Impulsivity in Bus and Auto Drivers: A Comparative Psychosocial Probe

Dr.RAMACHANDRA C G

[1]Ex- student Department of Applied Psychology, Kazi Nazrul University

[2]Assistant Professor, Department of Applied Psychology, Kazi Nazrul University

[3]Lecturer, Department of Psychology, Jogamaya Devi College, University of Calcutta

Abstract

In every 25 second an individual dies due to road accidents according to World Health Organisation. Here the question arises what is the reason behind such massive deadly incidents? Is it the situational factors or the drivers, i.e., RTA (Registrar and Transfer Agents), rather the personality traits of those individuals. Hence, the present study aims to find out the personality pattern of the auto and bus drivers. For the present study 50 male participants were selected on the basis of purposive sampling method, among them 25 were bus drivers and 25 auto drivers. Barratt Impulsiveness Scale (Revised) (Barratt, 1995) was administered on them. The result reveals that auto drivers scored significantly higher on impulsivity compared to the bus drivers. There were significant differences found between two groups according to socio-economic variables as well.

Keywords: road accidents, personality traits, impulsivity, BIS30

The passenger road transport sector plays a very important role in economic development as it serves two purposes to provide for the movement of people from one place to another and creates employment. Although in recent years the app-based taxi service was in high demand, still buses (state buses, minibuses and private buses) and auto-rickshaws are an integral part of Intermediate Public Transport (IPT). In West Bengal IPT is often seen as a end-to-end support for miles, buses and auto-rickshaws are considered major means of transporting the public into a common, inexpensive, safe and inclusive city. Very few studies have been found to address the determinants of severity of accidents, especially in West Bengal where total number of RTI cases was 120,585 with death rate being 9.1% from January to December 2014 (Ingole, 2015). Asansol is considered to be the West Bengal industrial hub well connected by bus and train but the main modes for IPT are minibuses and auto rickshaws. However, it is not possible to carry out the task of transporting passengers successfully without due regard for the safety of passengers, and the driver is primarily responsible for the safety of passengers and other road users. On the other hand, without the active involvement of motorists and bus drivers in their work, it is impossible to ensure the safety and security of passengers and other road users while, on the other hand if motorists and bus drivers see their working conditions as poor and unsatisfactory it may be difficult to encourage them to participate. . The physical level of well-constructed vehicles or roads may appear to be insignificant if the driver fails to perform his duties carefully due to the presence of certain physical or mental stress.

A latest screening of real RTC data explored that 90% of road accidents occurred where behavioral aspect of drivers was the key risk factor (Dingus et al., 2016). Moreover, findings of a latest meta-analysis (de Winter et al., 2015) suggest that the self-reported violations and errors are associated with self-reported road accidents. Other researches dug into the details of

behaviors of drivers and found that trait impulsivity plays a vital role in provoking aggressive driving. Impulsivity turns a person susceptible to environmental triggers and as a result pushes that person to take immediate action and gratification without much thinking about the long term consequences and rewards (Moeller et al., 2001). Three factor model of Barratt explains trait impulsivity as a resultant of three major aspects: greater motor activation (motor impulsivity); less attention to the task at hand (attention impulsivity); and a reduced ability to plan actions (non-planning impulsivity) (Stanford et al., 2009).

Studies specific to Indian context

Gowda et al. (2016) conducted a study on 200 truck drivers of the Bengaluru-Mysuru highway. Data were collected using a personal data interview schedule related to socioeconomic variability and a generalized personality collection to assess personality traits. Out of 200, 126 drivers reported numerous road accident histories Drivers with a history of road accidents were found to be very high in experience openness and emotional instability / neuroticism. The authors conclude that personality plays a key role in exposing risks. In order to maintain the safety of passengers and to prevent accidents proper testing is required prior to the granting of a driver's license to an individual.

