The Influence of Family Climate to Road Safety on Driving Behaviors and Driving Crash Experience among Young Iranian Drivers

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Abstract

Background: Iran has one of the world's highest road traffic injury (RTI) rates, with 23 deaths per 100,000 in 2022 and a peak among 15-29-year-olds. Young males under 25 show high non-compliance. Family climate shapes safe driving; this study examined its influence on young adults' behaviors and crashes.
Objectives: We assessed: a) correlations between perceived parental road safety approaches and risky driving; b) variations by gender/age; c) predictions of crash involvement.
Methods: 263 drivers (52% male; aged 18-30, Mean=22.29, SD=2.44) completed the 54-item Family Climate for Road Safety Scale (FCRSS; Taubman–Ben-Ari & Katz-Ben-Ami, 2013; 7-factors: Modeling, Feedback, Messages, Monitoring, Communication, Limits, Non-commitment) and 27-item Driver Behavior Questionnaire (DBQ), plus demographics (age, gender, exposure, crashes).
Results: Higher FCRSS scores correlated with lower DBQ scores (risky behaviors), younger age, and fewer fines/crashes (all $p<.05$). Males, older youth, and higher exposure linked to elevated DBQ and crashes. Regressions showed Feedback ($\beta=-.30$, $p=.01$) and Non-commitment ($\beta=.27$, $p<.05$) predicted DBQ ($R^2=.313$, $F(10,227)=4.328$, $p<.001$); Monitoring, age, and DBQ predicted crashes ($\chi^2(11)=30.187$, $p=.001$; Exp(B) for Monitoring=.902, $p<.05$).
Conclusion: Reduced parental road safety climate predicts risky driving and crashes, independent of demographics/exposure. Interventions targeting Feedback, Monitoring, and Commitment could reduce youth RTI via family programs. Self-reports limit generalizability.

Background: Iran faces severe traffic crash tolls, claiming 23 lives per 100,000 in 2022. Globally, and in Iran, traffic crashes are the leading cause of death among individuals aged 15 to 29. A field observation study in Iran revealed high rates of traffic rules non-compliance: 60% ignored stop lines, 72% failed to fasten seat belts, 13.6% used cell phones, and 22% conversed with passengers. Notably, drivers under 25 were 3–5 times less likely to wear seat belts than those over 40 and used mobile phones more frequently than drivers over 26 (Bakhtari Aghdam et al., 2022). Parents play a vital role in shaping their children's safe driving behaviors. This study investigated how a family's climate for road safety influences young adults' driving behaviors and crash involvement.
Objectives: The research questions were: a) Does young drivers' perception of their parents' approach to road safety correlate with their own risky driving behavior? b) Does the perception of parental approach to road safety vary based on the young drivers' gender and age? c) To what extent are young drivers' perceptions of their parents' approach to road safety predictive of their self-reported police-issued tickets? d) To what extent are young drivers' perceptions of their parents' approach to road safety predictive of their experience of road traffic crashes?
Methods: Two hundred sixty-three young drivers (52% male) aged 18 to 30 (Mean = 22.29, SD = 2.44) completed the 7-factor, 54-item Family Climate for Road Safety Scale (FCRSS; Taubman–Ben-Ari & Katz-Ben-Ami, 2013). The 7 factors are Modeling, Feedback, Messages, Monitoring, Communication, Limits, and Non-commitment to traffic safety. Participants also completed the 27-item Driver Behavior Questionnaire (DBQ; 4 factor: ordinary violation, aggressive violation, errors and lapses) and a demographic questionnaire on age, gender, and driving experience (average driving hours per week, years since obtaining a driving license, and traffic crashes).

Results: Correlation analyses indicated that higher scores on all 7 FCRSS factors were related to lower DBQ scores, younger age, and fewer fines and crashes. Higher DBQ scores were related to male gender, older age, crash involvement, and fines. Linear regressions showed that Feedback and Non-commitment subscales of the FCRSS predicted DBQ scores, even after controlling for age, gender, and driving exposure ($R^2 = 0.313$, $F(10, 227) = 4.328$, $p < .001$; $\beta = -.30$, $p = 0.01$ for Feedback; $\beta = .27$, $p < .05$ for Non-commitment, respectively). Logistic regression revealed Monitoring, age, and DBQ as significant predictors of crash involvement (Cox & Snell $R^2 = .248$, $\chi^2(11) = 30.187$, $p = 0.001$; for Monitoring: Exp(B) = .902, $p < .05$, 95% CI [.815, .999]; for DBQ: Exp(B) = 1.037, $p < .05$, 95% CI [1.007, 1.068]; for age: Exp(B) = 1.288, $p < .05$, 95% CI [1.041, 1.595]).
Conclusion: Decreased parental climate for road safety is associated with risky driving behavior, which in turn is associated with self-reported traffic crash experiences, regardless of age, gender, and driving exposure. Among the family's ways of involvement in their children's road safety behavior, only Feedback, Monitoring, and Non-commitment were important. Thus, providing feedback to young drivers, monitoring their driving, and being committed to traffic safety can enhance safe driving behavior and reduce crash rates among young drivers in Iran. Although self-report measures increase response bias, the implication is to develop interventional programs involving both young drivers and parents to improve road safety.
Keywords: Young Drivers, Family Climate for Road Safety, Driving Attitudes, Driving Behaviors, Road Safety

