ADDIS ABABA UNIVERSITY
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DEPARTMENT OF PSYCHOLOGY

Personality Characteristics and Risky Driving Behavior as Predictors of Persistent Traffic Accident (The Case of Addis Ababa Drivers)

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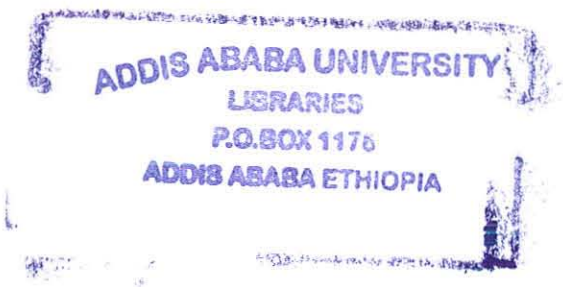

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A Thesis Submitted to the School of Graduate Studies of A.A.U. In Partial Fulfillment of the Requirements for the Degree of Master of Arts in Counseling Psychology

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Approval of Board of Examiners

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Abbreviation and Acronomy

Av. dist	Average Distance
CD	Competitive Driving
DAL	Disability Adjusted Life Years
E.C.	Ethiopian Calendar
Educ. L	Educational Level
Expe.	Experiences
FTAC	Frequency of Traffic Accident
MVAs	Motor Vehicle Accidents
NAch	Need for Achievement
NHTSA	National Highway traffic safety Administration
NTMPS	National Transport Master-Plan-Study
OCEAN	Openness, Conscientiousness, Extroversion, Agreeableness and Neuroticism
RD	Reckless Driving
RDB	Risky Driving Behavior
RTA	Road Traffic Accidents
RTD	Risk Taking in Driving
SVRT	Speeding, Violation and Risk Taking
SEE	Standard Error of the Estimate
VTR	Violation of Traffic Rules
WHO	World Health Organization

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Abstract

The purpose of this study was to examine the relationship among personality characteristics, risky driving behavior, frequency of traffic accident and demographic characteristics. The sample consists of 262 drivers who committed traffic accidents and came for investigation at four traffic police administration and investigation offices in Addis Ababa. The researcher employed availability-sampling technique to select 262 participants for the study. To carryout, the study descriptive survey method was used. To collect the necessary data one questionnaire and two scales were the main instruments employed. The data collected through the questionnaires were analyzed using percentage, Pearson's r and regression analyses.

The results showed that some personality characteristics (extroversion, conscientiousness and neuroticism) have weak relationship with the dependent variable (i.e. for extroversion 0.14, conscientiousness 0.168, and Neuroticism o.157) and thus have weak power in predicting frequency of traffic accident. They however, predict frequency of risky driving behavior moderately. The other important thing is that age has moderate relation ship with frequency of traffic accident. Finally, based on the findings and conclusions recommendations were made to help design early interventions and alleviate problems related with traffic accident.

CHAPTER ONE

1. INTRODUCTION

1.1 Background of the study

Nowadays traffic accident occurs every day on roads all over the world and is a tragic problem in the contemporary society. According to World Health Organization (WHO) report in (1999), 1,170,694 fatalities and 38,848,625 injuries have been recorded from this big number, Africa account 170, 118 fatalities and 6,116,559 injuries. In our country, Ethiopia, in 2004/05 Traffic Police recorded and National Transport Master Plan Study (NTMPS, 2007) showed that 17,722 total accidents, 1,801 fatalities, 2, 368 Injuries, 10,822 property damage occurred and the annual rate increased by 17%, 11%, 11% and 15% respectively. Moreover, World Health Organization (WHO, 2004) reported that traffic accident was already among the top 10 leading causes of disease burden. The problems of severe injuries and fatalities rate per vehicle have been the highest in sub-Saharan Africa countries and particularly Ethiopia has the highest rate of fatalities per vehicle in the world.

Furthermore, the World Health Organization /World Bank reported "the global burdens of diseases" deaths from non-communicable diseases is expected to climb from 28.1 million a year in 1990 to 49.7 million by 2020 G.C." Traffic accidents are the main causes of (77%) an increase in number of diseases death from non-communicable diseases and which results in major causes of severe injuries and fatalities in most countries of the world.

Minor changes in driver behavior can prevent injury and save lives. For example, the occurrences of vehicle crash have been shown to be positively correlate with changes in the national (U.S.) speed limit (Evans, 1991). Moreover, it is estimated that safety belts use saved 10,414 lives in 1996 and 90,425 lives since 1975 (National Highway Traffic Safety and Administration (NHTSA, 1998)). In fact, it is predicted that a one percent increase in the use of safety belts saves 200 lives per year (Nichols, 1998). Given this, it is alarming that nation wide

(U.S.) belt use is as low as 68% in (1998) and many drivers choose to drive in ways that put themselves and others at risk for vehicle crashes and serious injury.

In Ethiopia, the present researcher day-to-day observation (even if it is difficult to estimate the number of drivers who do not use safety belts), most of the drivers are not using safety belts.

According NTMPS (2007) and NHTSA (1998) the majority of vehicle crashes (more than 88% and 90% in particular in Ethiopia and in general in the world, respectively) can be attributed to driver behavior. Some people go their entire lives without experiencing a vehicle crashes. Yet others are involved in multiple crashes throughout the course of their driving lives. Are these people fundamentally different? Proponents of personality psychology argued that some people are more prone than others are to taking risks. Some of these risks are likely manifested on the road or involved in frequent traffic accident (Thomas, 1999). Identifying people for propensity to take risks could provide some valuable information relevant to prevention. In particular, individuals who frequently involved in traffic accident or took risks could be intervened up on early in their driving histories before a habitual problem behavior pattern develops. Further more, understanding the characteristics of risky drivers could lead to improve social marketing intervention strategies.

Nevertheless, in order to make strategies and polices on traffic accident prevention, and develop intervention program, it needs an extensive research on traffic accident related issues, which are necessary preconditions.

In this regard, the present research is of significance in that it sheds light on the relationship between traffic accidents and personalities characteristics as well as between traffic accident and other variables such as demographic characteristics of drivers. In addition, because little is known in Ethiopian context (to the best of the researcher's knowledge) about individual differences in risky driving behavior, the results of this study would bridge gap in knowledge. The result would further help concerned bodies to design better strategies and policies in issuing

driving licenses, which may in turn help to minimize traffic accidents. Finally, the findings of the study and their implications are expected to provide some useful information or direction for conducting further research.

1.2 Objectives of the study

The general objective of this research is to study the relationship between personality characteristics (OCEAN), risky driving behavior, demographic characteristics and traffic accident among drivers in Addis Ababa.

Moreover, the specific objectives of the study are to:

- find out drivers personality characteristics, risky driving behavior, and demographic characteristics which have any relationships with the involvement of frequent car/ traffic accident.
- investigate personality characteristics which predict frequency of traffic accident involvement relatively strongly.
- find out risky driving behavior which predict frequency of traffic accident involvement relatively strongly.
- explore the interrelationship among personality characteristics, risky driving behavior and demographic characteristics.
- forward recommendations for minimizing car accidents related to personality characteristics and risky driving behavior.

1.3 Statement of the problem

According to World Health Organization (2004), traffic accident was already among the top 10 leading causes of disease burden in the world. The problems of sever injuries and fatalities rate per vehicle have been the highest in Sub-Saharan Africa countries. Particularly Ethiopia has the highest rate of fatalities per vehicle in the world. Though WHO reported that and the problem is a very sensitive issue, there is no extensive research conducted in local context. When it comes to our capital city, Addis Ababa the problem becomes more series. In relation to the other regions of the country, Addis Ababa traffic accidents accounts/covers 68% of the total accidents in the country (NTMPS, 2007).

This study; therefore, aims at answering the following questions:

- Do personality characteristics, risky driving behaviors, and demographic variables have any relationships with frequency of traffic accident involvement?
- Which personality characteristics predict frequency of traffic accident involvement relatively strongly?
- Which risky driving behavior predicts frequency of traffic accident involvement relatively strongly?
- Do personality characteristics, demographic characteristics, and risky driving behaviors have any interrelationships?

1.4 Significances of the study

The present research will have some significance in that it sheds light on the relationship between traffic accidents and personality characteristics. It also highlights the relationship between traffic accident and other variables such as demographic characteristics of drivers. In addition, because little is known about individual differences in risky driving behavior, the results of this study would bridge gap in knowledge. The result would further help concerned bodies to design better strategies and policies in issuing driving licenses, which may in turn help

to minimize traffic accidents. Finally, the finding of the study and their implication are expected to provide some useful information or direction for conducting further research.

1.5 Definition of common terms used in the study

Traffic Accident refers to any vehicle accident occurring on traffic road (i.e. originating on, terminating on, or involving a vehicle partially on the way). These accidents therefore include collisions between vehicles and animals, vehicle and pedestrians, or vehicles and fixed obstacles. Moreover, single vehicle accidents, in which one vehicle alone is involved, are included (NHTSA, 1998).

Personality Characteristics *refer to the five factor Personality traits, which are abbreviated as OCEAN (i.e. openness, conscientiousness, extroversion, Agreeableness, and Neuroticism).*

Openness to experience *(versus closed-mindedness) describes the breadth, depth, originality, and complexity of an individual's mental and experiential life.*

Conscientiousness *describes socially prescribed impulse control that facilitates task and goal-directed behavior, such as thinking before acting, delaying gratification, following norms and rules, and planning, organizing, and prioritizing tasks.*

Extraversion *implies an energetic approach to the social and material world and includes traits such as sociability, activity, assertiveness, and positive emotionality.*

Agreeableness *contrasts a pro-social and communal orientation toward others with antagonism and includes traits such as altruism, tender-mindedness, trust, and modesty.*

Neuroticism *contrasts emotional stability and even-temperedness with negative emotionality, such as feeling anxious, nervous, sad, and tense (McCare and Costa, 2003).*

Risky driving behavior *broadly refers to unsafe driving or reckless driving behavior. This also typically represents driver's behavior related with speeding, violation of traffic rules, and risk taking driving behaviors of a driver(Reason et, al., 1990).*

CHAPTER TWO

2. REVIEW OF RELATED LITERATURE

2.1 Traffic accidents

Traffic accident refers to any vehicle accident occurring on traffic roads (i.e. originating on, terminating on, or involving a vehicle partially on collusion between vehicles and animals, vehicles and pedestrians or vehicles and fixed obstacles. Moreover, single vehicles and accident in which one vehicle alone is involved are traffic accidents) (NHTSA, 1998).

2.2 What is at risk driving?

In his discussion of at risk driving among teens, Jonah (1986) claimed that risky driving does not necessarily involve a conscious choice to be risky, but rather serves some functional utility. Typically cited desirable outcomes include time saving and fun (Burns and Wiled, 1995). Evans (1991) has proposed a second perspective of the risky driver. Her perspective involves the distinction between driving performances (skill) and driving behavior (what the driver does). Implicit in the latter is the conscious choices of behavior. Evans' (1991) definition of risky driving is any behavior that increases the task difficulty. Difficulty increases the probability of a vehicle conflict and thus a crash. According to her, crash only occurs because of two or more vehicles trying to occupy the same spaces. This is also the essence of the Traffic Conflicts Technique (TCT) for categorizing traffic crashes. From the above definition, speed can be considered as one of the risky driving behavior. As Evans (1991) pointed out, vehicle crashes have reliably co-varied with increase and decrease in the national speed limit. Speed has also been positively correlated with crashes per distance traveled (Jonah, 1986).

Task difficulty may also be increased by performing unnecessary behaviors or creating a driving environment that occupies attention resources useful for driving. The result is a possible increase in the time required for the driver to perform normal driving behaviors. Playing the car radio, manipulating vehicle controls, or any of off-task behavior (non-driving behaviors) fall in this category.

Different researchers examining drivers driving behavior classified, risky driver's behavior into different groups, however, drivers driving behavior are composed of two groups. These are errors and violations of rules. As it is thought that their psychological sources are different, prevention of them are also different (Veysel et al., 2006).

Errors are explained as planned actions that do not reach to the intended results, and violations are intentional deviations from rules believed necessary to provide safety in a potentially dangerous system (Reasons et al, 1990). An investigation result performed by a group of researchers with different sampling revealed that violation a factor related to involvement in accidents (Parker et al., 1995). There are also several studies that examined risky driving attitude/behavior, containing errors, violations, and personality in the literature (Bell et al, 2000; Begg and Langley, 2004; Iverson, 2004). Park et al., (1995) also examined the relation among errors, violations and forgetfulness and their rate of involvement in traffic accidents. Three factors explaining 33% of the total variance were determined by using factor analysis from the data collected among 520 drivers. This revealed that being young and males are anticipated violations and the violations factors make them susceptible to accidents.

Block and Hartley (1995) carried out renewal study on drivers living in West Australia. In this study, three factors were determined, which are general errors, dangerous errors and dangerous violation. Lawton et al., (1992) researched driving on risky driving attitudes and self reported traffic violations among Turkish professional drivers. In the study, they found five factors, and these are violations, carelessness, exaggerated self-confidence, stress and drivers' existence

image. The researcher also found that, driving time, sex and age played an important role in involvement in accident.

