



RESEARCH ARTICLE

The Effect of Traumatic Life Events on Traffic Tickets: An Evaluation of Driving Under the Influence of Alcohol

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Abstract:

Objective: The aim of this study is to determine the frequency of lifetime traumatic experiences, traffic punishment information and the relationship between traumatic history and criminal information of drivers who are intoxicated with alcohol.

Materials and Methods: The study was performed with 295 participants who participated in the Bursa Health Directorate's Driver Behavior Development Training Program from November 2015 to June 2016. A driver information form that includes demographic and traumatic life event information was used to obtain the data. Driver's license criminal information was also requested from the police department with an official letter.

Results: The participants were 9 females and 286 males. The mean age of the drivers was 40.47±9.48. Of them, 11.2% (n: 33) had experienced a life-threatening illness or injury, 10.8% (n: 32) had had a serious accident or been injured, and 9.5% (n:28) had been threatened with physical violence or weapons. Of them, 21.4% (n: 63) had lost a family member, lover, spouse or very close friend by accident, murder or suicide, and 6.1% (n: 18) said that they had been threatened with death or serious injury. A relationship was found between seat belt violations and those who were physically harmed by kicking, beating, slapping or in other ways ($\chi^2(2)=7.19$, $p<.00$).

Conclusion: This study of drivers with a history of driving under the influence of alcohol found a significant relationship was found between history of trauma and traffic violations.

Keywords: forensic sciences, traumatic life events, crime

Öz:

Amaç: Bu çalışmada alkollüyen araç kullanımı olan sürücülerin yaşam boyu travmatik yaşantı sıklıklarının tespit etmek, trafik ceza bilgilerinin incelemek, travmatik öykü ve ceza bilgileri arasındaki ilişkiyi incelemek amaçlanmıştır.

Gereç ve Yöntem: Çalışma, Kasım 2015- Haziran 2016 tarihleri arasında Bursa Sağlık Müdürlüğü tarafından yürütülen "Sürücü Davranışları Geliştirme Eğitimi"ne katılan 295 katılımcıyla gerçekleştirilmiştir. Sürücülere araştırmacılar tarafından hazırlanan travmatik yaşantıların ve demografik bilgilerin yer aldığı "Sürücü Bilgi Formu" uygulanmıştır. Ayrıca sürücülerin sürücü belgesi ceza bilgileri İl Emniyet Müdürlüğü'ne resmi yazı ile başvurularak talep edilmiş, gerekli izinler alındıktan sonra trafik ihlal bilgilerinin yer aldığı sürücü belgesi ceza bilgileri ve yaşam boyu travmatik yaşam öyküsü arasındaki ilişki incelenmiştir.

Bulgular: Sürücülerin 9'u kadın, 286'sı erkektir. Sürücülerin yaş ortalaması 40,47±9,48'tir. Sürücülerin 33'ü (%11.2) hayatını tehdit eden bir hastalık ya da yaralanma geçirdiğini, 32'si (%10.8) ciddi bir kaza geçirme ya da ciddi bir şekilde yaralandığını, 28'i (%9.5) kendisine fiziksel şiddet ya da silah kullanıldığını belirtmiştir. Sürücülerden 63'ü (%21.4) ailesinden birini (sevgili, eş, ya da çok yakın arkadaşı) bir kaza, cinayet ya da intihar sonucu kaybettiğini, 18'i (%6.1) ölümlerine ya da ciddi yaralanmayla tehdit gördüğünü belirtmiştir. Tekmelenme, dövülme, tokat atılma ya da başka yolla fiziksel zarar görme ile 78/1-a ihlal maddesi arasında istatistiksel olarak anlamlı ilişki bulunmuştur ($\chi^2(2) = 7.19$, $p < .00$).

Sonuç: Alkollüyen araç kullanma öyküsü olan sürücülerle yapılan bu çalışmada, yaşam boyu travmatik öykü ve trafik ihlalleri arasında anlamlı bir ilişki bulunmuştur.

