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Research Paper

Big Five Personality Traits and Driving Behaviors of Young Indian Drivers

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ABSTRACT

Driving is a skill-based activity irrespective of the country/state one lives. Hence, the skills are directly or indirectly related with the personality traits of the driver. Studies conducted over the past years have examined the function of personality traits and driver behavior in correlation with traffic and accidents across the country. Nevertheless, none of the studies so far have explored the probable moderating role played by age in relation to predictors of accident risk. The purpose of this study is to identify how the personality traits play a vital role in predicting a person's aggressive thoughts while driving which may result in risky driving behavior. NEO-FFI 3 and Driver Behavior Questionnaire (DBQ) questionnaire was used to measure risky driving behavior. A total of 100 samples were collected from. The results showed that from the big 5 personality traits - Openness, Conscientiousness, Extraversion, Agreeableness and Neuroticism; only Conscientiousness, Agreeableness and Neuroticism reflect a low significance whereas Openness and Extraversion shows no significances with the driving behaviors at all.

Keywords: *Behavior, Driving, Extroversion, Introversion, Personality Traits, Risky Driving Behaviors*

Youth, their personality, and their behavior have been the center of discussion on several forums across the world. These forums vary from academic and professional to societal issues. The actions of youth have consequences on the future of society which is why they are considered priceless in terms of their contributions.

The term personality is an easy notion for most of us to comprehend. In simple terms, it's what makes you, you. It includes all the traits, characteristics, likes, dislikes as well as idiosyncrasies that set one apart from everyone else. In psychology research, personality is a little more complex term. The definition of personality can be multifaceted. Also, the way it is defined influences the way it is understood and measured. The American Psychological Association (APA) defines personality as "individual differences in characteristic patterns of thinking, feeling, and behaving" (2017).

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The most widespread personality framework is the Big Five. It is commonly known as the five-factor model of personality. Besides being a highly reliable assessment scale for measuring personality, it also applies to people in many countries and cultures around the world.

Consistently, street mishaps kill a great many individuals everywhere. As indicated by government reports, in 2013 the quantity of mishap setbacks in the India represented 2.3% of the populace (Mais, 2014). Lately, researchers completing scholastic and observational investigations of driving have begun to recognize specific driving practices and propensities, yet additionally styles of driving. With the expectation that this will assist with detaching specific perilous driving styles and address them, analysts have concentrated on drivers and their propensities throughout the previous twenty years. We've conceptualized the four styles of driving by researchers Taubman-Ben-Ari and associates (2012).

Furious driving behavior

The supposed 'irate and threatening way' of driving is portrayed by successive articulations of irrational anger, aggravation and unfriendly practices towards different drivers out and about. Such practices could incorporate reviling, blaring, blazing lights, etc. As per the concentrate by Taubman-Ben-Ari and associates, this driving style was taken on more by men than ladies, particularly by more youthful men. Obviously, everybody blows up out and about, but individuals who display such driving styles are furious in the driver's seat more often than not. Obviously, irate driving is risky not exclusively to different drivers out and about, however for the mental and enthusiastic strength of whoever shows it. Specialists recommend that when the sensation of outrage emerges, you ought to inhale gradually and attempt to quiet yourself down with a decent idea or some loosening up music. If you wind up feeling irate more often than not, try to converse with an expert as this can save you a ton of issues in future.

Wild and thoughtless driving behavior

This driving style is additionally taken on by a larger number of men than ladies and once more, age is a huge indicator – the more seasoned the driver, the more outlandish they are to drive foolishly. Like the furious style, the wild driving style was embraced more by individuals who scored low on the pleasantness and principles character qualities scale (Costa and McCrae, 1997). This style is likely the least secure of every one of the four and it is the fundamental justification for why analysts are contriving tests to gauge each style and accordingly separate hazardous driving gatherings, like youthful teenagers. The careless driving style is ordered by speeding, outrageous rush chasing and purposeful infringement of the driving standards and this is the reason it requires uplifted consideration. Individuals who embrace this style will in general be daring, appreciating hazard and the surge they get from violating the law, which converts into different parts of life. Curiously, a portion of individuals who show it appear to be moderately quiet in different circumstances, which implies that this region needs significantly more exploration.

Restless behavior

As per the review, this style is shown by a bigger number of ladies than men and isn't reliant upon age as much as long stretches of openness to driving; as such, in case you are a lady with minimal driving experience you are probably going to take on this way of driving. It isn't certain whether the little openness causes the reception of the restless style or that individuals who exhibit this style simply decide to drive less overall. At times, this style can likewise be delegated hazardous in light of the fact that the driver is inadequate with regards

to certainty, frequently misconstrues distances and speed of different vehicles and regularly drives incredibly, gradually. Individuals who take on this style will in general view driving as a strained, upsetting experience, which represents a danger to their life, paying little mind to the driving circumstance and setting. Our recommendation is that if you view driving in this way as well and stress unnecessarily, you should converse with somebody you trust or a clinician, who can assist you with conquering this uneasiness.

