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Rehman, A. U., & Xuqun, Y. (2019). Safety Attitude and Risk Perception Among Air Passengers: A Cross-Regional Study. *20th International Symposium on Aviation Psychology*, 139-144.
https://corescholar.libraries.wright.edu/isap_2019/24

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SAFETY ATTITUDE AND RISK PERCEPTION AMONG AIR PASSENGERS: A CROSS-REGIONAL STUDY

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The present study examined the safety attitude and risk perception among Air passengers at cross-regional levels. Moreover, the study also examined the differences in terms of safety briefing in the cabin. Although the Federal Aviation Administration and The international Air transport association has done much work on safety in cabin regarding air passengers, there is still the challenge to know to how to gain safety behavior of air passengers, particularly when they represent multicultural backgrounds. A sample of 700 air passengers with an average age of 26.5 was collected from three international airports in China. In this research, we used the two questionnaires (Safety attitude scale and Risk perception scale). The results of the study show significant differences at regional levels regarding safety attitudes and risk perception. The study provides a valuable discussion to move beyond the current research towards approaches that are more inclusive to the safety, behavioral context and provide new ways to develop safety strategies in the Aviation industry.

Keywords: Safety Attitude, Risk Perception, Air Passengers,

The current study aims to investigate passengers attitude and risk perception regarding cabin safety as past research concludes that an increase in passenger's safety knowledge will increase the chances of survival during an emergency, but during the past three decades, the issue has not gained due attention (Chang, Y-H., & Liao, M. Y., 2010). It is therefore important to know air passenger perceptions and safety attitude in flight. For this, we conducted an empirical in China to study this question. Research on safety behavior has recently gained attention after 9/11 to provide a safe environment for the air passengers, and cabin staff needs effective training strategies to cope with the uncertain situation during an emergency in the cabin.

Research on flight safety attitude on board in commercial airlines have not been well focused and nor air passengers been well instructed about aviation safety by the commercial airlines or the government institutes. Moreover, the literature is lacking data regarding risk perception and safety behavior of air passengers. Most of the passengers may believe that the commercial aviation incidence survivability rate are zero or low. Therefore, passengers pay less attention to what they should prepare for. Risk is part of life, its underestimation and overestimation can have unfortunate consequences (Burns and Slovic, 2012).

The attitudinal measures indicate that male passengers have greater likely to express undesirable cabin safety attitudes and findings provide very useful evidence for cabin safety-

related issues (Parker, 2006). In addition, males express a higher level of confidence as compared to female (Roy Morgan Research, 2002). To define the differences, there must be a relationship between risk perception and demographic variables (Pidgeon, 1998). Individuals perceive as an active organizer in choosing what fear they have in order to bear in their life perspective. Therefore, such concepts relate to the present study as a participant's demographic, which may play a major role in defining the level and type of risk perception (Flynn, Slovic, & Mertz, 2006). When participating in travel activities uncertain consequences may exist as traveling includes moving abroad and interacting new environment (Yang, Khoo-Lattimore, & Arcadia, 2017a). Constraints for women travel were still present and compared to the European world, women are still facing restrictions in participating in leisure activities (Seow & Brown, 2018). Parker (2006) mentioned that attitudes and behaviors play an important role in shaping passengers perceptions towards safety briefing. Parker further states that if passengers express a more positive attitude towards safety on board may perceive safety information more useful in an emergency and if passengers have a less positive or negative attitude towards the safety on board will pay less attention to safety information.

In an airplane accident, the risk of being involved play a significant role in the public discourse in an air travel setting. However, safety risks have been mainly ignored by the air passengers in the selection of flight choice (Fleischer, A., Tchetchik, A., Toledo, T., 2015). Most studies have examined the impact of perceived risk on passengers online flights booking (Agag and El-Masry, 2016), However, there is little literature on how different aspects of safety attitudes which affect passengers' travel intentions. Although flight attendants are well trained, still they may not always be utilized to exercise their skills to respond to all passengers. In reality, air passengers may need to utilize their own abilities.