Anahtar Kelimeler: Adli Bilimler, Travmatik Yaşam Olayı, Suç

DOI: 10.17986/blm.1328

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Acknowledgement:

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* Some part of this study was presented as oral presentation at "16th. Congress of Forensic Sciences".
* This study was prepared by rearrangement of the Doctoral thesis by the first author, entitled as "The impact of psychological trauma on the risks of driving under the effect of alcohol".

Support Resources

The Authors report no financial support regarding content of this article.

Conflict of Interest

The authors declare that they have no conflict of interests regarding content of this article.

Ethical Declaration

The principles outlined in the Declaration of Helsinki were followed in our study. This article is English version of the manuscript entitled as "Acil Servis Hekimlerinin Şiddet ve Adli Olaylara Maruziyet Durumlarının İncelenmesi"

Received: 17.08.2019

Revised: 16.09.2019

Accepted: 21.04.2020

1. Introduction

Driving under the influence of alcohol is a risky behavior and a significant traffic problem that not only causes harm to drunk drivers, but also to other people, and even to society. Globally, 1.2 million people die each year as a result of traffic accidents. Traffic accidents that involve drunk drivers cause 30-40% of all traffic accident deaths (1). Driving under the influence of alcohol, drugs or stimulants is prohibited in Turkey and in the rest of the world. In Turkey, it is punishable by administrative sanction in accordance with item number 48 of the Road Traffic Act (2). Courts can rule that causing the injury or death of third parties while driving under the influence of alcohol involves conscious negligence, which means that such drivers will be sentenced severely. In addition, drivers whose driver's licenses are temporarily suspended are given rehabilitation and counseling. Risk, in a dictionary of psychology, is defined as "the potential or possibility of unwanted, adverse consequences of a human behavior to life, health, the environment, relationships, etc." (3). It is defined in a dictionary of psychiatry as "the possibility of danger or harm, all possibilities that might be harmful as a result of any process or event" (4). Drug abuse, reckless driving, speeding, driving without a license, interpersonal aggression, sexual harassment and the use of sharp objects are defined as risky behaviors (5-8). Some forms of these behaviors are crimes that can incur severe penalties. Traumatic experiences affect risk-taking behavior (5, 6, 9-13). The human or natural causes of trauma, threats to life, physical injuries and losses after trauma, the length of the trauma and exposure to traumatic images are considered risk factors in the emergence of risky behaviors (14).

The aim of this study is to determine the relationship between driving under the influence of alcohol as defined by item number 48 of the Road Traffic Act and lifetime traumatic experience, and to examine the other traffic violations of drivers whose driver's licenses were suspended for drunk driving.

2. Materials and Methods

This study was conducted with 295 participants who attended the Bursa Health Directorate's Driver Behavior Development Training program from November 2, 2015 to June 9, 2016. This program is conducted by a psychiatrist, a physician, a psychologist and a traffic instruc-

tor. Drivers who have been convicted of driving under the influence of alcohol twice (blood alcohol content of 0.05% for private automobile drivers and 0.02% for commercial vehicle drivers) must attend the program to get their driver's licenses back. Approval to conduct the research was obtained from the Ethics Committee of Istanbul University's Cerrahpaşa Faculty of Medicine on March 13, 2017 with decision number 99895. The participants were administered a driver information form prepared by the researchers, which includes questions about the drivers' demographic information as well as traumatic life event information. Their driver's license criminal information was requested from the police department with an official letter. After the official letter was approved, the drivers' traffic violations were examined. The research participation rate was 89.93%.

The Driver Information Form: This form has questions about demographic information such as age, gender, marital status and education level, and about smoking, chronic disease and history of psychiatric treatment.

The Driver's License Criminal Information: The driver's license criminal information was examined in two categories: violations of driver's license obligations and traffic rule violations. The traffic violations are shown in two separate tables to make easier reading.

The statistics were evaluated using SPSS version 20.0 for Windows. Descriptive analyses and the chi-square test were used.

