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The effectiveness of an awareness counselling program in improving the degree of compliance with traffic rules among university youth

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Abstract

This study aimed to verify the effectiveness of an awareness guidance program in improving the degree of compliance with traffic rules among university youth. The study sample consisted of 20 male students at King Faisal University in Al-Ahsa Governorate during the second semester of the academic year 2021–2022. Participants were divided equally into experimental and control groups of 10 students. The study used a traffic rules compliance scale and an awareness guidance program (prepared by the researcher) that was used with the experimental group members. The study's findings revealed the success of the awareness guidance program in improving compliance with traffic rules among the young university drivers who were members of the experimental group. This improvement in compliance with traffic rules was still present even after a month of follow-up.

Keywords: Awareness counseling program: Compliance with traffic rules, Social factors, University youth.

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1. Introduction

University youth are fundamental for constructing a bright future for societies; they are full of energy and vitality in various fields. They need a good foundation based on society's values, traditions, customs, habits, and culture, while keeping up with scientific, technological, and civilized developments to contribute to the growth of their society. This necessitates that their communities provide all the appropriate resources for these youth, which contributes to the investment of their various energies in the service and development of their societies. Because of their energy and vitality, some are prompted to carry out dangerous actions without hesitation, which may pose a danger to themselves and other members of society. One of these actions is driving vehicles recklessly without adhering to traffic rules, which leads to many traffic accidents.

As a result, the number of traffic accidents has recently increased. There might also be other causes and factors related to traffic rule violations which contributed to an increase in the percentage of these accidents and the consequent adverse effects on individuals and society. This includes individual factors (age, gender, etc.) and social factors (family, academic, societal or institutional, cultural). According to Lee and Al-Mansour [1], the largest percentage of deaths from traffic accidents was caused by young people.

[2] also indicates that the increase in the number of vehicles causes a series of traffic problems such as road congestion, pollution, traffic safety issues and the subsequent large number of traffic violations and traffic accidents. The cure for this requires adhering to traffic rules and standards because of their importance in organizing traffic and avoiding congestion and traffic accidents. Castillo-Manzano et al. [3] indicate that non-compliance with traffic rules is one of the causes of road accidents, which cause more than one million deaths annually worldwide. The cause lies between roads, vehicles, individual factors, or vehicle drivers, which calls for efforts to educate individuals to abide by traffic rules and standards to avoid such accidents.

This illustrates the importance of compliance with traffic rules among drivers and the role of society, whether family, educational institutions, or the media, in providing the appropriate environment to educate young people, in general, to abide by traffic and safe driving rules. Fadil [4] indicates that adherence to traffic rules is one of the essential matters that societies must attend to. Training their citizens early by establishing traffic schools that inculcate traffic concepts and rules can help solve this issue. In addition, developing awareness-raising programs to educate young people and teaching them to abide by traffic rules and standards reduces traffic accidents and their consequences.

In light of this, the current study seeks to verify the effectiveness of an awareness-raising program in improving adherence to traffic rules among university youth in Al-Ahsa Governorate, Saudi Arabia.

2. Study Problem

The problem of this study emerged from what has been recently observed in the increasing number of traffic accidents due to non-compliance with traffic rules, which causes many deaths and injuries. The World Health Organization [5] indicated that worldwide, approximately 1.25 million people die annually due to traffic accidents, most of whom are adolescents and young adults aged between 15 and 29. Lee and Al-Mansour [1] indicated that 4.7% of deaths in the Kingdom of Saudi Arabia resulted from traffic accidents. This evidence of the percentage of death due to traffic accidents shed light on the importance of developing raising-awareness program and educating young people about the necessity of adherence to traffic rules and standards while driving. This, in turn, contributes to reducing the number of these accidents and preserving lives.

The current study aims to answer the following central question

To what extent does the proposed educational guidance program contribute to improving adherence to traffic rules among university youth?