1- INTRODUCTION

Traffic crashes are the world's leading cause of death among individuals aged 15 to 29 [1]. In Iran, the issue is particularly severe. According to data from the Statistical Center of Iran, between 2011 and 2022, a total of 184,618 deaths were caused by inner- and outer-city traffic crashes [2]. While traffic crashes rank as the 12th leading cause of death globally, they are the 4th leading cause in Iran, despite efforts to reduce them [3]. Human factors are one of the most influential elements affecting road accidents, alongside road infrastructure, vehicle safety, law enforcement, and post-crash care [4].
Numerous studies link aberrant driving behavior to reduced road safety. For instance, Tabibi (2011) associated driving errors and violations with a higher incidence of fines and accidents among Iranian drivers. Furthermore, international comparisons reveal that Iranian drivers exhibit more violations and aggressive behavior than drivers in Britannia and Finland do —countries that consequently report significantly lower road accident rates [21].
The prevalence of aberrant driving behaviors leading to elevated road traffic accidents in Iran is a multifaceted issue. In addition to the considerable influence of law enforcement, education serves as a vital contributing factor. It is important to recognize that while numerous institutions contribute to road safety education—including schools, government campaigns, and law enforcement—the family remains the most fundamental and influential source. It is within the family unit that lifelong attitudes and behaviors are first modelled and ingrained, making its role irreplaceable in shaping a culture of safety.
Research indicates that general parenting style significantly influences teen driving behavior. One study found that adolescents with authoritative parents had half the crash risk, were less likely to drive intoxicated or use a cell phone, and were more likely to wear seatbelts and avoid speeding compared to teens with uninvolved parents [5,6]. Complementing this, further research specifically on driving styles of parents confirms a strong correlation between the driving behaviors of parents and their offspring one year after the children received their licenses. This supports the theory of intergenerational transmission, where young drivers tend to imitate their parents' adaptive or maladaptive driving habits [7,8].
The subsequent question concerns the mechanisms upon which this intergenerational transmission is based. To explore these dynamics, Taubman - Ben-Ari et al. (2013) applied the concept of workplace Safety Climate to the family context [16]. They demonstrated that, much like employees who adopt safety norms from their supervisors, young drivers develop their understanding, values, priorities, and habits regarding road safety through the pervasive influence of their families, particularly their parents [16, 22, 23].
Various studies support Taubman - Ben-Ari et al.'s (2013) conceptual framework. For instance, one study indicates that this influence occurs through behavioral **modeling** and the ways in which parents interpret and transmit broader societal values and norms [9] regarding traffic law compliance. Another key mechanism is parental **involvement**. Empirical findings show a positive link between such involvement and improved adolescent driving behavior, including reduced traffic violations and lower crash risk [10]. Parents who are actively and positively engaged help their children develop the competencies necessary to avoid risky

behaviors [11]. Conversely, adolescents who are emotionally detached from their families or struggle to establish autonomy may resort to risky driving as a maladaptive coping mechanism [12].
Furthermore, research shows that active **monitoring** allows parents to model safe driving practices, assess their children's skills and judgment, and promote responsible habits [10, 13]. Within this process, parent-child **communication** is critical for transmitting parental standards. Misunderstandings or disagreements about driving rules can increase risk, underscoring the necessity of clear and consistent communication [14, 15]. These patterns suggest that parental practices play a fundamental role in shaping young adults' driving behavior, which often persist into adulthood.
The objective of the current study is to explore the role of Iranian parents' approach to road safety in shaping the driving behavior of their young adult children. This study aimed to answer the following research questions: 1. Does young drivers' perception of their parents' approach to road safety correlate with their own risky driving behavior? 2. Does the perception of parental approach to road safety vary based on the young drivers' gender and age? 3. To what extent are young drivers' perceptions of their parents' approach to road safety predictive of their risky driving behavior? 4. To what extent are young drivers' perceptions of their parents' approach to road safety predictive of their experience of road traffic accidents?

