



Psychological Determinants of Seatbelt Use Among Front-Seat Passengers on Urban Roads in Iran: An Application of the Extended Theory of Planned Behavior

Nahid Soltani¹, Rahim Tahmasebi², Sahar Haghghatjoo¹ and Azita Noroozi^{1,*}

¹Health Department, Bushehr University of Medical Sciences, Bushehr, Iran

²The Persian Gulf Tropical Medicine Research Centre, The Persian Gulf Marine Biomedical Sciences Research Institute, Bushehr University of Medical Sciences, Bushehr, Iran

*Corresponding author: The Persian Gulf Tropical Medicine Research Centre, The Persian Gulf Marine Biomedical Sciences Research Institute, Bushehr University of Medical Sciences, Bushehr, Iran. Tel: +98-917724605, Email: azitanoroozi@yahoo.com

Received 2019 January 29; Revised 2020 May 02; Accepted 2020 July 11.

Abstract

Background: Given the significance of using seatbelts in preventing fatalities in accidents, more studies are required to detect the predictors of seatbelt use.

Objectives: This study aimed to specify the constructs of the extended theory of planned behavior (TPB) to predict seatbelt use in front-seat passengers in urban trips.

Methods: In this cross-sectional study, 328 front passengers of urban roads, who were residing in Bushehr during March-May 2018, were selected using multistage, stratified cluster random sampling. A researcher-made questionnaire addressing demographic variables, TPB constructs and intention, and seatbelt use questions was used to collect data. Chi-squared test, ANOVA, multiple linear regression, and logistic regression analysis were used to analyze the data using SPSS version 22.

Results: In this study, 28.7% (n = 94) of the participants did not use seatbelts as front-seat passenger, 27.7% (n = 91), and 43.6% (n = 143) used seatbelt for the sake of law enforcement and personal safety, respectively. The predictors of using seatbelts for law enforcement were experiential attitude (P < 0.001, Exp (B) = 1.25), self-efficacy (P = 0.001, Exp (B) = 1.21), and instrumental attitude (P = 0.006, Exp (B) = 0.89). The predictors of using seatbelts for personal safety were intention (P = 0.001, Exp (B) = 1.26), experiential attitude (P < 0.001, Exp (B) = 1.25), self-efficacy (P < 0.001, Exp (B) = 1.24), and instrumental attitude (P < 0.001, Exp (B) = 0.84). The only predictor of wearing seatbelts for personal safety versus wearing seatbelts for law enforcement was descriptive norm (P < 0.001, Exp (B) = 1.16).

Conclusions: The seatbelt comfort is an important factor in wearing seatbelts. Moreover, since the intention was not the predictor of seatbelt wearing in seatbelt users for law enforcement; therefore, these users are less likely to continue such a behavior.

Keywords: Extended Theory of Planned Behavior, Front-Seat Passenger, Psychological Factors, Seatbelt Use

1. Background

Driving accidents are one of the main health problems threatening individuals' health. A Global report on road safety in 2018 stated that the road traffic events annually account for 1.35 million deaths (1). In Iran, road traffic accidents have the highest fatality rates worldwide (2), and the disability-adjusted life years (DALYs) caused by road accidents are more frequent than other diseases such as cardiovascular diseases and cancers (3).

Evidence has revealed that seatbelts reduce serious crash-related injuries and deaths by about half as seatbelts saved about 15,000 lives in 2016 (4, 5). Wearing seatbelts varies considerably from one country to another, and the highest levels of seatbelt use have been reported in developed countries (6). Moreover, the rate of seatbelt use varies

on rural or urban roads among drivers and occupants. In this regard, a study in Turkey reported the rates of seatbelt use on rural and urban roads to be 71% and 21%, respectively (7). In a study in Iran, the rates of seatbelt use were reported to be 81% - 91% for drivers and 34% - 44% for front-seat passengers (8). Although wearing seatbelts is mandatory, it seems that many front-seat passengers, especially the ones on urban roads, do not use seatbelts. Accordingly, it is of great importance to detect the psychological factors affecting such a behavior.