Mangalam et al. (2013) investigated the personal relationship of risk perception among 50 auto rickshaw drivers in the town of Ranchi. The sample was randomly selected and tested using the Hindi version of Cattell’s 16 Personality Factors (16-PF) Questionnaire. There has been a negative correlation of the occurrence of risk with 16-PF factors such as thinking, law enforcement, fear and emotional stability. Personality traits with low levels of thinking, law

enforcement, fear and emotional stability are common in high-risk commercial auto-rickshaw drivers.

In a study conducted by Najeeb (2017) out of 500 drivers of various public transport vehicles reported human factors contributing to almost 90% of road accidents. Age, experience, emotional pursuit, hostility and speeding have been reported to contribute to aggressive driver behavior.

Studies examining the sociodemographic status and personality of drivers are very rare in the Indian context and to our knowledge there have been no reported studies in West Bengal so far, especially with regard to bus drivers and truckers. As buses and auto rickshaws have become intermediate public transports in West Bengal, the safety and security of passengers is of paramount importance and as reported in the studies the social characteristics and personality of the drivers play a major role in road accidents.

The purpose of this study is therefore to investigate the differences in sociodemographic factors and impulsiveness of bus and auto drivers of Asansol city.

Method

A cross sectional research design was followed to collect data from the participants. A total sample of 50 individuals were selected randomly from the list provided by the Secretaries of bus and auto rickshaw association of Asansol Municipal Corporation for the present study (n_1= 25 individuals who are bus drivers and n_2= 25 individuals who are auto drivers). Proposal was placed before the departmental committee for ethical consideration and approval. It was approved by the departmental committee considering feasibility and ethical issues. Upon entering the interview room, the researcher introduced herself, university affiliation and gave a brief overview of the study. Participants who expressed interest in participating were then

presented with the consent form and the study was explained in greater detail, including the purpose of the study and the procedure. During this time, the participant was given limited time to ask questions and decide whether or not to participate. Only when verbal and written consent were given, the participants were approached for data collection. Firstly the data was collected from the auto drivers. The BIS (Revised) was administered. The data of the bus drivers were taken following the same procedure. The data were then coded; scored and appropriate statistical analyses were done using SPSS 16.0.

Results

The distribution of the data was analysed by Kolmogorov-Smirnov Test and the distribution was found to be normal. Descriptive statistics of frequencies and percentages (for categorical variables) and mean and standard deviations were calculated for the continuous variables. The difference between the categorical variables were done using Chi Square test and the mean differences were calculated using student's t-test.

Table 1

Socio demographic details of auto drivers and bus drivers

Variables		Group		X^2	P
		Auto drivers	Bus drivers		
		F (%)	F (%)		
Sex	Male	25 (100%)	25 (100%)	0.000	1.000
	Female	0 (0%)	0 (0%)		
Marital status	Married	16(64%)	23(92%)	5.71	0.017*
	Unmarried	9(36%)	2(8%)		
History of road traffic accidents	Present	13(52%)	4(16%)	7.219	007**
	Absent	12(48%)	21(84%)		

Variables		Group		X^2	P
		Auto drivers	Bus drivers		
		F(%)	F(%)		
Habits or addictions	Present	21(84%)	19(76%)	0.274	0.873
	Absent	4(16%)	6(24%)		

Note: *=p<0.05; **=p<0.01

Discussion

The main aim of the study was to investigate the factors of impulsivity associated with driving and further to investigate the difference in the impulsiveness of the drivers of the two most important and available public road transports of West Bengal.

Discussion of the Socio-demographic Characteristics

Results indicate the bus drivers group had been found to have more married participants than the auto drivers and the auto drivers have been found to have greater history of road traffic accidents as compared to that of the auto drivers. Both the group had shown proneness towards addictions as there were no significant differences between the two groups. Results also indicate that the bus drivers were more aged and experienced whereas the auto drivers had greater education and income. Previous researches have shown that younger people had (age range 18-24 years) three times more accident histories as compared to the older people. Here the auto drivers had greater accident histories and were also younger than the bus drivers (Yagil, 2001), it was also reported in another study (Vanlaar et al., 2008) that male and younger drivers are more likely to behave aggressively in traffic. Another study clearly found that male-drivers scored significantly higher on aggressive driving scale (Perepjolkina & Renge, 2011). The bus drivers were older in age and experience as compared to the auto drivers which indicates that they were more experienced in life as well so greater number of them were married. Another thing that

