

# Usage of Child Car Safety Seat in Qatar: Behaviors, Knowledge, and Attitudes

Esmat A. Zaidan

Department of International Affairs, College of Arts and Sciences,  
Qatar University, Doha, Qatar.

Corresponding author: [ezaidan@qu.edu.qa](mailto:ezaidan@qu.edu.qa)

© *Author(s)*

OIDA International Journal of Sustainable Development, Ontario International Development Agency, Canada  
ISSN 1923-6654 (print) ISSN 1923-6662 (online) [www.oidaijsd.com](http://www.oidaijsd.com)

Also available at <http://www.ssrn.com/link/OIDA-Intl-Journal-Sustainable-Dev.html>

**Abstract:** Road safety is a significant public health issue in the State of Qatar resulting in a huge humanitarian suffering for individuals, families, society and the government. Arab Gulf countries have a higher road accident fatality rate, highest is in Qatar, compared to North America and European countries. Qatar residents are five times more likely to die in vehicle accidents than from a stroke, representing the highest ratio in the world. The number of vehicle accidents has outpaced the country's population growth over the past 18 years. Average of 65 percent of deaths in Qatar, are among children aged 14 and younger are caused by road accidents. Fifty-four percent of all deaths among children under the age of four in Qatar is caused by traffic accidents. Such death rate in the country is three times higher than the global average among children. Qatar National Vision 2030 aims at reducing road accidents and improve safety through a holistic strategy of raised awareness, better safety measures and firmer laws that achieve several fundamental and crucial objectives. Improved protection of children and young people who are significantly overrepresented in fatality statistics has been identified as a basic objective for the country's national vision. The use of seatbelts and child restraints while travelling in a vehicle has been identified by the Qatari National Road Safety Strategy 2013-2022 as one of the primary ways of reducing death and injury. The national strategy will introduce high priority legislation on seatbelts in the rear of vehicles and the use of child restraints as a main action for seatbelt use.

Deaths due to car accidents can be considerably reduced by utilizing Baby/child seats and booster seats, for babies, toddlers and older children. The use of safety seats, that are specifically designed to guard babies or children in the occurrence of a crash, can decrease the risk of death among infants by 71 percent and among toddlers by 54 percent. Furthermore, the use of car safety seats can also decrease the threat of injury by 59 percent for children between the ages of four to seven. As with education around seat belt usage in Qatar, education campaigns on car safety seat usage must use a bottom-up rather than a top-down approach in order for them to be successful. In other words, current Qatar parental behaviors, knowledge, and attitudes about car safety seats should be studied as a basis for development of appropriate educational interventions related to their usage, rather than government or other interventions that have not been grounded in research that has been conducted on the residential population.

In order to design effective and comprehensive awareness and educational campaigns targeting parents and future parents in Qatar, it is necessary to understand current parental behaviors, knowledge and attitudes around car safety seat use or non-use. With a clear understanding of behaviors, knowledge, and attitudes it will be possible to develop educational interventions that will have the greatest potential to impact behaviors. In this study, the usage of car seats within the residence of Qatar with children currently under the age of 12 is evaluated in order to develop insight into this safety-related behavior that effects vulnerable road users (young children). The main objective of the study is to provide a comprehensive understanding of road safety culture and norms related to car seat usage by Qatari residents, a research topic that has not formerly been considered in the State of Qatar, in order to inform effective and comprehensive interventions to embolden car seat use, both legislative and educational. To achieve the study objective, a survey instrument was designed and utilized. The survey included a set of questions related to demographics (nationality, age, age of children, education level, etc.), a set of questions to assess

parents' car safety behaviors, a set of questions to assess parental knowledge of child passenger safety, and a set of questions to assess attitudes regarding the use of child safety seats. Since both Nationals and expats living in the country drive on the roads and the Qatar government is concerned with the safety of all children living in Qatar, a broad sample of Doha demographic was covered. The data was collected from a variety of parents living in Doha, such as Qatari nationals, Arab expats, European and North American expats, Asian expats, and others living in the country.