The seatbelt use is influenced by psychological factors such as attitudes, beliefs, and intentions (9-12). Social psychological theories are useful in identifying such factors. One of the most-widely adopted psychological theories in describing high-risk behaviors such as seatbelt use is the

theory of planned behavior (TPB) (3, 7, 13).

According to TPB, the main determinant of behavior is intention, and the direct determinants of intention are attitudes toward performing a behavior, subjective norm associated with a behavior, and perceived control (14). In the extended TPB, attitude encompasses experiential attitude (emotional assessment of seatbelt use) and instrumental attitude, which is determined by the individual's beliefs about the outcomes of wearing seatbelts (behavioral beliefs), weighted by evaluating those outcomes (e.g., the expected consequences of seatbelt use) (15). In this theory, perceived norms include descriptive norms (believing in whether famous individuals use seatbelts) and subjective norms determined by his or her normative beliefs (i.e., whether important referent individuals approve or disapprove seatbelt use, weighted by an individual's motivation to comply with those referents) (14, 15). According to the extended TPB, instead of perceived behavioral control, personal agency is examined, which encompasses self-efficacy (i.e., an individual's assessment of one's ability to use a seatbelt by overcoming obstacles) and perceived behavioral control (PBC) determined by control beliefs concerning the presence or absence of facilitators and barriers to seatbelt use, weighted by the perceived power of each control factor to facilitate or inhibit using seatbelts (15).

Although several studies have revealed that TPB constructs are predictors of seatbelt use (3, 7, 13), there have been contradictions in the findings of previous studies. For example, in Simsekoglu's study, perceived behavioral control was not a predictor (7), while Tavafian found that perceived behavioral control was one of the strongest predictors of using seatbelts (3). In this regard, there is little evidence available on behavioral change theories, and further research is needed to better understand factors affecting the seatbelt use (12).

2. Objectives

To the best of our knowledge, no study has considered all the constructs of the extended TPB in predicting the seatbelt use in front-seat passengers. Accordingly, the main objective of this study was to assess how much the constructs of extended TPB can predict seatbelt use in front-seat passengers on urban trips.

3. Methods

3.1. Participants

In this cross-sectional study, the participants encompassed 328 men and women residing in Bushehr, Southwest of Iran, who had traveled on urban roads during the past week as a front-seat passengers using personal cars.

The participants were selected using a multistage, stratified cluster random sampling method. Bushehr is divided into 75 districts according to the municipal classification. In this study, 15 districts were randomly selected, and the sample size of each stratum was determined proportional to the number of households residing in the concerned district. The eligible participants were invited to participate in the study until the required sample size was reached for the stratum. Sampling was performed using two questioners from March to May 2018 at two shifts in the morning and afternoon by visiting the participants' houses.

The sample size was determined by adopting the precision power method and using a minimum sample size formula. Brooks and Barcikowski developed this formula to calculate the sample size (16).

$$\frac{p(2 - (2R^2 - \epsilon))}{\epsilon} \quad (1)$$

where, ϵ is the acceptable absolute shrinkage; $\epsilon = 0.1$, R^2 , p is the number of explanatory variables, and R^2 is a primary effect size adopted from Tavafian et al. study (3). The sample size was estimated to be 270 persons; however, the sample size was set to be 350 to well-fit the findings.

In the sampling process, 350 participants were evaluated, 22 of whom refused to participate in the study; as such, they were excluded from the study. The subjects, who were excluded from the study, completed the demographic section of the questionnaire, and the data analysis revealed no significant difference between these subjects and the participants in this regard. The final sample size in the data analysis process was 328) response rate = 93.7%.

3.2. Instruments and Measures

In this study, the questionnaire consisted of three sections: (1) demographic variables; (2) TPB constructs, including experiential, and instrumental attitude, descriptive, and subjective norms, self-efficacy, and PBC; and (3) outcomes including intention and seatbelt use.

The demographic variables included age, gender, marital status, job, level of education, wearing a seatbelt in an accident as a front-seat passenger, a history of penalties for not wearing seatbelts as a front-seat passenger, personal opinion about the impact of laws on the seatbelt use in a front-seat passenger, and the history of seatbelt use as a driver.

