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IMPACT OF THE DIVERSITY OF DRIVERS' CHARACTERISTICS ON TRAFFIC ACCIDENTS AND RESULTS ACCORDING TO DIFFERENCES OF GENDER AND AGE CATEGORIES OF DRIVERS IN GREECE

Jameel Al-Karablieh[1], Fotini Kehagia[2]

[1, 2] *Aristotle University of Thessaloniki, Division of Transportation and Project Management, School of Engineering, Thessaloniki, Greece*

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Abstract: The study included evaluation of traffic accidents and their results on drivers according to the variation of drivers' characteristics in Greece, which were gender and ages' categories of drivers. The data obtained from Hellenic Statistical Authority (ELSTAT) and they comprised of traffic accidents No. during five years over the period (2012-2016). Data divided to two types; the first type included traffic accidents No. that distributed according to gender and ages categories of drivers who involved those accidents. In addition, the second type composed of accidents No. that divided according to their impacts on the drivers, either fatal, injuries or safe. Several statistical tests were used for analyzing each type of data and the study concluded model for traffic accidents in Greece. The study found that there were a relationship between the different variables of drivers' characteristics, which resulted to be differences in traffic accidents No. and variety in accidents impacts on drivers. In addition, male and youth drivers are the most causing of traffic accidents comparison to other classifications of drivers. Therefore, the study recommends increasing the awareness of drivers and applying the deterrent penalties that improve the performance of drivers on the roads for reducing traffic accidents to satisfy the safety on roads.

Keywords: drivers' behavior, traffic accidents, gender of drivers, age of drivers, accidents results, fatal accidents, injuries of drivers.

1. Introduction

Road accident is one of the most important causes of death and series injuries among healthy people in the world. Every year the lives of more than 1.25 million people are cut short as a result of a road traffic crash. Between 20 and 50 million, more people suffer non-fatal injuries, with many incurring a disability because of their injury. Road traffic injuries cause considerable economic losses to individuals, their families, and to nations as a whole. These losses arise from the cost of treatment as well as lost productivity for those killed or disabled by their injuries, and for family members who need to take time off work or school to care for the injured. Road traffic crashes cost most countries 3% of their gross domestic product (WHO, 2018).

[1] Corresponding author: jameel@civil.auth.gr

Driving safety is affected by various factors, which together determine the level of traffic safety or risk. Such factors include driver characteristics, road layout, the design of the car and weather condition. However, most road accidents are attributed to 'human factor' most especially to road safety violations (Sullman *et al.,* 2002). Gender has been considered in relation to risky driving behavior in young drivers (Ulleberg and Rundmo, 2003; Teese and Bradley, 2008) and in general, it has been found that, in terms of risk behavior in road traffic, males are more willing to take risks than female (Whissell and Bigelow, 2003; Oltedal and Rundmo, 2006).

Fatal crashes caused by female drivers also differ from those caused by male drivers in a range of factors, some of these reflecting different travel. One of the dominant characteristics, however, is the relatively small percentage of fatal crashes caused by women which are attributable to risk taking behaviour (Ginpil and Attewell, 1994). Motor vehicle crash fatalities were higher for males than females in all age groups (Chang, 2006). Young drivers experienced higher relative risks of single vehicle crashes than did older drivers of the same sex. Additionally, female drivers exhibited substantially lower relative risk than male drivers of the same age (Zador, Krawchuk and Voas, 2000). Gender related differences were observed in the 1990 accident involvement rates. Per mile driven, men had about 1.5 times the risk of women of experiencing a fatal accident. However, the difference in the fatal rate between men and women was most extreme among the younger age groups, and by age 60, the rates for men and women were essentially identical (Massie and Campbell, 1993).

In Greece, data Crash in 2015 stagnated at the 2014 level, following five consecutive years with a significant (generally above 10%) decrease in fatalities, resulting in an overall decrease for the period 2009-14 of 45%. The fatality rate for Greece (7.3 deaths per 100 000 inhabitants) is for the second year closer to the EU average than to the least performing EU countries. However, while the economic downturn is not yet over, Greece has probably reached the point at which the drop in road fatalities has levelled off (Road Safety Annual Report, 2017). Although statistics and studies indicate that in recent years there has been a decrease in the total No. of traffic accidents in Greece at a good rate and also lead to a decrease in No. of injuries and fatalities, but still there is different in the No. of drivers who involved in accidents according to variation of their gender and ages categories.