Another study investigated in Turkey by "Sumer" (2003), a contextual mediated model was proposed to distinguish the distal (i.e. personality factor) and proximal (i.e. unusual driving behaviors). He found that latent variables in the distal context predicted at least one the proximal elements with relatively personally high path coefficients. Iverson and Rundmo (2002) examined relationships between personality, risky driving and involvement in accidents. Their questionnaire included measure of risky driving, accidents involvement, recklessness, sensation seeking, and locus of control and driver anger. They found that those who scored high on sensation seeking recklessness and driver anger reported more frequently risky driving compared to those who scored low on these variables. They were more involved in both speeding and ignorance of traffic rules.

Iversen (2004) also investigated whether toward traffic safety issues are predictors for future risk behavior in traffic. Result of his research shows high correlation between the dimensions of attitudes and behaviors at the two data collection points. Iverson's model has three exogenous latent variables: 1) attitude toward rule violation and speeding 2) attitudes toward drinking and driving 3) attitude toward the careless driving of others) and endogenous latent variables (risky driving behavior). Random and Iverson (2004), focused on Traffic risk perception. The aim of their paper is to present the result of evaluation the campaign and examine the association between risk perception and traffic behavior. Their model includes speeding and rule violations.

Generally, the researchers maintain that human factors that cause traffic accidents are not standard; but they tried to classify risky driving attitude/behavior based on their understanding. Therefore, in these studies, violations and errors are found related to different driver characteristics and some violations are related to accident involvement. From the reviewed literature, the present researcher has selected three factors about risky driver behavior in traffic or

involvement in traffic accident. The factors, which are included in risky driving behavior, are disobedience to speed rules, risk taking in driving and violations of traffic rules.

2.2.1 Speed and traffic accident

Disobedience to speed rule is one of the characteristics of risky driving behavior attitude. Many researchers (Begg and Langley, 2004; Jonah, 1997; Lam, 2003) have studied speeding as a risky driving behavior. Excessive driving speed is considered one of the most important contributors to road accident regardless of driver age and level of skill (Elliott et al., 2004). Even when they are aware of the potential consequences for speeding, drivers in Australia still indicate involvement in speeding behavior (Brown and Cotton, 2003).

Clarke, Ward and Truman (2002) also suggested that speed was the most common factor involving in driving offence among young drivers. West and Hall (1997) found that speed was a significant risk taking behavior while driving. When respondents focused on specific locations, while Brown and Cotton found a similar result when respondents were asked to consider the over all proportion of time they exceeded the speed limit. They also suggested that involvement in speeding behavior might also be due to a low probability of negative out come as was indicated for self-behavior. In our country Ethiopia, speeding accounts 11.1% of the total traffic accidents, but this percentage is due to under reporting of the accident since there are no enough radiators that control drivers speeding (NTMPS, 2007).

2.2.2 Traffic rule violations and traffic accident

Traffic rule violations as risky driving behaviors have been studied by many researchers (Iverson and Rundmo, 2004; Sumer, 2003; Ulleberg and Rundmo, 2003; Yagil, 2001). Traffic rule violations are designed as deliberate infringe of some formally prohibited or socially accepted code of driving behavior (Rundmo, 2002). Violation of traffic rules has also been shown to be a

significant risk taking behavior while driving, with self-reported driving violations predicting future accident involvement has been infringements (Hattaka et al., 1997 as cited in Ullebege and Rundmo, 2003).

These researchers demonstrated that risky driving behavior has the potential to cause harm to young drivers, passengers, and other road users. More specifically, involvement in behaviors such as speeding and rule violation, may lead to accidents, injury or fatality on the road.

Therefore, the study of risky driving behaviors as an outcome is important to the development of interventions intended to reduce accident and injury on the road. The five year (2000/01-2004/05) Traffic Police report listed down the common traffic rule violations, which resulted in traffic accident. These are failure to follow the right hand rule, improper turning, improper parking, over speeding, failure to give-way for pedestrians, following too closely. NTMPS (2007) added some common traffic rule violation, which is the common cause/factor for traffic accident. These are excess loading and defective road environment. NTMPs (2007) also found that the accident caused due to following too closely in most cases results in property damage. Only failure to respect traffic rules and signs are also the causes of significant number of fatal accident

2.2.3 Risk taking in driving and traffic accident

Competitive driving and reckless driving such as improper tuning and passing, drinking and driving, using cell phone while driving, manipulating vehicle controls while driving and other off-task driving behaviors are some of the common unsafe driving behaviors which have a direct relationship with traffic accident which also shows drivers risk taking tendency in traffic accident. As drivers attention and decision-making become impaired, individual's cognitions imbalance or his decision become impaired, and there is high possibility of traffic accident (Marias, 2000). According to her research, finding, 92% of those survey participants knew that alcohol drink affects the reflex needed to drive. However, in a survey of food habits and driving, 83% admitted to driving after drinking alcohol.

Some researches, which have been done in Europe, also show that most of the traffic accidents occur due to reckless driving, using cell phone while driving, substance use and intoxication (Burns, et al., 1995). The number of accidents due to intoxication is also increasing continuously. In the U.S.A., about 70 to 80 people die every day due to accidents related to alcohol (Begg et al., 2003). According to some other research, which is done in Spain on subjective reactions to alcohol among adults, the result shows that young adults with greatest alcohol intake are those that experience less subjective decreasing of alert after alcohol administration and those who feel more skilled to drive a car (Donovan et al., 1998). This suggests that individuals who report alcohol consumption would be more likely involved in risky driving situations. This also assures that alcohol or drinking and driving have a direct relation with risky driving behavior as well as traffic accident involvement. Using cell phone and manipulating vehicle control parts while driving were also considered as risky driving behavior, which expose drivers for traffic accident. In light of these, recent researchers found that motorists who talk on handled or hands free cellular phones are as impaired as drunken drivers are and the researchers recommended that if legislators really want to address driver's destruction, then they should consider outlawing cell phone use while driving (Stayer et al., 2006).

In Ethiopia, according to NTMPS (2007) influence of alcohol in traffic accident accounts 0.3% as identified by the police. Driving under the influence of alcohol, and drugs including "chat" is also one of the causes of drivers' error, which might expose drivers to involve in traffic accident. Some research also shows "chat" has significant negative impact on drivers' performance (NTMPS, 2007).

2.3 The relationship between OCEAN and risky driving behavior

Personalities/ individual differences have been reliably shown to influence some people's refusal to drive safely, and promote at-risk driving behaviors, which have a direct relationship with traffic accident involvement. Early research into industrial accidents tended to focus on

individuals, rather than systems and practices operations. Lee, et al., (2006) cited in Greenwood and Woods (1919) performed some earliest research into industrial accidents for the Industrial Fatigue Research Board during World War I (1914-18). As part of their study, they explored the idea that some individuals are accident prone or more likely to have accident than others are. They also found that statistical distributions of accidents, which seemed to support the idea of accidents proneness, and gradually this became accepted as a stable characteristic of certain for an accident-prone personality.

As research developed during the 20th century, the idea of accident proneness was challenged. Lee, et al., (2006) also cited some researchers (for example Arbous and Kerrich, 1951) who argued that the initial research had failed to distinguish adequately between the different levels of risk run by people in different jobs although other researchers performed their own studies and found different outcomes. For example, Adelstein, (1952) studied accidents rates among railway Shunters and found that accidents seemed to occur to all shapes any one and there was no evidence for an accident prone-personality. Because accidents can occur in all shapes and sizes, it seems unlikely that we can define a single personality type that makes an individual more likely to experience all of them. The way to look at the issues around the personal approach might be to identify the behaviors or personality traits that are most associated with errors and accidents. Hill and Inst (1962) investigated accident repeaters. While accident at work may happen to any one, it is clear that they occur more frequently with some people than others.

In this regard Lee, et al., (2006) also cited some researchers' work like Jones and Wuebker (1988) described how a personal inventory could be used to predict a number of accident related events. Using the questionnaire, they were able to identify high-risk individuals based on their attitudes and personality, to place them in less hazardous position, or send them on special safety training programs.

***2.3.1 Extroversion*:** Extroversion is characterized by positive emotion, hurry and tendency to seek out stimulation (sensation seeking) and the company of others. The trait is marked by

pronounced engagement with the external world. They tend to be enthusiastic, action oriented individuals who are likely to say, "Yes" or "Let's go" to opportunities for excitement, are often perceived as full of energy. In groups, they like to talk, assert themselves, and draw attention to themselves (McCare and Costa, 2003). This shows that extrovert drivers may engage in existent risky driving behavior for excitement and draw attention to them. More over, since they are more energetic they would manifest their energetic behavior on their driving behavior.

In relation to introversion-extroversion, and accident, Lee and his colleagues, (2006) cited the work of Liao et al., (2001) found that personality traits including introversion were related to higher injury rates on the job. They suggested that introverts were less likely to call for assistance, and as fire fighting requires a high degree of team work, and they exposed themselves to greater personal risks.

The study of the fire fighters in U.S. is particularly interesting because the general view in psychology is that extroversion is the characteristics that are associated with accidents. Extroversion is associated with being impulsive, energetic, excite seeking etc. Because of this, they have been found to be a feature in people who have car accident and accident at work (Furnham and Heaven, 1999).
This apparently contradictory findings, illustrates how personality characteristics can interact with the situation some one is in, and the type of task they are asked to carry out, to produce an unsafe environment.

In addition, Wilson (1990) demonstrated that none users of safety belts were higher sensation seeker more impulsive (which characterizes the extroversion personality trait), and accumulated more traffic violation than moderate and consistent users of safety belts. None users of safety belts were also more likely to be males, younger drivers, and less educated than the safety belts users. Moreover, it has also been shown to correlate positively with self-reports of a driving while intoxicated, a) driving greater than 20mph above the speed limit b) racing with another Vehicle c) improper pass (Arnett, 1996). Furthermore, Shiner (1998) also suggested that drivers

possessing traits, associated with extroverted or type A personalities might be more likely to involve in risky driving behavior.

2.3.2 Agreeableness: it is a tendency to be compassionate and cooperative rather than suspicious and antagonistic towards others. The trait reflects individual differences in concern for social harmony, Agreeable individuals' value getting along with others. They are generally considerate, friendly, generous, helpful, and willing to compromise their interests with others. Agreeable people also have an optimistic view of human nature. They believe people are honest, decent, and trust worthy (McCare and Costa, 2003)

In contrast to this, disagreeable individuals place self-interest about getting along with others. They are generally unconcerned with others' well being, and are less likely to extend themselves for other people. Sometimes skepticism about others' motives causes them to be suspicious, unfriendly, and uncooperative (McCare and Costa, 2003).

Having the above idea, one can conclude that individuals, who have disagreeable personality trait, are more exposed to anti-social behavior as well as traffic accidents. That is why some researchers like Robins (1966), West and Hall (1994), found that individuals who are less concern for others, have a possibility that requires serious attention in which some characteristics of the driver that places them at greater risk of traffic accident as well as increasing their propensity to engage in anti-social behavior. There is now clear evidence that social deviance as a personality dimensions is linked with risky driving practices and accidents in adults and newly qualified teenage drivers. Moreover, in relation to agreeableness personality trait and crash involvement, Hansen (1989) identified individuals who have a problem of social maladjustment as a category of personality characteristics and behaviors that are reliably associated with high crash rate.

2.3.3 Neuroticism: According to McCare and Costa (2003), it is the tendency to experience negative emotions, such as anger, anxiety, or depression. It is sometimes called emotional

instability. Those who score high in neuroticism are emotionally reactive and vulnerable to stress. They are more likely to interpret ordinary situations as threatening, and minor frustrations as hopelessly difficult. Their negative emotional reaction tends to persist for unusually long period of time, which means they are often in a bad mood. These problems in emotional regulation can diminish a neurotic's ability to think clearly, make decision, and cope effectively with stress.

Some researchers (Furnham and Saipe (1993) also documented the relationship between neurotic personality trait and driving behavior. They reported that drivers convicted of traffic violations such as speeding and reckless driving scored relatively high on psychotics and low on the neuroticism sub-scales of Eysenck's personality questionnaire. (Eysenck, et al.,1985) also observed relatively high scores for the thrill seeking and boredom susceptibility among the convicted drivers. However, driving convictions were negatively correlated with age, gender and years of driving. Indeed, younger drivers have been shown to speed more often (Wasielewsky, 1984), and follow more closely (Evans, 1991; Evans & Wasielewsky, 1983).

At the other end of the scale, individuals who score low in neuroticism are less easily upset and are less emotionally reactive. They tend to become calm, emotionally stable and free from persistent negative feelings. Since high score in anger, anxiety or depression is a criterion for an individual to be Neurotic, it has also associated with involvement in speeding violations, and competitive driving. Yagil (2001) studied, personality variables in relation to Israeli Army drivers (mean age of 20 years) intention and attitude toward violation of traffic laws. His research outcome indicated that individuals who experienced high levels of aggression, anger, or sensation seeking also experienced more positive attitude towards engagement in traffic violations than drivers who experienced low level of aggression, anger.... These Show that drivers who score high levels of anxiety while driving experienced a more negative attitude towards committing traffic violation because of these individuals who score high in anxiety, which is a manifestation, or characteristics of neurotic individuals are less likely to involve in

traffic accident or in a risky driving behavior. In contrast to this individuals whose personality characterized of anger (score high in anger scale), involved in high traffic accident.