Cautious behavior

This style is seen more frequently in ladies than in men and more in more established individuals than more youthful. The cautious style is portrayed by thought for others out and about, less rush chasing and a high worth of watchfulness. Individuals who embrace this style will in general be pleasant and warm, faithful, delicate and fit for adapting to uneasiness in a solid manner. By and large, this style is taken on by individuals who don't look for sensation or rush unnecessarily, which converts into quiet and sure driving.

Relation between Driving Behavior and Personality

According to the data provided by World Health Organization [WHO] (2018), it is estimated that around the world 1.25 million people die every year due to road traffic accidents. Many of them incur disabilities. Around 20 to 50 million people are injured each year around the world in road accidents. The data collected from epidemiological studies show that drivers aged 15–44 years account for 48% of road traffic deaths worldwide (World Health Organization [WHO], 2018). The involvement of youth is a matter of concern has led to studies that examine the behavior and traits that lead to such driving behavior.

The behavior of drivers has received special attention in psychological literature and review literature as it symbolizes a key factor that needs to be studied to reduce the risk of car accidents (World Health Organization [WHO], 2018). Being a multifarious activity, driving involves numerous processes which are both cognitive and decisional in nature. Hence, it becomes imperative to understand the individual factors that influence these processes. Driving requires a person to perform multiple mental activities that are many a time accompanied by stress. This stress may be due to work, family life, health, and lifestyle which are a relatively new phenomenon of modern-day life. The cause of concern here is that driving-related stress poses a threat to physical health as well. For young Indian drivers, the environment is quite hostile given the present scenario where there is nothing but lots of congestion, traffic jams, conflicts, and road rage cases.

Dash, Sethi, and Dash (2020) conducted a study on Training, human mistake, and street crash hazard: An empirical investigation in the Indian states and noticed positive relationship between higher education and road accident rates across Indian states, which tells us exceptionally taught individuals are more inclined to street accidents as compared with less instructed individuals. In the edge examination, the review finds the positive connection between street injury and mishaps brought about by individuals with higher education, in instances of considering street injury rate from intoxicated driving as the edge variable. There have all the earmarks of being countless behavioral issues radiating from advanced education, which contributes altogether to the road accident rates in the Indian states.

Yehiel & Ben Ari (2011) studied the relationship between driving styles and the Big-Five-character factors and saw expenses and advantages of driving were inspected to acquire a more complete comprehension of driving styles and the outcomes show that each driving

style is related with a novel arrangement of socio demographic, character, and persuasive components. The crazy and furious styles were both embraced more by men than ladies, by more youthful drivers, and by those showing more significant levels of Extroversion and rush chasing, and lower levels of Agreeableness and Conscientiousness. Nonetheless, while the foolish style was likewise anticipated by the apparent expenses of driving-related trouble, just as higher saw hazard to life among those with advanced education, the irate style was additionally anticipated by view of both control and irritation among more instructed drivers.

The restless style was embraced more by ladies, and by drivers lower on Conscientiousness and higher on Neuroticism. People revealing this style see driving as a reason for trouble and disturbance, and, contingent upon their degree of training, see it as involving more danger to life and as a possible harm to their mental self-view (advanced education), or as giving more freedoms to impression the executives (lower instruction). The cautious driving style was embraced more by ladies, and related with higher Agreeableness, Conscientiousness, and Openness, alongside higher delight (particularly among more youthful drivers), however lower thrill chasing and stresses over harm to confidence.

METHODOLOGY

Sample

The sample consists of 100 young Indian drivers belonging to the age-group of 18-30 years. Snowball sampling technique was used to select the sample. Minimum educational qualification for the sample was passing Senior Secondary level of formal Indian schooling and having a basic understanding of English language for the purpose of comprehending the test items.

- **Inclusion Criteria**: Drivers having an active driving license, frequent drivers, and having driving experience of at least 3 months from the date of issuance of driving license.
- **Exclusion criteria:** People having an active driving license but doesn't drive too often (ex - have a hired driver, commute via public transport, etc.), and drivers with any major disability.

Instruments

Two measures were used in this study,

1. **NEO-five factor inventory–3 (NEO-FFI–3):** The tool utilized in the current review, the NEO-Five-Factor Inventory-3 (NEOTM - FFI-3), is a changed rendition of the NEO-FFI. This questionnaire limited 60-thing instrument 43 is utilized to evaluate the five significant measurements or spaces of character characteristics, in particular, neuroticism, extraversion, transparency, appropriateness and uprightness. The NEO-FFI-3 is reasonable for respondents of long-term age and more established. The 60-items of the NEO-FFI-3 are equally distributed over the personality domains thus 12-items were allocated for each domain. For each item, there is a five-point Likert scale response ranged from 0-4 or from 4-0. The respondents are instructed to fill in the correct box for each item SD if they strongly disagree or the statement is definitely false; D if they disagree or the statement is mostly false; N if they are neutral on the statement, if they cannot decide, or if the statement is about equally true or false; A if they agree or the statement is mostly true, and SA if they strongly agree or the statement is definitely true. The scoring for the items is performed in both directions. For example, where "strongly agree" answer yields a score of "4" for

some items, it results in a score of "0" for others. The total score for the personality domain is the sum of the scores earned for the 12 items of that domain.

