

4. Results

Result is consisted of two sections: in the first section, 12 hypothesis are tested by using suitable test.

4.1 Presentation of Demographic Characteristics

Frequency distribution of the data revealed that 26 (18.1%) respondents were females and 118 (81.9%) were males: 90 (62.5%) were students and teachers were 54 (37.5%). For the organization of data five age groups were formed: 80 (55.5%) respondents belonged to age group of (18-22), 35 (24.3%) were from (23-27), 17 (11.8%) fell into the (28-32) group, 4 (2.7%) respondents were from (33-37) group, rest of 8 (5.5) were from the age group of (38-42+). The average experience of the respondents was calculated to be 5.167 ± 3.32 years.

4.2 Hypothesis Testing

Hypothesis with respect to gender, age and experience and were developed as discussed earlier in 2.2. First and four hypothesis were tested by using independent sample t-test: rest of 8 hypothesis were tested by using analysis of variance (ANOVA). 95% confidence interval was considered while testing the hypothesis and the chance of rejection was considered to be 5%.

Hypothesis Testing Across Gender

These four hypothesis were tested by using independent sample t-test as discussed earlier. P-value for the first hypothesis was calculated to 0.178 (>0.05); which was interpreted that there was no significant difference in the driving anger of drivers of both genders. The p-value for the second hypothesis was computed to be 0.565 (>0.05); which was interpreted as there was no significant difference in the driving impatience of male and female drivers. The value for third hypothesis was calculated to be 0.554 (>0.05); its value indicated no significant difference in competing level of male and female drivers.

Table IV (Hypothesis test results (Independent sample t-test))

<i>Statement of Hypothesis</i>	<i>Sig.</i>	<i>Remarks</i>
1. There is no significant difference in driving anger across both gender	0.178	Accepted
2. There is no significant difference in driving impatience across both gender	0.565	Accepted
3. There is no significant difference in competing while driving across both gender	0.554	Accepted
4. There is no significant difference in punishing while driving across both gender	0.963	Accepted

The p-value for the fourth hypothesis came out to be 0.963 (>0.05); which indicated that no significant difference was found in punishing of drivers of both genders. Null hypothesis related to the gender are accepted which indicates that there is no significant difference in driving anger, impatience, competing and punishing behavior of drivers across the gender of the students and teachers of Mehran UET.

4.2.2 Hypothesis Testing Across Age

Analysis of variance (ANOVA) or one way ANOVA was used to test the below given hypothesis in table IV. P-value for the fifth hypothesis was calculated to 0.542 (>0.05); P-value demonstrated that there was no significant difference in the driving anger of drivers of across all age groups. The p-value for the sixth hypothesis was computed to be 0.584 (>0.05); which was interpreted as there was no significant difference in the driving impatience of drivers of all defined age groups. The p-value for seventh hypothesis was calculated to be 0.965 (>0.05); its value indicated that there was no significant difference in competing level of drivers belonged to all age groups.

Table V (Hypothesis test results (ANOVA))

<i>Statement of Hypothesis</i>	<i>Sig.</i>	<i>Remarks</i>
5. There is no significant difference in driving anger among drivers of different age	0.542	Accepted
6. There is no significant difference in driving impatience among drivers of different age	0.584	Accepted
7. There is no significant difference in competing on the road among drivers of different age	0.965	Accepted
8. There is no significant difference in punishing on the road among drivers of different age	0.953	Accepted

The p-value for the eighth hypothesis came out to be 0.953 (>0.05); which indicated no significant difference in punishing among the drivers of all the defined age groups. Null hypothesis related to age of the respondents are

accepted which indicates that there is no significant difference in driving anger, impatience, competing and punishing behavior of drivers across various age groups of the students and teachers of Mehran UET.

4.2.3 Hypothesis Testing Across Experience

These four hypothesis were also tested by using one way ANOVA. P-value for the ninth hypothesis was calculated to 0.067 (>0.05); which was interpreted that there was no difference in the driving anger of drivers across the mentioned experience groups. The p-value for the tenth hypothesis was computed to be 0.267 (>0.05); which indicated that no significant difference was found in the driving impatience of drivers across the mentioned experiences. The value for eleventh hypothesis was calculated to be 0.269(<0.05); this value indicated that there was no significant difference in competing level of drivers belonged to all mentioned experience groups.

