A Study on Some Personality Characteristics of Transport Workers in relation to Violations of Traffic Rules and Regulations in Yangon

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Abstract

The present study was intended to determine what personality traits/patterns of transport workers are associated with violations of traffic rules and regulations. In this study, 200 transport workers (city bus drivers) who have violated traffic rules and regulations were used as subjects. The ages of participants range from 25 to 54- year-old. The Myanma Personality Inventory; (MPI) was used as an instrument for data collection. The reliability coefficients of the original MPI, (20 scales) range from .70 to .90, and validity coefficients range from .50 to .80. Ten personality scales or traits, containing 160 items (yes-no questions) were used in this study. The descriptive analysis results of personality characteristics of bus drivers are mentioned in table forms. It was found that nearly half of the respondents obtained average level scores on such traits as aggression, emotion, immaturity, anxiety, guilt, frustration, and depression respectively. Anxiety was found to be the most variable trait among respondents. It was interesting that violators of traffic rules showed lowest scores on aggression trait. Another interesting finding was that respondents showed highest scores on defensiveness trait. It might be due to social desirability or impression management factor which is usually prevalent in personnel selection situations.

Key words: introversion, dependency, aggression, emotion, immaturity, anxiety, guilt, frustration, depression, defensiveness

Introduction

Myanmar becomes rapidly developed and urbanized especially after 1988. Better economic life and improved social conditions of citizens are important for national development. And so is balanced and equitable progress of all parts of the country.

Endeavors made in the transport sector are very beneficial to the national development and upgrading the living standard of the people. As regards regional or national development, transportation is important.

The growing number of city population creates the socio-economic problems, including transportation problems. The number of various types of motor vehicles rapidly rises in Myanmar, and the problem of RTA (Road Traffic Accident) has to be counted seriously.

In everyday life, many people are involved in accidents as in many different ways. Among these, accidents on the roads are reported to be the highest in the developed and developing countries. Road accidents are costly for the public as well as the administrators. The injured person and other members are bound to suffer psychologically, socially and financially.

Analysis of accidents in international studies points out the greater involvement of human factor in accidents rather than the mechanical failures or technical errors. People's attitudes, emotions, habit tend to determine what they do on the road to the extent that they may be involved in accidents.

In this study, attempt will be made to explore the personality traits associated with traffic rules violators among bus drivers.

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Objectives

General Objective:

The purpose of the current study is to determine what personality traits/patterns are prominent among transport workers (city bus drivers) who committed traffic rules and regulations.

Specific Objectives:

1. to enhance our understanding of the relationship between personality traits/patterns of transport workers and violations of traffic rules and regulations;
2. to minimize risk behavior and the occurrence of traffic accidents,
3. to maximize safety, smooth and secure transportation of passengers and goods.

Literature Review

It is obvious that accidents are usually caused by carelessness or inattention to safety rules laid down in the respective fields. It also appears that these are related to personal characteristics of people in control of vehicles. These are technically termed as personality traits.

Attempts were made to lessen such cases by selecting human operators carefully, training and counseling them to attain higher performance. Drivers were tested for driving skill to get licenses to drive, and they also need to be tested for their attitudes, emotions or habit (personality) and intellectual capacity for good judgment (intelligence) while driving. Therefore the assessment of human factors (personality and intelligence) is essential to the selection of drivers for public transport.

Under the leadership of Yangon Region Buses Control Committee (YRBCC), psychologists from Dagon University and Yangon University have been identifying the bus drivers who could not profit significantly from safe driving and who have tendencies to violate traffic rules and regulations by using psychological tests and interview method.

Personality and Violation of Rules and Regulations

Personality traits have been investigated in relation to accidents involvement. A number of research studies have provided evidence that features of antisocial behaviors, such as aggression, hostility, impulsivity, behavioural deviance and restlessness characterize many violators of rules. (Donovan, 1980)

In another study (Stear *et. al.*, 1979), personality features found to be more prevalent in rules violators as compared to general driving populations included higher sensation seeking, poorer emotional adjustment, external locus of control, lower self-esteem and higher levels of depression with suicide and paranoia.

In one of the longitudinal studies, McCord (1984) investigated differences in aggression and antisocial behaviours between rule violators and non-violators. The findings indicated that convicted violators were more likely than non-convicted violators to have-

1. had greater exposure to parental conflict and aggression.
2. been gotten into trouble in adulthood through drinking and physical expression of anger.
3. been alcoholics.

Evidence suggests that impulsive, aggressive, hostile personality attributes, high levels of antisocial behaviours, and multiple criminal acts characterize a significant segment of both the violator population and alcoholics.