To identify relevant behavioral attributes or outcomes, normative referents, and facilitators and barriers to seatbelt use, structured interviews were performed (15, 17). Structured interviews were held with the participation of 32 eligible participants. This collected data were then consisted of the questionnaire content.

Ten health education experts reviewed the first draft of the questionnaire. The extent of experts' agreement on the questions was assessed using content validity ratio (CVR). $CVR \geq 0.62$ represented appropriate content validity (18). CVR for each question ranged from 0.64 to 1, and the total CVR value of 60 items was estimated to be 0.89, indicating an acceptable value.

The reliability of the questionnaires was examined using Cronbach's alpha coefficient for a sample of 34 participants. The reliability coefficients were 0.42, 0.79, 0.86, 0.78, 0.74, and 0.93 for experiential, and instrumental attitude, descriptive, and subjective norms, PBC, and self-efficacy, respectively. Following the item analysis, one item on the experiential attitude was deleted, and Cronbach's alpha coefficient was estimated to be 0.72.

In this study, the constructs were evaluated using indirect measures (15). The experiential attitude was assessed for eight items with a bipolar scale (scored from -2 to +2). Instrumental attitude was also assessed for seven paired items of behavioral belief / outcome evaluation (bipolar-scale score).

Descriptive norms were assessed using five items with a bipolar scale, and subjective norms included five paired items of normative belief (bipolar scale)/motivation to comply (unipolar scale). Moreover, self-efficacy was assessed by seven items with a unipolar scale, and PBC contained eight paired items of control belief (bipolar scale)/perceived power (bipolar scale). The scales were scored based on the guideline of the TPB questionnaire (15).

TPB outcomes included the intention to use seatbelts. Such an intention was assessed by five items with a unipolar scale. The behavior of using a seatbelt was assessed with two questions on the use or non-use of the seatbelts, as well as the use of a seatbelt for enforcing law or other reasons. The questions were scored based on a five-point Likert scale (ranging from never to always).

3.3. Data Analysis

The data collected from 328 questionnaires were analyzed by the statistical package for social sciences (SPSS) version 22.0. Descriptive statistics were used to assess the demographic variables of the participants. Then the participants were divided into three groups: Group 1, the participants who self-reported using seatbelts for enforcing the law; Group 2, the participants who used seatbelts for the sake of personal safety (not enforcing law); and Group 3, the participants who did not use seatbelts. The mean differences of the scores for the TPB constructs among the three groups were determined using one-way MANOVA. Chi-squared test was also used to evaluate the relationship between using seatbelt and qualitative demographic variables. Multiple linear regression analysis was conducted

to assess the predictive constructs of intention to use seatbelts. Logistic regression analysis was also run to assess the predictive constructs of seatbelt use.

Shapiro-Wilks test was also used to check the normality of the continuous data. The distribution of data was normal for most of the constructs, including instrumental attitudes ($P = 0.076$), subjective norm ($P = 0.203$), PBC ($P = 0.353$), and self-efficacy ($P = 0.086$). The cases of non-normality can be disregarded with regard to the large sample size.

4. Results

A total of 328 participants aged 19 - 65 years old with the mean age of 38.51 ($SD = 11.26$) years took part in this study. Two hundred and thirty-one (70.4%) participants were female, and most of these individuals were married (77.4%, $n = 254$). A majority of the respondents (41.2%, $n = 135$) had college degrees. Moreover, 145 participants (44.2%) in this study were housekeepers. Only 21% ($n = 69$) of the participants had a history of road accident. Forty-nine participants (69.6%) had their seatbelt worn at the time of the accident. In addition, 55 (16.8%) participants had previously been fined by police for not using seatbelts as front-seat passengers.

Of all the subjects, 28.7% ($n = 94$) persons reported that they did not use seatbelts as front-seat passengers, 27.7% ($n = 91$) used seatbelts for enforcing laws, and 43.6% ($n = 143$) used seatbelts for personal safety. There were no significant differences between the participants who did not use seatbelts and those who used seatbelts for enforcing law or personal safety with regard to the participants' demographic characteristics (Table 1).

