

The relation of the type A behavior with the aggressive driving and the social responsibility of a sample of drivers

A field study on a sample of drivers in the state of Batna

العلاقة بين النمط السلوكي أ والقيادة العدوانية والمسؤولية الاجتماعية لدى عينة من السائقين

دراسة ميدانية على عينة من السائقين بولاية باتنة

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Abstract:

This study aims at knowing the level of the social responsibility and the aggressive driving of a sample of drivers. Moreover, it aims at knowing if there is a correlation between the behavior type A, the social responsibility, and the aggressive driving of the drivers. The study was carried out on 42 drivers from the state of Batna (Algeria) using the correlative descriptive method, and the following tools: type A behavior scale, the social responsibility scale, and a questionnaire about the aggressive driving after checking its psychometric characteristics. After using the suitable statistical tools, we found out that: The level of the social responsibility is low for the sample drivers; the level of the aggressive driving is high for the sample of the study, there is a statistically significant reflexive correlation between the type A behavior and the social responsibility of the drivers. There is a statistically significant correlation between the type A behavior and the aggressive driving of the drivers.

Keywords: type A behavior, aggressive driving, social responsibility; driver

ملخص:

هدفت الدراسة الى محاولة معرفة مستوى كل من المسؤولية الاجتماعية والقيادة العدوانية لدى عينة من السائقين. وكذا معرفة إذا كانت هناك علاقة ارتباطية بين كل من نمط السلوك أ بالمسؤولية الاجتماعية والقيادة العدوانية لدى السائقين، وقد أجريت الدراسة على 42 سائق من ولاية باتنة (الجزائر)، تم استخدام المنهج الوصفي الارتباطي و الأدوات

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التالية: مقياس النمط السلوكي أ ومقياس المسؤولية الاجتماعية واستبيان القيادة العدوانية وبعد التأكد من خصائصهم السيكومترية وباستخدام الاساليب الإحصائية المناسبة تم التوصل للنتائج التالية: -مستوى المسؤولية الاجتماعية منخفض لدى عينة السائقين ، مستوى القيادة العدوانية مرتفع لدى عينة الدراسة ، توجد علاقة ارتباطية عكسية دالة احصائيا بين النمط السلوكي أ والمسؤولية الاجتماعية لدى السائقين ، توجد علاقة ارتباطية دالة احصائيا بين النمط السلوكي أ والقيادة العدوانية لدى السائقين.

الكلمات المفتاحية: نمط السلوك أ ، القيادة العدوانية ، المسؤولية الاجتماعية ، السائق.

Introduction

In the late years, most of the countries suffered the road accidents which represent an epidemic that threatens the public health because controlling it and reducing the accidents is a challenge. Thus, each country started looking for their causes and how to eradicate them. In this line, Algeria is among the countries that suffered this issue that left many casualties and material losses. Moreover, it worked to reduce them through stringent laws. Nevertheless, the issue is still increasing mainly in summer 2022 that witnessed high statistics broadcast via TV and radio. Unfortunately, an accident causes most of the time tens of deaths including whole families. In this context, the driver and the big mistakes he makes are the main cause of the accidents. Therefore, we tried to focus on some indexes of the dangerous behaviors adopted by the driver starting with the type A behavior and its characteristics and connection with the aggressive driving and the social responsibility that must be respected by everyone. This is what we shall know through this study

1. Problematic

Because man is the main cause of the accidents, and in the light of the shortage of the current legal system in facing the continuous increase in car accidents, the absence of the safe roads, the unemployment of the modern techniques in the road safety, and the daily violations of the laws, the National Security General Directorate revealed a table showing 327 accidents in the urban regions from 26 July 2022 to 01 August 2022, and 359 accidents from 02 August 2022 to 08 August 2022; i.e. with an increase of 32 accidents. In this line, man caused 346 accidents of them, 09 were due to a deficit in the vehicle, and 04 were due to the road (Algerian News Agency, 2022).

