

UNIVERSITY OF ECONOMICS, PRAGUE
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Dissertation Thesis

**Effects of terrorism on international tourism
from the perspective of behavioural
economics**

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DECLARATION:

I declare that I have written my doctoral thesis on "*Effects of terrorism on international tourism from the perspective of behavioural economics*" independently, properly cited all used sources and literature and that this work has not been used for obtaining a different or the same academic degree.

In Prague 21. 7. 2018

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Abstract

The impact of terrorism on international tourism has been studied many times. This thesis deals with this issue from a new perspective of behavioural economics, which emphasizes cognitive distortions in human decision-making. The aim of the thesis was to theoretically map out the cognitive distortions in human decision-making connected with the impact of terrorism on international tourism, whether on consumers/visitors of tourist destinations, operators or public authorities. This thesis presents in total nineteen cognitive distortions and also delineates their practical implications. This work also tries to find out if the presence of armed soldiers and policemen in tourist centres increases or decreases the subjective risk perception of a terrorist attack and also whether the presence of these armed forces in front of the tourist attraction reflects the willingness of tourists to visit the tourist attraction and spend more on the admission fee. For this purpose, this dissertation thesis presents researches based on behavioural method with setting in Prague, Paris and Jerusalem, involving a total of 3000 respondents. The main finding of this dissertation thesis is that the subjective risk perception of terrorism in the presence of armed soldiers is influenced by the prevalence of chronic anxiety and/or chronic depression. The findings of this dissertation may be useful for public authorities who decide on the location of the armed forces in city centres.

Key words: tourism, terrorism, behavioural economics

Abstrakt

Dopady terorismu na mezinárodní cestovní ruch byly v minulosti již mnohokrát zkoumány. Tato dizertační práce se na tuto problematiku dívá novou optikou tzv. behaviorální ekonomie, která pracuje s kognitivními zkresleními spotřebitelů. Cílem práce bylo za prvé teoreticky zmapovat, k jakým kognitivním zkreslením v lidském rozhodování v souvislosti s dopady terorismu na mezinárodní cestovní ruch dochází, ať už na straně spotřebitelů/návštěvníků turistických destinací, provozovatelů anebo orgánů státní správy. Těchto zkreslení práce odhalila a blíže s možnými praktickými implikacemi uvedla celkem devatenáct. Dále si práce kladla za cíl zjistit, zda přítomnost ozbrojených vojáků a policistů v turistických centrech zvyšuje nebo snižuje subjektivní vnímání rizika teroristického útoku a zda se přítomnost těchto ozbrojených složek před turistickými atraktivitami odráží na ochotě turistů danou atraktivitu navštívit a za danou atraktivitu utrácet na vstupném. K tomuto účelu jsou v dizertační práci popsány výzkumy založené na behaviorální metodě se zasazením v Praze, Paříži a Jeruzalémě, kterých se účastnilo 3000 respondentů. Hlavním přínosem této dizertační práce je pak zjištění, že subjektivní vnímání rizika teroristického útoku v přítomnosti ozbrojených vojáků je ovlivněno skutečností, zda dotazovaný trpí chronickou úzkostí a/nebo chronickou depresí. Zjištění této dizertační práce mohou být užitečná pro orgány státní správy, které o umístění ozbrojených složek do center měst rozhodují.

Klíčová slova: cestovní ruch, terorismus, behaviorální ekonomie

Contents:

Introduction	1
1. Theoretical definition of behavioural economics and its difference compared to neoclassical economics with respect to tourism	7
1.1. Main principles of behavioural economics	9
1.1.1. <i>Bounded rationality</i>	9
1.1.2. <i>Bounded willpower</i>	11
1.1.3. <i>Bounded self-interest</i>	13
1.2. Heuristics and cognitive biases, which are important for the research of subjective risk perception on tourism.....	13
1.2.1. <i>Affect heuristic and influence of terrorism on tourism</i>	14
1.2.2. <i>Availability heuristic and influence of terrorism on tourism</i>	16
1.2.3. <i>Bandwagon effect and influence of terrorism on tourism</i>	18
1.2.4. <i>Bias Blind Spot and the influence of terrorism on tourism</i>	19
1.2.5. <i>Confirmation bias and the influence of terrorism on tourism</i>	21
1.2.6. <i>Conformity and the influence of terrorism on tourism</i>	22
1.2.7. <i>Curse of knowledge and the influence of terrorism on tourism</i>	23
1.2.8. <i>Empathy gap and the influence of terrorism on tourism</i>	25
1.2.9. <i>Framing and the influence of terrorism on tourism</i>	26
1.2.10. <i>Herd behaviour and the influence of terrorism on tourism</i>	27
1.2.11. <i>Hindsight bias and the influence of terrorism on tourism</i>	28
1.2.12. <i>Illusion of control and the influence of terrorism on tourism</i>	29
1.2.13. <i>Irrational escalation and the influence of terrorism on tourism</i>	30
1.2.14. <i>Overconfidence and the influence of terrorism on tourism</i>	31
1.2.15. <i>Placebo effect and the influence of terrorism on tourism</i>	32
1.2.16. <i>Priming and the influence of terrorism on tourism</i>	33
1.2.17. <i>Scope insensitivity and the influence of terrorism on tourism</i>	34
1.2.18. <i>Selective attention and the influence of terrorism on tourism</i>	35
1.2.19. <i>Zero-risk bias and the influence of terrorism on tourism</i>	36
2. Terrorism and responses to terrorism	38
2.1. Terrorism	38