2. **Driver behavior questionnaire (DBQ):** The Driver Behavior Questionnaire has 28 Items, including infringement, occupied driving, mistakes, tanked driving, and exhausted driving. Infringement was characterized as a purposeful deviation from the lawful principles or struggle with different drivers, which contained 10 things alluding to the normal and forceful practices counting speeding, running red lights, incessant evolving paths, and strolling through the zebra before common (e.g., “Speeding when not checked; Honk to the driver in front to speed up or give way"). Six things alluded to mistakes, which were intellectual or unpracticed blunders (e.g., "Inability to judge the speed and distance of an approaching vehicle when overwhelming; Fail to actually take a look at the back/side mirror before path evolving"). Redirection of a driver's consideration could either be from sources inside or outer to the vehicle. +is part included 5 things depicting the diverted practices be- reason for inner individual or shrewd gear, including conversing with travelers, calling for somebody, and working in-vehicle frameworks. Things were comparing to the driver's recurrence in falling weariness (e.g., "Every now and again feel drowsy in view of inadequate rest time or higher work pressure when driving; Suddenly awaken in the wake of driving for a long time on the thruway"), and the things chiefly described the weakness reality as a result of lack of sleep, broad driving, and tedious driving climate. Remaining things were characterized as intoxicated driving, and the things were predominantly alluded to driver's disposition toward tanked driving subsequent to drinking (e.g., "Drive in the wake of having a tad bit of liquor when there are no police officers; Drive back even however you might be over the lawful blood-liquor limit"). For everything, drivers were approached to pick one size of the recurrence about unusual practices depicted, and the five-point scale was going from "1 never" to "5 virtually all the time".

Procedure

Data collection was done online over a period of one month. The participants were recruited online and the responses were collected through Google forms. After the completion of data collection process, the responses were scored, synthesized, and then collectively analyzed through SPSS v22.

Descriptive data relationships were identified and studied, and the variables were naturally analyzed and not manipulated. Strength of the linear association between studies variables were measured using Pearson product-moment correlation coefficient.

RESULTS

Table 1. Correlations between openness and driving behaviors.

		Openness	Violations	Distracted driving	Errors	Drunk driving	Fatigue driving
Openness	Pearson’s correlation	1	.087	.153	.127	.139	.052
	Sig. (2-tailed)		.389	.128	.209	.166	.605
	N	100	100	100	100	100	100
Violations	Pearson’s correlation	.087	1	.638**	.349**	.375**	.402**
	Sig. (2-tailed)	.389		<.001	<.001	<.001	<.001

		Openness	Violations	Distracted driving	Errors	Drunk driving	Fatigue driving
	N	100	100	100	100	100	100
Distracted driving	Pearson's correlation	.153	.638**	1	.257**	.384**	.379**
	Sig. (2-tailed)	.128	<.001		.010	<.001	<.001
	N	100	100	100	100	100	100
Errors	Pearson's correlation	.127	.349**	.257**	1	.221**	.621**
	Sig. (2-tailed)	.209	<.001	.010		.027	<.001
	N	100	100	100	100	100	100
Drunk driving	Pearson's correlation	.139	.375**	.384**	.221*	1	.254*
	Sig. (2-tailed)	.166	<.001	<.001	.027		.011
	N	100	100	100	100	100	100
Fatigue driving	Pearson's correlation	.052	.402**	.379**	.621**	.254*	1
	Sig. (2-tailed)	.605	<.001	<.001	<.001	.011	
	N	100	100	100	100	100	100

Openness and violations have negligible correlation as r = 0.087. Openness and distracted driving have a very low positive correlation as r = 0.153. Openness and errors have a very low positive correlation as r = 0.127. Openness and drunk driving have very low positive correlation as r = 0.139. Openness and fatigue driving have negligible correlation as r = 0.052.

Table 2. Correlations between conscientiousness and driving behaviors.

		Conscientiousness	Violations	Distracted driving	Errors	Drunk driving	Fatigue driving
Conscientiousness	Pearson's correlation	1	.334**	.238*	.318**	.189	.254*
	Sig. (2-tailed)		<.001	.017	.001	.060	.011
	N	100	100	100	100	100	100
Violations	Pearson's correlation	.334**	1	.638**	.349**	.375**	.402**
	Sig. (2-tailed)	<.001		<.001	<.001	<.001	<.001
	N	100	100	100	100	100	100
Distracted driving	Pearson's correlation	.238*	.638*	1	.257**	.384**	.379**
	Sig. (2-tailed)	.017	<.001		.010	<.001	<.001
	N	100	100	100	100	100	100
Errors	Pearson's correlation	.318**	.349**	.257**	1	.221*	.621**
	Sig. (2-tailed)	.001	<.001	.010		.027	<.001
	N	100	100	100	100	100	100
Drunk driving	Pearson's correlation	.189	.375**	.384**	.221*	1	.254*
	Sig. (2-tailed)	.060	<.001	<.001	.027		.011
	N	100	100	100	100	100	100
Fatigue driving	Pearson's correlation	.254*	.402**	.379**	.621**	.254*	1
	Sig. (2-tailed)	.011	<.001	<.001	<.001	.011	
	N	100	100	100	100	100	100

Conscientiousness and violations have low positive correlation as r = 0.334. Conscientiousness and distracted driving have a very low positive correlation as r = 0.238. Conscientiousness and errors have a low positive correlation as r = 0.318. Conscientiousness and drunk driving have a very low positive correlation as r = 0.189. Conscientiousness and fatigue driving have a very low positive correlation as r = 0.254.