3. Results

The questionnaire was administered to 328 people, of whom 33 failed to complete the questionnaire and were thus excluded from the assessment. The remaining 295 participants ranged in age from 23 to 68. Their mean age was 40.47 ± 10.46 . Of the drivers, 9 (3.1%) were female, and 286 (96.6%) were male. Of them: 81 (27.6%) were single, 195 (66.3%) were married, 1 (0.3%) was separated, 15 (5.1%) were divorced, and 2 (0.7%) were living unmarried with a partner. Of the drivers, 255 (86.7%) were smokers, and 39 (13.3%) did not smoke. Of them, 22 (7.5%) had chronic diseases, and 271 (92.5%) did not. Of the drivers, 47 (16%) had a history of psychiatric treatment, 63 (21.4%) had lost a family member, lover, spouse or very close friend by accident, murder or suicide, and 42 (14.2%) said that someone had physically harmed them by beating them, slapping them or in other ways. The drivers' traumatic experience information is shown in Table 1.

Table 1. The Drivers' Traumatic Experience Information

| Traumatic experience | Prevalence (n=295) | Percentage (%) |
|---|---------------------|----------------|
| Have you ever had a life-threatening disease or physical injury? | | |
| No | 262 | 88.8 |
| Yes | 33 | 11.2 |
| Have you had a serious accident or a serious injury? | | |
| No | 263 | 89.2 |
| Yes | 32 | 10.8 |
| Have you ever been exposed to physical violence or use of a weapon? | | |
| No | 267 | 90.5 |
| Yes | 28 | 9.5 |
| Have you ever lost a family member, lover, spouse or very close friend because of an accident, murder or suicide? | | |
| No | 232 | 78.6 |
| Yes | 63 | 21.4 |
| Has anyone ever coerced you into watching or doing sexual things against your will? | | |
| No | 291 | 98.6 |
| Yes | 4 | 1.4 |
| During your childhood, did your parents, babysitter or someone else continuously smack, beat, attack or physically harm you in other ways? | | |
| No | 269 | 91.2 |
| Yes | 26 | 8.8 |
| Has anyone else kicked, beaten, smacked or physically harmed you in other ways? (your spouse, a sibling, a family member, an acquaintance or a stranger.) | | |
| No | 253 | 85.8 |
| Yes | 42 | 14.2 |
| Has anyone threatened you with death or serious injury? | | |
| No | 277 | 93.9 |
| Yes | 18 | 6.1 |
| Have you ever been present when someone was killed, seriously injured or exposed to sexual or physical attack? | | |
| No | 255 | 86.4 |
| Yes | 40 | 13.6 |
| Have you ever been in any other situation when you were seriously injured or close to death? | | |
| No | 265 | 89.8 |
| Yes | 30 | 10.2 |
| Have you ever had a close relationship with someone who tried to intimidate you by threatening you, for instance, with a weapon? | | |
| No | 283 | 95.9 |
| Yes | 12 | 4.1 |
| Have you ever been humiliated, teased, insulted or made to feel bad by your family or your close friends? | | |
| No | 278 | 94.2 |
| Yes | 17 | 5.8 |
| During your childhood (before 18 years old), were you separated from an adult with whom you were close? | | |
| No | 280 | 94.9 |
| Yes | 15 | 5.1 |
| Have you ever experienced any other frightening or horrible events? | | |
| No | 274 | 92.9 |
| Yes | 21 | 7.1 |

Information about the drivers' traffic violations was evaluated in two categories. The first is shown in Table 2 as the Violation of the Obligations for the Driving Licenses. Table 2 shows that the number of violators of item number 36/3-b, which prohibits driving with a driver's license that is temporarily or preventively revoked by the

courts, public prosecutors, or the authorities identified in the Road Traffic Act, was 65 (23.6%). The number of people who violated item number 39/1-a was 16 (5.8%), and the number of people who violated item number 44/1-b was 38 (13.8%).