The TPB constructs in the three groups are statistically compared in Table 2. Significant differences were observed among the three groups regarding the constructs of intention ($P < 0.001$), experiential attitude ($P < 0.001$), instrumental attitude ($P = 0.004$), subjective norm ($P < 0.001$), descriptive norm ($P < 0.001$), and self-efficacy ($P < 0.001$). The self-efficacy was the most important TPB construct in using seatbelts (Partial Eta-squared = 0.252). There was no significant difference among the three groups in terms of perceived control behavior (PBC) ($P = 0.075$).

Multiple regression analysis revealed that the experiential attitude ($\beta = 0.30$, $t = 6.09$, $P < 0.001$) and self-efficacy ($\beta = 0.49$, $t = 9.49$, $P < 0.001$) significantly predicted intention to use seatbelts ($R^2 = 0.55$, $F = 66.75$, $P < 0.001$), indicating that one unit increase in experiential attitude and self-efficacy enhanced the intention score by 0.30 and 0.49, respectively.

The subjects who held more positive experiential attitudes and had higher perceived self-efficacy were more likely to have the intention to use seatbelts.

Table 1. Distribution of Demographic Variables Under Different Conditions of Using Seatbelts

Characteristics	Using Seatbelt for Law Enforcement (N = 91), No. (%)	Using Seatbelt for Safety (N = 143), No. (%)	Not Using Seatbelt (N = 94), No. (%)	χ^2	P Value
Sex				0.13	0.937
Male	27 (27.8)	41 (42.3)	29 (29.9)		
Female	64 (27.7)	102 (44.2)	65 (28.1)		
Married status				4.99	0.288
Single/divorced	17 (23)	33 (44.6)	24 (32.4)		
Married	74 (29.1)	110 (43.3)	70 (27.6)		
Education level				7.78	0.455
Less than diploma	24 (30.8)	35 (44.9)	19 (24.3)		
Diploma	32 (27.8)	53 (46.1)	30 (26.1)		
Academic	35 (25.9)	55 (40.7)	45 (33.3)		
Job				12.63	0.556
Housekeeper	43 (29.7)	63 (43.4)	39 (26.9)		
Employee	10 (22.7)	20 (45.5)	14 (31.8)		
Others	38 (27.3)	60 (43.2)	41 (29.5)		
Type of trips				8.58	0.073
Urban	67 (28.9)	96 (41.4)	69 (29.7)		
Rural	9 (15.5)	33 (56.9)	16 (27.6)		
Both	15 (39.5)	14 (36.8)	9 (23.7)		
History of accident				0.7	0.706
Yes	20 (29)	32 (46.4)	17 (24.6)		
No	71 (27.4)	111 (42.9)	77 (29.7)		
Seatbelt use in accident				4.48	0.106
Yes	13 (27.1)	26 (54.2)	9 (18.8)		
No	7 (33.3)	6 (28.6)	8 (38.1)		
Driving fine for seatbelt				5.45	0.066
Yes	16 (29.1)	17 (30.9)	22 (40)		
No	75 (27.5)	126 (46.2)	72 (26.4)		

Table 2. Mean (SD) of TPB Constructs Under Different Conditions of Using Seatbelt

Constructs	Using Seatbelt for Law (N = 91), Mean (SD)	Using Seatbelt for Safety (N = 143), Mean (SD)	Not Using Seatbelt (N = 94), Mean (SD)	F	P Value	Partial Eta Squared
Intention	22.71 (2.72)	22.49 (2.57)	18.70 (4.35)	48.72	< 0.001	0.231
Experiential attitude	10.53 (4.16)	9.72 (3.81)	4.81 (5.63)	46.23	< 0.001	0.221
Instrumental attitude	13.04 (7.33)	10.49 (6.94)	9.78 (7.02)	5.57	0.004	0.033
Subjective norm	-28.75 (15.68)	-21.08 (14.42)	-18.24 (16.22)	11.82	< 0.001	0.068
Descriptive norm	-0.05 (6.30)	-4.19 (3.87)	-2.79 (4.51)	20.41	< 0.001	0.112
PBC	12.42 (6.71)	11.84 (6.18)	10.36 (6.39)	2.61	0.075	0.016
Self-efficacy	31.44 (4.22)	30.68 (4.29)	24.77 (6.18)	54.78	< 0.001	0.252