2- METHODOLOGY

2-1- Sample and Data Collection:

Participants were recruited in the city of Mashhad between October 29, 2024, and March 29, 2025. A total of 263 individuals aged 18 to 30 (M = 22.29, SD = 2.44) participated in the study, of which 54.8% were male. The sample size was calculated a priori based on the heuristic established by Tabachnick & Fidell, (2014) which stipulates a minimum of N = 50 + 10M for multiple regression models [24]. Given the 11 predictor variables in the current model, a minimum sample of 160 participants was required.

2-2- Tools:

2-2-1- **Family Climate for Road Safety Scale (FCRSS)** was used to measure the family approach to road safety. The questionnaire was developed by Taubman-Ben-Ari & Katz-Ben-Ami, 2013 [16]. The original FCRSS was translated from English into Persian using forward and backward procedures. Forward translation was conducted by a bilingual translator and then was reassessed by a peer researcher who has had a strong knowledge of English. Emphasizing the semantic equivalence rather than literal, word-by-word, translation, we had to modify certain terms when translating from English to Persian to ensure that the meaning resonated with participants in the context of Persian culture. Overall, we revised the translation three times. The questionnaire consisted of 54 items divided into seven subscales: Modeling (11 items), Feedback (5 items), Communication (9 items), Monitoring (7 items), Noncommitment to Safety (8 items), Messages (8 items), and Limits (6 items). Participants were asked to indicate their perception of their family's views on traffic safety by rating how true each statement was for them on a 5-point Likert scale, ranging from 1 (Never) to 5 (Always). The reliability of the whole questionnaire was strong with alpha Cronbach .92, in the current study. Descriptions for each subscale and their alpha Cronbach are provided in Table 1. Except for the Noncommitment to Safety, the higher scores indicate more family approach to road safety.

Table 1- Description of seven dimensions measured by FCRSS

Subscale	Number of items	Description	Cronbach's alpha
Modeling	11	Parents' behavior as role models	.839
Feedback	5	Positive reinforcement from parents regarding road safety	.868
Communication	9	Open discussions about driving dangers	.825
Monitoring	7	Parental oversight of children's driving behavior	.861

Noncommitment to safety	8	Lack of parental engagement in promoting road safety	.708
Messages	8	Clarity in communicating acceptable driving behaviors	.773
Limits	6	Establishing rules for safe driving	.707

2-2-2- DRIVING BEHAVIOR QUESTIONNAIRE (DBQ): Participants completed the 27 item, Persian version of the DBQ which assessed four types of risky driving behavior: aggressive violations (**3** items), ordinary violations (**8** items), errors (**8** items)**,** and lapses (**8** items) [17]. The participants indicated how often they behaved in the way described by each item, using a 6-point scale from 1 (Never) to 6 (Almost Always). In the DBQ scores ranged from 27 to 162, with higher scores indicating more frequent risky driving behavior. DBQ has been normalized by Tabibi (2011) in Iran [18]. For the current study reliability of the questionnaire was 0.90 using alpha Cronbach.

2-2-3- Additionally, participants completed a sociodemographic questionnaire. This instrument collected data on age, gender, driving experience (measured as months since obtaining a driving license), and driving exposure (defined as average hours driven per week). It also recorded their history of traffic fines and crash involvement, which were dichotomously coded (0 = no, 1 = yes).

2-3- Data Analysis:

The study utilized several statistical methods to analyze the collected data and address the research questions. Pearson (for continuous variables) or Spearman (for dichotomous variables: gender, traffic crash and traffic fine) correlation coefficients were computed to assess the relationships between FCRSS scores, DBQ scores, accident rates, traffic fines, gender, and age. Furthermore, multiple linear regression was employed to determine the extent to which young drivers' characteristics (gender, age, and driving exposure) and FCRSS scores explain DBQ scores. Finally, a logistic regression was conducted to assess whether DBQ and FCRSS could distinguish between the no-accident group and the accident group. The statistical software used for these analyses was SPSS 27. The significance level was set at $p < .05$ for all statistical tests.