2.1.1.	<i>al-Qaeda and Islamic State (IS)</i>	40
2.2.	Government response to terrorism and its importance for tourism	42
2.2.1.	<i>The effect of the implementation of security measures on perceived risk</i>	45
2.2.2.	<i>Presence of armed guards, police and soldiers</i>	49
2.2.3.	<i>The effect of security measures on consumer behaviour</i>	52
2.2.3.1.	Protection motivation theory and terror management theory	55
2.2.3.2.	Results of previous studies on the effect of security measures on consumer behaviour	56
2.3.	The effect of chronic anxiety and depression on perception of terrorism	58
2.3.1.	<i>Global perspective on mental health</i>	58
2.3.2.	<i>Terrorism can kill some, but hijack the brain of millions</i>	59
3.	The influence of subjective risk perception of terrorism and related factors on the outbound tourism of Czech population	62
3.1.	Fears of terrorism	62
3.1.1.	<i>Czech outbound tourism to France</i>	65
4.	Risk perception of terrorism reflected by the Czech public sector	68
4.1.	Methodology of the research on risk perception of terrorism reflected by the Czech public sector	69
4.2.	Importance of counter-terrorist steps in the Czech Republic.....	70
4.3.	Results of the research on Czech domestic counterterrorism measures	71
4.4.	Discussion and conclusion of the research on risk perception of terrorism reflected by the Czech public sector.....	73
5.	Presence of soldiers in European cities and their influence on risk perception of terrorism	76
5.1.	Introduction to a subjective risk perception when armed soldiers stand in front of the Eiffel Tower in Paris.....	76
5.2.	Reasons for the deployment of armed guards in front of tourist attractions	78
5.3.	Perception of counterterrorist measures	79
5.4.	The effect of chronic anxiety and chronic depression on subjective risk perception.....	81
5.5.	Changes in subjective risk perception of terrorism when armed soldiers are present in Paris.....	82
5.5.1.	<i>Results regarding the prevalence of chronic anxiety and chronic depression</i>	85

5.5.2. Results regarding the prevalence of chronic anxiety and chronic depression as well as age difference	88
5.5.3. Results in subjective risk perception of terrorism between men and women.	90
5.5.4. Discussion and conclusion of the subjective risk perception when armed soldiers stand in Paris	91
5.6. Changes in subjective risk perception of other risks (not terrorism) when armed soldiers are present in front of the Eiffel Tower in Paris.....	93
5.6.1. Methodology of the research of subjective risk perception of pick-pocket robbery, loss of luggage, heart attack and lightning strike when armed soldier is in Paris	93
5.6.2. Results of the research of subjective risk perception of pick-pocket robbery, loss of luggage, heart attack and lightning strike when armed soldier is present in Paris	95
5.6.3. Conclusion of the research of subjective risk perception of pick-pocket robbery, loss of luggage, heart attack and lightning strike when armed soldier is present in Paris.....	95
6. The effect of armed police/armed soldiers presence on consumer behaviour in Europe	97
6.1. The effect of armed police presence on consumer behaviour – case of Wax museum in Prague	97
6.1.1. Methodology of the research on the effect of armed police presence on consumer behaviour – case of Wax museum in Prague.....	97
6.1.2. Results of research on the effect of armed police presence on consumer behaviour – case of Wax museum in Prague	100
6.2. The effect of armed soldier's presence on consumer behaviour – case of Museum Louvre in Paris.....	105
6.2.1. Methodology of the research of the effect of presence of armed soldiers in front of the Museum Louvre in Paris	105
6.2.2. Results of the research of the effect of presence of armed soldiers in front of the Museum Louvre in Paris	107
6.2.3. Discussion and conclusion of the research of the effect of presence of armed soldiers in front of the Museum Louvre in Paris.....	111
7. Subjective risk perception of terrorism in Israel	113
7.1. The influence of terrorist attacks in Israel from the perspective of illusion of control (field research among Israelis)	113