The following sub-questions are generated from the previous question

- 1. To what extent are there statistically significant differences between the score ranks of the experimental group in the before and after measurements on the traffic rules compliance scale?
- 2. To what extent are there statistically significant differences between the mean scores of the experimental and control groups on the scale of adherence to traffic rules in the post-measurement?
- 3. To what extent does the educational counselling program continue to improve the degree of compliance with traffic rules among the experimental group members after the follow-up period?

3. Literature Review (Theoretical Framework)

3.1. Compliance With Traffic Rules

Truelovea et al. [6] indicate that adherence to traffic rules refers to the commitment of vehicle drivers to the applicable traffic laws and their compliance with them. Zhang et al. [7] define it as the degree of compliance of vehicle drivers with the relevant traffic laws in terms of obeying traffic lights, not driving under the influence of alcohol, using seat belts, not using the phone while driving and adhering to speed limits on the roads. Non-compliance with traffic rules and lights is a major cause of traffic accidents, resulting in injuries and deaths [7]. According to Ladi [8], several factors cause the increase in traffic accidents, such as non-compliance with traffic laws and a lack of an effective driving training program. Further, some drive while they feel emotional, which can lead to making decisions that affect their driving, and some possess abnormal personal characteristics that negatively affect driving behaviour. Fadil [4] points out the direct and indirect causes of traffic accidents. The direct causes include the human factor, the vehicle, and the environment, while the indirect causes include:

- The imbalance between the permitted number of vehicles in the country and their actual number causes road congestion.
- Not maintaining roads, in addition to the lack of traffic lights for some roads and the suitability of some roads for pedestrians.
- Lack of effectiveness of the driver training organization.
- Lack of traffic awareness operations.

Three elements represent the focus of traffic safety: the vehicle, the road, and the human element that the vehicle driver represents [9]. In this regard, Najmi [9] suggested four basic aspects that work to violate traffic laws: people, vehicles, roads, and the environment.

As a result, compliance with traffic rules is defined procedurally in the current study as the degree of commitment of young drivers to traffic rules and standards prevailing in society.

3.2. The Role of Guidance Programs in Adhering to Traffic Rules

Najmi [9] indicates that educational institutions, led by universities, play a vital role in improving adherence to traffic rules in terms of developing awareness among their students of the need to abide by traffic rules and standards in order to reduce traffic and traffic accidents. The role played by educational institutions in developing traffic culture among their students is important; therefore, encouraging these institutions to raise awareness and traffic culture among their students is necessary [10]. In this regard, Al-Awain [11] indicates that academic factors play an essential role in drivers' commitment to following traffic rules because education is considered one of the most critical factors in influencing young people's adherence to traffic rules. The role of educational institutions in the commitment of young people to traffic rules can be realized through the following:

- Developing plans and program to spread awareness among students about the need for compliance with traffic laws.
- Supervising/monitoring all traffic activities within the school, including holding seminars, meetings, and exhibitions.
- Teaching traffic education.
- Studying traffic problems for students, including traffic accidents, vehicle breakdowns, spread of violations and how to find appropriate solutions to them [12].

Community institutions represented by the General Traffic Department also play a key role in developing traffic culture in society through the various activities sponsored by these departments, which can impact compliance with traffic rules among members of society, Al Raddadi [10]. Al-Kasasbeh [13] wrote about the importance of the media's role in traffic awareness among community members, which is summarized in the following:

- Reaching and educating the masses to abide by traffic rules and standards.
- Changing the actions of individuals by modifying their behaviors. The media is one of society's most influential social institutions, given that it reaches broad sectors of society and occupies a considerable share of their time.
- Educating individuals, forming attitudes, and exchanging knowledge.

In light of the above, the awareness-raising programs in training and educating community members to abide by traffic rules seem really important. These programs may contribute to providing a safe environment as well as reducing traffic accidents and the resultant negative consequences.

3.3. Previous Studies

Lee and Al-Mansour [1] study aimed to propose new materials for teaching traffic safety to individuals in the Kingdom of Saudi Arabia. The regulations and policies in the field of traffic safety were reviewed. The educational materials for traffic safety necessary for the individuals targeted by the study were identified, along with the development of questionnaires for these materials, which contributed to the use of new material in schools and homes to correct the negative behaviors of drivers to reduce traffic accidents and deaths resulting from these accidents.