2-4- Procedure & Ethical Considerations:

We provided the questionnaires on the Porsline platform and sent the link to participants. The participants were students at Ferdowsi University of Mashhad. We asked them to send the link to anyone they knew who was eligible and happy to participate. Informed consent was obtained from all participants prior to their ~~involvement~~ participation in the study. The study protocol was approved by the Ferdowsi University of Mashhad ethics review board, ensuring adherence to ethical standards. The allowance of using the English version of the survey also has been received from the publisher and related journal with license number ~~of~~ 5933791400022.

3- RESULT

To answer the first and second questions "Does young drivers' perception of their parents' approach to road safety correlate with their own risky driving behavior?" & “Does the perception of parental approach to road safety vary based on the young drivers' gender and age?” we computed Pearson / Spearman correlation coefficients. Table 2 presents mean, standard deviations for the variables and the result of Pearson/Spearman correlation coefficients of the variables including age, gender, DBQ scores FCRSS scores, traffic fines and traffic crashes.

Table 2- Pearson/Spearman correlation coefficients for FCRSS, DBQ, accident & fine involvement, gender, and age among young drivers

	Mean (SD)	1	2	3	4	5	6	7	8	9	10	11
1. DBQ	61.18 (18.3)	1										
2. Modelling	39.94 (7.12)	-.310**	1									
3. Feedback	18.47 (4.27)	-.229**	.249**	1								
4. Communication	33.58 (5.85)	-.148*	.307**	.584**	1							
5. Monitoring	23.01 (6.38)	-.197**	.218**	.396**	.423**	1						
6. Noncommitment	16.14 (4.50)	.413**	-.617**	-.272**	-.347**	-.167**	1					
7. Message	34.58 (4.03)	-.319**	.392**	.367**	.543**	.388**	-.592**	1				
8. Limit	20.66 (4.52)	-.261**	.375**	.451**	.441**	.636**	-.317**	.518**	1			
9. Age	22.34 (2.63)	.207**	-.214**	-.218**	-.235**	-.242**	.155*	-.173**	-.222**	1		
10. Gender	1.45 (0.49)	-.276**	-0.022	.144*	0.087	.268**	-0.035	0.090	.147*	-0.024	1	
11. Traffic crashes	.56 (.498)	.241**	-0.032	-0.048	0.042	-.165*	0.010	-0.008	-0.122	.260**	-.262**	1
12. Traffic fines (%)	.47 (.500)	.347**	-0.123	-0.145	-.198*	-.269**	-0.007	-0.101	-0.138	.366**	-.352**	.381**

*p<.05, **p<.01, ***p<.001; Y= having been fined by police, N= no fined by police

Based on the results of correlations, higher scores of DBQ (more risky driving) correlate with lower scores of all FCRSS subscales (modelling, feedback, communication, monitoring, message, and limit), apart from noncommitment which has a positive correlation with DBQ meaning that the higher DBQ scores are, noncommitments scores are also higher. Additionally, those with higher reports of traffic crashes and traffic fines record had higher DBQ scores. Older drivers tend to show higher scores of DBQ; similarly, males reported higher DBQ scores.

In terms of FCRSS subscales correlations with each other, all scores are correlated positively except for noncommitment to safety. That means, higher scores of modeling correlate with higher scores of feedback, communication, monitoring, message, and limit. This pattern continues for the aforementioned subscales and is reversed for noncommitments to safety which shows that higher scores of noncommitment have correlation with lower scores of other FCRSS subscales (modeling, feedback, communication, monitoring, message, and limit).

Older drivers reported lower scores of FCRSS subscales excluding noncommitment which had higher scores. Compared to males, females reported higher scores of feedback, monitoring, and limit.

More reports of traffic crashes correlated with lower scores of monitoring. Moreover, more reports of traffic fines correlate with lower scores of communication and monitoring. Older drivers tend to be fined more often than young ones while males have a tendency to be fined compared to females. Similarly, those who are fined more often reported that they have been in a traffic crash as well.

To answer the third question, "To what extent are young drivers' perceptions of their parents' approach to road safety predictive of their risky driving behavior?" a two-step multiple linear regression was computed with DBQ scores as the dependent variable, FCRSS subscale scores, as independent variable, age, gender and driving exposure as the controlling variables. Table 4 presents the result of two-stepped multiple linear regression.