2.3.4 Openness to Experiences: it is a general appreciation for art, emotion, adventure, unusual ideas, imagination, curiosity, and variety of experiences. The trait distinguishes imaginative people from down-to-earth, conventional people. People who are open to experiences are intellectually curious, appreciative of art, and sensitive to beauty. They tend to be, as compared to closed people, more creative and more aware of their feelings. They are more likely to hold unconventional beliefs (McCare and Costa, 2003).

This implies that People with low scores on openness tend to have traditional interests. They prefer the plain, straight forward, and obvious to the complex, ambiguous, and subtle. They may regard the arts and sciences with suspicion. Closed people prefer familiarity to novelty. They are conservative and resistance to change (McCare and Costa, 2003). Moreover, low levels of constraint have previously been identified as a predictor of substance use and driving, and risky driving behaviors in males (Begg, et al., (2003). It is possible that those who scored high according to the alienation factor and/or low on the traditionalism factor will have misrepresented themselves as persistently dangerous drivers, resulting in a spurious relationship between alienation/traditionalism and crash involvement.

2.3.5 Conscientiousness: it is a tendency to show self-discipline act dutifully, and aim for achievement. The trait shows a preference for planned rather than spontaneous behavior. It influences the way in which we control, regulate, and direct our impulses. Conscientiousness includes the factor known as need for achievement (NAch). The benefits of high conscientiousness are obvious. Conscientious individuals avoid trouble and achieve high levels of success through purposeful planning and persistence. They are also positively regarded by others as intelligent and reliable, on the negative side, they can be compulsive perfectionist and workaholics (McCare and Costa, 2003).

The definition for conscientiousness indicates that individuals who score high shows that their behavior is not spontaneous, but it is planned, regulated and controlled impulse. This implies that drivers, who score high in conscientiousness, avoid trouble and drive in a planned and alert, concentrated in his way. In relation to conscientiousness and involvement in vehicles crash (Arthur and Graziano, 1996), have reliable research evidences which demonstrated as they have an inverse relationship between them. Moreover, when measured as the extent to which people rate themselves as Self-disciplined, responsible and dependable, the Conscientiousness construct may reflect a general decision making model theoretically divergent from aggression. In addition, since it is argued that driving style reflects choices that drivers make (Elander, et al., 1993; Evans, 1991), it can be argued that driving style reflects personality and therefore should predict crash involvement (Arthur and Graziano, 1996). Thus, these personality characteristics may individually help to predict driving style as well as traffic accident involvement.

In general, much of the road safety research on personality has focused on crash risk, not driving behaviors. Grey et al., (1989) reported that personal factors which have been identified as associated with motor vehicle crash include generally high levels of aggression and Hostility, competitiveness, less concern for others, poor driving attitudes, driving for emotional release, impulsiveness and risk taking. These personality traits can be clustered into the Big Five Personality Traits in which extroversion and neuroticism are more exposed to accidents or they are accident proneness and the other three personality traits scored in negative ends shows a risky behavior in their driving behavior or job.

2.4 Demographic characteristics and traffic accident

Many factors related to drivers' risk were assessed in this literature. Regarding demographic variables of the driver (i.e. age and driving experience) are very strong personal factors that affect crash involvement. In one statistical study, young truck drivers (age 18-21) had moving violation rates that were almost twice those of the middle age drivers (30-49). Moreover, speeding above the speed limit and unsafe speeds for conditions were the two top violations

cited. In fact, young commercial drivers were reported to be about 50 percent more likely than middle-aged drivers to be charged with a violation in crash (Blower, 1996).

Young drivers (under 30 years old) are more likely to speed than other drivers are. Of all drivers involved in fatal crash, young males are most likely to speed. The relative proportion of speeding-related to fatal crashes decrease with increasing driver age (Blower, 1996). According to David Fergusson et al. (2003) said that risky driving behavior are common among young people, particularly young males are prone to externalizing behaviors (substance abuse, crime and traffic affiliation with deviant peers). Risky driving is strongly linked to traffic accident (NHTSA, 1998). Parrey (1968) also conducted a small exploratory study that consisted of a survey of the attitude and behaviors of 279 British motorists. The research result shows that male drivers aged 17-35 are more associated with increased collusions and sometimes they take unnecessary risks when they are driving.

Many researchers like Parker (1998) and Yagil (2001) explored age related differences in the propensity to commit traffic violations. Moreover, young males evaluate traffic laws negatively, more likely to underestimate the risks associated with traffic violations. Young drivers between age 18 and 25 are involved in more than 21% of the total accidents occur due to reckless driving and intoxication.

In our country Ethiopia, the likely hood of accident proneness related with age is that, less than 18 years, 18-30 years and 31-50 years and above 50 years is low, very high, high and very low respectively (NTMPS, 2007). The report also shows that early adult drivers are more accident prone than other age groups.

In general, age is associated with accidents in a number of ways. First, it influences the number and severity of the hazards individuals are exposed to, second, it is connected to competence that individuals have at particular tasks.

CHAPTER THREE

3. METHODOLOGY

The study has dealt with personality characteristics and risky driving behavior in relation to frequency of Traffic Accident in the past one year and seven months (i.e. September 1/2000 to April 30/7/2001) E.C. In addition to this, the research was designed to study the relationship between demographic variables (age and driving experience) and frequency traffic accident.

3.1 Variables in the study

In order to meet the objective of the research, there are two major clusters of independent variables, one dependent variable and two demographic variables.

The independent variables in the study are personality characteristics, which are abbreviated as OCEAN, and risky driving behaviors that have sub variables, namely, speed, violation and risk-taking in driving. The dependent variable is frequency of traffic accident involvement in the specified time (since September 1/2000 to April 30/2001 E.C). The demographic variables are age and driving experience.

3.2 Population and sampling

Population: In this research, the population of the study was the Addis Ababa vehicle drivers who were involved in car/ traffic accident accidents in the specified time period.

Sample and sampling techniques: the number of vehicle drivers who were involved in traffic accident in Addis Ababa in the last one-year and a half
(i.e. from 1/1/2000 to 30/06/2001 E.C.) was 12,040 (Addis Ababa Traffic Police Report 2000, 2001E.C.). The researcher employed availability-sampling techniques to select 262 participants for the study. In other words, 262 participants who were available in the four Traffic

Investigation Offices (Yeka, Lafto, Kolfe and Gulele) during the data collection period were selected.

3.3 Instruments

Data for the study were gathered using frequency of traffic accident questionnaire, personality scales and risky driving scales. All of the items are closed ended. A brief description of each follows.

Demographic items: The demographic sections of the survey consist of four items, which requested about background information and driving history of participants (i.e. age, experience, educational level and average distance driven per day in kilometer).

Frequency of traffic accident items: In this part of the questionnaire, the researcher developed eight items, which assess the frequency of traffic accident (FTAC), severity of the accident, types of accident and amount of traffic ticket taken during the past one year and seven months. Since the items measured different constructs, the researcher did not compute the items reliability but he made only logical content analysis of the questionnaire.

Personality Inventory: In order to measure the personality characteristics (OCEAN) of the respondents, the revised five factor Personality Test was used. All the items (40) were taken from Buchanan and Smith, (1999). Tom Buchanan, in the University of Westminster, reported Cronbach alpha reliability coefficient for the five-factor personality as follows: for openness (0.74), conscientiousness (0.84), extraversion (0.88), agreeableness (0.76) and neuroticism (0.83).

In the present research, the personality inventories (40 Items) were translated into Amharic. After translation has been made, the researcher administered the items for pilot testing. From the pilot study, the researcher obtained the following Cronbach alpha: for openness seven items (0.71), for conscientiousness nine items (0.82), for extroversion eight items (0.8), for agreeableness seven items (0.767) and for neuroticism nine items (0.759).

Risky driving behavior scales: Self reported acts of risky driving behavior in traffic were measured on three risky driving behavior scales, namely, speed, violations, and risk taking in driving (competitive driving and reckless driving) (Reason, et al., 1990, Ullberg and Rundmo, 2003, and Donovan, 1993). All the three risky driving subscales were measured on a five-point scale.

Speed scale: It is a subscale of risky driving behavior. Speeding was measured using ten items, which is derived from general driving behavior questionnaire of Reason, et al., (1990). The scale's reliability was 0.8 the researcher took the items directly and translated into Amharic. After translating the items, it was administered for 39 participants for pilot study. The resulting reliability coefficient, using Cronbach alpha, was 0.861.

Violation scale - A nine item basic traffic rule violation scale measured how often respondents deliberately violated traffic rules for their own purpose (for example disregard/bend traffic rules to arrive in time, ignorance of traffic rule violation). These items were pilot tested and the scale's reliability was 0.826. Traffic violation scale was adapted from Ullberge and Rundmo, (2003).

Risk taking driving scales-These scales consist of two subscales (i.e. competitive driving scale, and reckless driving scale). These scaled items were adapted from Reason et al., (1990), Ullberge and Rundmo, (2003) and Donovan (1993) which were measured on a five-point scale of risk taking driving behavior. Like other instruments, these were also translated into Amharic and passed through all the necessary steps in instrument development (i.e. the items were pilot tested for 39 participants and the reliability was 0.856).

3.4 Pilot Testing

The two scales, namely, personality inventory and risky driving behavior, and one survey questionnaire that are related with the frequency of traffic accident involvement were pilot tested on 45 drivers who were in Traffic Accident Investigation Main Office at Yeka Sub City for the

investigation of their traffic accident. Because six of the participants of the pilot study did not complete the questionnaire properly, the researcher excluded these from analyses. Thus, 39 drivers participated in the pilot study. They were selected through availability sampling techniques. Since drivers are mobile, (i.e. they drive from one sub-city to another in Addis Ababa and from town to town in the country) in their work nature, it is difficult to use other sampling techniques.

The purpose of the pilot study was to collect data for reliability analyses and screen items measuring the five factor personality characteristics (i.e. OCEAN), risky driving behavior (Speed, violation and risk taking in driving (SVRT)) and the survey questionnaire, which provides information about frequency of traffic accident/crash involvement. Another purpose of the pilot study was to examine whether the items were appropriate for participants in terms of clarity, wording and difficulty. In pilot study, those items, which were not clear, and those about which the participants raised frequent questions were improved. Finally, the responses of the pilot-study group were subjected to reliability analysis. The cronbach alpha coefficient of the items with over all totals was computed and the results of the reliability analysis were presented below in summary form.

Cronbach's alpha correlation coefficient of scaled items

No	Factor	alpha
1	Personality Inventory	
	1.1 Openness	0.71
	1.2 conscientiousness	0.82
	1.3 Extroversion	0.80
	1.4 Agreeableness	0.77
	1.5 Neuroticism	0.76
2	Risky driving behavior scale	
	2.1 speeding	0.86
	2.2 Violation	0.83
	2.3 Risk taking driving	0.86

3.5 Procedures of data collection

After items were finalized (Scales or questionnaires were adapted, improved, translated and the necessary changes have been made), the final survey was carried out from March 15 to April 30 in the selected research sites (that is the four Traffic Investigation and Administration Offices in Addis).

Almost similar procedures were followed in all research sites while conducting the final survey. Using the support letter from the University, the researcher requested permission from each research site head and passed through all bureaucracy in the organization.

After the researcher got the permission to conduct the research and collect data, he spent three days to observe drivers' emotional reaction and find out in what way the researcher could approaches and establish rapport. After getting participants and introducing the researcher and

the purpose of the study, the researcher also requested each participant his informed consent in order to assure that each participant is willing or volunteer to participate in the study. The researcher also gave instruction before the participants started to fill in the questionnaire and administered the questionnaire for those who were willing to fill in. To complete the whole items, it took almost one hour. Finally, making sure that each participant completed the items properly and the researcher thanked.

3.6 Methods of data analysis

The statistical- methods used to analyze the collected data were descriptive statistics like percentage, Pearson's r and regression analysis.

Percentage: This statistical method helps the researcher to describe the general background information about participants' age, experience, educational level and distance driven per day in kilometers. In addition, it was also used to compute how many of the respondents were driving safely. Moreover, the researcher used percentage to describe participants who were frequently involved in fatalities, injuries and property damage and to find out the percentage of drivers who were frequently involved in traffic accident.

Pearson's r is the major statistical method that answered the research questions, which also used to compute the strength and the direction of the association among the variables (i.e. personality characteristics, risky driving behavior, demographic characteristics and frequency of traffic accident).

Regression: is the major statistical method that answered the question of the research, which was computed for drivers' frequency of traffic accident and risky driving behavior in terms of each independent variable. Then multiple regression analyses were performed to examine the contribution of the independent variables on frequency of traffic accident and risky driving behavior. Moreover, multiple regression analyses and stepwise regression analyses were employed to identify variables, which were relatively high predictors of FTAC.