Truelovea et al. [6] identified some factors affecting adherence to traffic rules among young people in Queensland, Australia. Their study sample consisted of 660 young drivers, and they concluded that the most common factors in accidents are using phones and listening to music while driving.

Interestingly, Holman and Popusoi [14] conducted a study to identify the relationship between the ethics of drivers and adherence to traffic rules. The study looked at 313 vehicle drivers and showed a connection between the ethics of drivers and adherence to traffic rules. Drivers with a high degree of ethics were more compliant with traffic rules; the lower the degree of morality, the lower the degree of adherence to traffic rules.

Likewise, Al-Failakawi [15] aimed to identify the relationship between mobile addiction and the level of attention of both male and female drivers from Kuwait University. The study sample consisted of 440 male and female students. Mobile addiction and attention scales were used in this study. The results indicated that there is a statistically significant negative correlation between the scores of the study sample on the mobile addiction scale and their scores on the attention, vehicle driving and traffic scales.

Penmetsa and Pulugurtha [16] North Carolina, U.S. study intended to determine the risks posed by drivers to themselves and others due to their non-compliance with traffic rules; accident data were collected from 2010 to 2013. The study's conclusions indicated that the most important causes of traffic accidents are speeding, changing lanes improperly, and driving under the influence of drugs. The study recommended educating drivers about the importance of adhering to traffic rules and safe driving.

Youssef [17] study planned to identify the factors causing traffic accidents in Khartoum State in 2016. The study sample consisted of 150 motorists in Khartoum State. A questionnaire was given to them to collect data. The results of the study concluded that the most critical factors causing these accidents were speeding, talking on the phone while driving, improper overtaking, reckless driving, wrong parking on both sides of the road, wrong exit from the road, driving in poor psychological states, and driving under the influence of family problems.

Al-Ajlan [18] conducted a study to determine the role of family supervision in reducing traffic accidents in the Kingdom of Saudi Arabia. The study sample consisted of 200 parents of secondary school students in the city of Buraidah in the Qassim region. A questionnaire was given to them to collect data. The study results concluded that the family could clearly reduce traffic accidents by directing their children to adhere to traffic rules and standards.

The study by Al-Awain [11] intended to identify the role of social factors in traffic accidents in the Riyadh region, and the study sample consisted of 100 participants injured in traffic accidents in the Riyadh region.

The study by Xu et al. [19] planned to identify the factors that lead to non-compliance of experienced and novice motorists with traffic rules in China; the study sample consisted of 232 drivers. A questionnaire was given to them to measure these factors. The results concluded that the circumstantial, emergency, and impulsive factors, respectively, have a statistically significant effect on drivers' non-compliance with traffic rules, especially for novice drivers, and indicated that drivers with more experience are less affected by these factors.

Mawanga and Ntayi's [20] research was meant to identify the relationship between social standards and non-compliance of vehicle drivers with traffic rules in Kampala, Uganda. The study sample consisted of 208 Kampala vehicle drivers and concluded that there is a statistically significant relationship between observance of social standards and adherence to traffic rules.

It can be seen from the studies reviewed above that some focused on the factors behind traffic accidents, such as the studies by Lee and Al-Mansour [1]; Penmetsa and Pulugurtha [16]; Youssef [17]; Al-Ajlan [18] and Al-Awain [11]. Others were interested in identifying the factors behind non-compliance with traffic rules, such as Truelovea, et al. [6]; Holman and Popusoi [14]; Xu, et al. [19] and Mawanga and Ntayi [21].

In light of this study's problem, its questions, importance, objectives, theoretical framework, research, and previous studies, the researcher formulated the following hypotheses:

- 1. There are statistically significant differences between the score ranks of the experimental group in the pre-and post-measurements on the traffic rules compliance scale in favour of the post-measurement.
- 2. There are statistically significant differences between the mean scores of the experimental and control groups on the scale of compliance with traffic rules in the post-measurement in favour of the experimental group.
- 3. There are no statistically significant differences between the score ranks of the experimental group members on the traffic rules compliance scale in the post- and follow-up measurements.

