiago South Central School.	3.68	Strongly Agree
6. Women traffic enforcers prohibit the use of gadgets or cell phones while the drivers while driving.	2.36	Agree
7. Women traffic enforcers implement the use of safety nets for trucks loaded with sand or gravel	2.38	Agree
8. Women traffic enforcers require the residential and commercial establishments to clean the sidewalks and passageways fronting their establishments.	2.56	Agree

9. Women traffic enforcers prohibit the underage from driving any kind of motor vehicle on the highway	2.90	Agree
10. Women traffic enforcers implement the RA 10586 (Anti-Drunk and Drugged Driving Act of 2013) in Santiago City.	2.76	Agree
Over-all Weighted Mean	2.87	Agree

Table 2.2 presents the implementation of free and safe traffic movement by women traffic enforcers as perceived by the drivers. Women traffic enforcers implementing the no parking zones on any public road, street, or thoroughfare within Santiago City received the highest mean score of 3.70 with a verbal interpretation of strongly agree. This signifies that the women traffic enforcers are very well known in the implementation of the said rule in the City. Women traffic enforcers implement the use of one-way traffic to Abauag St. Extension from the corner hi-way going directly to the road of La Salette Seminary exiting to the Camaacam St inform of the Santiago South Central School is the next statement that receives the highest mean score at 3.68 with a verbal interpretation of strongly agree. It proves that as perceived by the respondents women traffic enforcers implement one-way traffic to specific areas in Santiago City. Women traffic enforcers prohibit all kinds of motor vehicles from parking along interior streets between Roque and Panganiban Street, namely: Arellano, Mabini, Alfonso, Bayang, Barrera, Quezon, and Turingan Street from Camaacam to Alfonso Street got the third highest mean score at 3.12 with a verbal interpretation of agree as perceived by the respondents. It indicates that women traffic enforcers implement the prohibition of parking along the specified interior streets in Santiago City. Women traffic enforcers require the 24-hour traffic route for all motor vehicles, the lanes surrounding Mabini Circle, RC Miranda Boulevard, and from the old Calao Bridge to Mabini Circle received the fourth highest mean score at 2.96 with a verbal interpretation of agree as perceived by the respondents. It signifies that the women traffic enforcers require a 24-hour traffic route in specified areas. Women traffic enforcers prohibiting the underage from driving any kind of motor vehicle on the highway garnered the fifth highest mean score at 2.90 with a verbal interpretation of agree as perceived by the respondents. This indicates that underage shall not drive any kind of motor vehicle on the highway. Women traffic enforcers allow the cargo trucks to load and unload cargo on business establishments along Maharlika highway (market area) received the least mean score among all the statement presented in table 2.2 at 2.32 with a verbal agreement of agree. It only implies that women traffic enforcers allows the drivers of the cargo trucks to load and unload especially in the part of the market area to facilitate the activities while managing the traffic disruptions in Maharlika highway of Santiago City. An overall weighted mean of 2.87 with a verbal interpretation of agree indicates the general perception of the respondents in the implementation of free and safe traffic movement by the women traffic enforcers as perceived by the respondents.

Table 3. Significant difference between the profile of the respondents and the effectiveness of the women traffic enforcers in implementing traffic rules and regulations as perceived by the drivers when grouped according to their profile.

Table 3. 1 Inferential Statistics on the Difference in the Perception on the Effectiveness of the Women Traffic Enforcers in Implementing Traffic Rules and Regulations Across Respondents' Profile

Profile	Λ	F	p	η_p^2
Civil status	.742	2.14 ^a	.057	.138 ^M
Educational attainment	.776	1.80 ^a	.110	.119 ^M

Age	.961	0.82 ^b	.447	.039 ^S
Years of driving experience	.962	0.79 ^b	.460	.038 ^S

Note. Wilk’s lambda statistic was used because group sizes are not equal.

^a $df_H = 8, df_E = 80$. ^b $df_H = 2, df_E = 40$.

^S Small difference. ^M Moderately large difference.