The study revealed low utilization rates of child safety seats amongst Qatari citizens, Asian and Arab expats. For those reported the usage of child safety seats, the percentage decreases with each additional child, and as the age of the child increases. It was found that despite parents acknowledging their substantial benefits for in-vehicle child protection, the mainstream behavior is to not use a child safety seat. The societal norm was also not to use safety seats. Furthermore, several behaviors were found to be associated with the use of safety seats as the use of seat belt by parents. This may indicate that the creation of mandatory car seat usage legislation in Qatar would not necessarily translate to compliance, as current seat belt law is disregarded. Another research recommendation is that immediate intervention research take place as it is vital to increase children safety seat usage in Qatar. An understanding of what would oblige more parents to use safety car seats is crucial.

**Keywords:** public health, road accidents, safety car seat, Qatar, awareness campaigns, survey.

### Introduction

Road safety is a significant public health issue in the State of Qatar resulting in a huge humanitarian suffering for individuals, families, society and the government. An average of 220 people lose their lives every year because of road accidents (NRSS, 2013). Such death rate in the country is three times higher than the global average among children (NRSS, 2013). A US-based study, published last year, concludes that Qatar residents are five times more likely to die in vehicle accidents than from a stroke, representing the highest ratio in the world (Doha News, December 21st, 2014). The majority of victims who died in road accidents are in the age group (10–40), the most productive class in the Qatari Society (Bener et al., 2007). A recent research by the university's Qatar Road Safety Studies Center (QRSSC) concluded that the overall number of vehicle accidents increased on average 14 percent each year between 1996 and 2013 (Doha News, December 21st, 2014). This implies that the number of vehicle accidents has outpaced the country's population growth over the past 18 years. Qatar's road traffic injury fatality rate is prominently higher than the average for high-income countries as demonstrated in Table 1.

Deaths due to car accidents can be considerably reduced by utilizing Baby/child seats and booster seats, for babies, toddlers and older children (Bromfield and Mahmoud, 2017; Asad, 2012). The use of safety seats, that are specifically designed to guard babies or children in the occurrence of a crash, can decrease the risk of death among infants by 71 percent and among toddlers by 54 percent. Furthermore, the use of car safety seats can also decrease the threat of injury by 59 percent for children between the ages of four to seven (Asad, 2012).

Despite road traffic crashes being one of the leading causes of death in Qatar, a research completed in 2012 examined the seat belt usage among university student drivers in Qatar after the implementation of the new traffic law that forced seat belt usage for all drivers and front-seat passengers. Using an observational survey, the results revealed that a significant percentage of university students do not wear their seat belts (Shaaban, 2012). Another observational survey was conducted by students at University of Calgary and covered two Doha elementary schools. The results revealed that low numbers of seatbelt use in Qatar (University of Calgary website). Another observational study on 2,011 vehicles was conducted in 2013. The results revealed that three out of 10 drivers in Doha, Qatar, do not use a seat belt (Mahfoud et al., 2015).

Whereas previous studies have looked at all front passengers, this proposed study aims to examine the use of seat belt in the rare seats. None of the studies in Qatar has been conducted exclusively on the use or non-use of child safety seats for children. We were not able to find any empirical studies about the use of seatbelt in the rare seats particularly for children. Better understanding of the behavior and attitude of parents is important while developing policies or strategies to improve the traffic safety of children who are a vulnerable group in the society. Thus, to design an effective and a holistic approach for encouraging parents in Qatar to use car safety seats each time their child rides in the car, it is essential to understand the existing behaviors, knowledge levels, and attitudinal elements

that attribute to the use or non-use of car safety seats in the country. Education campaigns on car safety seat use must use a bottom-up rather than a top-down approach in order for them to be successful. In other words, current Qatari parental behaviors, knowledge, and attitudes about car safety seats should be studied as a basis for development of appropriate educational interventions related to their usage, rather than government or other interventions that have not been grounded in research that has been conducted on the residential population.

