

## **Research of the habit of seatbelt compliance of the employees of the Gazi University faculty of economics and administrative sciences.**

**Topalhan T<sup>1\*</sup>, Gokce A<sup>2</sup>, Kayipmaz AE<sup>3</sup>**

<sup>1</sup>Department of Labor Economics and Industrial Relations, Faculty of Economics and Administrative Sciences, Gazi University, Turkey

<sup>2</sup>Department of Econometrics, Faculty of Economics and Administrative Sciences, Gazi University, Turkey

<sup>3</sup>Department of Emergency Medicine, Faculty of Medicine, Baskent University, Turkey

### **Abstract**

**Aim:** Traffic accidents are an important social problem in Turkey, as well as around the world. Thousands of people are harmed as a result of traffic accidents every year. Seatbelts are one of the most important lifesaving safety measures in traffic accidents. In this study, susceptibility of our faculty members about seatbelt usage is investigated.

**Material and method:** The study was performed from February 1-28, 2016. It was conducted with the approval of the faculty dean's office. The study was done by face-to-face survey method. Seatbelt usage was investigated by observations at the faculty and staff parking lot entry. Participant's personal information was obtained from themselves. Participant's names, seatbelt usage, gender, age, marital status, department, educational status and profession parameters recorded to created form. Gathered data from the forms analyzed with SPSS 17 statistics software. Descriptive statistics are conferred with frequency and % age. Chi-squared and Fisher tests are utilized appropriately to determine whether there are differences between groups.  $p < 0.05$  value accepted as statistically significant.

**Results:** 67% of our faculty members were using seatbelt. Statistically significant ( $p < 0.05$ ) differences were found according to gender, educational status and driving license year.

**Conclusion:** Seatbelt usage rate increases as education and socio-cultural level rises.

**Keywords:** Traffic accidents, Seatbelt, Professional.

*Accepted on August 25, 2016*

### **Introduction**

In Turkey, traffic accidents are the most common cause of death and injury. Kaplan et al. reported that "in Turkey 50 traffic accidents occur per hour which result in several casualties, 1 dead and 12 injured in average" [1]. As a result of studies that tie the use of seatbelts to lower number of death and injury in traffic accidents, many countries adopted mandatory seatbelt laws leading to higher levels of their use. Despite the fact that several studies proved the importance of using seatbelts in order to reduce casualties in traffic accidents and even though the use of seatbelts is mandatory, their use is still limited in Turkey [2,3]. This becomes apparent when we look at the existing literature. Wong et al. report a relatively high level of seatbelt use at 91.4% [4]. Han et al., on the other hand, finds a relatively wide band stretching between 82.7 and 92.6% [5,6]. Studies show that the level may be much lower in Turkey. The range of seatbelt use varies between 63.3 and 87.3% [2,3].

This study focuses on a limited sample, looking at the use of seatbelts among the faculty and administrative staff of Gazi

University's Faculty of Economics and Administrative Sciences.

### **Material and Methods**

The study relies on a survey applied to individuals employed at Gazi University's Faculty of Economics and Administrative Sciences. In addition to the demographic information, such as gender, age, marital status, education and the unit they work at, the survey included questions regarding their use of seatbelts. Survey results were used to create two groups. Group-1 included the individuals that regularly use seatbelt and Group-2 the ones that do not. The data was analyzed by using SPSS 17.00. Descriptive statistics were given % age (%) and patient number (n). The Chi-square test or Fisher's exact test were used to compare two groups. The statistical significance threshold was set at  $p < 0.05$ .

### **Result**

The sample size for the survey was 240 participants, 65.4% of which regularly used seatbelts. Detailed results are presented in

Table 1. The % age of female participants was relatively low at 32.1% and gender appearance to be a significant factor determining seatbelt use. Another significant result was the education level. While 49.2% of all participants were university graduates, the use of seatbelts was significantly higher among them. The year participants got their driver's license was also a significant determinant of regular seatbelt use. Age difference, on the other hand, did not produce statistically significant results. A large portion of the participants were married (69.2%), but marital status was not statistically significant either. The same can be said for people who had children. 60.4% of the participants had at least one child, but this did not have significant impact on their seatbelt use.