The main objective of study is examination the variety groups of drivers groups in Greece according to No. of traffic accidents and the effects severity of traffic accidents results on drivers during period (2012 -2016). The study will answer the hypotheses and it will show the drivers groups which are consideration more causing of accidents and they have the higher level of effects on drivers.

2. Collection of Data

There are many sources that have been undertaken in terms of data that needed for the research, but study depended on the reliable source for all statistical data from Hellenic Statistical Authority (ELSTAT) by communicated with them to obtain the accurate and required data. The collected data of traffic accidents in Greece for the period (2012-2016) and included two divisions as follows:

2.1. No. of Traffic Accidents According to Gender and Ages of drivers

The data included No. of traffic accidents which divided according to gender of drivers per age category during the study period for each year as shown in Table 1.

Table 1

Traffic Accidents No. According to Age and Gender of Drivers during Period (2012-2016)

	Drivers Who Caused The Traffic Accidents				Total No. of Driver Who Caused Accidents
	Age group	**Male**	**Female**	**Unknown**	
2012	-17	130	14		144
	18-35	3,999	841		4,840
	36-49	2,611	713		3,324
	50-64	1,761	321		2,082
	65+	1,209	131		1,340
	Unknown	628	40		668
	TOTAL	**10,338**	**2,060**		**12,398**
2013	-17	139	11		150
	18-35	3,617	870	1	4,488
	36-49	2,565	753		3,318
	50-64	1,847	374		2,221
	65+	1,196	133		1,329
	Unknown	505	47	51	603
	TOTAL	**9,869**	**2,188**	**52**	**12,109**
2014	-17	84	6		90
	18-35	3,494	805	1	4,300
	36-49	2,477	745		3,222
	50-64	1,770	406		2,176
	65+	1,164	130		1,294
	Unknown	518	70	20	608
	TOTAL	**9,507**	**2,162**	**21**	**11,690**
2015	-17	99	10		109
	18-35	3,301	755	0	4,056
	36-49	2,467	687		3,154
	50-64	1,708	359	1	2,068
	65+	1,276	137		1,413
	Unknown	509	86	45	640
	TOTAL	**9,360**	**2,034**	**46**	**11,440**
2016	-17	88	6		94
	18-35	3,146	682		3,828
	36-49	2,373	682		3,055
	50-64	1,848	410	0	2,258
	65+	1,253	134		1,387
	Unknown	364	85	247	696
	TOTAL	**9,072**	**1,999**	**247**	**11,318**

Source: (ELSTAT, 2017)

2.2. No. of Traffic Accidents According to Impacts on Drivers

The data included No. of traffic accidents according to the type of impact that caused to each driver, as the data comprised of three types of impact either resulted from the accident death, injury or safe during period of study as shown in Table 2.

Table 2

No. Of Traffic Accidents According to Results on Drivers during Period (2012-2016)