As with education around seat belt usage in Qatar, education campaigns on car safety seat usage must use a bottom-up rather than a top-down approach in order for them to be successful. In other words, current Qatar parental behaviors, knowledge, and attitudes about car safety seats should be studied as a basis for development of appropriate educational interventions related to their usage, rather than government or other interventions that have not been grounded in research that has been conducted on the residential population. In order to develop effective educational campaigns on car safety seat use, we must first understand the factors related to current car safety seat use or nonuse among parents, and this study will allow us to gain this understanding. The results of this study will help to inform government interventions related to in-vehicle child-restraints devices in the country. The research will not only consider reducing children death-rates, it will also work towards realizing the Qatar National Vision of 2030.

The study aims at providing a comprehensive understanding of road safety culture and norms related to car seat usage by Qatari residents, a research topic that has not formerly been considered in Qatar, in order to inform effective and comprehensive interventions to embolden car seat use, both legislative and educational.

### **Methodology**

In this study, the usage of car seats within the residence of Qatar is being evaluated. A field survey was conducted to collect and analyze relevant assessment data. The survey included a set of questions related to demographics (nationality, age, age of children, education level, etc.), a set of questions to assess parents' car safety behaviors, a set of questions to assess parental knowledge of child passenger safety, and a set of questions to assess attitudes regarding the use of child safety seats. The survey instrument (both English and Arabic versions) were pre-tested for understandability and to identify questions of low reliability, to be deleted from the final sample. Trained student research assistants assisted with the data collection.

The study targeted the parents that have children under eight years of age. Data was collected from a variety of parents living in Doha, such as Qatari nationals, Arab expats, Asian expats, and others living in the country. The survey was also distributed in some private elementary and national schools and nurseries; however, the response rate was low except for Qatar Canadian School. Since both Nationals and expats living the country drive on the roads and the Qatar government is concerned with the safety of all children living in the country, a broad sample of Doha demographic was used.

### **Findings and Discussion**

The sample size was 381 and questions were asked regarding the respondents' first four children, yielding 1,524 observations included in the analysis. The average age group of the respondents was 25-34. The majority of the respondents was women (81%) while 18% were men. The high percentage of female respondents is because the student research assistants were all female so the female students had more access to other women for the purposes of survey completion, especially with strict gender segregation practiced in Qatar. A high percentage of the respondents were Qatari citizens followed by Arabs, North Americans, and then Europeans, while all other nationalities as (Indian, Pakistani, and Philippines were together less than 10%.

The percentages of child safety seat usage self-reported by the parents living in Doha were low across all age ranges, with less than 29% of parents reporting that they always use/used a car seat with their first-born babies from birth to 23 months. Regardless of which child is referred to in the observation, the never category dominates. Furthermore, the non-usage proportions increase as the age of the child increases, with over 50% of parents reporting never using a car seat for their first born child when their child was between the ages of four and eight years old.

The data analysis revealed, as presented in the above tables, that the usage of child safety seats was noticeably reduced after the first child. The utilization rate of child safety seat for the first child is higher than the second, third, and fourth child. The cross tabulation analysis also confirmed these results.

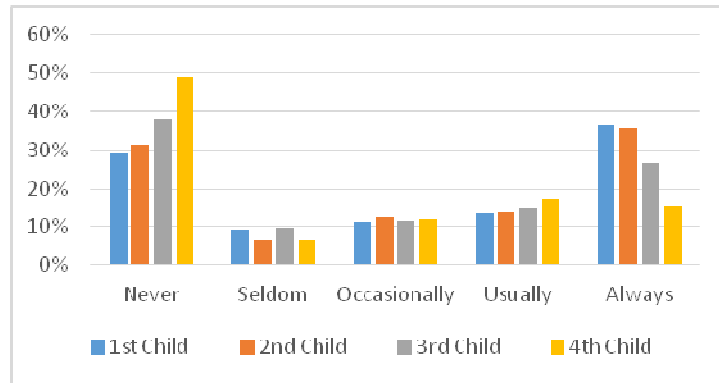


Figure 1: Percentage of parents who use a child care safety seat with their children (new born-23 months)