**Table 1.** Wearing seatbelts status according to demographic proportions.

| Variable             |                | Group 1n (%) | Group 2n (%) | P value |
|----------------------|----------------|--------------|--------------|---------|
| Age Group            | Young (18-32)  | 70 (29.2)    | 36 (15)      | 0.171   |
|                      | Middle (33-47) | 57 (23.8)    | 38 (15.8)    |         |
|                      | Old (48+)      | 30 (12.5)    | 9 (3.8)      |         |
| Gender               | M              | 90 (37.5)    | 73 (30.4)    | <0.001  |
|                      | F              | 67 (27.9)    | 10 (4.2)     |         |
| Education Status     | Middle-School  | 30 (12.5)    | 33 (13.8)    | <0.005  |
|                      | High school    | 42 (17.5)    | 17 (7.1)     |         |
|                      | University     | 85 (35.4)    | 33 (13.8)    |         |
| Driving License Year | 0-10 year      | 78 (32.5)    | 27 (11.3)    | <0.05   |
|                      | 11-20 year     | 48 (20)      | 40 (16.7)    |         |
|                      | >21 year       | 31 (12.9)    | 16 (6.7)     |         |
| Marital Status       | Single         | 44 (18.3)    | 30 (12.5)    | >0.05   |
|                      | Married        | 113 (47.1)   | 53 (22.1)    |         |
| Child                | Yes            | 100 (41.8)   | 45 (18.8)    | >0.05   |
|                      | No             | 57 (23.8)    | 37 (15.5)    |         |

## Discussion

It is indisputable that one of the most important problems around the world is traffic accidents that cause many deaths and injuries as well as considerable tangible losses every year. Puvanachandra et al. reported a dramatic rise in traffic accidents and injury rates since 1999 [7]. Dede et al. reported that 1.104.388 traffic accidents that occurred in 2010 in Turkey whereas 620.789 in 2005. 4.045 individuals died and 211.446 were injured [3]. According to the data provided by Turkish police in 1.199.010 traffic accidents that occurred in 2014, 3.524 people died and 285.059 were injured [8]. This upward trend is somewhat understandable considering that the number of vehicles and drivers is also increasing each year.

We believe that in order to reduce the number of these accidents a variety of measures, including traffic controls by the police, higher fines, educational campaigns, are needed. In accordance with these measures automotive technologies are also developed in order to reduce casualties in traffic accidents. ABS, EBS, EDS, airbags and seatbelts are the results of these efforts [9]. Our study solely focused on the use of seatbelts. Seatbelt is the sole passive safety measure that has been proven to reduce the risk of death and serious injury in traffic accidents. While the use of seatbelts is widespread in developed countries such as the United States (81% in 2006), studies report a wide range of results for Turkey that vary between 37.5 and 87.3% [2,3,10]. Even though there is a general belief that the number of people using seatbelts in Turkey is increasing over time, this cannot account for this variation. Clearly this variation is the result of the sampling problems these studies experienced. While our study relies on a relatively small and specific sample the results (65.4%) fall within this wide range. Wong et al., on the other hand, reported 82.1% use of seatbelts [4].

One possible reason for the difference between our results and two other studies that reported higher % ages may be the nature of our sample groups. We believe that their higher % ages of seatbelt use was the result of those studies being conducted on health workers who tend to be more conscious about the issue than the general population.

Demircan et al. [2] demonstrated individuals younger than 40 have a tendency to take more risks in traffic and are less likely to wear seatbelts. Ma et al. [11] reported that seatbelt use rate is higher among patients younger than 30 years and older than 51 years old. Dede et al. however, failed to find a statistically significant relationship between age and seatbelt use [3]. In our study, no statistically significant difference was detected between different age groups. The adoption of mandatory classes before driving tests and the requirement of seatbelt use may have played a role in these results. Another factor may be the new technologies that force drivers to use seatbelts like alarms.