Year	Age's Category of Drivers	Drivers' Fatalities No.			Drivers' Injuries No.			Drivers' Safe No.			
		Male	Female	Total	Male	Female	Total	Male	Female	Un known	Total
2012	-17	8	1	9	92	13	105	30	0	0	30
	18-35	191	9	200	2,025	295	2,320	1,783	537	0	2,320
	36-49	111	12	123	1,019	219	1,238	1,481	482	0	1,963
	50-64	72	1	73	586	103	689	1,103	217	0	1,320
	65+	92	1	93	426	40	466	691	90	0	781
	Unknown	2	0	2	72	10	82	554	30	0	584
	TOTAL	**476**	**24**	**500**	**4,220**	**680**	**4,900**	**5,642**	**1,356**	**0**	**6,998**
2013	-17	9	0	9	108	10	118	22	1	0	23
	18-35	148	12	160	1,866	333	2,199	1,603	525	1	2,129
	36-49	90	6	96	1,025	236	1,261	1,450	511	0	1,961
	50-64	75	5	80	626	108	734	1,146	261	0	1,407
	65+	85	7	92	406	35	441	705	91	0	796
	Unknown	2	0	2	59	12	71	444	35	51	530
	TOTAL	**409**	**30**	**439**	**4,090**	**734**	**4,824**	**5,370**	**1,424**	**52**	**6,846**
2014	-17	10	0	10	60	6	66	14	0	0	14
	18-35	123	14	137	1,827	300	2,127	1,544	491	1	2,036
	36-49	90	10	100	1,041	208	1,249	1,346	527	0	1,873
	50-64	76	2	78	598	116	714	1,096	288	0	1,384
	65+	62	1	63	394	37	431	708	92	0	800
	Unknown	1	0	1	61	19	80	456	51	20	527
	TOTAL	**362**	**27**	**389**	**3,981**	**686**	**4,667**	**5,164**	**1,449**	**21**	**6,634**
2015	-17	11	0	11	68	9	77	20	1	0	21
	18-35	124	17	141	1,748	271	2,019	1,429	467	0	1,896
	36-49	89	6	95	945	194	1,139	1,433	487	0	1,920
	50-64	74	4	78	595	106	701	1,039	249	1	1,289
	65+	90	3	93	423	46	469	763	88	0	851
	Unknown	2	0	2	95	22	117	412	64	45	521
	TOTAL	**390**	**30**	**420**	**3,874**	**648**	**4,522**	**5,096**	**1,356**	**46**	**6,498**
2016	-17	7	0	7	68	4	72	13	2	0	15
	18-35	111	12	123	1,564	231	1,795	1,471	439	0	1,910
	36-49	96	9	105	949	189	1,138	1,328	484	0	1,812
	50-64	71	10	81	639	111	750	1,138	289	0	1,427
	65+	83	0	83	439	47	486	731	87	0	818
	Unknown	2	0	2	86	21	107	276	64	247	587
	TOTAL	**370**	**31**	**401**	**3,745**	**603**	**4,348**	**4,957**	**1,365**	**247**	**6,569**

Source: (ELSTAT, 2017)

3. Analysis of Data

Analysis of data stage is using suitable statistical tests for each kind of data and used SPSS software for statistical analysis; the research considered dependent and independent variables in analysis. The dependent variables are including traffic accidents No. and results of accidents on drivers. About, the independent variables comprise of gender and age categories of drivers. About, age variable included five categories and one unknown.

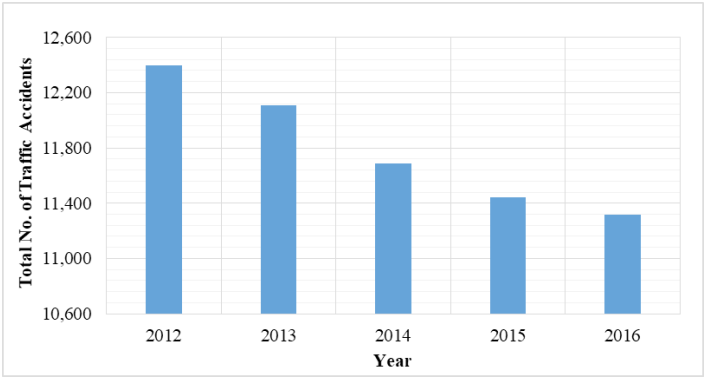

Fig. 1.
Total of Traffic Accidents No. per Year during Period (2012-2016)
Source: (ELSTAT, 2017)

According to total No. of traffic accidents in Table 1 and Fig. 1; the values are different and decreased per year. In addition, the bigger No. of accidents was in 2012 and the lowest value was in 2016.