Three logistic regression models were used to assess the predictors of using seatbelts (Table 3). In the first model, the predictors of using seatbelts for enforcing the law versus non-using seatbelts (Group 1/Group 3) were examined. In this model, the constructs of experiential attitude ($P < 0.001$), self-efficacy ($P = 0.001$), and instrumental attitude ($P = 0.006$) had significant odds ratios. In other words, one unit increase in experiential attitude and self-efficacy enhances the likelihood of seatbelt use by 25% and 21%, respectively. Moreover, one unit increase in instru-

mental attitude decreases the likelihood of seatbelt use by 11% (Hosmer & Lemeshow: $\chi^2 = 11.722$, $P = 0.164$).

In the second model, the predictors of using seatbelts for personal safety versus non-using seatbelts (Group 2/Group 3) were tested. In this model, the constructs of intention ($P = 0.001$), experiential attitude ($P < 0.001$), self-efficacy ($P < 0.001$), and instrumental attitude ($P < 0.001$) were the predictors of seatbelt use for personal safety. With one unit increase in intention, the likelihood of the seatbelt use for safety reasons would increase by 26%. More-

Table 3. Regression Coefficients in Logistic Regression Models Under Different Conditions of Using Seatbelts^a

Model	Constructs	B	Exp (B) (95% CI)	Wald	P Value	R ²
Group 1 vs. group 3						
	Block 0: Constant	-0.03	0.97	0.05	0.825	
	Experiential attitude	0.23	1.25 (1.11 - 1.42)	13.28	< 0.001	
	Instrumental attitude	-0.12	0.89 (0.81 - 0.97)	7.41	0.006	40%
	Self-efficacy	0.19	1.21 (1.08 - 1.36)	10.73	0.001	
Group 2 vs group 3						
	Block 0: Constant	0.42	1.52	9.98	0.002	
	Intention	0.23	1.26 (1.09 - 1.45)	10.15	0.001	
	Experiential attitude	0.23	1.25 (1.12 - 1.40)	16.58	< 0.001	
	Instrumental attitude	-0.17	0.84 (0.78 - 0.92)	14.35	< 0.001	41%
	Self-efficacy	0.21	1.24 (1.11 - 1.38)	14.98	< 0.001	
Group 2 vs group 1						
	Block 0: Constant	-0.45	0.64	11.36	0.001	
	Descriptive norm	0.15	1.16 (1.09 - 1.24)	20.39	< 0.001	16%

^aGroup 1: using seatbelt for law; Group 2: using seatbelt for safety; Group 3: not using seatbelt

over, one unit increase in experiential attitude and self-efficacy enhances the likelihood of seatbelt use for safety by 25% and 24%, respectively. In contrast, with a one unit increase in instrumental attitude, the likelihood of the seatbelt use would decrease by 16% (Hosmer & Lemeshow: $\chi^2 = 12.20$, $P = 0.142$).

In the third model, the predictors of using seatbelts for personal safety versus using seatbelts for enforcing laws (Group 2/Group 1) were tested. In this model, only descriptive norm ($P < 0.001$) had significant odds ratios as one unit increase in descriptive norm enhances the likelihood of seatbelt use for safety not enforcing laws by 16% (Hosmer & Lemeshow: $\chi^2 = 11.89$, $P = 0.156$).

5. Discussion

The findings of this study revealed that experiential attitudes and self-efficacy predict the intention to use seatbelts. Furthermore, instrumental attitudes also affected this variable. In individuals who used seatbelts for personal safety, the intention was the strongest predictor of behaviour, while those who used the seatbelts for enforcing laws did not intend to do so as their behaviour was under the influence of laws. Moreover, the findings showed that the descriptive norm and having a model were a construct making individuals use seatbelts for safety purposes.

Values and expectancy beliefs guide behaviours. In other words, individuals are more inclined to engage in health behaviour when they believe they can do it. In this regard, the findings of this study showed that self-efficacy predicts the intention and behaviour of using seatbelts. Moreover, in the other studies, self-efficacy was correlated

with the behavior of using seatbelts (3, 19). This finding confirms with the present findings.