Table VI (Hypothesis test results (ANOVA))

<i>Statement of Hypothesis</i>	<i>Sig.</i>	<i>Remarks</i>
9. There is no significant difference in driving anger among drivers of different experience	.067	Accepted
10. There is no significant difference in driving impatience among drivers of different experience	.267	Accepted
11. There is no significant difference in competing on the road among drivers of different experience	.269	Accepted
12. There is no significant difference in punishing on the road among drivers of different experience	.022	Rejected

The p-value for the last i.e. 12th hypothesis came out to be 0.022 (>0.05); which indicated that significant difference was found in punishing among the drivers of the different experiences. Three null hypothesis related to the driving experience of the respondents are accepted which indicates that there is no significant difference in driving anger, impatience, competing and punishing behavior of drivers across the driving experience. In the above analysis, fourth null hypothesis was rejected which demonstrate that there is significant difference in the punishing behavior of students and teachers having different driving experience.

4.2.4 Hypothesis On the teachers and students

Independent sample T-test was used for the testing these last four hypothesis. P-value for the 13th hypothesis was calculated to 0.498 (>0.05); which was interpreted that there was no difference in the driving anger teachers and students of Mehran UET. The p-value for 14th hypothesis was computed to be 0.340 (>0.05); its value indicated no significant difference between the driving impatience of students and teachers at Mehran UET. After testing the 15th hypothesis, p-value came out to be 0.934 (>0.05); the value indicated that there was no significant difference in competing level of drivers i.e. students and teachers.

Table VII (Hypothesis test results (T-test))

<i>Statement of Hypothesis</i>	<i>Sig.</i>	<i>Remarks</i>
There is no significant difference in driving anger between the teachers and students	.498	Accepted
There is no significant difference in driving impatience of the teachers and students	.340	Accepted
15. There is no significant difference in competing on the road between the teachers and students	.934	Accepted
16. There is no significant difference in punishing on the road between the teachers and students	.864	Accepted

The p-value for the last i.e. 16th hypothesis came out to be 0.864 (>0.05); which indicated that significant no difference was found in punishing of drivers between the teachers and students. Null hypothesis related to teachers and students are accepted which indicates that there is no significant difference in driving anger, impatience, competing and punishing behavior of students and teachers of Mehran UET.

Correlation Analysis among Various Constructs

Pearson correlation of the various constructs were calculated and 95% confidence interval was considered. Pearson correlation for anger and impatience was computed to be $r=0.575$ with the significance level of $4.82E^{-14}$ (<0.05); from this value, moderate and significant correlation between anger and impatience was highlighted.

Table VIII (Pearson correlation results among constructs)

		<i>Anger</i>	<i>Impatience</i>	<i>Competing</i>	<i>Punishing</i>
<i>Anger</i>	<i>Pearson Correlation</i>	-			
	<i>Sig. (2-tailed)</i>				
<i>Impatience</i>	<i>Pearson Correlation</i>	.575**	-		
	<i>Sig. (2-tailed)</i>	.000			
<i>Competing</i>	<i>Pearson Correlation</i>	.374**	.348**	1	
	<i>Sig. (2-tailed)</i>	.000	.000		

Punishing	Pearson Correlation	.451**	.472**	.652**	1
	Sig. (2-tailed)	.000	.000	.000	

The coefficient for correlation for anger and competing came out to be $r=0.374$ with the statistical significance of 0.000004; this analysis was interpreted as the weak but significant and positive association between the anger and competing of drivers of Mehran UET. The correlation of anger and punishing of drivers was calculated and r came out to be 0.451 with the statistical significance of $1.45E^{-8}$: The p -value was interpreted as the weak but significant and positive correlation of anger and competing of drivers: more the driving anger, more will be the punishing while driving on the road and vice versa. The correlation of impatience and competing was calculated to be $r=0.348$ with the statistical significance of 0.00002: this relationship was found to be weak but significant. This analysis indicated the weak impact of impatience on competing: which demonstrates that more the impatient driving more will be punishing behavior while driving and vice versa. The correlation of driving impatience and punishing was computed and the p -value was calculated to be 0.472 with the statistical significance of $2.32E^{-9}$. The relationship of impatience and punishing was interpreted as weak but significant and positive: which demonstrates that more the impatient driving more will be the punishing behavior while driving and vice versa. The correlation of competing and punishing was also calculated; $r=0.652$ with the statistical significance of $1.09E^{-18}$. This relationship was counted to be strong and significant: means, more the drivers compete more they will punish other drivers and vice versa.