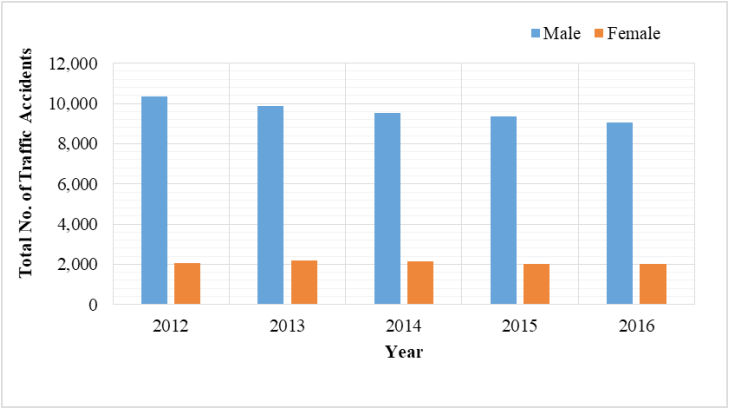

Fig. 2.
Traffic Accidents No. According to Drivers' Gender during Period (2012-2016)
Source: (ELSTAT, 2017)

According to the values that shown in Table 1 and Fig. 2; male drivers are considering more causes of traffic accidents than female during period of study and the bigger amount of traffic accidents in year 2012.

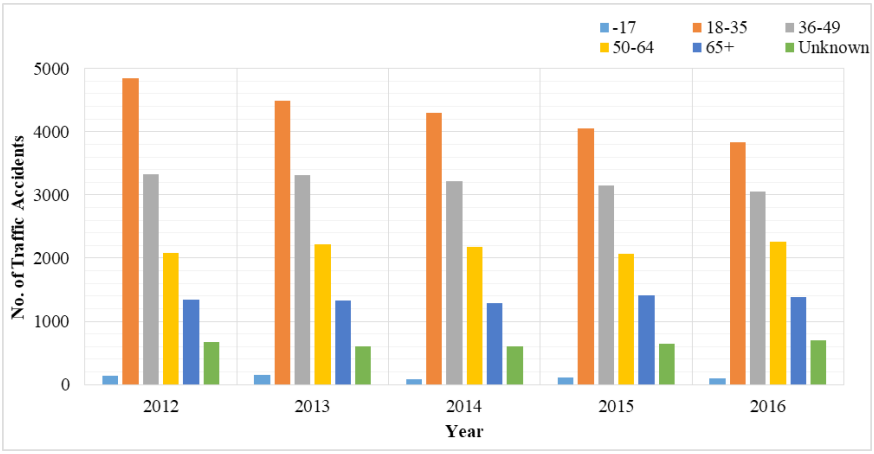

Fig. 3.
Traffic Accidents No. According to Age Categories of Drivers during Period (2012-2016)
Source: (ELSTAT, 2017)

According to values in Table 1 and Fig. 3; age category (18-35) is considering more causes of traffic accidents than other categories of drivers and bigger No. of Traffic accidents in 2012 for all age categories of drivers.

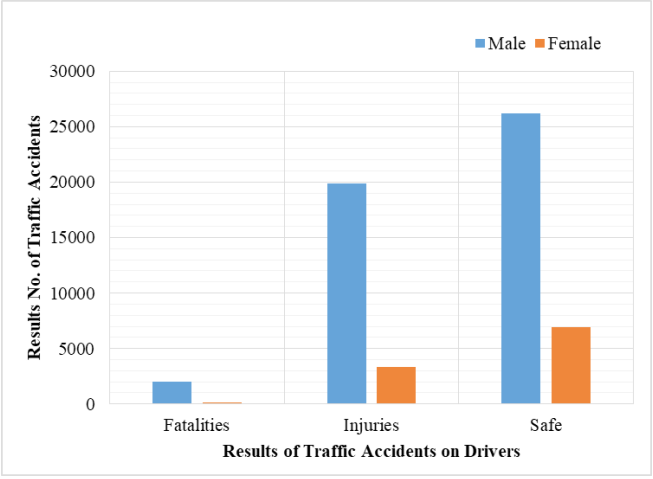

Fig. 4.
Results of Traffic Accidents on Drivers According to Gender of drivers during Period (2012-2016)
Source: (ELSTAT, 2017)

According to values in Table 2 and Fig. 4; male drivers are considering more causes of severity results of traffic accidents on drivers than female during period (2012 - 2016).