Thus, investigating the causes is among the most attractive problematic for the experts and researchers in the road safety including psychologists. This made us

tackle the type A behavior of the driver which is characterized with a set of features including the excessive competitive ability, impatience, and anger which lead to aggressive driving which is a deviant driving. The latter represents a danger for the public safety because it may harm the others mainly that driving is related to the environment, which includes different situations that may cause stress and push the driver to use the facing strategies that include aggression, anger, and jeopardy. This represents a set of behaviors including the impolite gestures and manifests with an excessive dynamic driving by the driver who wants to confirm himself in front of the road difficulties. Moreover, the driver may feel depression due to the sensitivity to the excessive and active morality and the anxiety (Boudhrifa et al, 1991). Moreover, the behavior the individual makes towards the others may be material such as beating or moral such as insulting. In this regard, the study of (Leo Tasca, 2004) found a correlation between the aggressive driving and the excessive competitive ability, which characterizes type A behavior. Thus, we notice that the behaviors depend on the responsibility of the driver because his feeling of social responsibility may make him contribute to the interaction with the others when driving and controlling the situations that may face him in the road. On the other hand, not feeling the social responsibility leads the driver to breaking the laws as confirmed by the study of (Loubiri & Rahal, 2021) about the social responsibility of the drivers who break the driving code in the Wilaya of al Ouedi. The study found that the sample of the study do not have the social responsibility. In addition, (Attouijri 2003) mentioned that many of the deadly road violations are due to the excessive speed and not respecting the signs (Arraouahi, 2019, p 200). We find that these behaviors are related to the aggressive driving. As a result, based on what had been said, we find ourselves obliged to grapple with a paramount question that is related to the existence of a statistically significant correlation between the type A behavior, the aggressive driving, and the social responsibility of a sample of drivers from the Wilaya of Batna.

2- Hypotheses of the study:

1. We expect that the level of the social responsibility is low for the drivers.
2. We expect that the level of the aggressive driving is high for the drivers.
3. There is no statistically significant correlation between type A behavior and the social responsibility of the drivers.
4. There is a significant correlation between type A behavior and the aggressive driving of the drivers.

3- Aims of the study

- Knowing the level of the social responsibility and aggressive driving for a sample of drivers.
- Revealing the relation between the behavior type A, the social responsibility, and the aggressive driving for the drivers.

4-Importance of the study:

The importance of the study lies within its scientific importance through the studied variables that include the type A behavior with its characteristics such as the social responsibility and aggressive driving from one side. On the other side, the study includes a practical importance through the scientific results it finds that can be taken by the experts of road and circulation because it predicts the dangerous behaviors that may lead to accidents. Thus, they can build preventive programs to reduce the behavior of the aggressive driving and increase the feeling of social responsibility of those who have type A behavior.

5. Terms of the study:

- **Type A behavior:** It is a set of characteristics of the behavior of the driver that can be measured with the degree obtained in the type A behavior scale that was made by Nahda Sokkar.
- **Aggressive driving:** It is driving a vehicle in an arrogant and selfish way without caring about the rights or safety of the others. It is characterized with risky behaviors such as the excessive speed, not respecting the signs, crying, making gestures, and excessive use of the horn. It is measured with the degree obtained in the scale designed by the researcher.
- **Social responsibility:** It is a set of duties and roles that must be followed by the driver because he belongs to a specific group. It is related to the responsibility of the individual for the group he lives within. It is measured with the degree obtained in the social responsibility scale designed by Ibrahim Shafai Ibrahim (2003).

7. The theoretical framework of the study:

7.1 Type A behavior:

Friedman & Roseman define it as being made up of the action and emotionality. It can be noticed in any aggressive person who is absorbed in a chronic struggle to make more tasks in little time even if it were on the detriment of other people or things. This type manifests in people who are sensitive to challenge resulting from the physical and social environment. Its elements include the aggression, ability to be provoked, feeling of shortage of time, impatience, and competitiveness.

- **Characteristics of the people with behavior type A:** Ali Askar sees that these people are characterized with making more than one job in a time because they compete time. Moreover, they have a sense of self-reliance, competitiveness, and the high will for achievement, which pushes them to the aggression. In addition, they are characterized with moving the arm in a remarkable way during the speech and obliging the others to speak faster due to their impatience. On the other hand, Mohamed Qacem Abdullah sees that they are characterized with speed and recklessness in driving. Besides, they are always under the pressure of time and much work and are more aggressive when they have stressing conditions (Bouaicha, 2012, p. 37).