CHAPTER FOUR

4. RESULTS

This part deals with the presentation, analyses and interpretation of the collected data. In the first section of the research, the characteristics of the participants in terms of age, driving experiences, educational level and average distance driven per day are presented. The analyses of the major variables association and the relative contribution of independent variables in predicting the dependent variable of interest are dealt within the second and third section respectively.

4.1 Participants demographic characteristics

Frequency of the respondents' Traffic accident involvement with respect to demographic characteristics has been summarized in the table below.

Table 1: *Participants by their demographic characteristics*

Demographic characteristics	Respondents	
	Frequency	Percentage
Age group		
Youth (18-30) years	159	60.8
Adult (greater than 30 years)	103	39.2
Experience of Driving		
1- 5 years	114	49.5
6-10 years	103	39.3
More than 10 years	45	17.2
Educational Level		
Primary education	56	21.4
Secondary education	141	53.8
Higher education	65	24.8
Average distance driven		
Less than or equal to100 km/day	94	35.9
101-200km/day	122	46.6
Greater than200 km/day	46	17.6

From the above table, one can see that three/fifth of the respondents were youth whereas the rest were adults. With regard to experience, almost half of respondents had an experience of driving in the range of one to five years, and almost $2/5^{th}$ of them had driving experiences in the range of six to ten years. Only 17.2% had experience of driving more than ten years. The table also shows that the respondents' educational level ranged from primary to higher education, most of them having secondary education. Moreover, the table shows that 35.9%, 46.6% and 17.6% of the respondents reported that they were driving less than 100km/day, 100-200km/day and more than 200 km/day respectively.

Table 2: *FTAC involvement by demographic characteristic*

Demographic characteristics	Respondents Frequency of traffic accident							
	Once		Twice		Three and ve		Total	
	No.	%	No.	%	No.	%	No.	%
Age group								
Youth (18-30)years	107	67.3	34	21.4	18	9.5	159	100
Adult (>30) years	78	75.7	18	17.5	7	4.4	103	100
Driving Experience								
One to five years	71	62.2	9	7.9	13	11.4	114	100
Six to ten years	77	74.7	26	25.2	10	9.7	103	100
More than 10 years	37	82.2	7	6.7	2	2.2	45	100
Educational level								
Primary education	40	71.4	11	19.6	5	8.9	56	100
Secondary education	95	67.4	29	20.5	17	12.0	141	100
Higher education	50	73.5	12	18.4	3	4.6	65	100
Average distance driven								
<=100 km/day								
101-200km/day	66	70.2	19	20.2	9	9.5	94	100
>200 km/day	87	71.3	24	19.5	11	9.0	122	100
	32	69.5	9	19.5	5	10.8	46	100

As Table-2 shows large percent of traffic accident were accounted by adults in once groups of frequency of traffic accident. In twice frequency of traffic accident youths involvement in traffic accident was more than 3.9percent adults are. With regard to the three times and above, youth's involvement in frequency of traffic accident was more than two times the involvement of adults. In relation to driving experiences, drivers who had driving experience of one to five and six to

ten year and more than ten years experiences were involved in traffic accident and accounted 62.2percent, 74.7percent and 82.2percent respectively in the once group of frequency of traffic accident. In twice FTAC, participants who had experiences one to five, six to ten year and more than ten years accounts 7.9percent, 6.7percent and 25.2percent of the participants respectively. In the three times and above FTAC, the participants who had experience of driving one to five year, six to ten and above ten years were involved in FTAC were11.4 percent 9.7percent and 2.2percent respectively.

Moreover, the above table summarized participant's educational level with regard to their frequency of traffic accident. As it shows the percentage coverage within the once group of FTAC participants in the three educational level (i.e. primary, secondary and higher education), they accounted 71percent, 67percent and 73percent respectively. In twice FTAC involvement, almost similar percentage accounted among the three educational levels (i.e. 19percent). In the three times and above FTAC involvement, the secondary educational level participants accounted nearly equal to the sum of the rest educational level participants.

Finally, according to the amount of distance driven per day, respondents were ranked in descendent order in the involvement of FTAC (i.e. 100-200km/day, less than or equal to 100km/day and greater than 200km/day first second and third respectively with in the once groups of FTAC and almost similar percentage account were observed in the three educational level with regard to twice, and three times and above frequency of traffic accident.

Table 3: Respondents frequency by their type of traffic accident

Demographic variables	Frequency of respondents by types of accident							
	People		Vehicle		Other		Total	
	No	%	No.	%	No.	%	No.	%
Age group								
Youth (18-30) years	64	40.3	85	53.4	10	6.2	159	100
Adult (>30) years	42	40.7	58	56.3	3	2.9	103	100
Driving experience								
One to five year	43	37.7	55	48.2	5	4.3	114	100
Six to ten years	47	45.6	60	58.2	7	6.8	103	100
Above ten years	16	35.5	28	62.2	1	2.2	45	100
Educational level								
Primary education	27	19.1	25	44.6	4	7.1	56	100
Secondary education	55	39.0	80	56.7	6	4.3	141	100
Higher education	24	36.9	38	58.4	3	4.6	65	100
Average distance driven per								
	37	39.4	51	54.2	6	6.4	94	100
<=100 km/day	50	40.9	45	36.9	7	5.7	122	100
101-200km/day	19	41.3	27	58.7	0	0	46	100
>200 km/day								

Table 3 shows youth's involvement in traffic accident by the type of accident they faced. From the table, one can see that youth's and adult's accident involvement on people is almost equal 40percent and only a slight differences is between youths and adults with the involvement of vehicle accident in which adults are more involved in vehicle accident (3percent). In relation to other property damage youths and adults were also involved with the same percentage, differs with vehicle crash (3percent). With regard to one to five and above 10 years driving experience, respondents percentage have almost uniform accounts (37.7percent and 35.5percent), but in the experience of 6 to 10 years of the respondents (45.6 percent) were involved in people fatality and injury. Participants with driving experience of above 10 years (which is nearly two-third) were involved in vehicle crash and the rest drivers, who had experiences of above 10 years, accounted 2.2percent and they were involved in other property damage or crash.

In relation to educational level, and the types of accident they faced (people, vehicle or other property) which accounts one-fifth, two-fifth and 36% of the participants involved in injuries and fatalities crashed were primary, secondary and higher education level respectively. In addition to this the table shows that respondents involved in vehicle crash were 44.6percent, 56.7percent and 58percent from primary, secondary and higher educational level respectively. In relation to other property damage, respondents' percentage was 7.1percent, 4.3percent and 4.4percent from primary, secondary and higher educational level respectively.

Finally, in relation to average distance driven per day respondents' involvement in injuries and fatalities crashed were almost 40percent in the three groups of the respondents. There is also similar percentage account between respondents who drove less than or equal to 200km per day. However, participants, who drove greater than 200 km per day did not involve in property damage. With regard to participants involvement in vehicle crash, 54.2%, 36.9% and 58.7% of respondents who drove less than or equal to 100 km/day, 101 to 200 km/day and greater than 200 km/day were involved in vehicle crash.

Table 4 Number of traffic ticket taken with respect to demographic characteristics

Demographic Variables		Frequency of traffic ticket taken							
		1-3 times		4-6 times		7-9 times		10 and above	
		No.	%	No.	%	No.	%	No.	%
Age group	Youth(18-30) years	12	7.5	16	10.1	64	40.2	67	42.1
	Adult (>30) years	14	13.9	11	6.9	35	22.0	43	41.7
driving Experience	1-5 year	12	10.5	6	5.2	39	34.2	46	40.3
	6-10 year	9	8.7	14	13.6	44	42.7	47	45.6
	>1o years	5	11.1	7	15.5	16	35.5	17	37.7
Educational level	Primary education	5	8.9	9	16.0	16	28.6	24	42.8
	Secondary education	12	8.5	16	11.3	56	49.2	62	43.9
	Higher education	9	13.8	2	3.1	27	41.5	24	36.9
Average Distance	<=100km/day	7	7.4	9	9.6	33	35.1	45	47.8
	101-200km/day	16	13.1	16	13.1	44	36.0	46	37.7
	> 200km/day	3	6.5	2	4.3	22	47.8	19	41.3

One can observe from table 4, that the frequency of traffic ticket taken by adults were more than youths traffic ticket taken in the range of one to three times but the reverse is true (i.e. when the number of traffic ticket taken increases the youths frequency were greater than adults). This implies that as the number of traffic ticket taken increases the ages of participants' decrease in the range greater than the number of traffic ticket taken more than three times.

In relation to experiences, except in one to three times frequency of traffic ticket taken, as the experience increases, the percentage of traffic ticket taken decreases, and the same is true for those who took traffic ticket above 10 times. Nevertheless, the reverse is true in frequency of traffic ticket taken 4 to 6 times and 7 to 9 times. This implies that as the participant's experiences

increase the number of traffic ticket taken also increases. In relation to educational level, respondents at secondary educational level, higher education level and primary educational level were in their order of number of traffic ticket taken (i.e. the first, second and third rank order respectively). Average distance driven per day and the number of traffic ticket were ordered in table 4 shows that the first, second and third order of frequency of traffic ticket taken were participants who have 101-200km/day, less than or-equal to 100km/day and above 200km/day respectively.

4.2 Relationships of the variables under the study

In order to see the strength of the relationship among predictor variables age, experience, openness, conscientiousness, extroversion, agreeableness, neuroticism, speed, violation, competitive driving and reckless driving) and the criterion variable (frequency of traffic accident) zero-order correlation among the variables was employed.

Table-5 Zero order correlation matrix among the variable under study

	Age	Expe.	FTAC	Speed	VTR	CD	RD	O	C	E	A	N
Age	1	.938(**)	-.355(**)	-.832(**)	-.789(**)	-.859(**)	-.821(**)	-.019	.218(**)	-.252(**)	.046	-.344(**)
Expe.	.938(**)	1	-.266(**)	-.768(**)	-.693(**)	-.757(**)	-.742(**)	-.029	.103	-.243(**)	-.024	-.226(**)
FTAC	-.355(**)	-.266(**)	1	.434(**)	.313(**)	.425(**)	.328(**)	-.113	-.165(**)	.140(*)	-.030	.157(*)
Speed	-.832(**)	-.768(**)	.434(**)	1	.701(**)	.833(**)	.815(**)	.079	-.254(**)	.453(**)	.075	.253(**)
VTR	-.789(**)	-.693(**)	.313(**)	.701(**)	1	.784(**)	.811(**)	-.168(**)	-.260(**)	.213(**)	-.168(**)	.366(**)
CD	-.859(**)	-.757(**)	.425(**)	.833(**)	.784(**)	1	.888(**)	.014	-.212(**)	.342(**)	-.031	.306(**)
RD	-.821(**)	-.742(**)	.328(**)	.815(**)	.811(**)	.888(**)	1	.084	-.192(**)	.350(**)	.029	.103
O	-.019	-.029	-.113	.079	-.168(**)	.014	.084	1	.251(**)	.225(**)	.456(**)	-.361(**)
C	.218(**)	.103	-.165(**)	-.254(**)	-.260(**)	-.212(**)	-.192(**)	.251(**)	1	-.096	.637(**)	-.490(**)
E	-.252(**)	-.243(**)	.140(*)	.453(**)	.213(**)	.342(**)	.350(**)	.225(**)	-.096	1	.074	.103
A	.046	-.024	-.030	.075	-.168(**)	-.031	.029	.456(**)	.637(**)	.074	1	-.549(**)
N	-.344(**)	-.226(**)	.157(*)	.253(**)	.366(**)	.306(**)	.103	-.361(**)	-.490(**)	.103	-.549(**)	1

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

As can be seen from Table5, frequency of traffic accident was negatively and significantly related to age/r = -0.355, $p<0.01$), experience ($r=-0.266$, $p<0.01$) and conscientiousness($r= -0.165$, $p<0.01$). To the contrary frequency of traffic accident was positively and significantly related to speed ($r=0.434$, $p<0.01$), violation($r=0.313p<0.01$), competitive driving ($r=0.425$, $p<0.01$), reckless driving($r=0.325$, $p<0.001$) extroversion ($r=0.14$, $p<0.05$) and neuroticism ($r=0.157$, $p<0.051$). Nevertheless, the variables openness and agreeableness have no significant relationship with frequency of traffic accident ($p<0.05$).

In addition, some of the predictor variable (OCEAN) was significantly correlated with some of risky driving behavior. That is openness was negatively and significantly correlated with violation ($r=0.168$, $p<0.01$). conscientiousness was negatively and significantly correlated with speed ($r=-0.254$, $p<0.01$), competitive driving ($r=-0.12$, $p<0.01$), violation ($r=-0.266$, $p<0.01$ and reckless driving ($r=-0.192$, $p<0.01$). extroversion was positively and significantly correlated with speed ($r=0.453$,$p<0.01$), competitive driving ($r=0.342$, $p<0.01$), violation ($r=0.213$,$p<0.01$) and reckless driving ($r=0.350$, $p<0.01$). Agreeableness was negatively and significantly correlated only with speed ($r=-0.168p<0.01$). Finally neuroticism was positively and significantly correlated with speed ($r=0.253$, $p<0.01$), competitive driving ($r=0.306$, $p<0.01$) and violation ($r=0.366$, $p<0.01$).