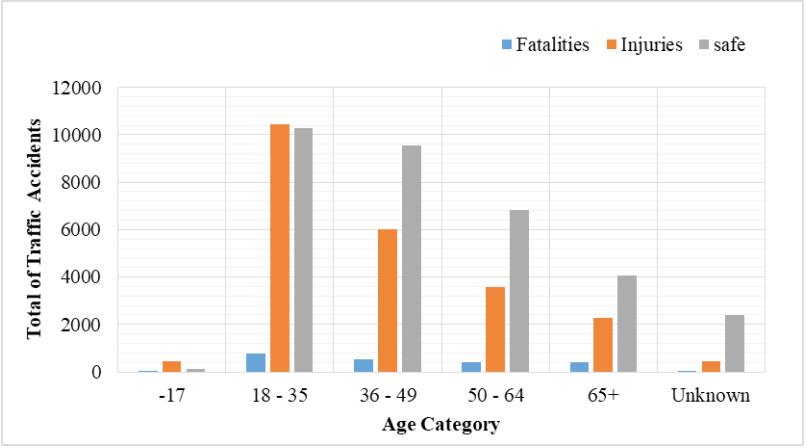

Fig. 5.
Results of Traffic Accidents on Drivers According to Age Categories of Drivers during Period (2012-2016) Source: (ELSTAT 2017)

According to values in Table 2 and Fig. 5; age category (18-35) of youth drivers are considering more causes of severity results of traffic accidents on drivers than other categories of drivers.

3.1. Assessment Drivers' Characteristics Consideration to Accidents No.

The study examined the characteristics of the drivers and their impact on the different traffic accidents that they performed by them. The characteristics that were taken into consideration are the gender and different ages' categories of drivers. Thus, the study testing the significance of association between gender and ages' categories of drivers for effecting on different of traffic accidents No. depending on data that collected during the period (2012–2016). The hypothesis that assumed as the following:

- H_0 = There are not association between age categories and gender of drivers for effecting on different of traffic accidents No..
- H_1 = There are association between age categories and gender of drivers for effecting on different of traffic accidents No..

For interpretation of that association, the research used the statistical test of Univariate Analysis of Variance that answered about the hypothesis as shown in the results in Table 3.

Table 3
Studying of Association Between Age Categories and Gender of Drivers for Effecting on Traffic Accidents No.

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	7.543E10	11	6.857E9	235266.911	.000
Intercept	4.697E9	1	4.697E9	161154.951	.000
Age	1.022E10	5	2.044E9	70126.324	.000
Gender	1.940E9	1	1.940E9	66572.453	.000
Age * Gender	3.779E9	5	7.558E8	25930.747	.000
Error	1.707E9	58577	29145.795		
Total	3.423E11	58589			
Corrected Total	7.713E10	58588			

Depending on the results in Tables 3; the calculated values of (df-Gender*Age = 5), (F-Gender*Age= 25930.747) and the value of significance (p=0.00 <0.05). So that, we reject the hypothesis (H_0) and accept the hypothesis (H_1). Then there is association between age categories and gender for influencing in No. of traffic accidents and there is significant at level ($p < 0.05$).

3.2. Assessment Drivers' Characteristics Consideration to Accidents Results on Drivers

The statistical data that got from ELSTAT comprised of the results of traffic accidents on drivers who involved in those accidents during the period (2012-2016). Traffic accidents divided to three classifications according to the severity levels on drivers; fatalities, injuries and safe. In addition, the data arranged according to gender and age categories of derivers.

The study testing the significance of relationship between gender and ages' categories of drivers with different effects of traffic accidents results on drivers. The hypothesis that assumed as the following:

- H_0 = There are no relationship between age categories and gender of drivers for influencing on different effects of traffic accidents results on drivers.
- H_1 = There are association between age categories and gender of drivers for influencing on different effects of traffic accidents results on drivers.

For interpretation of the effects on accidents No. consideration to that it association; using Chi-Square Tests for assessment.