Table 2. Violations of Driver's License Obligations

| Violations | Prevalence [n, (%)] | | | |
|---|---------------------|-----------|---------|---------------------|
| | None | Once | Twice | Three or more times |
| 36/3-b: Driving with a driver's license that is temporarily or preventively revoked by the courts, public prosecutors or the authorities identified in the Road Traffic Act | 210 (76.4) | 53 (19.3) | 8 (2.9) | 4 (1.5) |
| 39/1-a: Driving vehicles unauthorized by the driver's license class | 259 (94.2) | 13 (4.7) | 2 (0.7) | 1 (0.4) |
| 44/1-b: Not carrying a driver's license while driving and not showing it to the authorities when asked | 237 (86.2) | 25 (9.1) | 9 (3.3) | 4 (1.5) |

The second category, traffic rule violations, is divided into Tables 3 and 4 to make easier reading. It was determined that the drivers most frequently violated item number 47/1-d, which prohibits violating the rules, codes,

obligations or requirements indicated in the regulations on traffic safety and order. This item is followed by item number 47/1-c, which prohibits violating the rules represented on traffic signals and road signs.

Table 3. Traffic Rule Violations

| Violations | Prevalence [n, (%)] | | | |
|--|---------------------|-----------|----------|---------------------|
| | None | Once | Twice | Three or more times |
| 46/2-c: Disturbing or endangering traffic when changing lanes | 272 (98.9) | 3 (1.1) | - | - |
| 46/2-d: Obstructing traffic by driving continuously in the left lane | 273 (99.3) | 2 (0.7) | - | - |
| 47/1-a: Not obeying traffic regulation and supervision by traffic police officer or other authorized persons with special outfit or warning signs and markings | 249 (90.5) | 21 (7.6) | 4 (1.5) | 1 (0.4) |
| 47/1-b: Violating a red traffic light | 234 (85.1) | 37 (13.5) | 4 (1.5) | - |
| 47/1-c: Violating the rules indicated by traffic signals and road signs | 218 (79.3) | 47 (17.1) | 8 (2.9) | 2 (0.8) |
| 47/1-d: Violating the rules, codes, obligations or requirements indicated in the regulations on traffic safety and order | 203 (74.1) | 50 (18.2) | 12 (4.4) | 9 (3.3) |
| 48/4: Smoking on public transportation | 273 (99.6) | - | 1 (0.4) | - |
| 48/9: Refusing to be tested for drugs or alcohol | 272 (98.9) | 2 (1.1) | - | - |
| 49/3: The use of commercial cargo and passenger vehicles after the legal expiration of their use | 271 (98.5) | 2 (0.7) | - | 2 (0.7) |

Table 4 shows that the drivers most frequently violated item number 51/2-a, which prohibits exceeding speed limits by 10% to 30%. This item is followed by item

number 78/1-a, which prohibits seat belt violations, and it is also followed by item number 51/2-b, which prohibits exceeding speed limits by more than 30% (Table 4).

Table 4. Traffic Rule Violations, Continued

| Violations | Prevalence [n, (%)] | | | |
|---|---------------------|-----------|-----------|---------------------|
| | None | Once | Twice | Three or more times |
| 51/2-a: Exceeding the speed limit by 10% to 30% | 149 (54.2) | 61 (22.2) | 31 (11.3) | 34 (12.4) |
| 51/2-b: Exceeding the speed limit by more than 30% | 190 (69.1) | 50 (18.2) | 19 (6.9) | 16 (5.8) |
| 52/1-a: Failing to slow down when entering a turn, approaching a hill top, driving on a curvy road, or approaching intersections, pedestrian walkways and crossings, tunnels, bridges and culverts, and construction or repair work | 269 (97.8) | 6 (2.2) | - | - |
| 52/1-b: Driving inappropriately, driving at inappropriate speeds, and driving with inappropriate vehicle loads, technical features or visibility for the weather and traffic conditions | 272 (98.9) | 2 (0.7) | 1 (0.4) | - |
| 53/1-a: Violating the rules of turning right | 273 (99.3) | 2 (0.7) | - | - |
| 53/1-b: Violating the rules of turning left | 269 (97.8) | 6 (2.2) | - | - |
| 54/1-a: Not obeying the passing rules when passing a vehicle | 270 (98.2) | 5 (1.8) | - | - |
| 54/1-b: Passing a vehicle where passing is prohibited | 249 (90.5) | 20 (7.3) | 5 (1.8) | 1 (0.4) |
| 56/1-a: Not obeying the rules for lane use and lane changes | 265 (96.4) | 10 (3.6) | - | - |
| 56/1-c: Tailgating | 252 (91.6) | 21 (7.6) | 1 (0.4) | 1 (0.4) |
| 57/1-a: Not slowing down as appropriate for intersections, or not yielding first right of way to vehicles with the right to pass | 263 (95.6) | 12 (4.4) | - | - |
| 61: Parking where it is prohibited | 250 (90.9) | 17 (6.2) | 7 (2.5) | 1 (0.4) |
| 61/1-b: Parking where it is prohibited by signs | 267 (97.1) | 8 (2.9) | | |
| 73: Reckless driving that disrupts the peace or harms people, throwing trash from vehicles, using mobile phones, car phones or similar communication devices while driving, splashing water and mud on pedestrians while driving | 243 (88.4) | 27 (9.8) | 4 (1.5) | 1 (0.4) |
| 78/1-a: Seat belt violations | 170 (61.8) | 68 (24.7) | 22 (8) | 15 (5.4) |
| 78/1-b: Drivers and passengers not using protective helmets and goggles on motorcycles, motorbikes and electric bicycles | 270 (98.2) | 2 (0.7) | 1 (0.4) | 2 (0.7) |