7.2. The influence of terrorist attacks in Israel from the perspective of illusion of control (study conducted in the United States).....	116
7.3. The terrorist attacks in Israel from the perspective of stress related mental health symptoms.....	117
7.4. Subjective risk perception of Czech people in Israel – impact of the deployment of armed soldiers	118
7.4.1. <i>Differences in subjective risk perception in general population – role of gender, chronic anxiety and/or chronic depression, familiarity with the environment and media influences</i>	119
7.4.2. <i>Methodology of the research on subjective risk perception of Czech tourists in Jerusalem</i>	121
7.4.3. <i>Results of the research on subjective risk perception of Czech tourists in Jerusalem</i>	123
7.4.4. <i>Discussion and conclusion of the research on subjective risk perception of Czech tourists in Jerusalem.....</i>	126
7.5. The effect of armed soldier’s presence on subjective risk perception measured by picture-association method.....	127
7.5.1. <i>Methodology of the picture association method</i>	127
7.5.2. <i>Results of the picture association method</i>	129
7.5.3. <i>Discussion and conclusion of the picture association method</i>	129
7.6. Czech consumption behaviour changes when armed soldiers are present/absent in front of the Western Wall in Jerusalem	130
7.6.1. <i>Data and methodology of research on changes in consumption behaviour in Jerusalem</i>	130
7.6.2. <i>Results of research on changes in consumption behaviour in Jerusalem.....</i>	131
7.6.3. <i>Discussion of research on changes in consumption behaviour in Jerusalem.....</i>	140
7.6.4. <i>Conclusion of research on changes in consumption behaviour in Jerusalem... ..</i>	141
Conclusion.....	143
Literature	147
List of Pictures.....	163
List of Tables.....	164
List of Graphs.....	166

Abbreviations

ACSO	Accredited Safety Officer
ASCR	Academy of Sciences of the Czech Republic
CDCP	Centre for Disease Control and Prevention
CPTED	Crime Prevention Through Environmental Design
CR	Czech Republic
CZK	Czech Crown (currency)
DVD	Digital Versatile Disc
EU	European Union
FNLCj	National Front for the Liberation of Corsica
GDP	Gross Domestic Product
ID	Identity Document
IS	Islamic State
ISAF	International Security Assistance Force
IRA	Irish Republican Army
MV	Mean Value
MENA	Middle East and North Africa
NKBT	National Focal Point for Terrorism
PCSO	Police Community Support Officer
PMT	Protection Motivation Theory
PO	Police Officer
PTSD	Post-Traumatic Stress Disorder
SG	Security Guard
TMT	Terror Management Theory
TV	TeleVision
UNHCR	United Nations Agency for Refugee Help
US	United States of America
9/11	Terrorist attacks in the United States of America from the September 11th 2001

Introduction

How it started? About three years ago, I was sitting with a friend in her flat, and complained: *"Unbelievable. On the way to your place on Dejvická station, there are armed soldiers standing in the subway. What a non-sense? It drives me crazy every time I pass by."* My friend Katka looked surprised when absorbing these negative statements and asked me curiously what was wrong with such a security measure. As a response I started to explain something about the probability of a terrorist attack, the probability that a soldier's weapon would fail and fire at someone by an accident, and for me the obvious fact that even in case of the minimal probability that there would be a terrorist attack in Prague, in case the even more minimal probability that it would be on Dejvická metro station, even in case the potential terrorist could be seen by a soldier in the crowd, how can the soldier actually use a machine gun and not to kill lots of bystanders around the potential person, who could be a terrorist? After my explanation Katka could understand, why the deployment of heavily armed soldiers in the streets of my hometown made me overall very nervous. Nevertheless, she started claiming, how much better she personally feels when travelling by public transportation with soldiers around. For me an unexpected response.

I would like to believe that my friend Katka is crazy and irrational, but since knowing her for quite some time as a very smart and intellectual woman it made me wonder. Why I am so stressed about the presence of armed soldiers in metro Dejvická? And why is Katka so happy about this counterterrorist measure and feels relieved in the presence of armed soldiers?