Table 4

Assessment the Relationship Between Age Categories and Gender of Drivers for Influencing on Different Effects of Traffic Accidents Results on Drivers

Results		Value	df	Asymp. Sig. (2-sided)
Fatalities	Pearson Chi-Square	18.869	5	.002
	Likelihood Ratio	22.032	5	.001
	Linear-by-Linear Association	11.909	1	.001
	N of Valid Cases	2149		
Injuries	Pearson Chi-Square	118.560	5	.000
	Likelihood Ratio	124.284	5	.000
	Linear-by-Linear Association	.700	1	.403
	N of Valid Cases	23261		
Safe	Pearson Chi-Square	645.375[c]	5	.000
	Likelihood Ratio	709.572	5	.000
	Linear-by-Linear Association	454.005	1	.000
	N of Valid Cases	33179		
Total	Pearson Chi-Square	635.027	5	.000
	Likelihood Ratio	685.318	5	.000
	Linear-by-Linear Association	225.471	1	.000
	N of Valid Cases	58589		

Depending on the results in tables 4; the calculated value of chi square at degrees of freedom equals (($\chi 2,5 = 635.027$) and the value of significance ($p = 0.00 < 0.05$). So that, we rejected the hypothesis (H_0) and accepted the hypothesis (H_1). Then there is association between age categories and gender of drivers in influencing on different effects of traffic accidents results on drivers and there is significant at level ($p < 0.05$).

4. Analysis of Model

The model comprise of equation which identification No. of traffic accidents, which are resulting in Greece according to some characteristics of drivers; this branch of study considered the dependent variables which were No. of traffic accidents and the effects of traffic accidents on drivers; and the independent variables that were age categories and gender of drivers during period (2012 – 2016).

The equation model resulted by overdispersed Poisson model and it considered female of gender variables, (36-49) of age categories variables of drivers and safe results of traffic accidents on drivers the references in the analysis as showing in Eq. (1) and Eq. (2):

$$\log (Y) = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \ldots\ldots\ldots + \beta_n X_n \quad (1)$$

$$\log (\text{Total No. of Traffic Accidents}) = \beta 0 + \beta 1 \text{ Gender1 (Male)} + \beta 2 \text{ Age Category (1)} + \beta 3 \text{ Age Category (2)} + \beta 4 \text{ Age Category (4)} + \beta 5 \text{ Age Category (5)} + \beta 6 \text{ Age Category (6)} + \beta 7 \text{ Fatalities Drivers} + \beta 8 \text{ Injuries Driver} \quad (2)$$

Table 5

Goodness of Fit[a]

Item	Value	df	Value/df
Deviance	4468.824	171	26.133
Scaled Deviance	172.607	171	
Pearson Chi-Square	4427.210	171	25.890
Scaled Pearson Chi-Square	171.000	171	
Log Likelihood[bc]	-2766.630-		
Adjusted Log Likelihood[d]	-106.860-		
Akaike's Information Criterion (AIC)	5551.261		
Finite Sample Corrected AIC (AICC)	5552.320		
Bayesian Information Criterion (BIC)	5579.997		
Consistent AIC (CAIC)	5588.997		
Dependent Variable: No. of Traffic Accidents Model: (Intercept), Results, Gender1, Age			
a. Information criteria are in small-is-better form.			
b. The full log likelihood function is displayed and used in computing information criteria.			
c. The log likelihood is based on a scale parameter fixed at 1.			
d. The adjusted log likelihood is based on an estimated scale parameter and is used in the model fitting omnibus test.			

The study worked in count data of total No. of traffic accident, so it used Poissone model; as shown in Table 5 the value of the deviance divided by its degrees of freedom and the Pearson chi-square divided by its degrees of freedom, 26.133 and 25.890, respectively. In addition, it suggest that there might be overdispersion, such that they are greater than 1. So, we fit an overdispersed Poisson model. The goodness-of-fit statistics table provides measures that are useful for comparing competing models.

Table 6

Omnibus Test[a]

Likelihood Ratio Chi-Square	df	Sig.
3746.821	8	.000
Dependent Variable: No. of Traffic Accidents Model: (Intercept), Results, Gender1, Age		
a. Compares the fitted model against the intercept-only model.		