7.2 Aggressive driving:

(Richer & Bergeron, 2012) define it as a mix of the driving violations that put the others and their properties in danger (Kara & Jianming, 2016). On the other hand, Bouchlaghem & Bouizari see that it is driving the car in a selfish and uncivil manner that reflects the lifestyle of the driver. It is exporting tyranny and confusion to the others and creating direct causes of deadly accidents (Bouchlaghem & Bouizari, 2020, p. 124). Moreover, the American Association for Cars defines the aggressive driving as using the car without caring about the safety of the others. Among the aggressive behaviors in the road we find (Moqaddam Abdul Hafid Assaid, 2004):

1. Using the horn in a disturbing way.
2. Racing.
3. Changing the path abruptly in a dangerous way.
4. Blocking the road indifferently.
5. Bad gestures.
6. Insults.

7.3 Social responsibility:

Dilmi defines it as the self and real commitment of the individual to the content of the social values and criteria, and abandoning all what may lead to their violation in any field of the various social relations (Abd Bakir, 2012, p. 540).

Pillars of the social responsibility:

Athman Sayad mentions three pillars that are:

- **Care:** it is distributed on the group without exception of any member regardless his social status. If equality in giving rights is an honor for man, the equality in the responsibility is a bigger honor because taking the responsibility and its implications is higher than taking the rights.
- **Guidance:** This includes advising the group members and calling them for the sane social values and the optimal behavior such as the perseverance, patience, and hope.

- **Good work:** This requires organization and the maximum effort. It is linked with the element of participation (Al Agha, 2008, p. 21).

8. The practical side:

8.1 The method used:

We used the correlation descriptive method that serves the hypotheses of the study.

8.2 Sample of the study:

It includes 42 drivers. In the beginning, the questionnaires were distributed on 65 drivers; however, the results in type A behavior manifested in 42 drivers only (34 males and 8 females). Thus, we took 42 drivers and abandoned the rest because we look for the relation of the type A behavior with the other variables.

8.3 Tools of the study:

8.3.1 Type A behavior scale:

We used the scale of Nahda Sokkar that includes 52 statements distributed on 5 dimensions that are:

- **Speed and impatience:** This includes fast speech, feeling of shortage of time, impatience, and feeling of remorse during the break. It includes 14 statements.
- **Ambition and perseverance:** This includes the continuous struggle to make more tasks. The rhythm of making the tasks is increasing with a motive for outperformance. It includes 08 statements.
- **Stress and emotionality:** It includes ability to be provoked, nervousness, and anger. It includes 13 statements.
- **Competitiveness and absorption in work:** continuous occupation, work, no break, challenging the other, and the love of competition. It includes 09 statements.
- **Aggression:** rushing and threat, violence, and opposition. It includes 08 statements.

Answering the questionnaire is according to the following way: no 0, somehow 1, and yes 2. On this basis, the increase of the degree falls within the characteristics of type A behavior.

Measuring the psychometric characteristics:

The validity is calculated through the correlation coefficients between each statement and the total degree of the dimension to which it belongs. The correlation coefficients in the dimension of speed and impatience were between 0,49 and 0,67. As for the dimension of the ambition and perseverance, the results of the correlation coefficients between the statements and its total degree were between 0,57 and 0,72. As for the dimension of the stress and emotionality, results were between 0,39 and 0,58. As for the dimension of the competitiveness and absorption in work, results

were between 0.57 and 0.73. Finally, the results of the dimension of aggression were between 0.56 and 0.69. These are all statistically significant results at significance level 0.05 for some and at 0.01 for some others. Thus, the scale has an acceptable validity. As for the consistency, we calculated it with Cronbach's Alpha. Results were 0.72, 0.59, 0.78, 0.83, and 0.67 which are all statistically significant and show that the scale has an acceptable consistency.