Table 3- Multiple Linear Regression with DBQ scores as the dependent variable, FCRSS subscales, Gender, Age and driving exposure as the independent and controlling variables

	Variables	Unstandardized B	SE	β	T	Sig	95.0% Confidence Interval for B	
							Lower bound	Upper bound
Step 1								
	Modeling	.209	.325	.080	.641	.523	-.437	.854
	Feedback	-1.215	.501	-.281	-2.424	**.017**	-2.209	-.220
	Communication	.440	.381	.138	1.156	.250	-.316	1.196
	Monitoring	.324	.357	.115	.908	.366	-.384	1.033
	Noncommitment To Safety	1.320	.557	.319	2.371	**.020**	.215	2.424
	Messages	-.723	.564	-.162	-1.283	.203	-1.841	.395
	Limits	-.671	.535	-.168	-1.254	.213	-1.733	.391
			R^2=0.261, F(7,230)=4.940, p<**.001**					
Step 2								
	Modeling	-.050	.334	-.019	-.151	.880	-.713	.612
	Feedback	-1.278	.492	**-.296**	-2.598	**.011**	-2.255	-.301
	Communication	.441	.381	.138	1.159	.249	-.314	1.197
	Monitoring	.469	.358	.166	1.309	.194	-.242	1.180
	Noncommitment To Safety	1.105	.551	**.267**	2.005	**.048**	.011	2.199
	Messages	-.609	.557	-.137	-1.093	.277	-1.715	.497
	Limits	-.517	.530	-.130	-.975	.332	-1.570	.536
	Gender	-7.531	3.610	**-.201**	-2.086	**.040**	-14.698	-.364
	Age	-.135	.683	-.018	-.198	.844	-1.492	1.221
	Driving exposure[a]	.203	.201	.094	1.009	.316	-.197	.603
		R^2=0.313, F(10,227)=4.328, p<**.001**; R^2_{change}=.052, F(3,227)=2.404, p=**.072**;						

[a] Average hours of driving an automobile in a week.

As shown in Table 3, the first step was significant (F(7,230) = 4.940, p < .001, R2 = .26) accounting for 26% of the variance for the DBQ score. The Feedback and Noncommitment to Safety variables had unique significant contribution to the DBQ score (β = -.28, p < .05 & β = .32, p < .05, respectively), when the variance of other subscales (Modelling, Communication, Monitoring, Message and Limit) are controlled.
The second step was also significant (F(10,227) = 4.238, p < .001, R2 = .31; ΔR2 = .052, F_{change}(3,227) = 2.404, p>.05) accounting for 31% of the variance and adding 5% of the variance to the first step. The variables of Feedback, Noncommitment to Safety scores and gender each had unique contribution to the DBQ score.
To answer the fourth question, "To what extent are young drivers' perceptions of their parents' approach to road safety predictive of their experience of road traffic accidents?" a three-block logistic regression was computed with having had traffic crash (Code=1) and not having had traffic crash (Code=0) as the dependent variable. The first block FCRSS subscale scores were entered as the independent variables, in the second block, DBQ score was entered and in the third block age, gender and driving exposure as the controlling variables were entered. Table 5 present the result of logistic regression.

Table 4- Logistic regression of FCRSS subscales, DBQ, and age, gender, driving exposure on the No-Accident group and the Accident group (criterion)

	Variables	B	Wald	Sig	Exp (B)	95% C.I.for EXP(B)	
						Lower	Upper
Step 1							
	Modeling	.053	1.549	.213	1.055	.970	1.147
	Feedback	-.042	.420	.517	.959	.845	1.088
	Communication	.030	.373	.542	1.030	.936	1.133
	Monitoring	-.107	5.264	**.022**	.899	.820	.985
	Noncommitment To Safety	.119	2.731	.098	1.127	.978	1.298
	Messages	.057	.626	.429	1.059	.919	1.219
	Limits	.009	.017	.897	1.009	.882	1.153
		Cox & Snell R Square =.103, Model X^2 (7)=11.559, $p >$ **0.05**					
Step 2							
	Modeling	.049	1.209	.272	1.050	.962	1.146
	Feedback	-.001	.000	.987	.999	.874	1.142
	Communication	.015	.090	.764	1.015	.920	1.121
	Monitoring	-.130	6.693	**.010**	.878	.795	.969
	Noncommitment To Safety	.082	1.149	.284	1.086	.934	1.263
	Messages	.094	1.556	.212	1.099	.948	1.274
	Limits	.038	.275	.600	1.039	.901	1.197
	DBQ	.040	7.867	**.005**	1.040	1.012	1.069
		Cox & Snell R Square =.174, Model X^2 (8)=20.203, p=**.01**					
Step 3							
	Modeling	.046	.870	.351	1.047	.951	1.152
	Feedback	-.010	.019	.889	.990	.859	1.141
	Communication	.037	.441	.507	1.038	.931	1.157
	Monitoring	-.103	3.910	**.048**	.902	.815	.999
	Noncommitment To Safety	.087	1.158	.282	1.091	.931	1.280
	Messages	.125	2.428	.119	1.134	.968	1.327
	Limits	.019	.060	.806	1.019	.876	1.186
	DBQ	.036	5.805	**.016**	1.037	1.007	1.068
	Gender	.386	.568	.451	1.471	.539	4.012
	Age	.253	5.419	**.020**	1.288	1.041	1.595
	Driving exposure	.041	1.505	.220	1.042	.976	1.112
		Cox & Snell R Square =.248, Model X^2 (11)=30.187, p = **0.001**					