The study of personality and accident involvement, by Beirness and Simpson (1988), suggests that those people in the accident-involved group scored higher on the subscales "thrill and adventure seeking" and "experience seeking".

Shaw and Sichel's (1971) data suggest that two personality types are most likely to have traffic accidents: sociopathic extraverts (self-centered, over confident, aggressive, irresponsible, resentful, intolerant, impulsive, antisocial, antagonistic to authority) and anxious-neurotics (tension ridden, unduly sensitive to criticism, unable to concentrate, easily fatigued depressed, emotionally labile, easily intimidated, and with feelings of inadequacy).

Scientists all over the world had been attempting to study about road traffic accidents in various ways. Various kinds of studies can be grouped into four groups according to the focus of interest:

1. Studies about situations of accidents.
2. Studies about types of accidents.
3. Studies about causal factors and
4. Studies about injury.

Causal Factors

Researchers have shown that road traffic accidents are related to three main factors: (1) Human factors, (2) Vehicle factors, and (3) Environmental and weather factors.

Certain human factors are common to virtually all types of accidents including attitudes, emotions, habits, skill or knowledge.

Attitudes – Most safety professionals agree that one of the most important causes of accidents is the attitude of the individual. An inclination to take risks and to behave recklessly leads to accidents.

Emotions – Emotions such as depression, fear, anger, hatred, anxiety, and joy can lead to unpredictable behavior, which in turn can cause accidents. Emotional stress has also been correlated with accident – producing behavior (McGuire, 1980).

Habits – Habits are automatic responses to certain stimuli. They are formed through repeated experiences and do not involve conscious thought. Some habits, such as wearing a seat belt promote safety. Other habits, such as drinking while driving, speeding, and not wearing proper protective gear, are unsafe practices that result in accidental injury or death.

Skill or knowledge – In certain situations, lacking the proper skill or knowledge for a task can result in an accident. It has been shown that beginning and unskilled motorcycle operators have very high accident rates. Although knowledge can lead to safety, knowledge alone is not enough. Commitment to change behavior plays a very important role in prevention of accidents.

Speed – The speed of motor vehicles is at the care of the road injury problem. Speed influences both crash risk and crash consequences. Modern cars have high rates of acceleration and can easily reach very high speeds in short distances. Crash risk increases as speed increases, especially at road junctions and while overtaking.

Young drivers and riders – Globally, road crash injury is a leading cause of death for young drivers and riders (Peden, Mcgee, & Sharma, 2002). Both young age and inexperience contribute to the high risk of these drivers. Young drivers have a higher crash risk than older drivers (Mayhew, & Simpson, 1990).

Alcohol and drug abuse – The use of alcohol and other drugs is a tremendous accident-causing factor. Tasks such as driving become downright dangerous if the driver's vision and reaction time, as well as his or her judgment, are affected by a psychoactive substance.

The biology of sleep – Sleep is a complex process with multiple physiological and behavioral components. Fatigue or sleepiness is associated with a range of factors (Hartly, & Arnald, 1996), including long–distance driving, and sleep deprivation.

The United States Department of Transportation's investigations into fatigue in the 1990s showed that fatigue was a factor in about 30% of fatal crashes involving heavy commercial transport.

Research in France on the working hours and habits of truck drivers (Hamelin, 1987) showed that their risk of crashes related to fatigue increased when:

1. they were driving at night;
2. the length of their working day had increased;
3. they were working irregular hours.

Psychological Impact

Medical costs and lost productivity do not capture the psychosocial loses associated with road traffic crashes, either to those injured or to their families. A study conducted in Sweden showed that there was a high rate of psychosocial complications following road traffic crashes, and that event group still reported travel anxiety two years after the crash. Pain, fear, and fatigue, were also commonly found. (Andersson, Bunketorp, & Allebeck, 1997). Road traffic crashes can place a heavy burden on the family and friends of the injured person, many of whom also experience adverse social, physical and psychological effects, in the short-term or long-term. (Mock et al, 2003)

Personality Assessment

Psychologists assessed differences in personality through the two main approaches of objective assessment and projective assessment. In this paper, an approach of objective assessment will be used and mentioned.

In the assessment of personality, the trait model has clearly been the dominant force in personality research over the years (Endler & Magnusson, 1976 a,b). This model assumes that human behaviour may be measured along the dimensions of defined traits (dominance, achievement, affiliation, and responsibility) and the individuals may be reasonably well characterized in terms of these defined traits. Most of the objective personality tests existing today are associated with the trait model.