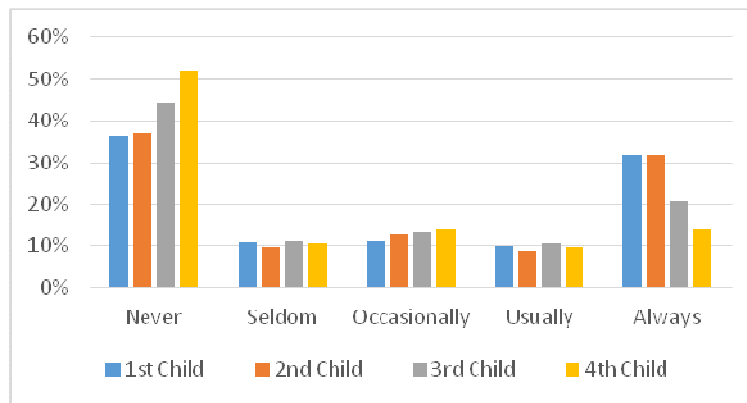


Figure 2: Percentage of parents who use a child care-safety seat with their children (2-4 years old)

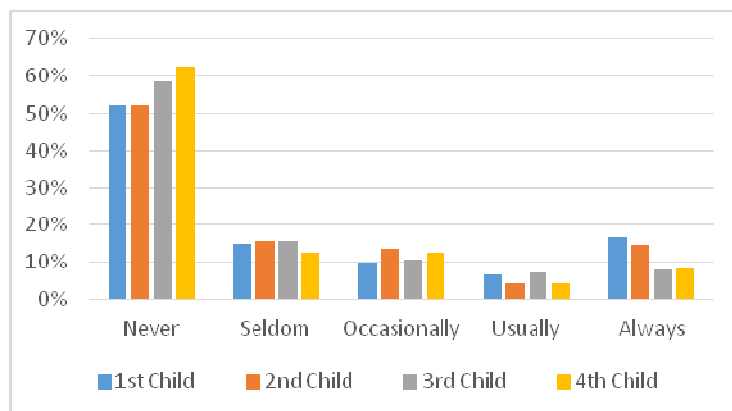


Figure 2: Percentage of parents who use a child care safety seat with their children (4-8 years old)

The Chi-Square test indicated a statistically significant relationship between parents’ educational level and age with the utilization of safety seats. For example, younger and more highly educated parents reported more often using car safety seats compared to other parents. Furthermore, the Chi-Square test also indicated a statistically significant relationship between the parent’s usage of a seat belt and the use of a child safety seat.

Frequency of Agreement/disagreement with general knowledge, attitudes, and social norms of participating parents regarding the usage of safety car seat, is illustrated in Figure 1.2. and 3. The results show that parents have expressed positive attitudes towards the usage of child safety seats, however, and based on research findings, the majority of parents actually do not use safety car-seat for their children. This indicates an attitude-behavior gap that could be linked to the lack of social pressure to use child safety seats.

On the other hand, the study results demonstrates good knowledge about the significance of safety measures to protect children in a moving car, as well as the proper usage of safety car-seats. Nevertheless, negative social norms about safety seats usage for children were evidently reflected in the study results.