As shown in Table 6 The Omnibus Test is a likelihood ratio test of whether all the independent variables collectively improve the model over the intercept-only model (i.e., with no independent variables added). Having all the independent variables in our example model and the results have (p-value of .000), indicating a statistically significant overall model, as shown in table 6 "Sig." column.

All the independent variables are generates a statistically significant model; Also, we want to know which specific independent variables are statistically significant and we discuss it.

Table 7

Tests of Model Effects

Source	Type III		
	Wald Chi-Square	df	Sig.
(Intercept)	2885.581	1	.000
Results	603.222	2	.000
Gender1	774.205	1	.000
Age	833.653	5	.000
Dependent Variable: No. of Traffic Accidents Model: (Intercept), Results, Gender1, Age			

For model effects and statistical significance of the independent variables; The Tests of Model Effects as shown in Table 7 that displayed the statistical significance of each value of the independent variables in the "Sig." column.

Each term in the model tested for whether it has any effect, we can see that all terms with significance values less than 0.05 which have some discernible effect. Each of the main-effects terms contributes to the model.

Table 8

Coefficients

Parameter Estimates										
Parameter	B	Std. Error	95% Wald Confidence Interval		Hypothesis Test			Exp (B)	95% Wald Confidence Interval for Exp(B)	
			Lower	Upper	Wald Chi-Square	df	Sig.		Lower	Upper
(Intercept)	4.053	0.107	3.843	4.263	1434.272	1	0	57.575	46.681	71.012
[Fatalities]	-2.737-	0.1133	-2.959-	-2.515-	583.941	1	0	0.065	0.052	0.081
[Injuries]	-.355-	0.0435	-.440-	-.270-	66.614	1	0	0.701	0.644	0.763
[Safe]	0[a]	.	.	.	.	.	.	1	.	.
Gender1	1.528	0.0549	1.421	1.636	774.205	1	0	4.61	4.14	5.134
[Age=1]	-1.581-	0.2306	-2.033-	-1.129-	46.984	1	0	0.206	0.131	0.323
[Age=2]	2.02	0.1014	1.822	2.219	397.063	1	0	7.542	6.183	9.2
[Age=3]	0[a]	.	.	.	.	.	.	1	.	.
[Age=4]	1.332	0.1071	1.122	1.542	154.603	1	0	3.788	3.071	4.673
[Age=5]	0.863	0.1136	0.641	1.086	57.767	1	0	2.371	1.898	2.963
[Age=6]	1.729	0.1034	1.526	1.932	279.722	1	0	5.636	4.602	6.902
(Scale)	25.890[b]									
Dependent Variable: No. of Traffic Accidents										
Model: (Intercept), Results, Gender1, Age										
a. Set to zero because this parameter is redundant.										
b. Computed based on the Pearson chi-square.										

Table 8 of coefficients which resulted are provided the required values and information predict for total No. of traffic accident from independent variables, as well as determine whether independent variables contributes statistically significantly to the model (by looking at the «Sig.» column). According to values in Table 8; the Poisson Regression equation of the model as the following in Eq. (3):

log (Total No. of Traffic Accidents) = (4.053) + (1.528) Gender1 (Male) – (1.581) Age Category (1) + (2.020) Age Category (2) + (1.332) Age Category (4) +(0.863) Age Category (5) + (1.729) Age Category (6) – (2.737) Fatalities Drivers – (0.355) Injuries Drivers (3)

