

*Original Article*

The Study of the Relationship between Sensation Seeking and Type A Personality with Doing Deliberate and Unintentional Violation in Driving

Mohammad Babamiri^{1*}, Moosa Javdan², Mostafa Dehghani³, Himan Baryaji⁴,
and Mohamad Abbasi⁵

1. PhD Student of Psychology, Shahid Chamran University, Ahvaz, Iran
2. Islamic Azad University, Minab Branch, Iran
3. MA Student of Family Counseling Shahid Chamran University, Ahwaz, Iran
4. MA Student of Industrial Organizational Psychology, Shahid Chamran Ahwaz University, Ahwaz, Iran
5. PhD Student of Educational Psychology, Shahid Chamran University, Ahvaz, Iran

*Corresponding author'e-mail: mohammad.babamiri@gmail.com

ABSTRACT

The main purpose of this study was to investigate the relationship between sensation seeking and type A personality with doing deliberate and unintentional violation in driving. Statistical population comprised of all drivers of intercity transport stations of Ahvaz. The sample included 121 people, selected randomly by accessible sampling manner and response to the Manchester driving behavior questionnaire, Zuckerman sensation seeking questionnaire and type A personality questionnaire. Results indicated that there is a positive significant relationship between sensation seeking and deliberate violation. The relationship between sensation seeking and unintentional violation and relationship between type A personality with deliberate and unintentional violation was not significant. The results indicated that sensation seeking was able to predict deliberate violation and considering this personality characteristic can play a great role in reduce of driving accident.

Keywords: deliberate violation, unintentional violation, type A personality, sensation seeking

INTRODUCTION

It is estimated that two million people are killed in road accidents each year. Apart from loss of life, the costs of these road accidents plus the economic value of a low quality life uses up 5% to 7% of the gross national product of the countries [1]. Most of these accidents are directly caused by human factors which are either the only cause or one of the most profound causes of accidents [2]. Human factors in driving can be viewed as a combination of two other distinct factors: driving skills and driving styles or in other words performance and the behavior of the driver [3, 4, and 5]. Driving skills include processing data and motor skills that are able to be developed through training and instruction. Driving style is the methods drivers take in practice to which they are accustomed. Examples are the speed which the driver drives, the average level of accuracy, overall attention and observing the standard distance between cars [3]. Due to the existence of an obvious relationship between the driving style and the danger of accidents, there are a lot of self-reporting tools in order to measure the driving style. One accident occurs every 2 seconds and one person dies every 5 seconds as a result of accidents. It is estimated that by the year 2020 the third biggest cause of death around the world will have been road and traffic accidents [6]. According to statistics driving accidents has had a rising trend in Iran, so that it has increased by 10%; in Iran the death rate caused by driving accidents is 15 times more than the developed countries [7].

According to the latest statistics, 27,000 people are killed and 250,000 people are injured in accidents each year in Iran. According to the deputy of Iran's traffic police, proportionate to its population and the number of its cars, Iran is the first in the world in the number of people being killed in accidents, with 72 killed every 24 hours. Analysis into the road accidents in Iran shown that among the four factors of human beings, roads, vehicles and

environment, human beings are the most important factor in the occurrence of accidents in Iran; that is to say human beings are the biggest cause of driving accidents in Iran [8]. Researches show that a specific group of people has more reputation for driving accidents; this group is different from other people in some personality traits [9]. Sensation-seeking (also called excitement-seeking) is the desire to experience new and diverse sensations and willingness to risk for the sake of such sensations. Individuals with a high level of sensation-seeking will most probably drive fast and are most likely to be accused of reckless and drunk driving [10]. In an investigation about the relationship between the personality and personal differences, it is illustrated that the score for sensation-seeking trait is the most which proves it to be the most favorable trait for doing reckless driving [11].

Pointing to the fact that individuals drive the same way as they live, Tileman and Hobbs, quoted by Juna, Tiesen and Jung, [12] helped to heighten the role of driver's personality as an important variable in dangerous driving and included it into the researches. The analysis of the relationships among one's personality, dangerous driving and involvement in accidents is indicative of factors that are directly related to driving [13]. A lot of researches have been carried out in this respect; for example Amado, Conch and Kakaro [14] noted that personality traits affect the manner of driving and the number of accidents. Perry [15] pointed that individuals with personality type A cause more accidents and are fined more due to reckless driving. The results of the researches carried out by Nabi et al [16] have also proven that the personality type A abides less by the driving rules and that the dangerous driving factors are more likely to be found in personality type A than in the personality type B.