4. Method

The current study follows the semi-experimental approach, through which the counselling program effectiveness is verified in improving the degree of compliance with traffic rules among the experimental group compared to the control group. The experimental design utilised one experimental and one control group.

4.1. Study Sample

The study was conducted at King Faisal University in Al-Ahsa Governorate, Saudi Arabia. A random sample of 20 students with low scores on the traffic rules scale was selected and divided equally, 10 in each group; one was an experimental group in which the counselling program was implemented and one control group. The two groups were homogeneous in their degree of compliance with traffic rules (Table 1).

Table 1. Homogeneity between the members of the experimental and control groups in compliance with traffic rules. (The significant differences between the mean ranks of the experimental and control group scores and the value of (Z) on the scale of adherence to traffic rules in the pre-measurement). (N=20).

Dimensions	Groups	N	Total	Average	$oldsymbol{U}$	Z	Level of
			rank				significance
The total degree of	Experimental	10	103.00	10.30	48.00	0.152	0.912
traffic compliance	control	10	107.00	10.70			

Note: Z at the level of (0.01) = 2.58 Z at the level of (0.05) = 1.96.

Table 1 indicates that there are no statistically significant differences between the mean scores of the members of the experimental and control groups of university youth in adhering to traffic rules. This is shown by the absence of a statistical significance for the value of (Z) calculated between the members of the two groups.

4.2. Study Tools

The researcher used the following tools in the study:

- 1- Measurement of compliance with traffic rules [22].
- 2- The extension program (prepared by the researcher).

4.3. Awareness Guidance Program

This program is one of the basic tools that have been prepared to achieve the objectives of the current study. It relies on behavioral techniques such as reinforcement, modeling, and visual presentations. It also informs and educates university students about compliance with traffic rules while driving.

4.4. Program Importance

The importance of this program is evident in the following:

1. The program helps guide and educate university students to abide by traffic rules while driving. In addition, it also helps them abandon some actions and behaviors that are not compliant with traffic rules.

- 2. The program contributes to presenting some positive models on adherence to rules and reducing traffic accidents. It also contributes to reducing the adverse effects of accidents, including deaths and disabilities, as well as psychological, material, and social problems.
- 3. Abandoning some dangerous driving behaviors, such as drifting, which cause many accidents affecting the driver, other cars on the road, and pedestrians.

4.5. Procedures for Designing the Educational Guidance Program.

4.5.1. Determine the Category for Which the Program is Designed

The category for which the educational guidance program and the study were designed, in general, was identified; it represents a sample of university student drivers who had low scores on the traffic rules compliance scale. The study sample was selected based on the tools that were designed for that.

4.5.2. Program Objective

This program aims to guide and educate university students about adhering to traffic rules while driving. Moreover, it will encourage abandoning wrong and dangerous behaviors that endanger their lives and the lives of others. It also aims to reduce traffic accidents and their adverse effects, such as deaths and disabilities, as well as psychological, material, and social problems.

4.5.3. The Indicative and Educational Method Used in the Implementation of the Program

The educational counselling program used in our research utilized the group counselling method, which is based on interaction and mutual influence between the members of the group, and also between the group members and the researchers. This leads to information about and awareness of the advantages of complying with traffic rules and standards among university students. The group method used in the program included the technique of individual counselling, according to the nature of each individual, and the nature of each session.

4.5.4. Tools and Means Used in the Program

- 1. Various worksheets to serve each session.
- 2. A visual display device (projector).
- 3. Photos and videos that serve the purpose of each session.

4.5.5. Program Limitations

The experimental (indicative) group consisted of 10 students at King Faisal University in Al-Ahsa Governorate, Saudi Arabia, who had low scores on the compliance with traffic rules scale. The awareness-raising program was implemented at the College of Education, King Faisal University. The program lasted for six weeks and had 12 sessions. The duration of each session was 40 minutes. It was implemented during the second semester of the academic year 2021–2022, and the follow-up analysis of compliance with traffic rules was done on the experimental group a month after the end of the program.