With regard to the correlation among demographic characteristics and risky driving behavior, the result was as follows. Age was negatively and significantly correlated with speed ($r=0.832$, $p<0.01$), violation ($r=-0.789$, $p<0.01$), competitive driving ($r=-0.821$, $p<0.01$). The other demographic characteristic, experience was negatively and significantly correlated with speed ($r=-0.768$, $p<0.01$), violation ($r=-0.693$, $p<0.01$), competitive driving ($r=-0.757$, $p<0.01$) and reckless driving ($r=0.742$, $p<0.01$).

4.3. Predicting frequency of traffic accident (FTAC)

4.3.1 Predicting FTAC from personality characteristics

In order to see the combined and relative contribution of personality variables in the prediction of frequency of traffic accident multiple regression analyses were carried out.

Table 6 *multiple regression analysis results for predicting FTAC from OCEAN*

Model	Unstandardized coefficient		Standardizd coefficient	t	Sig.
	B	Std. Error	Beta		
(Constant)	-.106	.693		-.153	.879
Openness	.002	.007	.022	0.343	.732
Conscientiousness	-.029	.013	-.181	-2.53	.025
Extroversion	.045	.015	.207	2.957	.003
Agreeableness	.018	.016	.095	-1.78	.282
Neuroticisms	.031	.012	.194	2.570	.011

a. Dependent Variable: FTAC, ($R=0.298$, $R^2=0.089$, $Adj.R^2=0.0.088$, $SEE=18.428$, $F=5.006$, $p<0.000$)

The multiple regressions Table (Table 6) shows that all the independent variables combined together had significant contribution for the prediction of FTAC. All of them added significantly to the prediction of FTAC, which accounts for about 8.8% of the variance in FTAC.

In order to know the relative contribution of each personality characteristics to the prediction of FTAC, a stepwise regression analysis was employed.

***Table** 7 Stepwise regressions analysis result for predicting FTAC from OCEAN*

(Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100).

Model	R	R^2	Adj. R^2	SEE	R^2 Change	F change	Sig.
1	.165(a)	.027	.024	.669	.027	7.310	.007
2	.250(b)	.063	.055	.658	.035	9.734	.002
3	.290(c)	.084	.073	.652	.022	6.058	.014

a. Predictors: (Constant), Conscientiousness

b. Predictors: (Constant), Conscientiousness, Extroversion

c. Predictors: (Constant), Conscientiousness, Extroversion, and Neuroticisms

Table 7 shows that in the first step conscientiousness was entered into the regression model and the result of the regression analyses indicates that conscientiousness accounts for 2.7% of the proportion of the variance in FTAC. In the second step, extroversion was selected in the regression model and is found to explain 3.6% of the variance in FTAC. Then the score of neuroticism entered into the model and found to be contributed 2.1% of the explained variance. Thus, the independent variables entered in the regression model together explained 8.4% of the variance in the FTAC. The remaining variables agreeableness and openness did not contribute in explaining the variance in the frequency of traffic accident. If the scores of these two variables are to be included, they raised the explained variance to 8.9%, an increase of 0.5%, which is not significant at $p<0.05$. The F test of the variable entered in the regression model revealed the independent contribution of conscientiousness, extroversion and neuroticism to the variance in FTAC is significant ($p<0.05$).

4.3.2 Predicting FTAC from risky driving behavior

In order to see the combined contribution of the independent variables, speed, violation, competitive driving and reckless driving, a multiple regression analysis was employed.

Table 8 *multiple regression analyses for predicting FTAC from risky driving behaviors*

Model	Unstandardized coefficient		Standardized coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	-.497	.325		-1.530	.127
Speed	.055	.016	.350	3.367	.001
Violation	.001	.012	.012	.129	.898
Competitive driving	.045	.014	.447	3.344	.001
Reckless driving	-.042	.016	-.364	-2.705	.007

a. Dependent Variable: FTAC, (R =0. 476, R^2=0.227, Adj.R^2=0.215, SEE = 0.600, F = 18.824, P=0.000).

The multiple regressions Table (Table 8) shows that all the independent variables combined together had significant contribution for the prediction of FTAC. All of them added significantly to the prediction of FTAC which accounts for about 21.5%% of the variance in FTAC.

Moreover, to find out the relative contribution of each risky driving behavior in the prediction of FTAC, a stepwise regression analysis was employed.

Table 9- *stepwise regression analysis result for predicting FTAC from risky driving behavior (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100).*

Model	R	R^2	Adj. R^2	SEE	Change Statistics		
					R^2 change	F change	Sig.
1	.434(a)	.189	.186	.611	.189	60.474	.000
2	.449(b)	.202	.196	.607	.013	4.228	.041
3	.476(c)	.227	.218	.599	.025	8.277	.004

a. Predictors: (Constant), Speed

b. Predictors: (Constant), Speed, competitive driving

c. Predictors: (Constant), Speed, competitive driving, and reckless driving

Table 9, shows that in the first step speed was entered into the regression model. The result indicates that speed accounts for 18.6% of the proportion of the variance in FTAC. In the second step, Competitive driving entered in the regression model and is found to explain 1% of the variance in FTAC. Then the score of reckless driving entered into the model and found to be contributed 2.2% of the explained variance. Thus, the independent variables entered in the regression model together explained 21.8% of the variance in the FTAC.

The remaining variable (violation) did not contribute in the variation of the explained varianc. If the score of violation is to be included, it decreased the explained variance to 21.5%. It is a decrease of 0.3%, which is not significant at $p<0.05$. In addition, the F test of the variable entered in the regression model indicated that the independent contribution of speed, competitive driving and reckless driving to the variance in FTAC is significant at $p<0.05$.

4.3.3 Predicting FTAC from demographic characteristics

To find out the combined contribution of demographic characteristics (age and experience), a multiple regression analysis was employed.

Table10 *multiple regression analysis result for predicting FTAC from age and experiences*

Model	Unstandardize Coefficient		Standardized Coefficient	t	Sig.
	B	Std. Error	Beta		
(Constant)	3.402	.336		10.120	.000
Age	-.087	.016	-.873	-5.344	.000
Experience	.081	.024	-.552	-3.380	.001

a. Dependent Variable: FTAC, (R=0 .404, R2 =0.163, Adj. R^2 =0.157 SEE=0.622, F=245.257, P < 0.000).

As it is shown in table 10, to compute the combined contribution of the independent variables, age and experience a multiple regression analysis was employed. The multiple regression table show that both the independent variables combined had significant contribution for the prediction of FTAC. Both of them added significantly to the prediction of FTAC, which accounts for about 16.3% of the variance in FTAC.

Furthermore, the researcher computed the relative contribution of demographic characteristics (age and experience) by stepwise regression analysis.

Table 11 Stepwise regression analysis results for predicting FTAC from age and experiences (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100)

Model	R	R^2	Adj. R^2	SEE	R^2 change	F Change	Sig.
1	.355(a)	.126	.123	.634	.126	37.584	.000
2	.404(b)	.163	.157	.622	.037	11.423	.001

a. Predictors: (Constant), Age

b. Predictors: (Constant), Age, Experiences

As table 11, show that age is the first variable entered in the stepwise regression model and accounts 12.3% of the variance in the explained variance. In the second step, experience was entered the model and found to be account for about 3.4% of the explained variance. Thus the independent variables (age and experience) entered in the regression analysis model together explained 16.3% of the variance in FTAC.

4.4 Predicting risky driving behavior

4.4.1 Predicting risky driving behavior from demographic characteristics

In order to see the combined contribution of the demographic characteristics of age and experience to the prediction of risky driving behavior, a multiple regression analysis was conducted.

Table 12 *multiple regression analysis for predicting Risky-driving behavior from age and experiences*

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	210.799	4.815		43.778	.000
Age	-3.584	.232	-1.175	-15.438	.000
Experiences	1.328	.343	-.295	3.872	.000

a .Dependent Variable: Risky driving behavior Total.

(R =0.905, R^2 =0.81 Adj.R^2=.817, SEE=8.904 F=583.64 P< 0.000)

Table 12, shows that both the independent variables (age and experience) combined has significant contribution for the prediction of risky driving behavior. Both of them added significantly to the prediction of risky driving behavior, which accounts for about 81.8% of the variance in risky driving behavior.

A stepwise regression analysis was conducted, in order to see the relative contribution of each predictor variable (age and experience) to the prediction of risky driving behavior.

Table 13 *Stepwise multiple regression analysis result for predicting risky driving behavior from age and experiences (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100).*

Model	R	R^2	Adj.R^2	Std. Error of the Estimate	Change Statistics		
					R^2 Change	F Change	Sig. change
1	.899(a)	.808	.807	9.140	.808	1093.450	0.001
2	.905(b)	.818	.817	8.904	.011	14.991	

a. Predictors: (Constant), Age

b. Predictors: (Constant), Age, Experiences

Besides, the combined contribution of the variable, the researcher computed the relative contribution of both variables (age and experience). In the stepwise regression analysis, both of the independent variables have significant contribution to the prediction of risky driving behavior. The variable age was entered first in the stepwise regression with a contribution of 0.807 of the variance in risky driving behavior followed by driving experience, which contributed 0.01 (accounting about 1% of the variation in risky driving behavior).

4.4.2. Predicting risky driving behavior from OCEAN

To see the combined contribution of the personality characteristics (openness, conscientiousness, extroversion, agreeableness, and neuroticism) a multiple regression analysis was conducted.

Table 14 *multiple regression analysis result for predicting risky driving behavior from OCEAN*

Model	Unstandardized Coefficient		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	61.028	19.583		3.116	.002
Openness	-.259	.434	-.038	-.598	.551
Conscientiousness	-1.190	.363	-.242	-3.75	.001
Extroversion	1.047	.199	.306	5.264	.000
Agreeableness	1.518	.465	-.266	3.268	.001
Neuroticisms	1.233	.339	.252	3.637	.000

a. Dependent Variable: Risky driving Total

($R=0.481$, $R^2=0.231$, Adj. $R^2=0.216$ SEE $=18.428$, $F=15.39$, $P< 0.000$)

As it is shown in table 14, the combined contribution of the independent variables, openness, Conscientiousness, extroversion agreeableness and neuroticism a multiple regression analysis was employed. The multiple regression table (table 14) show that all the independent variables combined together had significant contribution for the prediction of frequency of risky driving behavior (FRDB). All of them added significantly to the prediction of FRDB, which accounts for about 21.6 % of the variance in FRDB.

Furthermore, the researcher computed the relative contribution of personality characteristics (OCEAN) using stepwise regression analysis. Moreover, stepwise regression analysis was carried out to see the relative contribution of each personality characteristic (OCEAN) in the prediction of frequency of risky driving behavior.

Table 15 *Stepwise regressions analysis result for predicting risky driving behavior from OCEAN (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100).*

Model	R	R^2	Adj. R^2	Std. EE	Change Statistics		
					R^2 change	F change	Sig. F change
1	.366(a)	.134	.131	19.405	.134	40.298	.000
2	.434(b)	.189	.182	18.821	.054	17.364	.000

a. Predictors: (Constant), Extroversion

b. Predictors: (Constant), Extroversion, Neuroticism

Table 15 shows that, in the first step extroversion was entered in the regression model. The result indicates that extroversion accounts for about 13.1% of the proportion of the variance in risky driving behavior. In the second step, neuroticism was entered in the regression model and is found to explain 5.1% of the variance in risky driving behavior. Thus, the independent variables entered in the stepwise regression model (extroversion and neuroticism together explain 18.2% of the variance in risky driving behavior).

The remaining variables (openness, conscientiousness and agreeableness) did not contribute in explaining the variance in frequency of risky driving behavior. If the score of these three variables are to be included, they raised the explained variance to 21.6%, which is an increase of 3.4% and which is not significant at $p<0.05$.

The F test of the variable in the regression model revealed that the independent contribution of extroversion and neuroticism to the variance in risky driving behavior is significant ($p<0.05$)

CAPTER FIVE

5. DISCUSSION

The discussion section attempts to relate the result of the analyses with the research questions forwarded at the beginning. The research result in relation to other related findings were briefly discussed as follow.

5.1 Personality characteristics and FTAC

The result of the present study indicates significant relationship between the three personality characteristics (conscientiousness, extroversion and neuroticism) and FTAC. In this regard, the results of the correlation analysis reveal that there is a significant negative correlation of conscientiousness scores with measures of FTAC. It is understandable from the result that individuals, who score poor or low in conscientiousness tests, have some important associations with frequency of traffic accident. The stepwise regression analysis also confirms that the relative contribution of conscientiousness is found to be significant in predicting FTAC. Stated differently, conscientiousness is found to be the best and consistent predictor of FTAC from other personality characteristics. In addition, the regression analysis indicates that the conscientiousness variable also exerts an important and significant influence for FTAC when taken simultaneously with other personality characteristics.