MATERIALS AND METHODS

This research is of the relationship kind and its subjects are all the drivers of the terminals of Ahvaz; according to the available sampling method, 150 of these drivers were chosen and the questionnaires were filled out by them. In this research the data were gathered via field methods and through three questionnaires including questionnaire of the personality type A and B, Zockerman questionnaire of sensation-seeking and Manchester driving questionnaire.

Questionnaires of the personality types A and B: It includes 25 items to which the subject answers either Yes or No and the value of which has been reported to be 0.70 to 0.80 in most researches. The average score in this test is 13; more than 13 is partial to the personality type A and less than 13 is oriented toward the personality type B; more than 20 represents an extreme partiality to the type A and less than 5, an extreme partiality to the type B [17]. The internal consistency of these questionnaires has been reported by the original researcher as between $r=0.70$ and $r=0.80$. [18]. One of the tools used in the present research is the sensation-seeking questionnaire of Zockerman, the abridged form of which includes 14 items used in the present research. This scale includes items for assessing the individual's willingness to engage in hazardous or adventurous activities, seeking new sensations, enjoying the excitement of societal movement and avoiding boredom. The abridged form of this test includes 14 items each consisting of two parts (a and b); the subject should choose the option that is illustrative of his or her interests and feelings. The scoring method is according to zero and one system. Kaveh [19] has reported in a research the validity coefficient for this scale as being from 0.83 to 0.86. Also, in order to determine the consistency of the mentioned scale he used the two methods of Cronbach's Alfa and classification and calculated the coefficients 0.73 and 0.73 respectively. In a research that was carried out individually, the validity part of this scale was calculated through combining it with the scale of personality-behavioral type A. the correlation coefficient of the two scales was calculated as 0.55 and was significant in 0.05 which shows a favorable validity of this scale. To determine its consistency the Cronbach's Alfa and the classification methods were used and the results were respectively 0.81 and 0.71 which represents a favorable consistency [20]. Driving behavior questionnaire was prepared and edited by Rizen et al in the psychology center of Manchester University in the year 1990 [21]. This scale was executed and evaluated in different countries such as England [22], Australia [23], China [24], and Finland [25]; this idea is based upon the ground which believes faults and violations have different psychological reasons and reform methods and we need to distinguish between them. Today, this questionnaire has become a common tool in assessing the driving behaviors [25]. This questionnaire includes 50 items which are graded in a Likert range from 0 to 5 (0=never, 1=seldom, 2= sometimes, 3= most of the time, 4= frequently, 5= always). The items are different from one another in two aspects: one is the kind of behavior and the other one is the extent of danger that behavior could have for other drivers. Abnormal behavior is categorized under four columns: inadvertent errors, mistakes, intentional violations and unintentional violations. Also there are three levels concerning the extent of danger these behaviors could have: a) bad behaviors with a possibility of danger for other drivers, but only to the extent of disrupting their peace and comfort (low risk potentiality). b) Behaviors those are likely to endanger others (medium risk potentiality). c) Behaviors that are certain to endanger other drivers (high risk potentiality). MDBQ has acceptable psychometric components. Parker, Reason, and Manstead [26] in investigating the reliability of the retesting of 80 drivers within a 7 week interval calculated the correlation coefficient as 0.81 for errors and 0.74 for violations. Westerman, and Haigney [27] have also calculated the coefficients of internal consistency as 0.76 for the errors and 0.74 for the violations. These results are in accordance with the results of other researches such as those of Dobson, Brown and Ball [28] and Parker, Stradling, and Lajunen [29].

RESULTS

The target sample consisted of 103 people all of whom were males. The minimum age of them was 19, the maximum age was 64 and the average age was 34.02. Sixteen of them (15.5%) had diplomas and higher degrees 87 (84.5%) had not got a diploma.