needs to be taken into consideration is that the buses drivers carry responsibility of lot of people as compared to the auto drivers so that might be a reason for lower accident records. Previously it was found that the truck drivers had greater accident records when compared to bus or public transport drivers (Lajunen & Parker, 2001). The auto drivers were more educated than the bus drivers and earned more than them. In the current socio-political context it is very evident that unemployment is a major problem in India and West Bengal, the young people prefer to engage in some work than no work so they have taken up driving auto which is also a self-employment. Another thing is that the bus drivers have fixed salaries, fixed fares, fixed timings and fixed routes where as the auto drivers in the current city have no fixed routes, fares or timings so they tend to earn far more than the bus drivers. The earlier studies (Harris & Knight-Bohnhoff, 1996 ; Shinar et al., 2001) indicate that lower education had positive correlations with accident histories but current study differs from the existing literature. The both groups had proneness towards addictions, earlier studies have reported that the addicted and under-treatment drivers reported higher rate of aggressive violations, ordinary violations, errors, lapses, accidents and tickets (Tabibi, 2017) and similarly 17.5% of drivers in a study have reported taking recreational drugs before driving (Mann et al., 2004).

Table 2

Socio demographic details of auto and bus drivers

Variables	Auto drivers		Bus drivers		T-test	Df	P
	Mean	S.D.	Mean	S.D.			
Age	29.8800	6.21369	46.0400	7.71622	8.156-	48	.001**
Education	8.6800	3.24962	6.7600	2.93371	2.193	48	.033*

	Auto drivers		Bus drivers				
Variables	Mean	S.D	Mean	S.D	T test	Df	P
Experience	7.8000	5.56028	22.8800	8.80492	-7.241	48	.001**
Income	12180.04	6884.28161	86080.03	4133.97206	2.224	48	. .031*

Note: *=p<0.05; **=p<0.01

Discussion of impulsivity

Results indicate that there is a significant difference between the auto and bus drivers in all the dimensions of impulsivity. The auto drivers were more impulsive as compared to the bus drivers. Impulsivity is a trait tendency to act spontaneously without considering all of the relevant characteristics of a situation and the consequences of such behaviour (Lajunen & Parker, 2001). Hence, high impulsivity is considered to have a strong association with increased risk-taking behaviour, which is particularly prevalent among young males (Deffenbacher et al., 2000 ; D'zurilla et al., 2003) . As traffic conditions change rapidly and communication is constrained in the road environment, perhaps impulsive responses are more likely in today's environment. The current sample of auto drivers was young and was more accident prone so the currents results are in consensus with the earlier researches.

Table 3

Dimensions of impulsivity among auto drivers and bus drivers

Variables	Auto drivers		Bus drivers		T-test	Df	P
	Mean	S.D.	Mean	S.D.			
Attention	17.1600	4.21979	14.0800	4.24185	2.574	48	.013*
Motor	24.8000	4.33013	21.6800	4.26927	2.565	48	.013*
Planning	26.4000	3.98957	23.1600	4.87921	2.570	48	.013*

Note: *=p<0.05; **=p<0.01

Implications of research for social policy and planning

Road accidents in India take countless life and push the victimized family toward fatal uncertainty every year. The findings of the present study show that the responsibilities of the passengers taking daily public transports are not in safe hand and therefore there should be a modification in public vehicle permit in India. At least background information should be collected and some psychometric assessments should be carried out before permitting a person to take responsibilities of numberless passengers on road. Beside the “safe drive, save life” campaigning the Government should take a few back steps and pay little more attention while providing driving license to the applicants. This small step of the Government will certainly assure zillions of family members that their beloved one will return to home at the end of the day.

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