In general, individuals are poor in self-discipline; do not have aim for achievement; do not know preference for planned rather than spontaneous behavior; fail to score high in conscientiousness; do not avoid trouble drive in a planned and alert way and do not concentrate in their way are likely to involve in FTAC.

These outcomes agree with various research findings. In relation to conscientiousness and involvement in vehicles crash, Arthur and Graziano (1996) have reliable research evidences, which demonstrated as they have an inverse relationship between them. Since driving style reflects choices that drivers make, (Elander, West, & French, 1993; Evans, 1991), it can be

argued that driving style reflects personality and therefore should predict crash involvement. Thus, these personality characteristics may individually help to predict driving style as well as traffic accident involvement.

The other personality characteristic to be discussed is extroversion. Regarding extroversion, the result of correlation analysis with FTAC reveals that there is a significant positive correlation between the variables. It is understandable from this result that individuals who have positive emotion, urgency, tendency to seek out stimulation and the company of others, have important associations with FTAC. The stepwise regression analysis also confirms that the relative contribution of extroversion is found to be significant in predicting FTAC. In other words, high extroversion is found to be the second best predictor of FTAC relative to other personality characteristics. In addition, the regression analysis indicates that, the extroversion variable also exerts an important and significant influence for FTAC when taken simultaneously with other predictor variables.

Generally, individuals who tend to be enthusiastic and action oriented, are more likely to say, "yes" or "let's go" to opportunities for excitement, and are often perceived as full of energy therefore, they are likely to involve in frequent traffic accidents.

In this regard, these findings are in agreement with some research findings and contrary with some other research findings. The finding is in contrary with findings of Lee and his colleagues, (2006) cited the work of Liao et al. (2001). Thus, In relation to introversion-extroversion, they found that personality traits including introversion were related to higher injury rates on the job. They suggested that introverts were less likely to call for assistance, and as fire fighting requires a high degree of teamwork, and they exposed themselves to greater personal risks. The study of the fire fighters in U.S. particularly interesting because the general view in psychology is that extroversion is the characteristics that are associated with accidents. These apparently contradictory findings, illustrates how personality characteristics can interact with the situation

some one is in, and the type of task they are asked to carry out, to produce an unsafe environment.

In contrary to the above research findings, there are other research findings, which are in agreement with the present research out come. Thus, extroversion is associated with being impulsive, energetic excite seeking and so on. Because of this, they have been found to be a feature in people who have car accident and accident at work (Furnham and Heaven, 1999). Moreover, Wilson (1990) demonstrated that none users of safety belts were higher sensation seeker more impulsive (which characterizes the extroversion personality trait) and accumulated more traffic violation than moderate and consistent users of safety belts. Furthermore, Shiner (1998) also suggested that drivers possessing traits, associated with extroversion or type A personalities might be more likely to involve in risky driving behavior.

The last personality characteristic to be discussed is neuroticism. Neuroticism is positively and significantly related with FTAC. From this, it is possible to conclude that, individuals who have the tendency to experience negative emotion such as anger, hostility, anxiety or depression have the opportunity to involve in FTAC. These Show that drivers who score high levels of anxiety while driving experiences more negative attitude towards committing a traffic violation as a result of these individuals who score high in anxiety which is a manifestation or characteristics of neurotic individuals are less likely to involve in traffic accident or in a risky driving behavior. In contrast to this individuals whose personality characterized of anger (score high in anger scale), involved in high traffic accident.

The result of stepwise regression for neuroticism also confirms that the relative contribution of the variable is found to be significant in predicting FTAC. This means that neuroticism is the third predictor of FTAC relative to other personality characteristics. The combined contribution of neuroticism when taken simultaneously with other personality characteristics is also significant.

Therefore, individuals who score high in neuroticism are emotionally reactive and vulnerable to stress, they are also more likely to interpret ordinary situations as threatening, and minor frustration as hopelessly difficult. These problems in emotional regulation can diminish a neurotic ability to think clearly, make decision and cope effectively with stress. This in turn results in inattention driving, which might have significant effect and contribution in the involvement of frequent Traffic Accident.

This finding is in line with some researches. Yagil's (2001) research outcome indicates that individuals who experienced high levels of aggression, anger, hostility or... also experiences more positive attitude towards engagement in traffic violations than drivers who experienced low level of aggression, anger... which in turn results in frequent traffic accident.

5.2 Risky driving behavior and FTAC

The finding of the present study indicates a significant relationship between risky driving behavior and FTAC. As it is clear from, the correlation analysis, the risky driving behaviors scores have significant positive correlation coefficients with frequency of traffic accident involvement.

The research result shows that frequent speeding in day-to-day driving experiences of participants shown to have significant association with frequently involvement in traffic accident.

Similarly, the stepwise regression analysis further assures that the relative contribution of speed is found to be significant in predicting frequent involvement in traffic accident. In addition, speed is the best predictor of frequent traffic accident involvement relative to other risky driving behaviors. Moreover, when all the risky driving behaviors were taken simultaneously, the multiple regression analysis reveals that speed exerts important and significant influence for frequency of traffic accident.

In general, one can conclude from the result that individuals, who frequently drove above the speed limit or violated speed limit in any place and time, are more likely to involve in frequent traffic accident.

This finding is in agreement with many researches. For example, Evans (1991) pointed out that, Vehicle crashes have reliably co-varied with increase and decrease in the national speed limit. According to (Jonah (1986) Speed has been positively correlated with crashes per distance. Excessive driving (speed) is one of the most important contributors to road accident regardless of driver age and level of skill (Elliott et al., 2004). Brown and Cotton, (2003) also reported that, Even when aware of the potential consequences for speeding, drivers in Australia still indicate involvement in accident behavior.

Clarke, Ward and Truman (2002) also suggested that speed was the most common factor involving in driving offence among young drivers. Similarly, West and Hall (1997) found that speed was a significant risk taking behavior while driving. When respondents focused on specific locations, while Brown and Cotton found a similar result when respondents were asked to consider the over all proportion of time they exceeded the speed limit. They also suggested that involvement in speeding behavior might also be due to a low probability of negative out come, as was indicated for self-behavior.

In Ethiopia, speed accounts 11.1% of the total traffic accidents, but this percentage is duet to under reporting of the accident since there are no enough radiators that controls drivers speeding (NTMPS, 2007).

Regarding the scores of violation of traffic rules, the result shows that, there was significant and positive correlation of violation of traffic rules with frequency of traffic accident involvement. Stated differently, individuals who score low in violation of traffic rules have low correlation or association with the involvement of frequent traffic accident.

Besides the correlation coefficients, the researcher employed regression analysis in order to see the predictive value of violation in predicting frequency of traffic accident involvement. The regression analysis model reveals that the relative contribution of violation of traffic rules to the involvement in frequent traffic accident is not significant. Moreover, the multiple regression analysis shows that there is a decrease in the explained variance with 0.3%, which is also not significant at $p<0.05$. Clearly, for the present sample, violation of basic traffic rules did not contribute for the variation of frequency of traffic accident involvement. This might be partly due to chance error or may be due to high correlation with other related variables, the contribution of this variable was taken over by the three (risky driving behavior particularly by speed which accounts the highest variances in the involvement of FTAC.

In contrast to this finding, Ullberg & Rundmo (2002) found that violation of traffic rules have significant correlations with FTAC. According to them while driving, with reported driving violations it predicts future accident involvement.

The other important variable, which has relationship with the frequency of traffic accident, was Competitive driving. The present research outcome reveals that competitive divining is positively and significantly correlated with frequency of traffic accident. This implies that individuals, who have intention of competition, have shortage in time, and need to get much money, are likely to involve in FTAC. Besides the correlation coefficient made it clear, competitive driving is a more predictor of FTAC than reckless driving and violation of traffic rules. The stepwise regression analysis also confirms that the relative contribution of competitive driving is found to be significant in predicting FTAC next to speed. In other words, competitive driving is the second best predictor of FTAC involvement as compared to other risky driving behavior. Moreover, the multiple regression analysis shows that competitive driving exerts an important influence in the frequency of traffic accident when it is taken simultaneously with other predictor variables.

To conclude, individuals who are competitive in driving (who have shortage of time, need to collect much money), turn, pass and park improperly resulted in frequent traffic accident. That means, as drivers frequently turn, pass and park improperly, they also involved in frequent traffic accident.

The result of this finding is in agreement with other findings. For example, Thomas, (1999) found that competitive driving and reckless driving (....improper tuning and passing) were the major factor which results in frequent risky driving behavior and which also resulted in frequent traffic accident.

The result of the present research study reported a significant relation-ship between reckless driving and frequency of traffic accident. As it is clear from correlation analysis, like speed and competitive driving, the reckless driving scores have also significant positive correlation coefficients with FTAC. Here it shows that, the frequent involvement in reckless driving resulted in a frequent involvement in traffic accident. In other words, individuals who frequently drive recklessly(i.e. use cell phone while driving, drinking and driving, chewing "chat" and driving, non-user of safety belts, etc.) are involved infrequent traffic accident. In addition, individuals who made his driving tasks more difficult with off task behavior are positively associated with frequent traffic accident.

Besides the correlation coefficient mad it clear that, the frequency of traffic accident involvement can be predicted by reckless-driving. This is confirmed by stepwise regression in which reckless driving is found to be significant in predicting FTAC next to competitive driving. It implies that reckless driving is the third variable of risky driving behavior in predicting FTAC. Moreover, the multiple regression analysis shows that reckless driving exerts a significant contribution in the variation of FTAC when it is taken simultaneously with other predictor variables.

In light of these, recent researchers found that motorists who talk on handled or hands free cellular phones are as impaired as drunken drivers are and the researchers recommended that if

legislators really want to address driver's destruction, then they should consider outlawing cell phone use while driving (Stayer et al, 2006).

In Ethiopia, according to NTMPS (2007) influence of alcohol in traffic accident accounts 0.3% as identified by the police. Driving under the influence of alcohol and drugs including "chat" is also one of the causes of drivers' error, which might expose drivers to involve in traffic accident. Some research also shows "chat" has significant negative impact on drivers performance (NTMPS, 2007).

5.3 Demographic characteristics and FTAC

The research outcome shows that, age and experiences have moderate significance and negative relationship with the dependent variable (FTAC). This implies that as participants' age increases, they decrease in the involvement of frequent traffic accident. In other words, youths are more frequently involved than adults are. Like age, as drivers experiences increased there is also a decrease in the involvement of traffic accident.

The result of this finding is in agreement with many other findings. In one statistical study, young truck drivers (age 18-21) had moving violation rates that were almost twice those of the middle age drivers (30-49). Moreover, speeding above the speed limit and unsafe speeds for conditions were the two top violations cited. In fact, young commercial drivers were reported to be about 50 percent more likely than middle-aged drivers to be charged with a violation in crash (Blower, 1996).

Young drivers (under 30 years old) are more likely to speed than other drivers of all drivers involved in fatal crash are: young males are most likely to speed. The relative proportion of speeding-related to fatal crashes decrease with increasing driver age. According to David Fergusson et al. (2003) said that risky driving behavior are common among young people, particularly young males prone to externalizing behaviors (substance abuse, crime and traffic affiliation with deviant peers). Risky driving is strongly linked to traffic accident (NHTSA,

1999). Parrey (1968) also conducted a small exploratory study, which consisted of a survey of the attitude and behaviors of 279 British motorists. The research result shows male drivers aged 17-35 are more associated with increased collusions and sometimes they take unnecessary risks when they are driving.

5.4 Personality characteristics and risky driving behavior

The result of the research indicates that significant relationship between some personality characteristics and risky driving behavior. Openness was negatively and significantly correlated with violation and conscientiousness was negatively and significantly correlated with speed, violation and competitive driving. However, extroversion was correlated with speed, competitive driving, violation and reckless driving significantly and negatively. Moreover, neuroticism also correlated significantly and negatively with speed, competitive driving and violation of traffic rules. Finally, agreeableness has a significant and negative correlation only with speed.

From the above one can understand that, openness agreeableness and conscientiousness have significant negative correlation with some risky driving behavior. In addition, this implies that as the personality characteristics (openness, agreeableness, and conscientiousness) scores of an individual have a negative association with risky driving behavior. In contrast to the three personality characteristics, neuroticism and extroversion have positive and significant correlation with some risky driving behavior. This implies that as an individual's extroversion and/or neuroticism scores increases the association with risky driving behavior also increases.

In addition to correlation, the researcher employed stepwise regression in order to see the relative contribution of each personality characteristics for the prediction of the total risky driving behavior scores. The stepwise regression analysis shows that, only extroversion and neuroticism have entered into the stepwise regression and have significant contribution in the variation of the total risky driving behavior scores. From these two personality variables, extroversion predicts risky driving behavior better than neuroticism, which is the second predictor of the explained variable. From this, it is easy to understand that drivers who score high in extroversion and

neuroticism resulted in frequent risky driving behavior, which in turn resulted in frequent traffic accident. Moreover, the multiple regression analysis also confirms that extroversion personality characteristics have a significant influence on the variation of risky driving behavior. The second variable, which has a significant influence on the variation of risky driving behavior, was neuroticism when they were taken simultaneously as a criterion variable.