In several studies (3, 7, 13, 20, 21), the attitude was a predictor of the intention and behavior of seatbelts, so that a positive attitude would increase the intention and behavior of using seatbelts. This is consistent with the findings of this study.

In the present study, consistent with the findings of Simsekoglu's and Lajunen study (7), the perceived behavioral control, which represents the effect of facilitators and inhibitors, did not predict the intention and behavior of using seatbelts. However, this finding is in contrast with the findings of some other studies (3, 13, 22). One of the reasons for this inconsistency is that all automobile companies are now obliged to equip vehicles with mechanical equipment facilitating the use of seatbelts, therefore, given the public access to these facilities, this construct does not predict the use of seatbelts.

Regarding the subjective norms, the results of the present study indicated that this construct does not predict the intention and behavior of using seatbelts. To justify this finding, it can be noted that in Iran, in urban trips, most of the front-seat occupants do not use seatbelts. In this regard, one study in Iran reported that only 34% to 44% of the front-seat occupants use seatbelts (8); therefore the important people such as parents and relatives do not recommend using seat belt. This finding contradicts with those of studies conducted on drivers (3, 7, 13, 23). This is due to the severe legal action against drivers that not using seat belts, therefore the legislator is the most important advocate for this behavior.

In individuals who use a seatbelt for safety, only a descriptive norm could predict this behavior. In other words, those who had a good practical model in their family for

using seatbelts were more likely to wear seatbelts for safety purposes than those who used seatbelts for enforcing laws. One study showed that drivers whose friends and family members used seatbelts on roads, were more likely to use seatbelts (24). Moreover, in Cunill et al.'s study, individuals who did not use seatbelts reported that their friends and family members rarely used to wear seatbelts. This is in line with the findings of the present study (23).

In this study, the instrumental attitude, which consists of behavioral beliefs and outcome evaluation, has a negative relationship with using seatbelts, so that increasing instrumental attitudes reduces the behavior of using seatbelts. In this study, the participants reported negative consequences for using seatbelt, including stocked in a car during an accident, harass, harsh and annoying, limited movement, and so on. Accordingly, the present study revealed a negative relationship between the instrumental attitude and the behavior of using seatbelts. Since in the previous studies, instrumental attitudes were not examined, more studies are required in this regard. However, Gras et al. documented that some barriers to using seatbelts, including discomfort, boredom, and limited movement, do not allow the use of seatbelts (24). Furthermore, in Cunill's study, the findings showed that most individuals who did not use seatbelts on urban roads believed that the seatbelts were not comfortable (23).

5.1. Conclusion

According to the findings of this study, individuals who use seatbelts for enforcing laws wear them with no intention. Therefore, since the intention is an important predictor of this behavior, it is believed that those who use seatbelts for safety purposes are more likely to continue the same behavior since their intention predicts the seatbelt use behavior. Moreover, since the descriptive norm, i.e., having a practical mode, is an important factor in using seatbelts for health purposes, families, especially parents, should be advised to use seatbelts in urban and rural travels so that their children would become permanent seatbelt users in the future. The findings of this study also showed that experimental and instrumental attitudes, i.e., individual perceptions about the comfort and safety of seatbelts, are important factors in using seatbelts; therefore, automobile companies should design seatbelts making passengers feel more comfortable and minimize their travel restrictions. With increasing safety, individuals' attitudes (instrumental attitude) toward the negative consequences of using seatbelts would gradually be eliminated. In this regard, there are two implications to the finding of this study. First, in designing training programs, the emphasis should be on changing individuals' perceptions of the negative consequences of using seatbelts, and individuals need to be more aware of their role models for

their family members and children in using seatbelts. Second, automobile manufacturers need to focus on designing more comfortable and safer seatbelts.

This study had some limitations. First, given the cross-sectional design of the study, causal relationships are not decisive. Second, self-reports may lead to the overestimation of the concerned behavior and constructs. However, because of the anonymity of the questionnaires, these effects can be disregarded. Third, another limitation of this study was that the study was conducted only in one of the provinces in Iran (Bushehr province).