Thus traits are viewed as the prime determinants of behaviour in that they represent a person's tendencies to behave in certain ways regardless of environmental conditions. There may be numerous personality traits (dependency, aggression, inadequacy, etc.), and each person may have his or her own specific scores on these traits. One person may score high on dependency, intermediate on assertiveness, and low on aggression, while other may score low, high, and intermediate on these three traits. This study explores the literature on human

personality differences in driving and also attempts to describe the personality traits of traffic rules violators.

Tests method and interview method are two chief methods for assessing personality. Interviews provide a relatively natural way to gather information from the person's own point of view. They can be tailored to the intellectual level, emotional state, and special needs of the person being interviewed. The interview is a very individualized procedure that enables us to collect personal and subjective information.

Personality test offers a more standardized, efficient and economical way of gathering information than the other methods. There are hundreds of tests intended to measure a vast array of personality characteristics. Myanma Personality Inventory (MPI) was developed during 1970s at the University of Mandalay by Dr. Sein Tu, and in 1980, the MPI was revised extensively. MPI is an objective test and a paper-and-pencil form containing 320 "yes-no" questions that can measure 20 personality traits. Research evidence suggested that the MPI was proved to be reliable and valid assessment tool of Myanmar personality.

Methodology

Instrument

The present research attempted to describe the personality characteristics of bus drivers in relation to violations of traffic rules by using objective test, the Myanma Personality Inventory (MPI). On the basis of MMPI, MPI was developed during 1970s at the University of Mandalay by Dr. Sein Tu, and in 1980, the MPI was revised extensively. MPI is a paper-and-pencil form containing 320 "yes-no" questions that can measure 20 personality traits. The items are grouped into scales. Each scale consists of 16 items to be responded. The reliability coefficients of the MPI, (20 scales) range from .70 to .90, and validity coefficients range from .50 to .80. Therefore the reliability and validity of the test is said to be high. The main 20 scales or traits of MPI are identified in Table 1.

From the original MPI (20 scales), only 10 personality scales or traits, containing 160 items (yes-no questions), which are considered to be associated with the traffic rules violators, were used in this study. The main 10 scales or traits of MPI are identified in Table 2.

Table 1. The Main 20 Personality Scales or Traits of **MPI**

Sr.	Traits (abbre:)	Meaning	Sr.	Traits (abbre:)	Meaning
1.	INT	Introversion	11.	CPL	Compulsivity
2.	IAD	Inadequacy	12.	HYS	Hysteria
3.	AGG	Aggression	13.	PRN	Paranoia
4.	DPN	Dependency	14.	HPM	Hypomania
5.	FRS	Frustration	15.	HPC	Hypochondria
6.	EMO	Emotion	16.	AUT	Autism
7.	REJ	Rejection	17.	ANX	Anxiety
8.	IMT	Immaturity	18.	TRS	Transexuality
9.	GLT	Guilt	19.	DPR	Depression
10.	DFN	Defensiveness	20.	AST	Asthenia

Table 2. The Main 10 Scales or Traits of MPI and Number of Items contained in each Scale

Sr.	Personality Scales	No. of Items
1.	Introversion (INT)	16
2.	Aggression (AGR)	16
3.	Dependency (DPN)	16
4.	Frustration (FRS)	16
5.	Emotion (EMO)	16
6.	Immaturity (IMT)	16
7.	Guilt (GLT)	16
8.	Defensiveness (DFN)	16
9.	Anxiety (ANX)	16
10.	Depression (DPR)	16
	Total Scales = 10	160

Participants

The main study sample includes 200 bus drivers under the control of (Ma Hta Tha), Yangon Region Buses Control Committee (YRBCC), who reported to have committed at least one of the following traffic rules and regulations: 1) high speed, 2) over-taking where not allowed, 3) driving through yellow (or) red light, 4) not stopping at bus stop, 5) minor accidents against persons or properties, 6) violation of principles set by (YRBCC).

The ages of participants range from 25-year-old to 54-year-old. The average age for participating drivers was (39.5). Twenty three percent, (23%) of the drivers achieved primary school level of education, (47.5%), middle school level, (21.5%), high school level, and (1.5%) graduated from college and university. The data are shown in Table 3.