The result of this finding is in agreement with some findings. Wilson (1990) demonstrated that none users of safety belts were higher sensation seeker more impulsive (which characterizes the extroversion personality trait) and accumulated more traffic violation than moderate and consistent users of safety belts. Furthermore, Shiner (1998) also suggested that drivers possessing traits, associated with extroversion or type A personalities might be more likely to involve in risky driving behavior.

CHAPTER SIX

SUMMARY, CONCULUSSION AND RECOMMENDATION

The study designed to investigate the relationship among personality characteristics, risky driving behaviors, age, experience and frequency of traffic accident. An attempt was made to find out the combined and the relative contribution of the independent variables in predicting the dependent variable.

To achieve the objectives, the researcher use availability-sampling techniques. The sample consists of 262 drivers who committed traffic accidents and came for investigation at four traffic police administration and investigation offices in Addis Ababa. To carryout the study, descriptive survey method was used and to collect the necessary data one questionnaire and two scales were the main instruments employed. The data collected through the questionnaires were analyzed using percentage, Pearson's r and regression analyses.

6.1 Summary of the major findings

The analysis of the data indicates that Conscientiousness, extroversion and neuroticism personality traits have a more traffic accident proneness' relative to other personality traits.

The findings showed that, extroversion (r=0.14), conscientiousness (r=-0.165) and Neuroticism (r= 0.157) have low relationship with frequency of traffic accident. In addition, Personality characteristics have moderate relationship with risky driving behavior even better than frequency of traffic accident.

Risky driving behavior: speeding, competitive driving and reckless driving have moderate relationship with frequency of traffic accident. According to their descending relative contribution in frequency of traffic accident speed, competitive driving and reckless driving

were the first, the second and the third best predictors of frequency of traffic accident relative to the research variables respectively. (Therefore, speed predicts frequency of traffic accident better than the rest of risky driving behavior).

Demographic characteristics, (age and experience) have moderate relationship with frequency of traffic accident. Age and experience have also high association with risky driving behavior. Moreover, they predict risky driving behavior better than frequency of traffic accident.

Age, experiences, speed, competitive driving, reckless driving and extroversion predict frequency of traffic accident (with moderate correlation coefficient. However, Openness and Agreeableness personality characteristics have no significant correlation with either frequency of traffic accident or risky driving behavior.

However, this study is not with out some limitations. First, the study did not use probability-sampling techniques and it is difficult to generalize for the total population of the research (drivers in Addis Ababa). This is because of the work nature of the drivers (i.e. they are mobile: they do not drive in one area of Addis Ababa, they move not only from one area to another in Addis Ababa but also they drive from one town to another town in the country). The other important variables, are environmental factors (road design, pedestrian effect, vehicle effect, skills of drivers and other situational factors) which might have significant contribution in the prediction of the dependent variable were not included in the research. Thus, be careful when you generalize the research findings for the total population. Having such limitation, the researcher has done the following conclusions based on the findings of the study.

6.2 Conclusion

The present research provides an objective evidence for the relationship of some personality traits, risky driving behavior (speeding, competitive driving, reckless driving and violation of traffic rules), and frequency of traffic accidents. Even if personality characteristics (individual differences) have a relationship with frequency of traffic accident, they were not good predictors (i.e. their correlation coefficient were poor or weak r=0.14 to 0.165).

Risky driving behavior (speeding, competitive driving and reckless driving were moderate predictors of frequency of traffic accident. They predict frequency of traffic accident better than personality characteristics and speed is best predicator of risky driving behavior.

The result also reflected that age and experiences have a robust effect on the variation of frequency of traffic accident. From personality characteristics, extroversion conscientiousness and neuroticism have significant correlation with the frequency of traffic accident.

With regard to relationship among the research variables, age of an individual also has a strong contribution on the variation of frequency of risky driving behavior and it is best predictor of frequency of risky driving behavior relative to other research variables.

6.3 Recommendation

In view of the findings of the study and conclusion drawn, the following recommendations are forwarded.

- ✓ The research findings showed that age and experience have a robust effect on frequency of traffic accident. Thus, the responsible body, who gives license for drivers, Driver Training Center, Traffic Investigation Offices, Insurance Companies and Traffic Polices should be aware of the strong effects of age and experience (skill). In addition, there is a need to design policies, strategies and curriculum, which might reduce traffic accident (e.g. preparing annual reward for safe driver based on their age groups.)

- ✓ Speeding, competitive driving and reckless driving are driving style which are learned thorough day to day experience, Thus it is possible to unlearn them using early psychological intervention (before they are internalized).

- ✓ The result shows that speed is the best predictor of frequency of traffic accident involvement. Thus, developing intervention programs, strategies and organizing workshops for drivers focusing on speeding and its potential consequences might be important activities in the effort to decrease traffic accident.

- ✓ The information obtained from the result of the study concerning reckless driving (like reluctance to use safety belts and using cell phone while driving) shows that, they have the potential to be at risk. This shows that there is a need to design effective driving safety intervention.

- ✓ Responsible bodies (particularly traffic accident Investigation and Administration Offices) should establish educational sessions for drivers who are involved in car accident / traffic accidents. Because, this will open the opportunity to reminded

drivers about the problem, its magnitude, and the increasing trend of traffic accidents. By raising these issues in the session, one may raise drivers' awareness of the problem and discuses about ways of alleviating the problem with the participation of the drivers themselves.

- ✓ The licensing bodies should give emphasis to driver's risky driving behavior in the assessment of driver's knowledge and Skill while licensing drivers. Before the drivers were licensed, the drivers training centers as well as licensing bodies should assure whether the trained drivers have achieved the necessary knowledge and skills or not.

- ✓ Since the area has no well-organized and computerized database, the researcher has faced problem in crosschecking the self-reported data with the already documented data. Moreover, as the research area was not well researched, there is a need for further research. Thus, the Traffic Accident Investigation and Administration offices should have well organized and computerized database, which might be the necessary condition for further research.

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Questionnaire to be filed by Drivers

Dear participants

The purpose of these questionnaires is to collect first hand data or Information on the relartionship among drivers' personality, risky driving behavior and frequency of traffic accident involvement. The purpose of the research, therefore; is to get your personality, risky diving behavior and frequency of traffic accident involvement. For all items there are no correct or wrong answers but there is an extent or degree to which you agree or not to agree to the personality inventory and the frequency how often you carry out for each risky driving item. So you are kindly requested to answer the questions accordingly.

To this end, your honesty and frank response is very important for the validity of the research outcome so pleas be as honest as possible.

Remember

- Writing your name on any part of the questionnaire is not necessary
- The information you provide will be used only for the research purpose
- All information you provided will be kept confidential

Thank you

In Advance for your cooperation

The Researcher

Questionnaire

Part One: ***Participants Demographic Characteristics.***

Directions: *Please write the correct answer on the space provided*

1. Age _____
2. How many years of driving experiences you have? _____
3. What level of Education have you reached? _____
4. How many kilo meters do you drive per day?_____

Part Two: ***Frequency of Traffic Accident Involvement Questionnaire***

Direction: *Here are items related to frequency of traffic accident involvement which have two to four possible choices. Please read carefully and answer the following questions to the best of your knowledge and day to day driving experiences and circle the answer.*

1. Have you faced traffic accident since september1/2000 to April 30/2001 EC.?

   A) Yes B) No

2. If your response is "yes" for question #1 how often faced the traffic accident?

   A) One times B) twice C) three Times and above

3. What were victims of the traffic accident you faced?

   A) People B) Vehicles C) other Properties (House, Electric Pole and etc)

4. How was the severity of the accident you faced frequently?

   A) Injuries B) Fatalities C) Properties Damage

5. By other drivers, have you faced traffic accident since september1/2000 to April 30/2001 E.C.?

   A) Yes B) No

6. If your response is "yes" for question #1 how often faced the traffic accident?

   A) Once B) twice C) three times and above

7. How was the severity of the accident you or your passengers faced frequently by other divers?

A) Injuries B) Fatalities C) Properties Damage

8. How many traffic tickets have you taken for the violation of traffic rules and regulations Since September 1/2000 to April 30/2001?

A)1-3 times B) 4-6 times C) 7-9 times D) 10 times and above

Part Three: *Risky Driving Behavior Questionnaire*

Direction: *Here are items related to risky driving behavior, please read each statement carefully and indicate the frequency (how often) to which you carry out in your day to day driving experiences by putting (**X**) against each items (i.e. very often, often, sometimes, rarely and never)*

No	*Risky driving Scales*	*Frequency of risk driving*				
		Very Often	*often*	*Sometimes*	*Rarely*	*Never*
1	Misjudge speed of oncoming vehicle					
2	Disregard speed at night					
3	Have race					
4	Unknowingly speeding					
5	Drives as fast on dipped lights					
6	Drives above the speed limit					
7	Feels impatient for slower driver					
8	Drive above the speed limit on open road					
9	Race or drag race for fun of it					
10	Angry give chase					
11	Ignore give way signs of vehicles					
12	Bend the traffic rules to keep traffic going					
13	Ignore violation of traffic rules					
14	Keep up the traffic flow rather than follow the traffic rules					

15	Bend the traffic rules to arrived in time					
16	Over loading					
17	Ignore give way signs					
18	Enter an intersection when the light was about to turn red					
19	Fail to give way for pedestrian					
20	Pass a car in no passing zone					
21	Over take queue					
22	Try to pass without using mirror					
23	Overtake on the inside					
24	Risky overtaking					
25	Try to pass vehicle turning left					
26	Turn rights into vehicles path					
27	Cut corner turning left					
28	Maneuver with out checking mirror					
29	Drink and drive					
30	Chew chat and drive					
31	Drives with out wearing a seat belt					
32	Using cell phone while driving					
33	Manipulating vehicle control parts (mirror, radio, Tape...) while driving					
34	Following too closely					
35	Quelling nearly hit car in front					
36	Have an aversion					
37	Only half an-eye-on the road					

Part Four: *Personality questionnaire*

Direction: *here are items related to the five factor personality characteristic. Please read the statement and indicate the extent (degree) to which you agree (or disagree) to the following personality questionnaire by putting (**X**) against each items (i.e.* ***strongly Agree, Agree, Neither Agree nor Disagree, disagree And Strongly Disagree****)*

No	*Personality Scales*	*Degree of agreement (disagreement)*				
		Strongly agree	*agree*	*Nether agree nor disagree*	*disagree*	*Strongly disagree*
1	Believe in the importance of art					
2	Am not interested in abstract ideas					
3	Do not enjoy going to art museums					
4	Do not like art					
5	Curios about many different things					
6	Am ingenious and deep thinker					
7	Am inventive					
8	Am always prepared					
9	Carry out my plans					
10	Do just enough work to get by					
11	Find it difficult to get down to work					
12	Pay attention to details					
13	Waste my time					
14	Get chores done right away					
15	Shirk my duties					
16	Dot see things through					
17	Am the life of the party					
18	Am skilled in handling social situations					
19	Like to draw attention to my self					
20	Make friends easily					
21	Know how to captive people					
22	Do not talk a lot					
23	Feel comfortable around people					

24	Am full of energy					
25	Respect others					
26	Insult people					
27	Believe that others have good intentions					
28	Accept people as they are					
29	Have a forgiving nature					
30	Have a good word for every one					
31	Like to cooperate with others					
32	Have frequent mood swings					
33	Am not easily bothered by things					
34	Dislike myself					
35	Seldom feel blue					
36	Feel comfortable with myself					
37	Am often down in the dumps					
38	Often feel blue					
39	Worry a lot					
40	Am emotionally stable and not easily upset					

አዲስ አበባ ዩኒቨርስቲ

የድህረ ምረቃ መርሃ ግብር

ሣይኮሎጂ ዲፓርትመንት

የመጠይቁ አጠቃላይ ዓላማ

የዚህ መጠይቅ ዓላማ በከተማችን በአዲስ አበባ በየእለቱ እየተከሠተ ያለው የትራፊክ አደጋ ከአሽከርካሪዎች ስብዕና (ባህሪ) እና ለአደጋ የሚያጋልጡ የማሽከርከር ባህሪያት ጋር ያለውን ተዛምዶ ለማጥናት ታስቦ ነው።

የዚህ ጥናት እና ምርምር አስተማማኝነት የሚወሰነው እናንተ ለእያንዳንዱ መጠይቅ በምትሠጡት ምላሽ በመሆኑ በመመሪያዎቹ መሠረት ጥያቄዎቹን በጥሞና በማንበብ ትክክለኛ መልስ በመስጠት የበኩላችሁን አስተዋፅኦ እንዲያበረክቱ ከወድሁ በትህትና እጠይቃለሁ።

<u>ማሣሠቢያ</u>፡-

- በመጠይቁ በየትኛውም ቦታ ላይ ስም መፃፍ አያስፈልግም
- የምትሠጡት መረጃ ማስጥራዊነቱ የተጠበቀ ነው።
- ከመጠይቁ የተገኙ መረጃዎችን ለጥናት ብቻ የሚውሉ መሆኑን ያስታውሠ።

ለምታደርጉልኝ ቀና ትብብር ሁሉ አመሠግናለሁ!!