Finally, it is suggested to conduct further qualitative studies to extract other important components and add other constructs such as moral norms to this theory to increase its predictive power.

Acknowledgments

We gratefully acknowledge all persons who cooperated in this research. This study was supported by the Research Deputy of Bushehr University of Medical Sciences. The study protocol was approved by the Research Ethics Committee of Bushehr University of Medical Sciences (Ref. No. IR.BPUMS.REC.1396.156).

Footnotes

Authors' Contribution: AN contributed to the critical revision of the manuscript, as well as the final approval of the study. NS contributed to the provision, collection, and assembly of the study data, as well as to writing the manuscript. RT contributed to data analysis and critical revision.

Conflict of Interests: The authors of this study declare that they have no conflicts of interest.

Ethical Approval: This study was conducted in accordance with Iranian national guidelines for ethics in research. The research ethics committee of Bushehr University of Medical Sciences approved the protocol of this study (Ref. No. IR.BPUMS.REC.1396.156). The participants willingly took part in this study and they could leave the study at any stage if they wished. The collected data were also saved in an anonymous form using ID codes.

Funding/Support: The research was financially supported by Research Deputy of Bushehr University of Medical Sciences, Bushehr, Iran.

Informed Consent: None declared.

References

1. WHO. *Global status report on road safety 2018*. Geneva: World Health Organization; 2018. Available from: <https://www.who.int/publications/i/item/9789241565684>.