8-3-2. The social responsibility scale:

We relied on the test of the social responsibility of Ibrahim Shafai Ibrahim (2003) which is made up of 42 statements. 30 of them are in the positive sense while 12 are in the negative. The answer is through Lickert's 04 points scale as such: always 1, many times 2, sometimes 3, and never 4. The inverse statements of the negative direction have inverse estimations. Thus, the maximum degree is 168 which shows a high degree of awareness about the social responsibility. On the other hand, the lowest degree is 42 which indicates the lowest degree of awareness about the social responsibility.

Measuring the psychometric characteristics:

The validity is calculated through the correlation coefficients between each statement and the total degree of the dimension. Results showed that they are all statistically significant at significance level 0.01. The correlation coefficients were between 0.39 and 0.85 which show the validity of the scale. As for the consistency, it was calculated with Cronbach's Alpha. The result was 0.73 which shows that the scale has an acceptable degree of consistency.

8-3-3. the aggressive driving scale:

The scale was designed by the researchers through having a look on the previous scales in this trend such as that of John Houston 2003. The scale is made up of 20 statements that are answered with Lickert 05 points scale as such: no 1, a bit 2, neutral 3, much 4, and very much 5. The degrees were between 20 and 100. The higher the degree is, the more dominant is the aggressive driving.

Measuring the psychometric characteristics:

The validity is calculated through the correlation coefficients between each statement and the total degree of the dimension. Results showed that they are statistically significant as some were significant at significance level 0.01 while others at 0.05. The correlation coefficient results were between 0.56 and 0.76. These are all statistically significant results that show that the scale has an acceptable validity. As for the consistency, we calculated it with Cronbach's Alpha. The result was 0.77, which shows that the scale has an acceptable consistency.

9-Presentation and discussion of the results:

1. Presentation and discussion of the results of the 1st hypothesis:

It says, “We expect that the level of the social responsibility is low for the drivers”. To check the validity of this hypothesis, we calculated the degrees of the social responsibility and their frequencies. It was divided into two levels through calculating the range. Thus, we calculated the highest degree of the scale minus the lowest/ 2. The result is added to the lowest level and gives the low-level etc. Results are shown in the table.

Table 01: Results of the frequencies at the level of the social responsibility

Degrees	Frequencies	Percentage
Low (42-105)	29	69%
High (106-168)	13	31%

Source: prepared by the researcher

We notice from the results of the table that the degree of most of the drivers belongs to the low level as it reached 69% of the answers while 31% was in the high level. Thus, the hypothesis is confirmed and the level of the social responsibility is low for the sample of the study.

To confirm more, we conducted T test for the one sample to compare the arithmetic mean with the theoretical. The result is shown in the table.

Table 02: Results of T test

	Number of the sample	Theoretical mean	Arithmetic mean	Standard deviation	T value	Statistical significance
Social responsibility	42	105	42.66	12.56	6.79	0.00

Source: prepared by the researcher

From the table, we see that the arithmetic mean is 42.66 and is less than the theoretical that is 105 with T value of 6.79. The latter is a statistically significant value. Thus, the sample drivers have a low level of the social responsibility.

-Discussion of the results of the 1st hypothesis:

The results show a low level of the social responsibility for the sample of the study. The result is according to the orientation of the researcher because those who have type A behavior have a low social responsibility because they prefer making their tasks with the highest speed possible. Therefore, they privilege their individual responsibility on the social. This result is in agreement with that of Loubiri & Rahal 2021 which found a low level of social responsibility for the drivers who break the law. Moreover, it is the same result as that of Li Hui & Luo Yong which found that the drivers who have type A behavior ignore the others and prefer to monopolize the road. In this line, most of them fail to understand that driving is a social task that relies on all the drivers to have security and safety. Consequently, if the driver does not understand that driving a vehicle is a social task, he will harm the others who

share the circulation space because the car is among the most dangerous transportation means.

2. Presentation and discussion of the results of the 2nd hypothesis:

It says, “we expect that the level of the aggressive driving is high for the drivers”. To check the validity of this hypothesis, we calculated the degrees of the social responsibility and their frequencies. Results are shown in the table.