4.5.6. Program Implementation Stages

The researcher became acquainted with the experimental group members in the first stage. This included a presentation of the general framework of the program, its objectives, and procedures. This was completed during the first session.

The second stage is the awareness-raising stage. It aimed to guide the experimental group to comply with traffic rules and standards. This was done during the second to eleventh sessions.

The final stage, which was intended to summarize the program objectives and evaluate them with the experimental group, ends the program sessions. This was the twelfth session.

4.5.7. Content of Program Sessions

The sessions' content was selected according to the programme's objectives and practical procedures, including behavioral techniques, educational visual presentations, the indicative method, and the means used. The following table shows the description of the educational counseling training programme sessions.

Table 2. Awareness Counseling Program Sessions

Session's	Session topic	Session	Number of	Techniques and activities
number		duration	sessions	
First	Introduction and introduction to the program.	40 minutes	1	Reinforcement.
Second	Periodic inspection of the car and ensuring the safety of the car before travel.	40 minutes	1	Reinforcement, modelling and visual presentations
Third	The importance of wearing a seat belt in the car and committing to overtaking the cars in front of me on the left side only.	40 minutes	1	Reinforcement, modelling and visual presentations
Fourth	Adhere to the speed limits on the roads and leave a sufficient distance between my car and other cars.	40 minutes	1	Reinforcement, modelling, and visual presentations
Fifth	The importance of using the car's traffic lights, and parking in the places designated for parking.	40 minutes	1	Reinforcement, modelling, and visual presentations
Sixth	Citizens' rights to cross the road.	40 minutes	1	Reinforcement, modelling, and visual presentations
Seventh	Preoccupation and thinking about personal matters while driving and the associated risks.	40 minutes	1	Reinforcement, modeling, and visual presentations
Eighth	Preoccupation with mobile phones while driving and the associated risks.	40 minutes	1	Reinforcement, modelling, and visual presentations
Ninth	Adhere to the specified path while driving and respect the traffic lights.	40 minutes	1	Reinforcement, modelling, and visual presentations
Tenth	Using the car to practice risky behaviors such as drifting. (Drifting and its dangers).	40 minutes	1	Reinforcement, modelling, and visual presentations
Eleventh	Make way for ambulances and police.	40 minutes	1	Reinforcement, modelling, and visual presentations
Twelfth	Closing session.	40 minutes	1	Reinforcement

4.6. Techniques and Activities Used in the Program

In the educational counseling program implemented in the current study, the researcher used a set of behavioral techniques that included modeling, reinforcement, and visual presentations.

4.7. Program Evaluation

The program used in the current study was evaluated in three phases as follows:

4.7.1. Interim Evaluation

This evaluation was conducted by following up on the integration of the experimental group members into the program sessions and the changes they experienced.

4.7.2. Post Evaluation

The awareness-raising program was evaluated after the completion of its sessions by applying the traffic rules compliance scale prepared for this study to each member of both groups. The results of each group were compared in the post-measurement, and then the results of the experimental and control groups were compared. Then the results of the experimental group members in the pre-and post-measurements were compared.

4.7.3. Follow-Up Evaluation

This was done by applying the measure of adherence to traffic rules to the experimental group a month after the end of the program. This was when the experimental group's results were compared in the post-and follow-up measurements to determine the extent of the continuing effectiveness of the educational counselling program.

4.8. Study Steps

In preparing the current study, the researchers relied on a set of procedural steps, which we can summarize as follows:

- 1. Examination of Arab and foreign references and studies that dealt with the study's variables to collect scientific material related to the concepts of the study to build the theoretical framework.
- 2. The measure of adherence to traffic rules has been determined, and the awareness-raising program has been built.
- 3. The study population was selected from university students at King Faisal University in Al-Ahsa Governorate, Saudi Arabia.
- 4. The primary study sample (20 students) who obtained high scores on the traffic rules compliance scale was identified and divided equally into an experimental group and a control group.