Table 3. Showing Age Groups and Education Levels of the Subjects (Male)

Sr.	Age Group	No. of Subjects	%	Sr.	Education Level	No. of Subjects	%
1.	25-35	55	27.5	1.	Graduated	3	1.5
2.	36-45	113	56.5	2.	High School	43	21.5
3.	46-55	32	16.0	3.	Middle School	95	47.5
				4.	Primary School	47	23.5
				5.	Illiterate	12	6.0
	Total	200				200	

Procedure

The test, MPI (10-Traits, 160 “yes-no” Items) was administered to the sample of 200 convicted violators (male). To provide objective and quantified information, procedures for administration, scoring, and interpretation must be the same for each subject taking the test. And then the responses to (MPI, 10- Traits) personality test were coded and tabulated for the purpose of data analysis. After that, percentages, averages were computed and analyzed the data statistically to describe the personality characteristics of traffic rules violators.

This study of personality involves describing and explaining the prevalent pattern of personality characteristics of traffic rules violators. In general, the bus drivers, having unique pattern of psychological and behavioural characteristics, could not profit significantly from safely driving and they must be rejected to drive the bus.

Data Analysis and Discussion

Data Analysis

For the purpose of describing psychological and behavioural characteristics of Traffic rules violators, a total sample of 200 bus drivers who has committed at least one of the traffic rules and regulations, were given the MPI (10 scales, 160 items) to respond by endorsing either 'yes' or 'no' for each item. The response showing the presence of the respective trait on each item was scored 1 and the absence scored 0. The respondents' total scores on ten personality traits were obtained by summing the scores of all items on each scale. The data were then analyzed in line with the research objectives.

The descriptive analysis results of personality characteristics of bus drivers are mentioned in Table 4.

Table 4. Descriptive Analysis Results of 10 Personality Traits among Traffic Rule Violators (N=200)

Sr. No.	Trait	Mean	SD	Minimum	Maximum	Range	N
1.	Introversion	9.62	2.66	3	16	13	200
2.	Aggression	3.02	2.12	0	12	12	200
3.	Dependency	10.92	3.04	1	16	15	200
4.	Frustration	9.20	3.75	0	16	16	200
5.	Emotion	6.11	3.17	0	16	16	200
6.	Immaturity	5.66	3.32	0	15	15	200
7.	Guilt	8.84	3.10	0	15	15	200
8.	Defensiveness	12.11	2.81	2	16	14	200
9.	Anxiety	7.74	3.81	0	16	16	200
10.	Depression	5.48	3.29	0	16	16	200

It can be seen in Table 4 that respondents obtained highest mean score on defensiveness trait (M=12.11) and lowest mean score on aggression (M=3.02). Anxiety was found to be the most variable trait among respondents. It was interesting that violators of traffic rules in this study showed lowest scores on aggression trait since traditional wisdom assumed that aggression is closely associated with road accidents. Another interesting finding was that respondents showed highest scores on defensiveness trait. It might be due to social desirability or impression management factor which is usually prevalent in personnel selection situations. Their scores are divided into three levels: Low, below average, (below 25th percentile), Middle, average, (between 25th and 75th percentile), and High, above average (above 75th percentile).

Table 5. Distribution of Scores on Personality Traits by Low, Middle, and High Levels

Sr. No.	Trait	Below average % (f)	Average (p25-p75) % (f)	Above average % (f)	Missing data % (f)
1.	Introversion	37 (74)	46 (92)	17 (34)	-
2.	Aggression	52.5 (105)	28.5 (57)	18.5 (37)	0.5 (1)
3.	Dependency	31 (62)	47 (94)	22 (44)	-
4.	Frustration	29.5 (59)	49 (98)	20.5 (41)	1 (2)
5.	Emotion	35 (70)	43.5 (87)	20.5 (41)	1 (2)
6.	Immaturity	27.5 (55)	51 (102)	19.5 (39)	2 (4)
7.	Guilt	27 (54)	52.5 (105)	20.5 (41)	-
8.	Defensiveness	26 (52)	51 (102)	21 (42)	2 (4)
9.	Anxiety	31.5 (63)	46.5 (93)	21.5 (43)	0.5 (1)
10.	Depression	31.5 (63)	46.5 (93)	21.5 (43)	0.5 (1)

Table 5 presents the frequency and percentage of respondents for 10 personality traits. As indicated in table 5, for the distribution of scores on introversion traits, 37 percent of respondents were fallen in the low level, 46 percent in the middle level, and 17 percent in the high level. It was suggested that introversion tended to be low among bus drivers who engaged in violations of traffic rules.

For the distribution of scores on aggression traits, the majority of the respondents obtained score that fell in the low level (52.5%) while the smaller portion was classified into the middle and high levels.