Ma et al. [11], as well as Dede et al. [3] reported that gender is not related with seatbelt use whereas Demircan et al. [2] reported that males are less likely to use seatbelts. Wong et al., on the other hand, present conflicting findings, reporting that 86% of males and only 74% of females use seatbelts [4]. There was statistically significant difference between females and males in our study. We found that females were more likely to use seatbelts and we believe that this is the result of them having a higher tendency to obey the rules.

Our study, just like Dede et al. [3], found that marital status has no impact on an individual's use of seatbelt. While looking at academic personnel, Demircan et al. [2] reports that seatbelt use declines when the level of education rises. Using a wider sample, Ma et al. [11] demonstrated negative correlation between seatbelt use and education levels. Dede et al. concluded that seatbelt use rate increases in direct proportion to educational level of the subjects [3]. In relation to this finding our study also revealed results similar to Dede et al. We

conclude that it is reasonable by increase in level of education results in increased awareness about seatbelt use.

Finally, how long a driver had her/his license to appear as a positive impact? Drivers who obtained their license over the past ten years have a higher degree of seatbelt use, while individuals who owned a license for a longer period of time are less likely to use their seatbelts. This may be the result of mandatory driving courses, but the probably not entirely because these courses became mandatory in 1989.

## Conclusion

Our study finds gender, the level of education and the length of time a person owns a driver's license as the three most important factors that determine seatbelt use. These findings are mostly in line with other studies in the literature.

## References

1. Kaplan B, Ozcebe H. Traffic Accidents and Rear Seat Safety. *Toplum Hekimligi Bulteni* 2009; 28: 1-7.
2. Demircan A, Aygencel SG, Karamercan M, Bildik F, Keleş A. The prevalence of seatbelt usage among university lecturers. *Ulus Travma Acil Cerrahi Derg* 2009; 15: 176-179.
3. Dede S, Kavalci C, Arslan ED, Yilmaz F, Uyanik B, Arslan O. Investigation of Seatbelt use Frequency of Healthcare Providers in Ankara. *J Clin Anal Med* 2014; 5: 39-41.
4. Wong TH, Lim GH, Chow KY, Zaw NN, Nguyen HV, Chin HC, Ong ME. Buckling up in Singapore: residency and other risk factors for seatbelt non-compliance-a cross-sectional study based on trauma registry data. *BMC Public Health* 2016; 16: 402.
5. Han GM. Non-seatbelt use and associated factors among passengers, *Int J Inj Contr Saf Promot* 2016; 4: 1-5.
6. Han GM, Newmyer A, Qu M. Seatbelt use to save money: Impact on hospital costs of occupants who are involved in motor vehicle crashes. *Int Emer Nurs* 2016.
7. Puvanachandra P, Hoe C, Ozkan T, Lajunen T. Burden of road traffic injuries in Turkey. *Traffic Inj Prev* 2012; 13: S64-75.
8. <http://www.trafik.gov.tr/Sayfalar/Istatistikler/Genel-Kaza.aspx>
9. Aydın B, Bicer U, Çolak B, Fincanci SK. Position and Traumatic Lesion Localization in Cases of Motor Vehicle Accidents. *Adli Tıp Bulteni* 1998; 3: 20-26.
10. Boztaş G, Ozcebe H. The Secondary Prevention of Traffic Road Accidents: Seat Belts. *Surekli Tıp Eğitim Dergisi* 2006; 15: 192-197.
11. Ma S, Tran N, Klyavin VE, Zambon F, Hatcher KW, Hyder AA. Seat belt and child seat use in Lipetskaya Oblast, Russia: frequencies, attitudes, and perceptions. *Traffic Inj Prev* 2012; 13: S76-81.

## \*Correspondence to

Turker Topalhan

Department of Labor Economics and Industrial Relations

Faculty of Economics and Administrative Sciences

Gazi University

Turkey