Table 1. Correlation between variables

Variables	Unintentional Violation In Driving	Deliberate Violation In Driving	Type A Personality
Sensation Seeking	0.39	0.10	0.26
Type A Personality	0.015	0.01	
Deliberate Violation In Driving	0.44		

The hypothesis number one represents that there's a significant relationship between sensation-seeking and intentional violations. As illustrated in table number 1, the correlation coefficient between sensation-seeking and intentional violations is 0.39 and this relationship is significant at the level of $p \leq 0.01$. therefore hypothesis number one will be confirmed. Also, according to the results illustrated in the table number one the correlation coefficient between sensation-seeking and unintentional violations is equal to 0.10 which is not a significant relationship. Therefore the hypothesis number two will not be confirmed. The hypothesis number three represents that there's a significant relationship between the personality type A and the intentional violations. As the results contained in the table number 1 can show the correlation coefficient between the personality type A and the intentional violations is equal to 0.01 which is a very weak and insignificant relationship. Therefore the third hypothesis is not confirmed. Also, according to the table 1 the correlation coefficient between the personality type A and the unintentional violations is equal to 0.11 and this relationship is not significant. Therefore the fourth hypothesis is not confirmed either.

Table 2. Analysis of stepwise regression (dependent variables is deliberate violation)

Statistical Index	R	R ²	B	T	P
Variable					
Sensation Seeking	0.393	0.154	0.393	4.28	0.001

According to the results shown in table 2 the multiple correlation coefficient between the predictive variables and the occurrence of intentional violations is equal to 0.393 which is significant at the level of $p < 0.001$. Analysis of the regression shows that from the two predictive variables, only the sensation-seeking variable has the ability to predict intentional violations; this variable can also explain 10% of the variance of the criterion variable. In respect to the unintentional violations none of the variables have a predictive ability.

DISCUSSION

The aim of the present research is to analyze the relationship between sensation-seeking and the personality type A through doing intentional and unintentional violations in driving behavior. The results showed that there's a significant relationship between sensation-seeking and intentional violations; this finding is also in accordance with the results of the previous researches [11] however other relationships are not confirmed. The occurrence of a relationship between sensation-seeking and doing intentional violations can be due to a high level of sensation-seeking in individuals. These people have a desire to experience sensations and adventures and doing driving violations can be a way for them to achieve the level of sensation they are seeking. Also, because these individuals act independent of ethics and customs [10] they are more prone to violate the traffic laws; this fact is in accordance with their main aim which is experiencing excitement. It is likely that there wouldn't be a relationship between sensation-seeking and violating laws unintentionally, because individuals with a high level of sensation-seeking perform such acts consciously and in line with fulfilling their need for sensation; consequently it seems likely that their violation of the laws be intentional, not unintentional. The lack of a relationship between the personality type A and violating laws intentionally and unintentionally can be due to the fact that a lot of the questions posed in the questionnaire of this personality type used for the drivers of the present sample is more indicative of a style of life than a long-standing personality type; therefore the individuals' affirmation of these questions will probably propel the results in an insignificant direction. On the other hand, the difficulty of some of the questions in the questionnaire of the driving behavior has made the results insignificant due to the low educational level of the subjects in the sample ; this issue should be taken into account in the future researches.

REFERENCES

1. Elvik, R. (2000). How much do road accidents cost the national economy? Accident Analysis and Prevention, 32, 849–851.