Table 3. Correlations between extraversion and driving behaviors.

		Extraversion	**Violations**	**Distracted driving**	**Errors**	**Drunk driving**	**Fatigue driving**
Extraversion	Pearson's correlation	1	-.045	-.111	.140	.026	.124
	Sig. (2-tailed)		.653	.273	.165	.796	.220
	N	100	100	100	100	100	100
Violations	Pearson's correlation	-.045	1	.638**	.349**	.375**	.402**
	Sig. (2-tailed)	.653		<.001	<.001	<.001	<.001
	N	100	100	100	100	100	100
Distracted driving	Pearson's correlation	-.111	.638**	1	.257**	.384**	.379**
	Sig. (2-tailed)	.273	<.001		.010	<.001	<.001
	N	100	100	100	100	100	100
Errors	Pearson's correlation	.140	.349**	.257**	1	.221*	.621**
	Sig. (2-tailed)	.165	<.001	.010		.027	<.001
	N	100	100	100	100	100	100
Drunk driving	Pearson's correlation	.026	.375**	.384**	.221*	1	.254*
	Sig. (2-tailed)	.796	<.001	<.001	.027		.011
	N	100	100	100	100	100	100
Fatigue driving	Pearson's correlation	.124	.402**	.379**	.621**	.254*	1
	Sig. (2-tailed)	.220	<.001	<.001	<.001	.011	
	N	100	100	100	100	100	100

Extraversion and violations have low negative correlation as r = –0.045. Extraversion and distracted driving have a very low negative correlation as r = –0.111. Extraversion and errors have a low positive correlation as r = 0.140. Extraversion and drunk driving have a very low positive correlation as r = 0.026. Extraversion and fatigue driving have a very low positive correlation as r = 0.124.

Table 4. Correlations between agreeableness and driving behaviors.

		Agreeableness	**Violations**	**Distracted driving**	**Errors**	**Drunk driving**	**Fatigue driving**
Agreeableness	Pearson's correlation	1	.058	-.049	.273**	.218*	.280**
	Sig. (2-tailed)		.569	.630	.006	.030	.005
	N	100	100	100	100	100	100
Violations	Pearson's correlation	.058	1	.638**	.349**	.375**	.402**
	Sig. (2-tailed)	.569		<.001	<.001	<.001	<.001
	N	100	100	100	100	100	100
Distracted driving	Pearson's correlation	-.049	.638**	1	.257**	.384**	.379**
	Sig. (2-tailed)	.630	<.001		.010	<.001	<.001
	N	100	100	100	100	100	100
Errors	Pearson's	.273**	.349**	.257**	1	.221*	.621**

		Agreeableness	Violations	Distracted driving	Errors	Drunk driving	Fatigue driving
	correlation						
	Sig. (2-tailed)	.006	<.001	.010		.027	<.001
	N	100	100	100	100	100	100
Drunk driving	Pearson's correlation	.218*	.375**	.384**	.221*	1	.254*
	Sig. (2-tailed)	.030	<.001	<.001	.027		.011
	N	100	100	100	100	100	100
Fatigue driving	Pearson's correlation	.280**	.402**	.379**	.621**	.254*	1
	Sig. (2-tailed)	.005	<.001	<.001	<.001	.011	
	N	100	100	100	100	100	100

Agreeableness and violations have a very low positive correlation as r = 0.058. Agreeableness and distracted driving have a very low negative correlation as r = –0.049. Agreeableness and errors have a low positive correlation as r = 0.273. Agreeableness and drunk driving have a low positive correlation as r = 0.218. Agreeableness and fatigue driving have a low positive correlation as r = 0.280.

Table 5. Correlations between neuroticism and driving behaviors.

		Neuroticism	Violations	Distracted driving	Errors	Drunk driving	Fatigue driving
Neuroticism	Pearson's correlation	1	-.092	-.074	.293**	-.023	-.246*
	Sig. (2-tailed)		.363	.467	.003	.822	.014
	N	100	100	100	100	100	100
Violations	Pearson's correlation	-.092	1	.638**	.349**	.375**	.402**
	Sig. (2-tailed)	.363		<.001	<.001	<.001	<.001
	N	100	100	100	100	100	100
Distracted driving	Pearson's correlation	-.074	.638**	1	.257**	.384**	.379**
	Sig. (2-tailed)	.467	<.001		.010	<.001	<.001
	N	100	100	100	100	100	100
Errors	Pearson's correlation	-.293**	.349**	.257**	1	.221*	.621**
	Sig. (2-tailed)	.003	<.001	.010		.027	<.001
	N	100	100	100	100	100	100
Drunk driving	Pearson's correlation	-.023	.375**	.384**	.221*	1	.254*
	Sig. (2-tailed)	.822	<.001	<.001	.027		.011
	N	100	100	100	100	100	100
Fatigue driving	Pearson's correlation	-.246*	.402**	.379**	.621**	.254*	1
	Sig. (2-tailed)	.014	<.001	<.001	<.001	.011	
	N	100	100	100	100	100	100

Neuroticism and violations have a very low negative correlation as r = –0.092. Neuroticism and distracted driving have a very low negative correlation as r = –0.074. Neuroticism and

errors have a low negative correlation as r = –0.293. Neuroticism and drunk driving have a low positive correlation as r = 0.023. Neuroticism and fatigue driving have a low negative correlation as r = –0.249.