- 5. The homogeneity between the members of the experimental and control groups in compliance with traffic rules was verified.
- 6. The educational counselling program was implemented in the experimental group.
- 7. After completing the program, a scale measuring adherence to traffic rules was applied to the members of both groups (post-application).
- 8. One month after completing the awareness-raising program, the scale measuring adherence to traffic rules was applied to the experimental group members again (a follow-up application).
- 9. Quantitative data were obtained, entered into unique tables, and processed statistically.
- 10. After statistical processing of the data, the results were interpreted and discussed in light of the study's theoretical framework and the studies that preceded it.
- 11. As a result of the study, the researchers proposed a set of educational recommendations and suggested further research. *Statistical Methods Used in the Study*

In processing the data obtained from the tools used in the investigation, the researchers used the following statistical methods:

- 1. T-test to study the differences between the scientific and human disciplines in social factors and adherence to traffic rules, and to verify the validity of the peripheral comparison of the two study scales.
- 2. The non-parametric Wilcoxon Test was used to examine the differences between the experimental group members in the pre-and post-measurements as well as the post-and follow follow-up-measurements in compliance with traffic rules.
- 3. The non-parametric Mann-Whitney U Test was used to verify the homogeneity between the members of the experimental and control groups in their adherence to traffic rules before the counselling program and to study the differences between the members of the experimental and control groups in adhering to traffic rules after the program end.

5. Findings

5.1. Ranks of the Experimental Group in the Pre and Post Measurements

This hypothesis states that there are statistically significant differences between the score ranks of the experimental group in pre-and post-measurements on the traffic rules compliance scale (Table 3).

Table 3.

The significance of the differences between the ranks of the experimental group members' scores and the (Z) value of the Wilcoxon test on the scale of adherence to traffic rules in the before and after measurements.

Dimensions	Direction of rank	Number	Number of	Total ranks	Average	Z	Level of
	differences		binaries				significance
The total	Negative ranks	10-	10	5-5	5.50-	2.805	0.00
degree of	Positive ranks	10-					
traffic	Equality						
compliance	Total						

Note: (*Z*) at the level (0.01) = 2.58, (*Z*) at the level (0.05) = 1.96.

Results presented in Table 3 showed statistically significant differences between the score ranks of the experimental group on the scale of adherence to traffic rules after the program, compared to the pre-measurement at a 0.05 significance level in favour of the post-measurement.

5.2. Ranks of the Experimental and Control Groups

This assumption stipulates that there are statistically significant differences between the average ranks of the experimental and the control groups on the scale of adherence to traffic rules in post-measurement in favour of the experimental group (Table 4).

Table 4.

The significance differences between the average ranks of the experimental and the control groups and the value of (*Z*) on the measure of commitment to the traffic rules in post-measurement.

Dimensions	Group	Number	Total	Average	$oldsymbol{U}$	Z	p
The total degree of	Experimental	10	155.00	15.50	0.00	3.785	0.00
traffic commitment	Control	10	55.00	5.50			

Note: (*Z*) at the level (0.01) = 2.58, (*Z*) at the level (0.05) = 1.96.

The results in Table 4 indicated statistically significant differences between the average scores from the experimental and the control groups on the commitment to the traffic rules scale in post-measurement in favour of the experimental group. The Z value that was calculated the total score for adherence to traffic rules was greater than the tabular Z value at a 0.01 significance level. This means that the calculated Z values for the measure of adherence to traffic rules between the experimental group and the control group in the post-measurement are statistically significant at the 0.01 level (Table 4).

5.3. Ranks of the Experimental Group in the Post and Follow-Up Measurements

This assumption stipulates that there are no statistically significant differences between the ranks of the degrees of the experimental group members on the action of commitment to the traffic rules in the post and tracker.

Table 5.Significance differences between the ranks of the scores of the experimental group and the (*Z*) value of the Wilcoxon test on the scale of compliance with traffic rules in the post and follow-up measurements.