From the above analysis presented in the table VII it has been revealed that these all four factors i.e. driving anger, impatience, competing and punishing cause an increase in the magnitude of one another

5. Discussion

Anger is more probable at the time when people are previously under stress or pressure (Priyanka and Tigga, 2015). Anger causes the origination of confrontational aggression and suggest offender to harm another person (SWOV Institute for Road Safety Research, 2012; J. L. Deffenbacher et al., 2003; Schafer, 2015). Personal factors as well as traffic situation cause anger in traffic (SWOV Institute for Road Safety Research, 2012; J. L. Deffenbacher et al., 2003). Anger is injurious in all the ways i.e. socially, physically as well as psychologically (Priyanka and Tigga, 2015). Anger is indicated as a significant element of aggressive driving in an incident in which an angry driver deliberately kills the people on the road in response to the occurrence of dispute in traffic (Mizell, 1997). Furthermore the effects of anger are not restricted to the boundaries of highways but it's effects are also experienced on the on post travelling life of drivers i.e. family relations (J. L. Deffenbacher et al., 2003). Frustration was found to be the main cause of traffic violations among drives and caused by traffic congestion (Lajunen and Parker, 2001; Shinar, 1998). A research was conducted on 52 males and 46 females (Vazquez, 2013); which was concluded that the age has negative correlation with the aggressive driving (Vazquez, 2013; Sullman et al., 2015). Surprisingly, no significant difference was found in aggressive driving of both the genders.

Aggressive driving behavior was investigated across the demographic characteristics i.e. age, qualification, profession and driving exposures: The conclusion of the study showed that respondents from the age 18 – 25 years showed the 12.9% aggressiveness; whereas, the respondents below the age of 18 years showed 23.7% aggressiveness: female drivers showed more aggression as compared to the mail drivers; students were indicated as more aggressive than engineers, businessmen, servicemen, housewife and others: experienced drivers were found less aggressive as compared to the less experienced drivers (Chakrabarty and Riku, 2013). In previous studies it has been underlined that age has negative correlation with the anger (Sullman et al., 2015; Sullman et al., 2014) with aggressive driving behavior (Vazquez, 2013). It was reported that the youngest people have more driving aggression (anger) as compared to older age groups (Wickens et al., 2011; Roberts and Indermaur, 2005). It was concluded by the research which was conducted on 1208 drivers that the people with younger age are more aggressive as compared to the older aged people (Roberts and Indermaur, 2005). Age was found to be strongly associated with the driving anger which was reflected by these parameters e.g. (“discourtesy, traffic obstructions, hostile gestures, slow driving and police presence” (Sullman et al., 2014). But in the present study, no difference in aggressive driving was found among the students and teachers, different age groups and experience except punishing, it was found to be significantly different among the drivers of different driving experience.

Research was conducted, which examined factors associated with anger while driving and possible consequential reflection of anger on driving behavior was highlighted: drivers were asked to keep dairies with them for the period of two weeks and also pen down the details such as nearly happened accidents and event on feelings of anger: 100

dairies were investigated, which showed 293 nearly happened accidents and 383 occasions of experiencing anger: mostly anger was reported when there was the traffic congestion, thus it can be concluded that there is the link between number of nearly accidents and the events of anger that were experienced by the drivers (Underwood et al., 1999). These serious issues indicate that there is a strong need for driving psychology and education that can help reverse this trend and change people's driving habits. Drivers need to be taught the moral dimension of driving, which indicates the character we have as a driver: there is the need of research in order to teach drivers to assess their own driving personality as supportive or hostile, rational or impatient, calm or frustrated, error-free or making mistakes, and cooperative or opportunistic: there is also the need for motorists to acknowledge that driving is a social activity that requires coordinated interactions (James, 2017).

6. Conclusion and Suggestions

In this research, aggressive driving behavior was investigated by focusing on the demographics of the respondents. On the same time, the relationship among various constructs i.e. driving anger, driving impatience competing and punishing was found. Results of hypothesis testing (T-test and ANOVA) revealed that there was no significant difference in the driving anger, impatience, competing and punishing behavior of the drivers across both genders: similarly, no difference was found in the aggressive driving behavior among the drivers of various age groups: whereas, the significant difference was found in the punishing behavior of driving across the various groups of driving experience; which demonstrates that drivers (having different driving experience) punish the other drivers with no-equal magnitude aggressive driving: moreover there was no significant difference found in the driving anger, impatience and competing among the drivers across different driving experience. Furthermore, there was no significant difference between the aggressive driving behavior (i.e. driving anger, impatience, competing and punishing) of teachers and students of Mehran UET, Jamshoro. The results of Pearson correlation analysis indicated that the driving anger, driving impatience, competing and punishing were in significant positive relationship with one another: which clearly indicates that on increasing on factor will cause the certain increase in the various factors.

7. Future Work

In this research, drivers were taken the questionnaire samples at offices and canteens but for more precise results, it is suggested that the drivers should be taken the questionnaire samples suddenly after the drive. In this way, the researcher can have the exact response from the side of respondents.

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