A multivariate analysis of covariance was conducted to assess the difference in the perceived effectiveness of women traffic enforcers in implementing traffic rules and regulations. Based on the results in **Error! Reference source not found.**, it was found that there was no statistically significant difference in the perceived effectiveness of women traffic enforcers in implementing traffic rules and regulations across respondents’ civil status, $\Lambda = .742, F(8, 80) = 2.14, p = .057$, educational attainment, $\Lambda = .776, F(8, 80) = 1.80, p = .110$, age, $\Lambda = .961, F(2, 40) = 0.82, p = .447$, and years of driving experience, $\Lambda = .962, F(2, 40) = 0.79, p = .460$. This means that the drivers have the same perception on the level of effectiveness of women traffic enforcers regard of their demographics. Effect size indices quite support the presented findings, i.e., there was moderately large differences across civil status ($\eta_p^2 = .138$) and education attainment ($\eta_p^2 = .119$) while small difference across age ($\eta_p^2 = .039$) and years of driving experience ($\eta_p^2 = .038$). The difference across civil status was further investigated because of the nearly large effect size index. It was found that there was no statistically significant difference in the perceived level of effective ness of implementation of women enforcers, $F(3, 41) = 0.43, p = .733, \eta_p^2 = .031$. . This means that the tricycle drivers have the same perception on the level of effectiveness of women traffic enforcers regardless of civil status.

Table 3.2 Descriptive and Inferential Statistics on the Difference in the Perceived Level of Effective of Women Enforcers in Implementing Traffic Rules and Regulations

	Descriptives		Comparison		
	M ^a	SE	F ^b	p	η_p^2
Women enforcers					
Single	2.70 ^A	0.09	0.43	.733	.031 ^M
Married	2.63 ^A	0.05			
Widow	2.50 ^A	0.14			
Separated	2.54 ^A	0.18			
Safe traffic					
Single	2.75 ^{A,B}	0.08	3.21	.033 [*]	.190 ^L
Married	2.72 ^A	0.04			
Widow	3.10 ^B	0.13			
Separated	2.93 ^{A,B}	0.16			

Note. Superscript on means indicates statistically significant subgroups.

^a Represents an estimate of marginal means based on the on the average values of the covariates (age: 37.78; years of driving experience: 11.78).

^b $df_M = 3, df_R = 41$.

* $p < .05$. ^M Moderately large difference. ^L Large difference.

However, there was a statistically significant difference in the perceived effectiveness of implementation of safe traffic movement, $F(3, 41) = 3.21$, $p = .033$, $\eta_p^2 = .190$. Pairwise comparisons on the estimated marginal means indicate that widowed drivers ($M = 3.10$, $SE = 0.13$) had a significantly higher level of perceived effectiveness of the implementation of safe traffic compared to married respondents ($M = 2.72$, $SD = 0.04$). Other comparisons yielded statistically nonsignificant results.

Conclusion

Based on the salient findings of the study, majority of the respondents are under 41 years old and above, married, high school graduates and have 11-20 years of driving experience. In terms of the implementation of traffic laws, rules, and regulations an overall weighted mean of 2.80 with a verbal interpretation of agree indicates the general perception of the respondents and 2.87 with a verbal interpretation of agree indicates the general perception of the respondents in the implementation of free and safe traffic movement by the women traffic enforcers. In terms of significant difference, the result revealed that there is no statistically significant difference between the profile of the respondents and the effectiveness of the women traffic enforcers in implementing traffic rules and regulations as perceived by the drivers when grouped according to their profile. However, there was a statistically significant difference in the perceived effectiveness of implementation of safe traffic movement. Pairwise comparisons on the estimated marginal means indicate that widowed drivers had a significantly higher level of perceived effectiveness of the implementation of safe traffic movement compared to married respondents. This indicates that widowed drivers has a higher appreciation to women traffic enforcers compared to married drivers.

Recommendation

In view of the preceding conclusions, the following recommendations are made:

The Department of Public Order and Safety (DPOS) in Santiago City may implement regular performance assessments for women traffic enforcers and establish feedback mechanisms for traffic enforcers to identify areas for improvement and maintain a high standard of enforcement across all profiles, focusing on safety and effectiveness in enforcing traffic rules. Also, there is still a room for improvement for the women traffic enforcers as suggested by the indicators where the respondents perceive it as “agree”. Furthermore, the researcher would like to encourage a gender-neutral recruitment for traffic enforcers to promote gender equality and women empowerment.

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