The relationship between the traffic violations and the traumatic experiences of the drivers was analyzed using the chi-square test. A significant relationship was found between item number 47/1c (violating the rules indicated by traffic signals and road signs), and a history of severe accident or serious injury ($\chi^2_{(2)}=103.95, p<.000$), a history of exposure to physical violence or the use of a weapon ($\chi^2_{(2)}=26.931, p<.000$), and a history of being threatened with death or serious injury ($\chi^2_{(2)}=4.09, p<.05$).

A significant relation was found between violating item 78/1-a (seat belt violations) and a history of the de-

ath of a family member, lover, spouse or very close friend by accident, murder or suicide ($\chi^2_{(2)}=5.71, p<.05$). Another significant relationship was found between violating item 78/1-a and a history of being kicked, beaten, smacked or physically harmed in another way by someone else, be it a spouse, sibling, family member, acquaintance or a stranger ($\chi^2_{(2)}=7.19, p<.00$).

4. Discussion

Our research was conducted with the drivers who were convicted of drunk driving twice. In addition to dri-

ving under the influence of alcohol, the drivers' other traffic violations were also evaluated. Our study found that 87.7% of the drivers were smokers, 7.5% had a chronic disease, and 16% had a history of psychiatric treatment. Similar findings have been obtained by other researchers (11, 15, 16).

In our study, the most common trauma (21.4%) was the loss of a family member, lover, spouse or very close friend) by accident, murder or suicide. Being physically harmed by kicking, beating, slapping or in other ways by someone else ranked second at 14.2%. The prevalence of witnessing someone's murder, serious injury, sexual or physical violence was 13.6%. The prevalence of having a life-threatening illness or injury was 11.2%, the prevalence of having a serious accident or injury was 10.8%, and the prevalence of exposure to physical violence or the use of weapons was 9.5%. There are several findings in the literature regarding traumatic events. Karancı et al. (16) found that 52.5% had experienced the unexpected death of a loved one or close friend, 25.6% had experienced a serious accident, fire or explosion, and 11.8% had a life-threatening disease. Neupane et al. (19) found that the prevalence of serious traffic accidents of 46.5%, the prevalence of witnessing murder, or serious injury or violence was 24.1%, and the prevalence of violent assault was 19.8%. The prevalence of being threatened with a weapon, kidnapped or held captive was 17.6%. Other serious traumas had a prevalence of 29.9%, and the sudden, unexpected death of a relative or friend had a prevalence of 13.3%. Dutcher et al. (10) found that physical assault had a prevalence of 62.2%, traffic accidents had a prevalence of 62.2%, and childhood physical abuse had a prevalence of 53.2%. Serious accidents at home or work had a prevalence of 45%, assault with a weapon had a prevalence of 39.6%, and witnessing a sudden violent death had a prevalence of 32.4%. Witnessing the serious injury or death of someone else had a prevalence of 28.8%. O'hare et al. (20) found that the prevalence of witnessing serious injury or murder was 31.6%, the prevalence of the sudden, unexpected death of a loved one was 72%, and the prevalence of being diagnosed with a serious or deadly disease was 33.5%. Dalbudak (21) found that the prevalence of exposure to physical assault (being beaten, kicked or punched) was 4%, the prevalence of attacks with knives or guns was 6%, and the prevalence of serious accidents at home, work or elsewhere was 4%. The prevalence of transportation accidents involving cars, trains, ships or airplanes was 14%, the prevalence of witnessing homicide or suicide was 14%, and the prevalence of the sudden, unexpected death of a loved one was 2%. Our study's finding concerning the prevalence of life-threatening disease or injury is similar to the corresponding