Aims of the study

Safety concerns have become the most important issue in the current travel decision process (Kozak, M., Crotts, J., & Law, R., 2007). One strategy for analyzing the passenger's behavior is to know the attitudinal and behavioral part of the passengers. This strategy is especially insightful for cabin staff when they interact with the background of multicultural passengers. To achieve these goals, we use a cross-sectional research design to collect the data from seven regions of the world as air passengers. Viewing the said literature review, we hypothesized that gender difference exists on safety attitudes and risk perception. Another hypothesis was that regional difference exists on both constructs. In the last, we also hypothesized that safety demonstration helps in shaping the passenger's attitude and risk perception.

Methods

Sample & Procedure

Accessible population in the study comprised of 700 air passengers who participated in the study. The data was collected at three international airports from China (Xian International Airport, Beijing International Airport, and Jinan International Airport). The survey intends at international travelers who were traveling from their country to another country. Most of the air

passengers were students who were traveling to China for their study purposes. The average age of the participants was 26.5 years. Consent for the current study was taken from the respondents prior to handover the questionnaire. It was assured that the provided information would be used only in research purposes.

Instruments

Safety Attitude Scale. The safety attitude scale was developed by the researcher with the help of previously published literature and involving experts from China Eastern Airline and Pakistan International Airline. The safety attitude scale consisted of 30 items with five-point Likert-type scaled ranges from 1= strongly disagree to 5= strongly agree. Information was provided to respondents to choose the answer that best corresponded to their choice. The scale has been valid in Chinese and South Asian population. An alpha coefficient of the scale was .83. The scale development was part of the doctoral study.

Risk Perception Scale. The risk perception scale was also developed by the researcher to measure the level of perceived risk of air passengers. For the development of the scale research consulted with experts from China Eastern Airline and Pakistan International Airline. The scale consists of 13 sentences describing perception on five-point Likert type scaled ranges from 1= strongly disagree to 5= strongly agree. We briefed our respondents to select the best answer that corresponded with their level of agreement. The scale has been cross-validated in a sample of road travelers. Moreover, the scale was valid in a Chinese and South Asia population. An alpha coefficient of the scale was .93. This scale development process was part of a doctoral study.

Results

The analysis was conducted using a t-test, one-way ANOVA, and Post Hoc modules with the help of SPSS.

Table 1.

Mean, S.D, t-analysis of genders differences on the Post Traumatic Stress Disorder scale (N=100)

<i>Scales</i>	Male (n=323)		Female (n = 318)		<i>t</i>	<i>p</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Safety Attitude	161.84	18.04	159.04	17.85	1.97	.049
Risk Perception	37.72	13.48	37.92	14.13	.18	.857

Note. df= 639

Table 1 shows the mean differences between the male and female air passengers on safety attitude scale and risk perception scale. The mean scores of male and female air

passengers show that there is a significant difference in safety attitude and nonsignificant differences in risk perception.

Table 2.

Mean, Standard Deviation and F-values for Video, Audio and Physical demonstration, Video & Audio and Physical & Audio on Study Variables (N = 641)

Variables	Video (n = 90)		Audio (n = 34)		Physical Demo (n = 65)		Video & Audio (n=239)		Physical & Audio (n=213)		F	η^2	Post hoc
	M	SD	M	SD	M	SD	M	SD	M	SD			
Safety Attitude	157.0	16.41	164.	22.	165.74	19.36	160.24	17.	159.8	17.72	2.69**	.98	3 > 2 > 4 > 5 > 1
Risk Perception	37.17	12.58	44.35	16.	41.26	13.14	37.09	13.	36.82	13.95	3.46**	.97	2 > 3 > 5 > 4 > 1

Table 2 shows mean, standard deviation and *F* -values for Video, Audio and Physical demonstration, Video & Audio and Physical & Audio. Results indicate significant mean differences on safety attitude with $\{F(4,640) = 2.69^{**}, p < .01\}$, and on risk perception with $\{F(4,640) = 3.45^{**}, p < .01\}$.

Table 3.