Dimensions	Differences in rank's direction	Number	Number of binaries	Total	Average	Z	Level of significance
The total degree of	Negative ranks	2	8	7.00	3.50	1.613	0.107
traffic compliance	Positive ranks	6		22.00	4.86		
_	Equality	2					
	Total	10					

Note: (*Z*) at the level of (0.01) = 2.58

(Z) at the level of (0.05) = 1.96

Table 5 indicates that there are no statistically significant differences between the ranks of the scores of the experimental group members on the traffic rules compliance scale in the post and follow-up measurements, as the (Z) values calculated between the post and follow-up measurements for the total score of the scale were not statistically significant. This means the educational counselling program continued to improve compliance with traffic rules within the experimental group after the follow-up period.

6. Discussion

It is clear from the presentation that the results of the first hypothesis revealed that there are statistically significant differences between the ranks of the scores of the experimental group in the before and after measurements on the adherence to traffic rules scale in favour of the post-measurement. This means the awareness-raising program successfully improved adherence to traffic rules among the experimental group members. Interpretation of this could be the effectiveness and feasibility of the educational guidance program used in enhancing the level of adherence to traffic rules within the experimental group, which made them more understanding, flexible, aware, and keen to take full advantage of the techniques and activities of the program. Used in the context of real-life situations, it contributed to further improvement in their level of adherence to traffic rules. These results are consistent with previous studies [6, 14, 19, 20]. As for the second hypothesis, the results revealed statistically significant differences between the mean scores of the members of the experimental and control groups on the adrence to traffic rules scale in the post-measurement in favour of the experimental group. The researchers explain these differences in light of the benefits the experimental group received from the educational counselling program sessions in improving adherence to traffic rules, compared to the control group, who were not exposed to the program sessions. This means that the educational counselling program successfully raised and improved traffic awareness and adherence to traffic rules among the experimental group. This result aligns with previous research [1, 11, 16-18].

As for the results of the third hypothesis, the results revealed the continued effectiveness of the awareness-raising program a month after its completion. It improved the group's level of compliance with traffic rules. The researchers believe this result could be expected because of the techniques and activities included in the program and the experimental group members' interaction, cooperation, and commitment toward the program sessions.

7. Conclusion

We conclude from the results of this study that the awareness-raising program was successful and effective. The success of its techniques and activities is evident in the improvement of the level of commitment of university young people to traffic standards and rules. This highlights the differences between the members of the experimental group and the control group after the program, in favor of the experimental group. The experimental group members benefited from the sessions, techniques, and activities of the program compared to the control group members, who were not exposed to the educational counseling program sessions. There was also an absence of differences between experimental group members in the post and follow-up measurements. This means the educational counseling program continued to improve awareness and adherence to standards and traffic rules for the experimental group. This emphasized the importance of counseling and awareness programs for educating community members on the significance of adhering to traffic standards and regulations. This can be important in reducing road and traffic accidents, subsequent deaths and disabilities, and psychological, social, and material problems related to these accidents.

References

- [1] M. Lee and A. Al-Mansour, "Development of a new traffic safety education material for the future drivers in the Kingdom of Saudi Arabia," *Journal of King Saud University Engineering Sciences*, vol. 3, no. 3, pp. 201–208, 2019.
- [2] J. Weichbrodt, "Safety rules as instruments for organizational control, coordination & knowledge: Implications for rules management," *Safety Science*, vol. 80, pp. 221–232, 2015.
- [3] J. I. Castillo-Manzano, M. Castro-Nuño, L. López-Valpuesta, and D. J. Pedregal, "From legislation to compliance: The power of traffic law enforcement for the case study of Spain," *Transport Policy*, vol. 75, pp. 1-9, 2019. https://doi.org/10.1016/j.tranpol.2019.01.004
- [4] R. Fadil, "The phenomenon of traffic accidents, their causes, effects & ways to reduce them: A case study in Algeria," *Journal of Economics, Management & Trade Sciences*, vol. 11, no. 27, pp. 351–376, 2013.
- [5] World Health Organization, "Global status report on road safety 2015. World Health Organization," Retrieved: https://www.who.int/violence_injury_prevention/road_safety_status/2015/en/, 2015.