[a] Average hours of driving an automobile in a week.

Table 4 shows that the first block was significant indicating the significant role of all FCRSS subscales. However, Monitoring had a significant unique contribution to the dependent variable, such that those with higher monitoring scores had lower possibility of experiencing road accident. Second block was also significant. Monitoring and DBQ had significant unique contribution to the dependent variable, such that those with higher scores in Monitoring and lower scores in DBQ had lower possibility of experiencing road accident. Third block was significant as well. Lower monitoring scores, higher DBQ scores and higher age related to higher possibility of experiencing road accidents.

In summary, the results are as follows:

- As expected, risky driving behavior is correlated with male gender, older group of young drivers, higher number of crash involvement and traffic fines.

- There is a significant correlation between all family approach to road safety dimensions and risky driving behavior among young drivers. A stronger family approach to road safety including modeling, monitoring, feedback, message, limit and communication is associated with less risky driving behavior. Conversely, lower parental commitment to road safety regulations is linked to higher risky driving behavior of young drivers.
- Higher monitoring and communication of parents related to lower experience of traffic fines, and traffic accidents of young drivers.
- Of different types of family approach to road safety, providing feedback to safe driving behavior of young drivers as well as committing to road safety regulations significantly reduces risky driving behavior, even when controlling for age, gender, and driving exposure.
- Of different types of family approach to road safety, monitoring car driving of young drivers reduces the possibility of experiencing road accidents.

4- CONCLUSIONS

This study investigated the relationship between Family Approach to Road Safety, young adults Risky Driving Behavior, Accident and Fine Rates. In fact, the study aimed to examine whether the Driving Behavior of young adults can be explained by their characteristics, and Family Approach to Road Safety; and, whether No-Accident group and the Accident group can be distinguished by Driving Behavior and Family Approach to Road Safety. The interpretation of the results of statistical analyses are as follows:

1. Our study indicates that family approach to road safety is more prominent in younger adult drivers. That means driving behavior of younger adults is more influenced by family approach than those of older adults.
2. Older young drivers reported more traffic crashes compared to younger ones.
3. Family approach to road safety is associated with lower risky driving behavior. That means those young adults who had families that monitor, communicate, limit, feedback their driving behavior and their families were committed to road safety reported fewer risky driving behaviors than those of young adults who did not have such families with this approach.
4. Additionally, family approach to road safety is associated with fewer traffic fines. That means a safe approach of family to driving have a deterrence on the risky driving behavior of young adult thus, fewer traffic fines are issued.
5. Family approach to road safety can predict driving behavior of young adult drivers over and above age, gender and driving exposure.
6. Furthermore, young drivers who reported having the experience of accidents, had higher risky driving behavior. In fact, risky driving behavior predicted whether young driver have the experience of traffic crash, over and above family approach to road safety, age, gender and driving exposure.

In conclusion, it seems that family approach to road safety has an association with safer driving behavior among young drivers. Also, risky driving behavior has association with traffic crashes, regardless of age, gender and driving exposure. These findings indicate the significance of family dynamics and individual characteristics in building the driving behaviors of young individuals, particularly in relation to their experiences with traffic crashes and fines. The more the parents aim to monitor their children's behavior, to provide feedback to their good driving behavior and to commit to traffic rules & regulations, the lower the involvement of young drivers in reckless driving behavior and in turn in traffic fines and crashes.
Based on what has been found in our and in other research, families have the opportunity to reduce the fundamental reason behind fatal or serious traffic crashes. Perhaps a possible and fairly inexpensive way to reduce these cashes, is to educate families and parents about their influence on their young adults and how they shape their driving behavior. As indicated by Farah et al. (2014) and Curry et al. (2015) family training can result in reduced risky driving; however, more research is needed to ensure what type of trainings is best for parents and young drivers [19, 20].

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