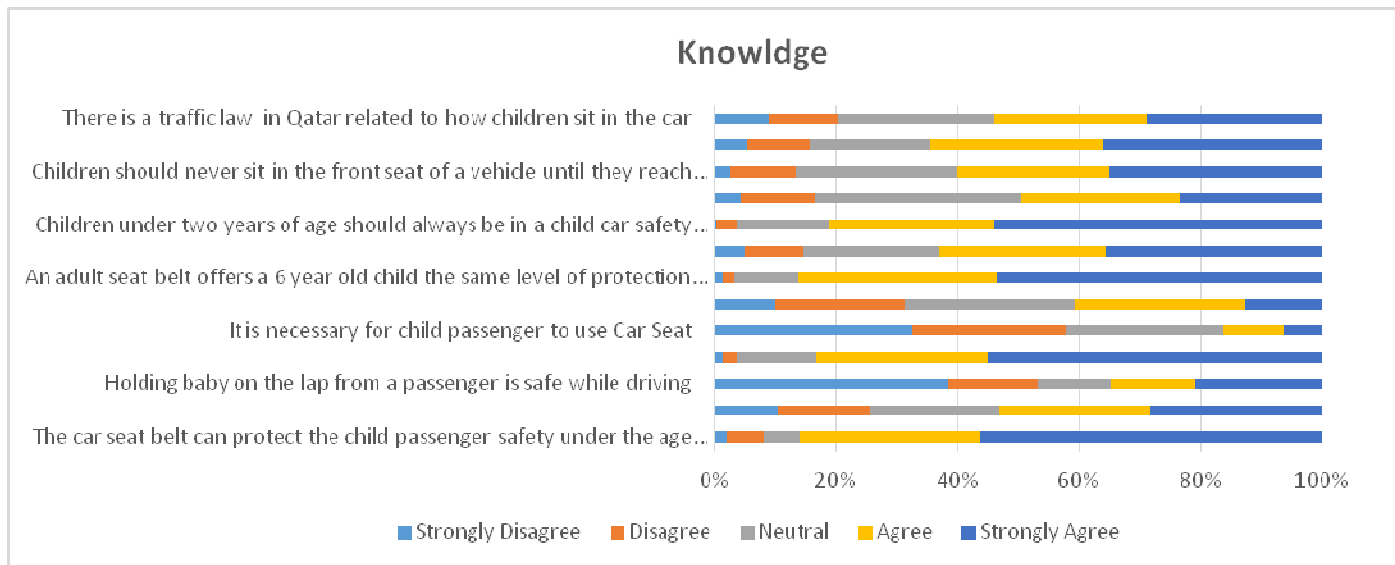


Figure 1: Frequency of Agreement/disagreement with general knowledge.