- [6] V. Truelovea, J. Freemanb, and J. Daveya, "You can't be deterred by stuff you don't know about": Identifying factors that influence graduated driver licensing rule compliance," *Safety Science*, vol. 111, pp. 313–323, 2019.
- [7] G. Zhang, Y. Tan, and R.-C. Jou, "Factors influencing traffic signal violations by car drivers, cyclists, and pedestrians: A case study from Guangdong, China," *Transportation research part F: traffic psychology and behaviour*, vol. 42, pp. 205-216, 2016. https://doi.org/10.1016/j.tranr.2015.11.009
- [8] B. Ladi, "The impact of human behaviour on traffic accidents in Algeria," *Al-Hikma Journal of Social Studies*, vol. 110, no. 28, pp. 82–95, 2014.
- [9] A. Najmi, "A field study of the educational role of the University of Tabuk in achieving traffic safety from the point of view of faculty members," *Journal of Scientific Research in Education, Ain Shams University*, vol. 2, no. 18, pp. 117-143, 2017.
- [10] S. Al Raddadi, "Methods of developing traffic culture and its educational applications," Thesis. College of Da'wah & Fundamentals of Religion, Islamic University of Madinah, 148, 2013.
- [11] A. Al-Awain, "The role of social factors in traffic accidents in the Riyadh region, a field study on traffic accident victims in hospitals in the Riyadh region," *Arab Journal of Educational & Social Studies*, vol. 6, pp. 165–198, 2015.
- [12] M. Abdul Majeed, M. Al-Daghiri, and M. Farag, "A proposed vision for the role of educational institutions in the Qassim region in developing youth awareness of traffic hazards," *Journal of Educational & Psychological Sciences, Qassim University*, vol. 7, no. 2, pp. 517–583, 2014.
- [13] W. Al-Kasasbeh, "A proposed promotional programme to provide traffic safety within the Kingdom of Saudi Arabia by applying it to the Tabuk region," *Arab Journal of Security Studies at Naif Arab University for Security Sciences*, vol. 32, no. 65, pp. 243–304, 2016.
- [14] A. C. Holman and S. A. Popusoi, "Ethical predispositions to violate or obey traffic rules and the mediating role of driving styles," *The Journal of Psychology*, vol. 152, no. 5, pp. 257-275, 2018.
- [15] H. Al-Failakawi, "Mobile addiction & its relationship to the attention level of vehicle drivers, traffic, & traffic among a sample of Kuwait University students," *Journal of Educational & Psychological Studies*, vol. 13, no. 3, pp. 574–590, 2018.
- P. Penmetsa and S. Pulugurtha, "Risk drivers pose to themselves & other drivers by violating traffic rules," *Traffic Injury Prevention*, vol. 18, no. 1, pp. 63–69, 2017.
- [17] M. Youssef, "The use of factor analysis to determine the most important factors affecting the occurrence of traffic accidents in the state of Khartoum during the year 2016 AD," Thesis. College of Graduate Studies. Omdurman Islamic University. 63, 2017.
- [18] A. A. Al-Ajlan, "Family control and traffic accidents in the Kingdom of Saudi Arabia," *Journal of Police Thought*, vol. 25, no. 96, pp. 145–216, 2015.
- [19] Y. Xu, Y. Li, and L. Jiang, "The effects of situational factors and impulsiveness on drivers' intentions to violate traffic rules: Difference of driving experience," *Accident Analysis & Prevention*, vol. 62, pp. 54-62, 2014.
- [20] F. Mawanga and J. Ntayi, "Social norms & compliance with road traffic rules in urban areas: Initial impressions of drivers in Kampala, Uganda," *Journal of Transport & Supply Chain Management*, vol. 2, no. 3, pp. 138–150, 2010.
- [21] F. F. Mawanga and J. M. Ntayi, "Social norms and compliance with road traffic rules in urban areas: Initial impressions of drivers in Kampala, Uganda," *Journal of Transport and Supply Chain Management*, vol. 4, no. 1, pp. 138-150, 2010.
- [22] A. Elsayed, A. Alharbi, and G. Adam, "Relative contribution of social factors to university students' compliance with traffic rules: the case of Al-Ahsa Province, Saudi Arabia," *Journal of Educational & Social Research*, vol. 11, p. 235, 2021. https://doi.org/10.36941/jesr-2021-0091