2. Lewin, I. (1982). Driver Training: A Perceptual-Motor Skill Approach. *Ergonomics*, 25, 917–924.
3. Elander, J. West, R. French, D. (1993). Behavioral correlates of individual differences in road traffic crash risk: An examination of methods and findings. *Psychological Bulletin*, 113, 279–294.
4. Evans, L. (1991). *Traffic safety and the driver*. New York: Van Nostrand Reinhold.
5. Naatanen, R., Summala, H. (1976). *Road user behavior and traffic accidents*. Amsterdam and New York, North-Holland/AmericanElsevier.
6. Pakzad Moghadam, Seyyed Hussein. (2001). Determining the role of the traffic officers in the extent of traffic in the city of Yazd, M.A thesis, Yazd: Yazd university, Ali Ibn Abitaleb medical college.
7. Baghiani Moghadam, Mohammad Hussein, Halvani and Ahrampoosh, Mohammad Hasan (2001). The analysis of the personality type and the accident's situation in the injured motorcycle riders in Yazd, *Medical Science magazine, Medical Science University of Mazandaran*, 16(51), 74-69.
8. Yaghoobi, H. (2001). The role of human factors in car accidents in Iran. *Andishe VA Raftar Quarterly (Persian)*, 6, 60- 67.
9. Burgess, C. (2002). Association of industry road safety officers (Airso), why do people drive the way they do? National Blue Light Users, Conference, Jaguar Cars, Birmingham 29th.
10. Shoult, Dwan and Shoult, Sydney, Ellen (2005). *Personality theories*, translated by Yahya Seyyed Mohammadi (2007). Tehran. Virayesh Publication.
11. Lajunen, T. (2001). Personality and accident liability are extraversion, neuroticism and psychoticism related to traffic and occupational fatalities? *Personality and Individual Differences*. 31 (8), 1365- 1373.
12. Jonah, B. A., Thiessen, E., Au-Yeung, E. (2001). Sensation seeking risky driving and behavioral adaptation. *Accident Analysis and Prevention*, 33, 679 – 684.
13. Torbjoern, R., Hilde, V. (2002). Personality, risk behavior and accident involvement among Norwegian drivers. *Personality and Individual Differences*, 33, 1251-1263.
14. Amado, S. Koyuncu, M. Kacaroglu, G. (2004). Evaluation Of Factors Affecting Safe Driving: Demographic Factors, Experience, Personality And Psycho-Technical, *Turk Psikoloji Dergisi*, 19 (53), 45- 47.
15. Perry, AR. (1986). Type A behavior pattern and motor vehicle drivers' behavior, *Percept Mot Skills*, 63(2), 875-8.
16. Nabi, H. Consoli, Sm. Chastang, J. F. Chiron, M., Lafont, S., Lagarde, E. (2005). Type A behavior pattern, risky driving behaviors, and serious road traffic accidents: A Prospective Study of the Gazel Cohort, *Am J Epidemiol*, 161(9), 864-70.
17. Mazaheri, Shahir, Zarrabian, Mohammad Kazem, Samadi, Mohammad Javad (2008). The analysis of the personality type and the control source in patients afflicted with multi plasklerosis, the scientific magazine of Hamedan's university of medical science and health services. The 15th period, number 2.
18. Brebner, J. (2000). Personality and stress coping. *Journal of Personality and Individual Difference*, (31), 317-327.
19. Kaveh, R. (2005). The comparison of sensation-seeking, extroversion and the self-image in girls who escape from their homes and those who don't, in Ahvaz, M.A thesis in psychology, Ahvaz: Azad Islamic University of Ahvaz.
20. Najjarian, B., Makvandi, B., Dabbagh, B., and Nickfar, S. (1995). Creation and preliminary evaluation of scales in order to analyze the personality type A, *The center of psychology and educational sciences*, 1(2), 24-50.
21. Lajunen, T. Summala, H. (2003). Can we trust self-reports of driving? Effects of impression on management on driver behavior questionnaire responses, *Transpiration Research*, 6, 97-107.
22. Parker, D. MC. Donald, L. Rabbitt, P. Sutcliffe, P. (2000). Elderly drivers and their accidents; the aging driver questionnaire. *Accident Analysis and Prevention*, 32, 751-59.
23. Newnam, S. Watson, B. Murray, W. (2002). A comparison of the factors in fluencing the safety of work-related drivers in work and personal vehicles. In proceeding of the road safety research, policing and education conference, Adelaide.
24. Bianchi, A. Summala, H. (2004) "The "genetics" of drivingbehaviour; Parents' driving style- predicts their children driving style", *Accident Analysis and Prevention*, 36, 569-655.
25. Davey, J. Wicshart, D. Freeman, J. Watson, B. (2007). An application of the driver behavior questionnaire in an Australian organizational fleet setting. *Transportation Research*, 10, 11-21.
26. Parker, D. Reason, JT. Manstead, ARS. Sradling, SG. (1995). Driving errors, driving violations and accidentinvolvement. *Ergonomics*, 38, 1036-48.
27. Westerman, S.J., Haigney, D. (2000). Individual different in driver stress, error and violation. *Personality & Individual Differences*, 29, 981-98.
28. Dobson, A. Brown, W. Ball, J. (1999). Women driver's behavior, socio-demographic characteristics and accidents. *Accident Analysis and Prevention*, 31,525-35.
29. Parker, D. Stradling, S. G. Lajunen, T. (1998). Attitudinal determinants of interpersonally aggressive violations on the road. *Transportation Research*, 1, 11-24.