2. Shams M, Rahimi-Movaghar V. Risky driving behaviors in Tehran, Iran. *Traffic Inj Prev*. 2009;**10**(1):91-4. doi: [10.1080/15389580802492280](https://doi.org/10.1080/15389580802492280). [PubMed: [19214883](https://pubmed.ncbi.nlm.nih.gov/19214883/)].
3. Tavafian SS, Aghamolaei T, Gregory D, Madani A. Prediction of seat belt use among Iranian automobile drivers: Application of the theory of planned behavior and the health belief model. *Traffic Inj Prev*. 2011;**12**(1):48-53. doi: [10.1080/15389588.2010.532523](https://doi.org/10.1080/15389588.2010.532523). [PubMed: [21259173](https://pubmed.ncbi.nlm.nih.gov/21259173/)].
4. National Highway Traffic Safety Administration. *Lives saved in 2016 by restraint use and minimum-drinking-age laws*. Washington, DC: US Department of Transportation; 2017. Available from: <https://crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/812454#>.
5. Sadeghnejad F, Niknami S, Hydarnia A, Montazeri A. [Using Extended Parallel Process Model (EPPM) to improve seat belt wearing among drivers in Tehran, Iran]. *Payesh*. 2016;**15**(1):103-11. Persian.
6. WHO. *Global status report on road safety 2015*. Geneva: World Health Organization; 2018. Available from: https://www.who.int/violence_injury_prevention/road_safety_status/2015/en/#.
7. Şimşekoğlu Ö, Lajunen T. Social psychology of seat belt use: A comparison of theory of planned behavior and health belief model. *Transp Res Part F Traffic Psychol Behav*. 2008;**11**(3):181-91. doi: [10.1016/j.trf.2007.10.001](https://doi.org/10.1016/j.trf.2007.10.001).
8. Pakgouhar AR, Esmaeili AR. [The study of the effect of safety belt on fatalities and physical injuries decrease based on crosstab tables and chi square independent test]. *Traffic Management Studies*. 2009;**4**(14). Persian.
9. Onyema CR, Oladepo O. Knowledge and attitude of safety belt use among professional drivers in a tertiary Nigerian institution. *Int J Inj Contr Saf Promot*. 2011;**18**(1):57-64. doi: [10.1080/17457300.2010.517320](https://doi.org/10.1080/17457300.2010.517320). [PubMed: [21264787](https://pubmed.ncbi.nlm.nih.gov/21264787/)].
10. Shaaban K. Young drivers' attitude regarding seat belt use in Qatar. *Training*. 2012;**23**(5):1.
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** Suppl 1:76-81. doi: [10.1080/15389588.2011.645382](https://doi.org/10.1080/15389588.2011.645382). [PubMed: [22414131](https://pubmed.ncbi.nlm.nih.gov/22414131/)].
12. Şimşekoğlu Ö, Lajunen T. Relationship of seat belt use to health and driver behaviors. *Transportation Research Part F: Traffic Psychology and Behaviour*. 2009;**12**(3):235-41. doi: [10.1016/j.trf.2008.12.001](https://doi.org/10.1016/j.trf.2008.12.001).
13. Mehri A, Sedighi Somea Koochak Z. [Application and comparison of the theories of health belief model and planned behavior in determining the predictive factors associated with seat belt use among drivers in sabzevar]. *Iran J Med Educ*. 2012;**11**(7):806-18. Persian.
14. Sharma M, Romas JA. *Theoretical foundations of health education and health promotion*. Jones & Bartlett Publishers; 2011.
15. Glanz K, Rimer BK, Viswanath K. *Health behavior and health education: theory, research, and practice*. John Wiley & Sons; 2008.
16. Brooks G, Barcikowski RS. The PEAR method for sample sizes in multiple linear regression. *Multiple Linear Regression Viewpoints*. 2012. p. 1-16.
17. Tahmasebi R, Saeed Firoozabadi M, Noroozi A. Assessment of the extended theory of planned behavior for nicotine dependence prediction: An application of path analysis. *Iran Red Crescent Med J*. 2017;**19**(9). doi: [10.5812/ircmj.55661](https://doi.org/10.5812/ircmj.55661).
18. Lawshe CH. A quantitative approach to content validity. *Pers Psychol*. 1975;**28**(4):563-75. doi: [10.1111/j.1744-6570.1975.tb01393.x](https://doi.org/10.1111/j.1744-6570.1975.tb01393.x).
19. Rok Simon M, Korosec A, Bilban M. The influence of parental education and other socio-economic factors on child car seat use. *Zdr Varst*. 2017;**56**(1):55-64. doi: [10.1515/sjph-2017-0008](https://doi.org/10.1515/sjph-2017-0008). [PubMed: [28289464](https://pubmed.ncbi.nlm.nih.gov/28289464/)]. [PubMed Central: [PMC5329786](https://pubmed.ncbi.nlm.nih.gov/PMC5329786/)].
20. Moyano Díaz E. Theory of planned behavior and pedestrians' intentions to violate traffic regulations. *Transp Res Part F Traffic Psychol Behav*. 2002;**5**(3):169-75. doi: [10.1016/s1369-8478\(02\)00015-3](https://doi.org/10.1016/s1369-8478(02)00015-3).
21. Letirand F, Delhomme P. Speed behaviour as a choice between observing and exceeding the speed limit. *Transp Res Part F Traffic Psychol Behav*. 2005;**8**(6):481-92. doi: [10.1016/j.trf.2005.06.002](https://doi.org/10.1016/j.trf.2005.06.002).
22. Lajunen T, Rasanen M. Can social psychological models be used to promote bicycle helmet use among teenagers? A comparison of the Health Belief Model, Theory of Planned Behavior and the Locus of Control. *J Safety Res*. 2004;**35**(1):115-23. doi: [10.1016/j.jsr.2003.09.020](https://doi.org/10.1016/j.jsr.2003.09.020). [PubMed: [14992852](https://pubmed.ncbi.nlm.nih.gov/14992852/)].
23. Cunill M, Gras ME, Planes M, Oliveras C, Sullman MJM. An investigation of factors reducing seat belt use amongst Spanish drivers and passengers on urban roads. *Accid Anal Prev*. 2004;**36**(3):439-45. doi: [10.1016/s0001-4575\(03\)00039-3](https://doi.org/10.1016/s0001-4575(03)00039-3). [PubMed: [15003589](https://pubmed.ncbi.nlm.nih.gov/15003589/)].
24. Eugenia Gras M, Cunill M, Sullman MJ, Planes M, Font-Mayolas S. Predictors of seat belt use amongst Spanish drivers. *Transp Res Part F Traffic Psychol Behav*. 2007;**10**(3):263-9. doi: [10.1016/j.trf.2006.11.003](https://doi.org/10.1016/j.trf.2006.11.003).