Shortly after this conversation, I began to interview my friends to find out whether the deployment of armed forces in the city streets was in general rather calming down the nerves of citizens (Katka's approach is the general average picture of our society) or the actual visible presence of heavily armed forces in city centres is rather a stress factor (my approach is the general average picture of our society). But when doing the questioning I found out to be in the social bubble of my friends all the time, so decided to take my research more seriously and apply for a grant, which has enabled me to get a sample of respondents, which is not biased by my acquaintances. To answer my question, I also had to start to study cognitive distortions, human-decision making and behavioural sciences connected with risk perception. Shortly this dissertation started as a conversation with my friend Katka, but later on when attending conferences, reading other studies, there were even more questions to ask and this research got

a new scale. The next questions coming to my head were mainly these: *“Does the presence of armed soldiers and police officers also influence the way people visit certain places? Does the presence of armed soldier influence the amount of money people are willing to spend on the admission fee? What is stronger – the effect of priming or the effect of the illusion of control? Or are there any other effects? Did Czech people really travel less to France, where in 2015 two major terrorist attacks happened? And Czech public institutions, how much do they spend on these countermeasures? Do they waste the public resources in similar scale as the public institution in the United States.”* (questions inspired mainly by findings of foreign studies on similar topics)

And since I am Ph.D. student in the program of international business and tourism I decided to focus on the subjective risk perception of terrorism in the presence of armed soldiers and police officers in different locations – Prague, different places in Paris and the Western Wall in Jerusalem to give my research also the international perspective. I am very happy, that I can finally provide you with the results, which are largely connected and based on methodology and relatively new findings from psychology and behavioural economics.

Why is this piece of work important? We already know from previous studies that terrorism is literally a disaster for international tourism. It does not matter as much how much real-life losses and infrastructure damages they cause. Whether the damage is enormous or smaller, it causes a panic of fear and, naturally, a reduced interest in staying at the tourist destination, where such an activity takes place. Most importantly it is not only terrorism, but also fear of terrorism, which has a significant impact on both the national and global economy. Tourism and shopping can be significantly negatively influenced. For example, lots of airline companies went bankrupt or were forced to lay off large numbers of employees after 9/11.¹

¹ The situation in the airline industry is described by Gabi Logan: *„Directly after the terrorist attacks on 9/11, the federal government closed airports, canceling thousands of flights at a direct cost to airlines. However, even when the airports reopened, passengers were wary of air travel, and airlines experienced at least a 30 percent reduction in demand during the initial shock period immediately following the reopening. In addition, business travel accounts for one of the most profitable segments in the airline business, and after the attacks, a significant number of businesses temporarily suspended non-essential travel for their employees. several prominent American airlines declared bankruptcy not long after the 9/11 attacks, included US Airways and United Airlines. As a result of the massive financial losses due to lack of passenger demand, canceled flights and increased expenditures for security, even airlines that did not have prior financial issues were forced to renegotiate labor contracts and lay off high numbers of employees, such as the 7,000 employees laid off by American Airlines. An economic study from Cornell University in 2007 showed that federal baggage screenings brought about a 6 percent reduction in passenger volume across the board, with a 9 percent reduction in the nation's busiest airports, totaling a nearly \$1 billion loss for the airline industry.”* (Logan, 2017)

As my personal story with Katka, but also finding of previous studies suggest, terrorism cannot be viewed with a conventional rational view of classical economics, which assumes that people behave rationally, can make effective risk assessments and decide freely about the need for security measures. Completely the contrary, terrorism fully reveals how easy it is to manipulate human judgment and how bounded is one's rationality, willpower and self-interest. Therefore, I decided to name this dissertation thesis „*Effects of terrorism on international tourism from the perspective of behavioural economics*. “

The main goal of this dissertation thesis is therefore to theoretically identify and list all cognitive distortions, which can significantly influence the impact of terrorism and counterterrorism on tourism industry and based on my own research clearly identify the effect of cognitive distortions on Czech policy-makers and (caused by counterterrorist policies) on tourist subjective risk perception and consumption.

The majority of research in this dissertation thesis is focused on the effect of the presence of armed soldiers or armed police officers in front of European and Israeli tourist landmarks and answering the question if the presence or armed guards in city streets influence the subjective risk perception and consumption of tourists (and if so, in which way). Apart from the main findings about the armed guard's presence, this dissertation thesis includes also data about the impact of cognitive distortions on the Czech public counterterrorist spending and influence of Czech fear of terrorism on outbound tourism to France, where were two bigger terrorist attacks in 2015.