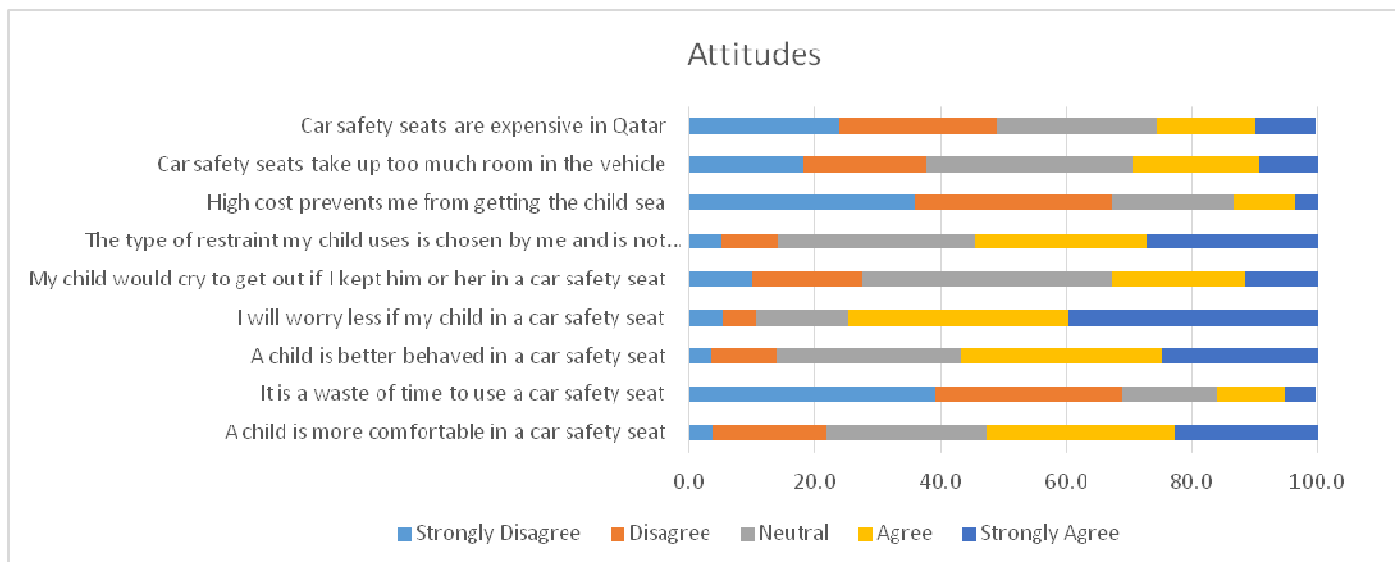


Figure 3: Frequency of Agreement/disagreement with attitudes.

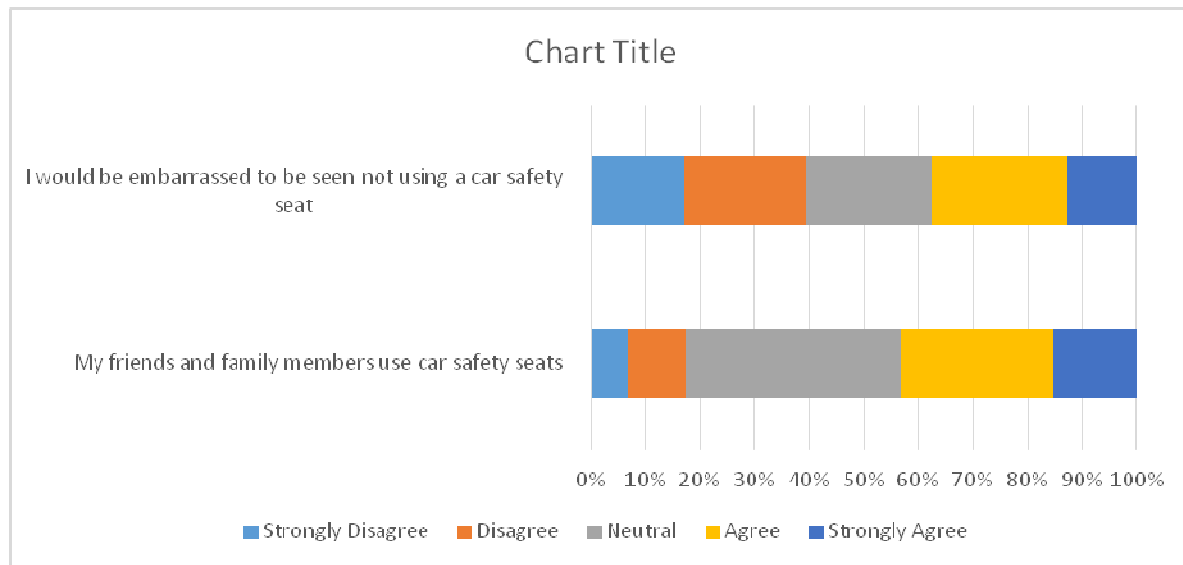


Figure 4: Frequency of Agreement/disagreement with social norms.

### Conclusion

The study results revealed low usage rates of child safety seats by parents living in Doha. The prevailing behavior is to not use a safety seat for children while in a moving vehicle. This was consistent with data signifying that the societal norm was likewise not to use safety seats, in spite of parents recognizing their significant role for child protection. The study also concluded that the rate of safety-seats usage reduced with each subsequent child in the family. It is suggested that a more comprehensive study on the usage of car seat behaviors is critical in Qatar.