finding in the study by Karancı et al., "Traumatic Life Events in Turkey and Their Psychological Effects," (16). Our other findings differed with theirs. For instance, our study found that the prevalence of losing a family member, lover, spouse or very close friend by accident, murder or suicide was 21.4%. Karancı et al. asked a broader question about "the death of a loved one or close friend" and thus found a higher prevalence of 52.5%.

In addition to driving under the influence of alcohol, our research evaluated the drivers' other traffic violations. No research that examines drunk drivers' other traffic violations was found in the literature. In the research, the most common traffic violations are speeding and seat belt violations. Erel and Gölge (6) determined that people who had experienced physical, emotional or sexual abuse drive faster and drive under the influence of alcohol. Eker and Yılmaz (5) found a positive relationship between childhood traumas and driving under the influence of alcohol. Dalbudak's study (21) of a group diagnosed with post-traumatic stress disorder found that, of those who suffered childhood abuse, 28% had a history of suicide attempts, and 50% had a history of self-injury. Donley et al. (22) found a highly significant relationship between history of childhood trauma and violent criminal offenses, being arrested and imprisonment. Sudden, unexpected traumas paralyze their victims' ability to control themselves, to form social bonds and to make sense of things. They also make people feel the threat of annihilation. The symptoms that emerge after traumatic stress are ordinary reactions to the stress of extraordinary situations, and their purpose is getting used to extraordinary situations. Zoroğlu et al. (23) studied the traumatic experiences of adolescents. The adolescents said that they exhibit more self-harming behaviors when they have abreaction due to remembering their painful experiences, and that they do so to replace the severe pain caused by the traumatic event with another form of pain that is under their control. This result indicates that adolescents engage in self-harming as a coping method. This negative coping method from adolescence persists into adulthood and can become a danger to community health in the form of drunk driving. During interviews with the drunk drivers, some said that their acquaintances had lost their lives or were seriously injured while driving under the influence of alcohol (2). Driving under the influence of alcohol, speeding and driving without using the seat belt may be negative coping methods that they unconsciously use to manage the symptoms of re-experiencing trauma, or drunk driving may be a result of a predisposition. Experiencing a violent traumatic event with loss may also have an environmental effect on this predisposition. If there is a predisposition, there may be signs of it in adolescence

as well. Our study found a significant relationship between violating the traffic rules indicated by traffic signals or road signs and a history of having severe accidents, being seriously injured, and being threatened with physical violence, weapons, death or serious injury. A significant relationship was found between seat belt violations and a history of experiencing the accidental death, murder or suicide of a family member and a history of being kicked, beaten, smacked or physically harmed by anyone else. Seat belt violations and violations of the rules indicated by traffic signals and road signs may be examples of conscious self-harming behavior. Thus, our study findings are compatible with the findings of several other studies(9, 11-13, 22) of the relationship between self-harming behavior (drunk driving, driving dangerously, history of substance use, insecure sexual relationships, etc.) and lifelong traumatic experience.

5. Conclusion

This study compared the lifelong traumatic histories of drivers and traffic violations. It only examined these histories, and the possible effects of other factors (disease, road and weather conditions, etc.) that can cause traffic violations were not considered. This is a limitation of our research. The findings obtained in this research were evaluated as factors that may cause traffic violations due to traumatic experiences. Traumatic experiences are difficult and hard to interpret by nature. This difficulty may be the reason why some people tend to engage in risk-taking behaviors. Developing rehabilitation programs for drivers with frequent traffic violations could reduce their traffic violations.

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