Table 6. Multivariate linear regression of violations with neuroticism, agreeableness, and conscientiousness.

Model	R^2= .116	F=4.185	β	Std. Error	t	Sig.
Conscientiousness	.035	7.033	1.053	.100	.523	.596
Agreeableness	.274	73.319	-.067	.178	.375	.708
Neuroticism	.110	23.904	.413	.122	3.388	.001

The hypothesis is that violations can be predicted by the Personality traits, i.e., neuroticism, agreeableness, and conscientiousness. The results show a significant effect on violations ($F = 4.185$, $p < 0.008$) with $R^2 = 0.116$ suggesting that 11.6% of the variation is predicted by the listed factors.

Table 7. Multivariate linear regression of errors with neuroticism, agreeableness, and conscientiousness.

Model	R^2= .160	F=6.116	β	Std. Error	t	Sig.
Conscientiousness	.035	7.033	-.093	.056	-1.655	.101
Agreeableness	.274	73.319	1.82	.100	1.820	.072
Neuroticism	.110	23.904	.068	.068	1.813	.073

The hypothesis is that errors can be predicted by the Personality traits, i.e., neuroticism, agreeableness, and conscientiousness. The results show a significant effect on errors ($F = 6.116$, $p < 0.001$) with $R^2 = 0.160$ suggesting that 16% of the variation is predicted by the listed factors.

Table 8. Multivariate linear regression of drunk driving with neuroticism, agreeableness, and conscientiousness.

Model	R2= .071	F=2.459	β	Std. Error	t	Sig.
Conscientiousness	.035	7.033	.045	.053	.842	.402
Agreeableness	.274	73.319	.170	.094	1.806	.074
Neuroticism	.110	23.904	.100	.064	1.555	.123

The hypothesis is that drunk driving can be predicted by the Personality traits, i.e., neuroticism, agreeableness, and conscientiousness. The results show a significant effect on drunk driving ($F = 2.459$, $p > 0.001$) with $R^2 = 0.71$ suggesting that 7.1% of the variation is predicted by the listed factors.

Table 9. Multivariate linear regression of distracted driving with neuroticism, agreeableness, and conscientiousness.

Model	R2= .072	F=2.487	β	Std. Error	t	Sig.
Conscientiousness	.035	7.033	.009	.054	.173	.863
Agreeableness	.274	73.319	-.118	.094	-1.232	.221
Neuroticism	.110	23.904	.166	.065	2.538	.013

The hypothesis is that distracted driving can be predicted by the Personality traits, i.e., neuroticism, agreeableness, and conscientiousness. The results show a significant effect on distracted driving ($F = 2.487$, $p > 0.05$) with $R^2 = 0.72$ suggesting that 7.2% of the variation is predicted by the listed factors.

Table 10. Multivariate linear regression of fatigue driving with neuroticism, agreeableness, and conscientiousness.

Model	R2= .127	F=4.675	β	Std. Error	t	Sig.
Conscientiousness	.035	7.033	-.041	.030	-1.355	.178
Agreeableness	.274	73.319	.111	.053	2.090	.039
Neuroticism	.110	23.904	.044	.036	1.220	.226

The hypothesis is that fatigue driving can be predicted by the Personality traits, i.e., neuroticism, agreeableness, and conscientiousness. The results show a significant effect on fatigue driving ($F = 4.675$, $p < 0.001$) with $R^2 = 0.127$ suggesting that 12.7% of the variation is predicted by the listed factors.

DISCUSSION

India is probably one of the most active and busiest countries in the world in terms of road traffic. The auto business across the south Asian nation turned into the fourth biggest on the planet in 2017. In 2019, there were right around 3,000,000 new vehicle enrollments in the country. The Indian Road network, crossing more than 5,000,000 kilometers, conveyed very nearly 90% of the country's traveler traffic and around 65% of the products. With the quick expansion in the quantity of vehicles and the pitilessly clogged Indian streets, street security has transformed into an element of most extreme significance for the nation's residents.

Mishaps on street have turned into a central issue for individuals just as the public authority. Around three to five percent of the GDP resources were put into road accidents every year. India generally represents pretty much one percent of the worldwide vehicle population. Notwithstanding, it represented around six percent of the total accidents that take place worldwide. In 2018, there were around 151 thousand deaths because of road accidents in India. One of the contributing variables could be the steadily expanding vehicle populace. Somewhat recently, the road network across the nation grew over by about 33% of its unique length. Vehicle registrations on the contrary, increased by almost three times. Most of the accidents included bikes, which dominate the Indian auto industry as far as creation and deals. Over-speeding was one more huge reason behind road accidents in India. Driving under liquor influence, hit and run cases, and general traffic violations brought about very nearly 80% of the accidents being the driver's issue. Citizens if age range, somewhere in 18 and 45 years were associated with around 70% of the road accidents.