For the distribution of scores on dependency traits, it was found out that 31% of respondents could be categorized in low group. The largest portion (47%) fell into the middle level and the smallest (22%) into the high level.

For the distribution of scores on frustration traits, it was found out that 29.5% of respondents lied within the low level, 49% within the middle level, and 20.5% within the high level.

For the distribution of scores on emotion traits, 35% were classified into low level, 43.5% into middle levels, and 20.5% into high levels.

For the distribution of scores on immaturity traits, majority of respondents were grouped into the middle level, 27.5% were considered low and 19.5 % considered high in this trait.

For the distribution of scores on guilt traits, it can be seen that largest portion of respondents (52.5%) were classified into middle level. There were 27% respondents who fell into the low level and 20.5% into the high level.

For the distribution of scores on defensiveness traits, it was found that 26 % of respondents fell into the low level, 51% into the middle level, and 21% into the high level.

As shown in table 5, respondents' scores on anxiety dimension seemed to be normally distributed. It was found that 46.5% of respondents obtained average level scores, 31.5% low level scores, and 21.5% high level scores on this dimension.

For the distribution of scores on depression traits, it was found that 31.5% of them were classified as low group, 46.5% as middle group, and 21.5 % as high group. Table 6 mentions within-group norms of traffic rule violators on ten personality traits as measured in Myanma Personality Inventory (MPI).

Table 6. Norm Scores of Traffic Rule Violators on Ten Personality Traits

Sr. No.	Trait	Below average	Average	Above average
1.	Introversion	0-7	8-12	13-16
2.	Aggression	0-1	2-4	5-16
3.	Dependency	0-8	9-13	14-16
4.	Frustration	0-6	7-12	13-16
5.	Emotion	0-3	4-8	9-16
6.	Immaturity	0-2	3-8	9-16
7.	Guilt	0-5	6-11	12-16
8.	Defensiveness	0-9	10-14	15-16
9.	Anxiety	0-4	5-11	12-16
10.	Depression	0-2	3-8	9-16

It can be seen in the Table 6, that the score of average person was too low on some traits, i.e., aggression, emotion, immaturity, anxiety, and depression and the score range was too narrow on aggression while the score of average person was too high on defensiveness.

Discussion

The present study attempted to find out the prominent personality characteristics of bus drivers who were violators of several traffic rules. Data for personality characteristics of these drivers were collected through survey questionnaire using Myanmar Personality Inventory (MPI) which consists of 160 items tapping 10 relevant personality traits such introversion, aggression, dependency, frustration, emotion, immaturity, guilt, defensiveness, anxiety, and depression.

It was found in this study that respondents were higher on defensiveness trait and lower on aggression than any other traits. Anxiety was found to be the most variable trait among respondents. It was interesting that violators of traffic rules in this study showed lowest scores on aggression trait. Traditional wisdom in the literature suggested that aggression is closely associated with road accidents.

The findings of the present study were not consistent with prior research findings indicating that emotional factors such as depression, intolerance, frustration, stress were causal factors of road traffic accidents. The respondents in this study did not show significantly high level of emotion, frustration, anxiety, and depression.

Another interesting finding was that respondents showed highest scores on defensiveness trait. It might be due to social desirability or impression management factor which is usually prevalent in personnel selection situations. Since 2003, YDBCC applied personality testing as one consideration in issuing permission for bus driving. Impression management seemed to be important for those transport workers, particularly items that appeared to measure their aggression, emotion, frustration, anxiety, and depression. This fact seemed to be more apparent because the respondents showed high defensiveness in their responses. Barrick and Mount (1996) also found that job applicants distorted their scores on personality measures.

In this study, norms for 10 personality traits with traffic violator sample were established. It was found out that the average level score was low on aggression, emotion, immaturity, anxiety, and depression and the score range was too narrow on aggression. It was also turned out that the score of average person was too high on defensiveness.

Conclusions and Recommendations

The findings of the present study suggested that bus drivers who engaged in violations of traffic rules seemed to be high on defensiveness and low on aggression. These violators did not show high scores on emotion, anxiety, and depression traits which were found to be associated with traffic accidents and accident risk in previous researches.

The present study calls for further area of research on response distortion or social desirability in personality assessment for transport workers because aggression and other emotion-related traits did not appear to be prominent among violator population.

The present study is preliminary and one major limitation is that it cannot employ quantitative measures of frequencies and severity of traffic rule violations because of practical constraints posed on availability of these measures. Therefore, future research that attempts to explore the links between personality factors and traffic rule violations among Myanmar bus drivers is strongly recommended in order to make valid employment decisions.

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