Although the findings in this study are consistent with the literature (Bromfield and Mahmoud, 2017; Abbas et al., 2011; Asad, 2012), a number of specific-context elements play a key role in the usage of child safety car-seats in the country. The most important factors are the lack of mandatory legislation on car-seat usage joined with the absence of social pressure to safety-seats usage

### References

- [1] Abbas, A., Ashraf, F., Hefny, F., M.Abu-Zidan. (2011). Seatbelt compliance and mortality in the Gulf Cooperation Council countries in comparison with other high-income countries. *Ann Saudi Med* 2011; 31(4): 347-350
- [2] Asad, A. (2012, May 28). Road crashes main cause of child death in UAE. Retrieved January 9, 2016, from gulfnews.com: <http://gulfnews.com/news/gulf/uae/emergencies/road-crashes-main-cause-of-child-death-in-uae>
- [3] Bener, A., Humoud, S. M. Q. Al, Price, P., Azhar, A, Khalid M., Rysavy, M. and Crundall, D. (2007). The effect of seatbelt legislation on hospital admissions with road traffic injuries in an oil-rich, fast-developing country, *International Journal of Injury Control and Safety Promotion*, 14:2, 103 – 107.
- [4] Bromfield, N., Mahmoud, M. (2017) An exploratory investigation of child safety seat use among citizens of the United Arab Emirates, *Journal of Transportation Safety & Security* , 130-148, DOI: 10.1080/19439962.2016.1228090
- [5] CDC.gov. (2012). *CDC Features: Child passenger safety*. Retrieved January 2, 2016, from Centers for Disease Control and Prevention: <http://www.cdc.gov/Features/PassengerSafety/>
- [6] Doha News (2014, December 4). Qatar traffic fatalities rise in October 2014. Retrieved January 12, 2016, from <http://dohanews.co/tag/road-accidents/>
- [7] Mahfoud, Z., S. Cheema., H. Alrouh, M. Al Thani. A. Al Thani, R., Mamtani .(2015). Seat belt and mobile phone use among vehicle drivers in the city of Doha, Qatar: an observational study. *BMC public health*. Retrieved Jan 30, 2016 from <http://vivo.med.cornell.edu/display/pubid84942083579>
- [8] Ozkana, T., Puvanachandrab, P., Lajunena, T., Hoeb, C., Hyderb, A. (2012). The validity of self-reported seatbelt use in a country where levels of use are low. *Accident Analysis and Prevention*, 47 (2012): 75– 77.
- [9] Qatar National Road Safety Strategy 2013-2022. National Traffic Safety Committee (13 January 2013 ). Retrieved February 7 from file:///D:/Users/ez16038/Downloads/NRSS\_Eng%20(1).pdf

- [10] Qatar National Health Strategy 2011-2016. Ministry of Public health. Retrieved February 7, 2016 from file:///D:/Users/ez16038/Downloads/Qatar\_National\_Health\_Strategy.pdf
- [11] Ruiz, R. (2012, September 3). *UAE calls for compulsory car seats for children under 10*. Retrieved January 30, 2016, from The National: <http://www.thenational.ae/news/uae-news/uae-call-for-compulsory-car-seats-for-children-under-10>
- [12] Shaban, K. (2015). Young Drivers' Attitude Regarding Seat Belt Use in Qatar International Conference on Civil, Electrical and Electronics Engineering (ICCEEE'2012) December 21-22, 2012 Bangkok (Thailand)
- [13] University of Calgary (2010). – University of Calgary- Qatar seatbelt survey reveals interesting results. Retrieved February 10, 2016 from <http://www.qatar.ucalgary.ca/about/news/apr2010/seatbelt-survey>
- [14] Walker, L. (2014, August 24). Hamad Hospital team to study how to increase child car seat use. Retrieved January 12, 2016, from <http://dohanews.co/hamad-hospital-team-study/>