Absence of appropriate framework for vehicles just as pedestrians has probably caused a spike in road accidents across India. The capital city of India, Delhi revealed the largest number of deaths across the significant urban communities, at roughly 1.4 thousand out of 2018. Pedestrians in the capital locale were the main victims of street accidents that year. Considerable measures were enforced by the Delhi Traffic Police to check down traffic occurrences. More than 141 thousand on-the-spot arraignments were made by the police for over-speeding. The largest number of petty criminal offenses and arraignment slips were given to bike riders in the capital. Motor vehicle protection is one of the ways for the casualties to be redressed. Under the Motor Vehicle Act of 1988, outsider protection was made necessary for every engine vehicle. The insurance has limitless liability coverage and the premium amounts were determined by courts dependent on casualty's age and monetary profit. Somewhere in the range of 2009 and 2014, there was an increment of around 250% in the outsider protection acquired premium. To additionally lessen harm to lives, the fine for speeding was expanded by multiple times under the new Motor Vehicles Act of 2019. The fines for drunk driving were additionally raised. Changes were introduced to facilitate for

detainment for unlawful road racing was additionally presented by the law. Severe implementation of these laws, be that as it may, will probably be a vital component in relieving the street mishap cases across India. Appropriate driver preparing and careful preparation of the quickly developing street organizations could likewise be key elements towards further developing street wellbeing in India.

The above-mentioned stats and findings reflect the ongoing problems and issues experienced in India, under the context of road traffic safety and it further tried to enhance our understanding of practical measures to counter act the physical and very much existent problems with practical and realist solution-oriented approaches. But not everything that causes road accidents, are entirely manifestation of driving in bad faith, under influence of alcohol, negligence of traffic safety rules or such, instead they often appear to exist due to psychological aspects that cloud an individuals' rational thinking and imprisons the thoughts to certain behaviors and actions that increase the possibility, range and damage of road accidents. The psychological aspects explored in this study, to address driver behavior and road accidents are personality traits.

Personality is the remarkable blend of our Behavior, thought, inspiration, and feelings in us as an individual which define us. Many researches in Psychology directed towards personality to be having 5 general continuum which gave Big 5 Personality trait theory of personality which was given by D.W. Fiske in 1949 which was later expanded by the works of many other researchers such Norman & smith in 1967, Goldberg in 1981 and later by McCrae & Costa in 1987, the first official review in year 1930 given by Gordon Allport and Henry Odbert which gave personality a scientific affirmation. The large 5 are still broadly utilized today as the premise of worldwide review. Over the past decades many factors were founded to be influencing Big 5 traits of personality from nature and nurture to age and maturation where we can analyze what impacts their effect on an individual's conduct and character. Character has frequently been theorized as an issue of sustain or nature. One specific review took a gander at 123 sets of indistinguishable twins and 127 sets of congenial twins. "The discoveries recommended that the heritability of every characteristic was 53% for extraversion, 41% for Agreeableness, 44% for Conscientiousness, 41% for neuroticism, and 61 percent for openness."

The outcomes show that character attributes have impact on driving styles. All the more explicitly, unsafe style was emphatically anticipated by transparency, and adversely anticipated by scruples and pleasantness. The findings related to the analysis of collected data, provided relevant details and insights, and to test the hypothesis, for all the variables of the study. To calculate the result, Statistical Package for The Social Sciences (SPSS), was used, and various functions like frequency distribution, correlation, multiple linear regression and such were run over and over again, to derive relevant information, to add on to this study. Openness is a characteristic that includes imagination and insight, eagerness to learn and experience new things is particularly high for this personality trait. It leads to having a broad range of interests and being more adventurous when it comes to decision making. Creativity also plays a big part in the openness trait; this leads to a greater comfort zone when it comes to abstract and lateral thinking. Violations refer to deliberate failure to obey traffic rules or honk behaviors toward others, such as "speeding, crossing the red light, risk overtaking, and honking others to go faster". Openness and violations have negligible correlation which states that people who are open to experience refers to one's willingness to try new things as well as engage in imaginative and intellectual activities tend to be patient and obey rules and do not honk constantly and also keep in mind the road safety. Anything

that takes your attention away from driving can be a distraction. Sending a text message, talking on a cell phone, using a navigation system, and eating while driving are a few examples of distracted driving. Any of these distractions can endanger you, your passengers, and others on the road. Openness and distracted driving have a very low positive correlation. Errors refer to the failure to achieve planned behavior due to cognitive judgment, Openness and errors have a very low positive correlation. Alcohol's sedating effects impair a driver's decision-making skills and coordination. An impaired driver lacks the ability to quickly and decisively avoid an accident or even perform routine driving maneuvers. Drunk drivers endanger themselves and everyone on the road, increasing the risk of automobile crashes and deaths. Openness and drunk driving have very low positive correlation. Fatigue is one of the most common dangers to road safety and poses a number of risks to drivers as well as passengers and pedestrians on the road. Fatigue means that drivers have less time to react to hazards because their focus and concentration is impaired. Openness and fatigue driving have negligible correlation. As displayed in the figure 1, the correlation between openness and driving behaviors, through Pearson Correlation, the Pearson product moment correlation, reflects that Openness happens to have negligible or no correlation at all, which is suggestive of a conclusion that the 5-factor personality trait – Openness has no significant relation with driver behaviors – violations with r = 0.087, distracted behaviors r = 0.153, errors r = 0.127, drunk driving r = 0.139, fatigue driving r = 0.052.