- The value of (1.528) that resulted indicating for the total traffic accidents No., which resulted by male drivers is bigger than value of total No. of traffic accident which resulted from female drivers by (exp (1.528) = 4.610).
- The value of (1.581), which resulted indicating that the total No. of traffic accident for drivers who are in age category (1) of (-17) is less than the total No. of traffic accidents of the drivers who are in age category (3) of (36-49) by (exp (1.581) = 0.206).
- The value of (2.02), which resulted indicating that the total No. of traffic accident for drivers who are in age category (2) of (18-35) is bigger than the total No. of traffic accidents of the drivers who are in age category (3) of (36-49) by (exp (2.02) = 7.542).
- The value of (1.332), which resulted indicating that the total No. of traffic accident for drivers who are in age category (4) of (18-35) is bigger than the total No. of traffic accidents of the drivers who are in age category (3) of (36-49) by (exp (1.332) = 3.788).
- The value of (0.863), which resulted indicating that the total No. of traffic accident for drivers who are in age category (5) of (18-35) is bigger than the total No. of traffic accidents of the drivers who are in age category (3) of (36-49) by (exp (0.863) = 2.371).
- The value of (1.729), which resulted indicating that the total No. of traffic accident for drivers who are in age category (6) of (unknown) is less than the total No. of traffic accidents of the drivers who are in age category (3) of (36-49) by (exp (1.729) = 5.636).
- The value of (2.737), which resulted are indicating about No. of traffic accidents which included fatalities of drivers is less than the value of total traffic accidents No. of safe drivers by (exp (2.737) = 0.065).
- The value of (0.355), which resulted are indicating about No. of traffic accidents which included injuries of drivers is less than the value of total traffic accidents No. of safe drivers by (exp (0.355) = 0.701).

5. Conclusions

Depended on data that collected and the results of the analysis which got; there are conclusions regarding to the study and evaluation of the behavior of drivers according to different gender and age categories of drivers. The main conclusions and facts that obtained as the following:

1. The No. of traffic accidents were decreased in Greece during period of study (2012-2016);
2. Gender of drivers influence on differences No. of traffic accidents

which resulted by drivers and male drivers consider more negative impact on road safety in comparison to female drivers because they have bigger No. of traffic accidents;

3. The variation in age categories of drivers' effect on accidents No. that are resulted from them. The drivers who have ages between 18 to 35 years are consideration more negative impact on road safety in comparison to other age categories of drivers because they have bigger No. of traffic accidents;
4. There is a relationship between the diversity of gender and age of drivers, which leads to be a difference in No. of traffic accidents which resulted from them. Moreover, It was found that the category of young male drivers (18-35) are the most involved of traffic accidents depending on No. of traffic accidents comparison to other categories of drivers;
5. The divergence in gender of drivers lead to be difference in impacts severity of traffic accidents results. Male drivers are the most influential in the severity of the impact of the traffic accidents comparison to female drivers depending on No. of effects on drivers which resulted by them whether death, injury or safe;
6. The variation in age categories of drivers resulted differences in effects severity of traffic accidents that resulted. Young drivers between ages (18-35) are the most influential in the impacts severity of traffic accidents comparison to other age categories of drivers according to No. of effects on drivers which resulted by them whether death, injury or safe;
7. There is a relationship between the variation of gender and ages categories of drivers that are generating of differences in types and No. of traffic accidents severity on drivers. In addition, the study concluded that the category of young male drivers who have ages between (18-35) are most effects of the severity which resulted on drivers by traffic accidents comparison to other categories of drivers considered to No. of effects on drivers whether death, injury or safe;
8. It was found that there is an inverse relationship between the ages of older drivers and No. of traffic accidents, which resulted by them, in addition the impacts of accidents are less harmful comparison to young drivers.

6. Recommendation

According to the results which observed by the study; There are some recommendations for contribution in prevent or minimizing to occurrence of disadvantages effects by drivers and encouraging them for adhering to traffic rules for improving their behavior through driving as the following:

1. Traffic awareness of the drivers for different gender and age categories of them to clarify the positive aspects in achieving of traffic safety on the roads;
2. Supporting and developing the means of traffic awareness for drivers of various types of visual and audio announcements;
3. Explain the risk of non-compliance with traffic safety criteria that required on the roads by drivers and the results of traffic accidents that may lead to death or injury or at least cause damage to vehicles and economic losses;
4. Development the means of traffic monitoring for drivers of different categories, especially using of intelligent systems for that it;

5. Conduct a field study to identify the reasons why young drivers of male and female are the most in violation of the criteria and laws driving of the vehicles on road comparison with other categories of drivers. In addition, make as a search for the causes that make the male gender have the bigger No. of traffic accidents comparison to female gender;
6. Applying the means of laws to deter violations of drivers for decreasing the reasons, which lead to occurrence of traffic accidents.

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