Mean, Standard Deviation and F-values for Europe, East Asia, Africa, South Asia, USA, Gulf Countries, and Central Asia, on Study Variables (N = 641)

Variables	Europe (n = 81)		East Asia (n = 114)		Africa (n = 110)		South Asia (n=150)		USA (n=61)		Gulf (n=64)		Central Asia (n=61)		F	η^2	Post hoc
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD			
Safety Attitude	158.07	15.	16	17.	16	19.	16	17.	15	14.	15	21.	15	18.	1.3	.98	2 > 4 > 3 > 7 > 6 > 5 > 1
Risk Perception	34.47	15.	41.	13.	37.	14.	36.	12.	37.	13.	39.	14.	37.	12.	2.4	.97	2 > 6 > 5 > 3 > 7 > 4 > 1

Table 3 shows Mean, Standard Deviation and F-values for Europe, East Asia, Africa, South Asia, USA, Gulf Countries and Central Asia. Results indicate non-significant mean differences on safety attitude with $\{F(6,640) = 1.37 p > .05\}$, and significant differences on risk perception with $\{F(6,640) = 2.46^{**}, p < .01\}$.

Discussion & Conclusion

It seems reasonable that safety attitude and risk perception influence passenger's behavior and their exposure to some future risks during their air travel. Passenger's overall helpfulness of safety attitude was to be significantly lower amongst female passengers when

compared to that of male passengers (Table 1). Gender especially women seem to be influenced by the perception of risk during their travel. According to the results of the present study, a significant difference was seen for safety attitude as a male have a high attitude towards safety. Contrary to this, female's passengers, which, also shows that male, have more opportunities to interact with outside world and they have more information as compared to females about safety information as attitudinal measures indicate that male passengers have greater likely to express undesirable cabin safety attitudes and findings provide very useful evidence for cabin safety-related issues (Parker, 2006). In addition, males express a higher level of confidence as compared to female (Roy Morgan Research, 2002). Contrary to this, both found equal on risk perception variable. We have also analyzed safety finding regarding safety attitude and risk perception and it was observed that respondents who focus more on a physical demonstration during safety briefing have a high level of safety attitude and better perception of risk as compared to just video or audio demonstration. It can be observed that passengers were less interest in the video demonstration and have a low level of safety attitude as well as risk perception. As the past research shows that respondent who did not pay attention to think that paying attention to the safety briefing is a waste of time (Johnson, D.A., 1979). Air passenger who considers that the cabin staff is mainly responsible for the safety of passengers may pay less attention to safety briefings. Parker (2006) mentioned that attitudes and behaviors play an important role in shaping passengers perceptions towards safety briefing.

The study confirmed the third hypothesis which states that regional differences exist on safety attitude and risk perception constructs. The findings show that Asian as well as South Asian were higher on safety attitude construct as well as on risk perception as compared to Africans and European respondents. Our study appears to indicate higher feeling of safety attitude and risk perception be more careful in East Asian responded region and found high level of safety attitude but lower levels of risk perception in others. The study confirms that safety attitudes and risk perceptions that Asians have more careful about their safety and future travel risks and Europeans were less on the construct. It is known that an airplane cabin is like a sitting room where uncertain events may occur. Our study has several implications for aviation industry and research. although in all regions risk perception is perceived as a real risk, the level of safety appears to be rather low. Therefore, it can be suggested that passengers must be well informed and their Knowledge about safety-related issues should be broadened so that appropriate behaviors could be performed in an emergency. Furthermore, information programs must be launched at airport launches and waiting areas about safety in aviation. Key opportunities are identified to prove more effective was of safety in the cabin. It is also suggested that airliner should understand the importance of the relationship between passengers demographic characterizes, safety attitude and risks may be improved. More training at organizational and national levels can be launched to prove the knowledge of air passengers about safety issues and information can be improved about risk perception. Once it is recognized that the decisions of air passengers may be compromised with hazardous attitudes, airlines can improve more effective strategies to proved more safer journey

Acknowledgments

This research was supported by School of Psychology, Shaanxi Normal University, Xian, China. We are thankful to China Eastern Airline and Pakistan International Airline for their cooperation. We also thanks to our participants for their cooperation.

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