Conscientiousness is a trait that includes high levels of thoughtfulness, good impulse control, and goal-directed behaviors. A highly conscientious person will regularly plan ahead and analyses their own behavior to see how it affects others. People low in conscientiousness tend to dislike structure and schedules, procrastinate on important tasks and fail to complete tasks as well. Conscientiousness and violations have low positive correlation, Distracted driving also have a very low positive correlation. Conscientiousness and errors have a low positive correlation. Conscientiousness and drunk driving have a very low positive correlation. Conscientiousness and fatigue driving have a very low positive correlation. As displayed in the figure 2, the correlation between Conscientiousness and driving behaviors, through Pearson Correlation, the Pearson product moment correlation, reflects that Conscientiousness happens to have negligible or no correlation at all, which is suggestive of the a conclusion that the 5 factor personality trait – Conscientiousness has no significant relation with driver behaviors – violations with r = 0.334, distracted behaviors r = 0.238, errors r = 0.318, drunk driving r = 0.189, fatigue driving r = 0.254.

Extraversion (sometimes referred to as Extroversion) is a trait that many will have come across in their own lives. It's easily identifiable and widely recognizable as "someone who gets energized in the company of others."

This, amongst other traits which include, talkativeness, assertiveness and high amounts of emotional expressiveness, have made extraverted people widely recognizable over many years of social interaction. Extraversion and violations have low negative correlation. Extraversion and distracted driving have a very low negative correlation. Extraversion and errors have a low positive correlation. Extraversion and drunk driving have a very low positive correlation. Extraversion and fatigue driving have a very low positive correlation. As displayed in the figure 3, the correlation between Extraversion and driving behaviors, through Pearson Correlation, the Pearson product moment correlation, reflects that Extraversion happens to have low, yet noticeable positive correlation with errors r = 0.140, drunk driving r = 0.026, fatigue driving r = 0.124, and negative correlation with violations

with r = - 0.045, distracted behaviors r = -0.111, which is suggestive of the a conclusion that the 5 factor personality trait – Extroversion has significant relation with driver behaviors.

People who exhibit high agreeableness will show signs of trust, altruism, kindness, and affection. Highly agreeable people tend to have high prosocial behaviors which means that they're more inclined to be helping other people. Agreeableness and violations have a very low positive correlation. Agreeableness and distracted driving have a very low negative correlation. Agreeableness and errors have a low positive correlation. Agreeableness and drunk driving have a low positive correlation. Agreeableness and fatigue driving have a low positive correlation. As displayed in the figure 4, the correlation between Agreeableness and driving behaviors, through Pearson Correlation, the Pearson product moment correlation, reflects that Agreeableness happens to have low, yet noticeable negative correlation with Distracted Driving r = -0.049, and positive correlation with violations with r = 0.058, , errors r = 0.273, drunk driving r = 0.218, fatigue driving r = 0.280, which is suggestive of the a conclusion that the 5 factor personality trait – Agreeableness has significant relation with driver behaviors.

Neuroticism is characterized by sadness, moodiness, and emotional instability. Often mistaken for anti-social behavior, or worse a greater psychological issue, neuroticism is a physical and emotional response to stress and perceived threats in someone's daily life. Neuroticism and violations have a very low negative correlation. Neuroticism and distracted driving have a very low negative correlation. Neuroticism and errors have a low negative correlation. Neuroticism and drunk driving have a low positive correlation. Neuroticism and fatigue driving have a low negative correlation. As displayed in the figure 5, the correlation between Neuroticism and driving behaviors, through Pearson Correlation, the Pearson product moment correlation, reflects that Neuroticism happens to have low, yet noticeable negative correlation with Distracted Driving r = -0.074, violations with r = 0.092, errors r = 0.293 and positive correlation with drunk driving r = 0.023, fatigue driving r = -0.249, which is suggestive of the a conclusion that the 5 factor personality trait – Neuroticism has significant relation with driver behaviors.

Moreover, controlling for characters, the driving style additionally had some impact on driving practices and driving results. Concerning driving conduct, the outcomes show that the dangerous style had constructive outcome on every one of the driving practices of DBQ with the exception of positive conduct. The furious and high-speed style had constructive outcome on standard and forceful conduct. The cautious driving style could emphatically effect on sure driving conduct, and conversely impact on normal and blunder conduct. The restless style could emphatically foresee mistake and slip by conduct. The connection between driving styles and driving results are additionally investigated. The outcomes show that restless style could anticipate fines contrarily, and cautious style have adverse consequence on punishment focuses.

To test the hypothesis from H6 to H10, Multiple linear regression was used, to derive relevant findings. Through the process, 3 personality traits, i.e., Neuroticism, Agreeableness and Conscientiousness were kept as independent variables, and all 5 driving behaviors, i.e., Violations, Errors, Drunk Driving, Distracted Driving, and Fatigue Driving; were run across independent variables and kept as dependent variables.