መጠይቅ

ክፍል አንድ፡ የአሽከርካሪዎች አጠቃላይ መረጃ

መመሪያ፡- ለሚከተሉት ጥያቄዎች ትክክለኛውን መልስ በባዶ ቦታው ላይ ይፃፉ።

1. እድሜ _____
2. ለስንት ዓመታት አሽከርክረዋል _____
3. የትምህርት ደረጃ _____
4. በአማካይ በቀን የሚያሽከረክሩት የመንገድ ርቀት በኪሎ ሜትር _____

ክፍል ሁለት፡- አሽከርካሪዎች የትራፊክ አደጋ በማድረስ ያላቸው ድግግሞሽ እና ያደረሱት አደጋ ሁኔታ

መመሪያ፡- ለሚከተሉት ጥያቄዎች ከ2-4 አመራጮች ተሰጥተዋል፤ ከተሰጡት አማራጮች በእርስዎ የማሽከርከር ልምድ በጣም እውነት የሆነ መልስ የያዘውን ፊደል በመክበብ ይምረጡ።

1. ከመስከረም 1/2000 ዓ.ም ጀምሮ እስከ መጋቢት 30/2001 ድረስ የትራፊክ አደጋ አድርሰው ያውቃሉ?

   ሀ. አዎ ለ. አያውቅም

2. ለአንደኛ ጥያቄ መልስዎ "አዎ" ከሆነ ያደረሱት የትራፊክ አደጋ ብዛት

   ሀ. አንድ ጊዜ ለ. ሁለት ጊዜ መ. ሶስት ጊዜ እና ከዚያ በላይ

3. ባጋጠመዎት የትራፊክ አደጋ የተጎዱት ክፍሎች (ያስታውሱ ከአንድ በላይ መልስ መስጠት ይቻላል)

   ሀ. ሰዎች ለ. ተሽከርካሪ(ዎች)

   መ. ሌላ ንብረት (ቤት፣አጥር፣ ፖል...)

4. በተደጋጋሚ በርስዎ ተሽከርካሪ ያደርሱት የትራፊክ አደጋ ሁኔታ (ያስታውሱ ከአንድ በላይ መልስ መስጠት ይቻላል)

ሀ. የአካል ጉዳት ለ. የሞት አደጋ መ. የንብረት ጉዳት

5. ከመስከረም 1/2000 ዓ.ም ጀምሮ እስከ መጋቢት 30/2001 ድረስ ሌሎች አሽከርካሪዎች በርስዎ ተሽከርካሪ ላይ አደጋ አድርሰበዎት ያውቃሉ?

ሀ. አዎ ለ. አያውቁም

6. ለ6ኛ ጥያቄ መልስዎ "አዎ" ከሆነ ያጋጠመዎት የትራፊክ አደጋ ድግግሞሽ

ሀ. አንድ ጊዜ ለ. ሁለት ጊዜ መ. ሶስት ጊዜ እና ከዚያ በላይ

7. በተሳፋሪዎች ወይም በርስዎ ላይ የሌላ ተሽከርካሪ ያደረሰበዎት የትራፊክ አደጋ ሁኔታ (ያስታውሱ ከአንድ በላይ መልስ መስጠት ይቻላል)

ሀ. የአካል ጉዳት ለ. የሞት አደጋ መ. የንብረት ጉዳት

8. ከመስከረም 1/2000 ዓ.ም ጀምሮ እስከ መጋቢት 30/2001 የትራፊክ ደንብ በመተላለፍዎ የወሰዱት የትራፊክ ደረሰኝ ብዛት

ሀ. ከ1-3 ይሆናል ለ. ከ 4-6 ይሆናል

ሐ. ከ7-9 ይሆናል መ. 10 እና ከዚያ በላይ ይሆናል

ክፍል ሶስት፡- አሽከርካሪዎችን ለአደጋ የሚያጋልጡ የማሽከርከር ባህሪያትን የሚዳስስ መጠይቅ (በአሽከረካሪዎች(እይታ)ዘገባ ላይ መሰረት ያደረገ ነው)

መመሪያ፣ ለሚከተሉት የማሽከርከር ባህሪያት መጠይቅ ስለርስዎ ባህሪያት ያለዎትን የዕለት ተዕለት ተግባር ከተሰጡት አማራጮች በይበልጥ ላይ የ (**X**) ምልክት ያስቀምጡ፡፡

አማራጮች፡-

1) በፍጹም 2) አልፎ አልፎ 3) አንዳንድ ጊዜ 4) በተደጋጋሚ 5) አብዛኛውን ጊዜ

ተ/ቁ	ለአደጋ የሚያጋልጡ የማሽከርከር ባህሪያት መለኪያ ጥያቄዎች	ለትራፊክ አደጋ የሚያጋልጡ የማሽከርከር ባህሪያት ድግግሞሽ				
		አብዛኛውን ጊዜ	በተደጋጋሚ	አንዳንድ ጊዜ	አልፎ አልፎ	በፍጹም
1	የሌላ ተሽከርካሪን ፍጥነት በትክክል መገመት አለመቻል					
2	በማታ የፍጥነት ገደብን ማለፍ					
3	ለመሸቀዳደም (መወዳደር) ማሽከርከር					
4	ፍጥነትን ሳይገነዘቡ ማሽከርከር					
5	በደከመ መብራት በፍጥነት ማሽከርከር					
6	ከተፈቀደ ፍጥነት በላይ ማሽከርከር					
7	በገዘግታ የሚያሽከረክሩ ላይ ትዕግስት ማጣት					
8	በክፍት መንገድ ላይ ከፍጥነት ገደብ በላይ ማሽከርከር					
9	ለቀልድ ሲባል የሚደረግ መሽቀዳደም					
10	በንዴት ተሽከርካሪን መከተል (ማሳደድ)					
11	የተሽከርካሪ መብራት ደንብ መተላለፍ					
12	የትራፊክ ፍሰትን ለመጠበቅ ህጎችን መጣስ					
13	የትራፊክ ህጎች ሲጣሱ ችላ ማለት					
14	የትራፊክ ህግን ከማክበር የትራፊክ ፍሰቱን መከተል					

ተ/ቁ	ለአደጋ የሚያጋልጡ የማሽከርከር ባህሪት መለኪያ ጥያቄዎች	አብዛኛውን ጊዜ	በተደጋጋሚ	አንዳንድ ጊዜ	አልፎ አልፎ	በፍጹም
15	በጊዜ ለመድረስ የተራፊክ ደንብን መተላለፍ					
16	ከመጠን (ከክበደት) በላይ ወይም ትርፍ መጫን					
17	የቅድመያ ስጥ ምልክትን ችላ ማለት					
18	ቀይ መብራት ሲበራ ሲል መስቀለኛ መንገድ ውስጥ መግባት					
19	ለእግረኞች ቅድሚያ አለመስጠት					
20	ማለፍ በማይፈቀድበት ቦታ ተሽከርካሪን ማለፍ					
21	የተሽከርካሪዎችን ፓረፋ ጥሶ መቅደም					
22	መስታዎት ሳይጠቀሙ ለማለፍ መሞከር					
23	መካክል ያለአግባብ መቅደም					
24	ለአደጋ በሚያጋልጥ ሁኔታ መቅደም					
25	ተሽከርካሪ ወዴ ግራ እየታጠፈ ለማለፍ መሞከር					
26	በተሽከርካሪዎች መንገድ ወዴ ቀኝ መታጠፍ					
27	በአቋራጭ ወዴ ግራ መታጠፍ					
28	በስፖኪዮ አካባቢን ሳይመለከቱ ወዴ ግራ መታጠፍ					
29	ጠጥቶ ማሽከርከር					
30	ጫት ቅሞ ማሽከርከር					
31	ያለጥንቃቄ ቀበቶ ማሽከርከር					
32	በሞባይል ስልክ እያነጋገሩ ማሽከርከር					
33	የተሽከርካሪ አካልን (መስታዎት, ሬዴዮ, ቴፕ) እያሽከረከሩ ማደራጀት					
34	ርቀትን ሳይጠብቁ ተጠግቶ ማሽከርከር					
35	ከፊት ያለን ተሽከርካሪ ለመግጨት የተቃረበ ሁኖ ማሽከርከር					
36	በጥላቻ መንፈስ (ስሜት) ማሽከርከር					
37	የመንገዱን ግራ እና ቀኝ ሳይመለከቱ ማማሽከርከር					

ክፍል አራት፡- የሰዎችን ስብዕና (ባህሪያት) የሚዳሥሥ መጠይቅ

መመሪያ፡- የሚከተሉት የስብዕና መጠይቆች የሰዎችን የባህሪ ዓይነት ለማወቅ የሚረዱ ናቸው፤ እነዚህ ጥያቄዎች ትክክል/ስህተት የሆነ መልስ የላቸውም በመሆኑም ከእርስዎ የሚጠበቀው ከተሰጡት አምስት አማራጮች በይበልጥ የሚገልጽዎት ላይ የ(**X**) ምልክት በማድረግ ይምረጡ።

አማራጮች፤

1. በጣም አልስማማም 2. አልስማማም 3. እስማማለሁም አልስማማምም አልልም
4. እስማማለሁ 5. በጣም እስማማለሁ

ተ.ቁ	የስብዕና መለኪያ ጥያቄዎች	የመስማማት(ያለመስማማት) ሁኔታ				
		በጣም አልስማማም	አልስማማም	እስማማለሁም አልስማማምም አልልም	እስማማለሁ	በጣም እስማማለሁ
1	በጥበብ (በስዕል፣ መዚቃ...) አስፈላጊነት አምናለሁ					
2	ረቂቅ የሆኑ ሀሣቦች አያስደስቱኝም					
3	መዜየሞችን መጎብኘት አያስደስተኝም					
4	ጥበብ (አርት) አልወድም					
5	ብዙ የተለያዩ ነገሮችን የማወቅ ጉጉት አለኝ					
6	ብልህና አስተዋይ ነኝ					
7	የፈጠራ ሰው ነኝ					
8	ሁል ጊዜ ዝግጁ ነኝ					
9	አቅዶቼን እተገብራለሁ					
10	ስራዎችን በአግባቡ አከናውናለሁ					
11	ስራዎችን ለመጀመር እቸገራለሁ					
12	ለጥቃቅን ነገሮች ትኩረት እሠጣለሁ					
13	ጊዜን አባክናለሁ					
14	የዘወትር ስራዎችን በወቅቱ እሰራለሁ					
15	ግደታዬን አልወጣም (እሸሻለሁ)					
16	ነገሮችን በጥልቀት አልመለከትም					
17	ለወገኔ በጣም አስፈላጊ ሰው ነኝ					
18	ማህበራዊ ጉዳዮችን የመፍታት ክህሎት አለኝ					

ተ.ቁ	የስብዕና መለኪያ ጥያቄዎች	የመስማማት (ያለመስማማት) ሁኔታ				
		በጣም አልስማማሁም	አልስማማሁ	ትንሽ አልስማማሁም	እስማማለሁ	በጣም እስማማለሁ
19	የሠዎችን ትኩረት መሣብ እፈልጋለሁ					
20	ጓደኛ በቀላሉ መያዝ እችላለሁ					
21	ሰዎችን እንዴት ማላመን እንደምችል አውቃለሁ					
22	ብዙ አላወራም					
23	ከሠዎች ጋር መሆን ያስደስተኛል					
24	ብዙ (እምቅ) ሀይል አለኝ					
25	ሰዎችን አከበራለሁ					
26	ሰዎችን እዘልፋለሁ (እሳደባለሁ)					
27	ሰዎች ጥሩ አስተሣሠብ እንዳላቸው አምናለሁ					
28	ሰዎችን እንደባህሪያቸው እይዛቸዋለሁ					
29	በተፈጥሮዬ ይቅርታ አድራጊ ነኝ					
30	ሠዎችን አላስቀይምም (አላስከፋም)					
31	ሰዎችን መተባበር ያስደስተኛል					
32	በተደጋጋሚ ባህሪዬ (ስሜቴ) ይለዋወጣል					
33	በነገሮች በቀላሉ አልረበሽም					
34	እራሴን እጠላለሁ					
35	አልፎ አልፎ እተክዛለሁ					
36	በራሴ ደስተኛ ነኝ					
37	ብዙውን ጊዜ ግራ እጋባለሁ					
38	ብዙ ጊዜ እተክዛለሁ					
39	ብዙ እጨነቃሁ					
40	በቀላሉ የማልከፋ እና በስሜት የተረጋጋሁ ነኝ					

Declaration

I, the under signed, declare that this thesis is my work, and that all sources of materials used for these thesis have been acknowledged.

Name: Jemal Teshome

Signature _____

A.A.U Jun 2009

This thesis has been submitted for examination with my approvals thesis advisor

Name: Seleshi Zeleke (Ph.d)

Signature: _____

Date: 13 July 2009