Table 03: Results of the frequencies at the level of the social responsibility

Aggressive driving	Frequencies	Percentage
Low (20-60)	14	33.33%
High (61-100)	28	66.66%

Source: prepared by the researcher

We notice from the results of the table that the frequencies of the sample answers reached 33.33% with 14 drivers in the low level while they reached 66.66% with 28 drivers in the high level. This indicates that the hypothesis is confirmed and that the drivers have a high level of aggressive driving. Moreover, we calculated T for the one sample to find the arithmetic mean and compare it with the theoretical to know the level of the aggressive driving for the study sample. The result is shown in the table.

Table 04: Results of T test

	Number of the sample	Theoretical mean	Arithmetic mean	Standard deviation	T value	Statistical significance
Aggressive driving	42	60	75	6.79	4.53	0.02

Source: prepared by the researcher

From the table, we see that the arithmetic mean is 75 and is higher than the theoretical that is 60. Thus, the sample has a high level of aggressive driving and the hypothesis is confirmed.

Discussion of the results of the 2nd hypothesis:

The results show a high level of aggressive driving for the sample of the study. The result is according to the orientation of the researcher because those who have type A behavior have a high level of aggressive driving. The study of Doobe Gross that investigated the excessive use of the horn as an indirect tool to measure the aggression found that the drivers with type A behavior use the horns 3 times more than those with type B behavior mainly when the driver who is ahead does not respond fast when the green light is on. The result can be attributed also to the increase of the aggressive features as most of the members of the sample are young (20-38 years old). This age category has high aggressive behaviors compared to those who are older due to the psychological interpretations. For instance, the study of (Collet, 1986) explains the existence of the feeling of the need to defend the vital

atmosphere because the type A behavior drivers consider the car as an extension to the practice of their physical authority and that the car is part of their bodies. When these limits face undesired behaviors in the road, the defense mechanisms strongly and aggressively start. The aggressive person is easily provoked and his reactions are fast without thinking about the repercussions. Moreover, he is too sensitive to the surrounding factors and less patient. These are the characteristics of type A behavior that push the person to drive aggressively, attack the others, drive with excessive speed, and make other reckless behaviors.

3. Presentation and discussion of the results of the 3rd hypothesis:

It says, "There is no statistically significant correlation between type A behavior and the social responsibility of the drivers". To check the validity of this hypothesis, we calculated Pearson correlation coefficients as shown in the table:

Table 05: Results of Pearson correlation between the dimensions of type A behavior and the social responsibility

		Type A behavior					
		Speed and impatience	Ambition and perseverance	Stress and emotionality	Competitiveness and absorption in work	Aggression	Total degree
Social responsibility	Correlation coefficient	-0.49	-0.63	-0.29	-0.67	-0.59	-0.83
	Significance level	0.01	0.01	0.05	0.01	0.01	0.01

Source: prepared by the researcher

We notice from the table that Pearson correlation coefficients are all significant. The dimension of speed and impatience has a correlation coefficient of -0.49 which is significant at significance level 0.01. As for the dimension of the ambition and perseverance, the correlation coefficient is -0.63 which is a significant at significance level 0.01. As for the dimension of the stress and emotionality, the correlation coefficient is -0.29 which is a significant at significance level 0.05. As for the dimension of the competitiveness and absorption in work, the correlation coefficient is -0.67 which is a significant at significance level 0.01. Finally, for the dimension of aggression, the correlation coefficient is -0.59 which is a significant at significance level 0.01. Regarding the total degree of the scale, the correlation coefficient is -0.83 at significance level 0.01. Thus, the hypothesis is not confirmed due to the absence of the relation. Nevertheless, the relation was negative, i.e., reflexive and not direct between the type A behavior and the social responsibility.

Discussion of the results of the 3rd hypothesis:

The results show a reflexive correlation between the type A behavior and the social responsibility. This indicates that the more the sample has the type A behavior, the less social responsibility it has. As we know, the type A behavior

includes a set of behaviors and composed factors such as mood and affection based on the personality of the individual. Consequently, the result shows that the dimensions of type A behavior such as speed, impatience, emotionality, competitiveness, and ambition make the driver work hard to achieve his own goals on the detriment of the goals of the group. In this regard, (Ahmed Mohamed Abdul Khaliq, 2000) sees that the most remarkable aspects in type A behavior are the feeling of time shortage and impatience that lead to a chronic feeling of irritation and the inability to feel happy for the achievements of the others. Moreover, the aspects include the inability to accept the simple mistakes and the unbelief in altruism. These characteristics indicate that the people do not have social skills because those with social skills have skills for social control and are generally adapted, polite, and confident when facing the social situations, and can achieve adjustment with any social situation (Mohamed Assayad Abdurrahman, 1998). Moreover, (Loubiri & Rahal, 2021) see that the drivers who break the laws do not contribute inside the group and violate the circulation code. Moreover, they are indifferent towards the circulation safety because they believe that it limits their freedom and hinders their tasks as confirmed by the 1st hypothesis that says that the social responsibility is low for these drivers.

4. Presentation and discussion of the results of the 4th hypothesis:

It says “There is a significant correlation between type A behavior and the aggressive driving of the drivers”. To check the validity of this hypothesis, we calculated Pearson correlation coefficients as shown in the table:

Table 06: Results of Pearson correlation coefficient

		Type A behavior					
		Speed and impatience	Ambition and perseverance	Stress and emotionality	Competitiveness and absorption in work	Aggression	Total degree
Social responsibility	Correlation coefficient	0.73	0.69	0.53	0.81	0.79	0.91
	Significance level	0.01	0.01	0.01	0.01	0.01	0.01

Source: prepared by the researcher

We notice from the table that Pearson correlation coefficients are all significant. The dimension of speed and impatience has a correlation coefficient of 0.73 which is significant at significance level 0.01. As for the dimension of the ambition and perseverance, the correlation coefficient is 0.69 which is a significant at significance level 0.01. As for the dimension of the stress and emotionality, the correlation coefficient is 0.53 which is a significant at significance level 0.01. As for the dimension of the competitiveness and absorption in work, the correlation coefficient is 0.81 which is a significant at significance level 0.01. Finally, for the dimension of

aggression, the correlation coefficient is -0.79 which is a significant at significance level 0.01. Regarding the total degree of the scale, the correlation coefficient is 0.91 at significance level 0.01. Thus, the hypothesis is confirmed due to the existence of a correlation between the social responsibility and type A behavior.

-Discussion of the results of the 4th hypothesis:

The results show a correlation between the type A behavior and the aggressive driving. It is a result that agrees with the orientation of the research because the characteristics of the behavior type that is easily provoked drive aggressively. This is what the study of (David Schinar, 1988) confirmed saying that the type A behavior has less resistance to the depression. Therefore, they are obliged to drive aggressively mainly when they feel that the others are not driving correctly such as those who drive slowly in the left path of the highway. This is also what the study of (Castanier & Le Scanff) found, when investigating the effect of the main dimensions of the personality on the behaviors of the cars' driving, that those who have the anger characteristic show a high state of verbal and material aggression. Moreover, (Ahmed Mohamed AbdulKhaliq, 2000) had the same orientation as he found that the drivers with type A behavior have free aggression when driving. In addition, the study of (Zhongxiang & Miamiao, 2017) about the types of situations that cause the anger of the professional and unprofessional drivers in China found out that the drivers with type A behavior show high degrees of anger when driving and that there is a correlation between type A behavior and the aggressive driving. In this line, they cause accidents due to their aggressive behaviors.

Conclusion:

Upon studying the relation between the type A behavior, the aggressive driving, and the social responsibility. The results showed a low level of social responsibility and a high level of aggressive driving for drivers with type A behavior. In addition, there is a reflexive relation between the type A behavior and the social responsibility, in addition to a direct relation between the type A behavior and the aggressive driving due to the characteristics of the type A behavior that is characterized with dangerous behaviors for the road safety. Nevertheless, the results need to be studied again on a bigger sample because our sample is small. Based on what has been said, we recommend:

- Developing the study and broadening its scope by making it on a bigger sample with demographic variables such as experience, age, and social status due to their role in the life of the drivers.
- Working to study the psychological variables related to the characteristics of the personality such as predicting variables of the car accidents.

- Focusing on the awareness campaigns related to the aggressive driving and its danger on the safety of people.
- Working on healthy programs based on the preventive side to increase the sense of the individual and social responsibility in the road.

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