As displayed in figure 6, where Neuroticism, Agreeableness and Conscientiousness are kept as independent variable, and "Violations" is kept as dependent variable. The findings

suggested a significant effect on violations due to the personality traits, where variation is predicted at 11.6%. So, violations can be predicted by personality traits.

As displayed in figure 7, where Neuroticism, Agreeableness and Conscientiousness are kept as independent variable, and "Errors" is kept as dependent variable. The findings suggested a significant effect on errors due to the personality traits, where variation is predicted at 16%. So, errors can be predicted by personality traits, and provide with best result as compared to the rest.

As displayed in figure 8, where Neuroticism, Agreeableness and Conscientiousness are kept as independent variable and "Drunk Driving" is kept as dependent variable. The findings suggested a significant effect on drunk driving due to the personality traits, where variation is predicted at 7.1%. So, drunk driving cannot be predicted by personality traits.

As displayed in figure 9, where Neuroticism, Agreeableness and Conscientiousness are kept as independent variable and "Distracted Driving" is kept as dependent variable. The findings suggested a significant effect on distracted driving due to the personality traits, where variation is predicted at 7.2%. So, distracted driving cannot be predicted by personality traits.

As displayed in figure 10, where Neuroticism, Agreeableness and Conscientiousness are kept as independent variable and "Fatigue Driving" is kept as dependent variable. The findings suggested a significant effect on fatigue driving due to the personality traits, where variation is predicted at 12.7%. So, fatigue driving can be predicted by personality traits.

The other two personality traits, i.e., Openness and Extraversion were not used in multiple linear regression along with other personality traits, because they failed to provide significant correlation. The findings of the study suggest that, Agreeableness, Neuroticism, and Conscientiousness, have a scientifically significant relevance with respect to driving behaviors, and that Agreeableness, Neuroticism and Conscientiousness happen to successfully predict driving behaviors like violations, errors and fatigue driving, and fail to predict drunk driving and distracted driving, which could possibly due to various other factors and variables, not considered in the current study.

REFERENCES

Adavikottu, A., & Velaga, N. R. (2021). Analysis of factors influencing aggressive driver behavior and crash involvement. *Traffic Injury Prevention*.

Dash, D. P., Sethi, N., & Dash, A. K. (2020). Education, human error, and road crash risk: An empirical investigation in the Indian states. *J Public Affairs*.

Hussain, B., Sato, H., Miwa, T., & Morikawa, T. (2020). Influence of personality traits on aberrant driving behaviors: A comparison of Japanese, Chinese, and Vietnamese drivers. *Journal of safety research*, 178-188.

Lazuras, L., Rowe, R., Poulter, D. R., & Ypsilanti, A. (2019). Impulsive and Self-Regulatory Processes in Risky Driving Among Young People: A Dual Process Model.

Lucidi, F., allia, L., Lazuras, L., & Violani, C. (2014). Personality and attitudes as predictors of risky driving among older drivers.

Elsevier. Marengo, D., Settanni, M., & Vidotto, G. (2012). Drivers' subtypes in a sample of Italian adolescents: Relationship between personality measures and driving behaviors. *Transportation Research Part 15*, 480-490.

Miller, G., & Ben Ari, O. T. (2021, 10). Driving styles among young novice drivers--the contribution of parental driving styles and personal characteristics. *National Center for Biotectnology Information*, 558–570.

Mohanmed, D., & Loth, B. (2015). Dimensions of aberrant driving behaviours in Tunisia: identifying the relation between Driver. *International Journal of Injury Control and Safety Promotion*.

Rosli, N. H., Mohd Rani, N. F., Mustaffa, S. H., & Hanan, S. A. (n.d.). Effect of Human Factors on Driver. Road safety: factors influencing young driver behaviour among UUM students.

Rosli, N. S., Yunus, J. M., & Hanan, S. A. (2018). Towards Safety Driving: How Neuroticism Affects Malaysian Driver Behaviour. *Asian Journal of Business and Management*, 06– Issue 01, February 2018.

Shao, H. P., Yu, W.-h., & Wang, Q.-L. (2020). Aberrant Driving Behaviours on Risk Involvement among Drivers in China. *Journal of Advanced Transportation*, Volume 2020, Article ID 8878711, 8 pages.

Skvirsky, V., Ben Ari, O. T., Greenbury, T. J., & Prato, C. G. (2017). Contributors to young drivers' driving styles - A comparison between Israel and Queensland. *Accident; analysis and prevention*, 47–54.

Totkova, Z. (2020). Interconnection Between Driving Style, Traffic Locus of Control, and Impulsivity in Bulgarian Drivers. *Behav Sci (Basel)*.

Wang, Y., Qu, W., Ge, Y., Sun, X., & Zhang, K. (2018). Effect of personality traits on driving style: Psychometric adaption of the multidimensional driving style inventory in a Chinese sample.

Yadav, A. K., & Velaga, N. R. (2020). Investigating the effects of driving environment and driver characteristics on drivers' compliance with speed limits. *Traffic Injury Prevention*, 201-206.

Yehiel, D., & Ben Ari, O. T. (2011). Driving styles and their associations with personality and motivation.

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Conflict of Interest

The author(s) declared no conflict of interest.

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