This dissertation includes in total seven chapters; the first and the second chapter are theoretical and based on the summary of previous researches from the area of cognitive distortions, tourism, tourist's consumption, human-decision-making, subjective risk perception and security and serve as a rebound bridge for my own research, which follows in next chapters. Chapters number three and four are my own research based on secondary data obtained by public institutions as the Czech Statistical Office, United Nations Organization for Refugee Help (UNHCR), Ministry of Interior of the Czech Republic, Ministry of Defence of the Czech Republic, Academy of Sciences of the Czech Republic (ASCR). Chapters five, six and seven are based on my own research and data included in these chapters were collected by myself using the approach of behavioural science.

Regarding the used methodology the research in chapters three and four is based on the comparison of secondary data received by above mentioned public institutions and the cost-effective analysis. Methodology in chapters five, six and seven is based on public surveys run in various treatments and comparison of data from these different treatments by statistical T-test for two independent samples and Z-test for two population proportions (to find out if differences between these treatments are statistically significant). It is currently one of the most used methods in the field of behavioural science.

The first chapter of this dissertation thesis provides an insight into the field of behavioural economics, which focuses on the effects of psychological, social, cognitive, and emotional factors on the economic decisions of individuals and institutions. The first part of this thesis also explains, why this new field of economics is gaining on importance and focuses on its basic principles of bounded rationality, bounded willpower and bounded self-interest. As well the first chapter includes the description of the most important heuristics, which can be applied when describing people's decision-making in tourism during a security threat as a terrorist attack or when implementing a counterterrorist measure. These cognitive distortions include affect heuristic, availability heuristic, bandwagon effect, bias blind spot, confirmation bias, conformity, curse of knowledge, empathy gap, herd behaviour, hindsight bias, illusion of control, irrational escalation, overconfidence, placebo effect, priming, scope insensitivity, selective attention and zero-risk bias. All these above mentioned and theoretically described cognitive distortions are provided with a practical example of the author.

The second chapter of this dissertation thesis briefly describes the crime of terrorism, its definitions, as well as the al-Qaeda organization and Islamic State organization, which appear to have the biggest impact on international tourism. Last but not least this chapter analyses the government responses to terrorism and describes the effect of security measures' introduction as well as the influence of chronic mental problems on subjective risk perception. Also the concept of consumer behaviour of tourists, precisely the importance of perception during consumer behaviour and product image formation are described. The most important part of this chapter is the explanation of the dual-processing theory, which describes an enormous impact on subjective risk perception of tourists and explains the overreactions in tourist's decision-making, which can lead to a lost interest in consumption and travelling. Shortly this chapter binds the topics of security, terrorism and tourism to each other and based on previous studies describes, why there is a need for crime prevention and terrorism prevention in tourism.

Last but not least this chapter presents results of studies, which have analyzed the presence of armed guards, police and soldiers on people's behaviour and decision making.

The third part of this dissertation thesis is based on the author's research on the influence of subjective risk perception of terrorism on the outbound tourism of Czech population, precisely on the Czech fear of terrorism and its impact on travelling to France in 2014, 2015 and 2016. (In France major terrorist attacks has occurred during this period.) This research was based mainly on data of Czech Statistical Office, UNHCR and Institute of Sociology, Academy of Sciences of the Czech Republic.

The fourth section of this thesis describes, how the cognitive distortions and risk perception of terrorism are reflected by Czech public sector and based on the findings of American counterterrorist studies takes a similar approach of carrying out a cost-effective analysis of Czech counterterrorist measures. The data in this chapter are based mainly on open source information of the Ministry of Interior of the Czech Republic and Ministry of Defence of the Czech Republic.

Based on the findings of previous studies (described in second chapter) the chapter number five focuses on the presence of soldiers in European cities and their influence on subjective risk perception of terrorism and other crime-related and non-crime related risks – like the risk of losing a luggage, risk of lighting etc. The data about subjective risk perception in this chapter are based exclusively on the research of the author using the methodology of behavioural economics.

Chapter number six is also based on the author's research, behavioural economics methodology and focuses on the changes of consumption of Czech tourists when armed soldiers are present in front of the Museum Louvre in Paris and Wax Museum in Prague. This chapter is also based exclusively on the research of the author.

The last chapter of this dissertation thesis (number seven) analyses the subjective risk perception of terrorism in Israel, which has to deal with terrorist attack with high frequency, terrorism is one of the reason while all Israeli society obligatory serves in the army and while there are omnipresent security checks. The chapter seven provides results of researches from Israel, which provide and interesting insight into human ability to adjust to a situation and deal with the omnipresent threat. Chapter seven also provides data collected by the author and focuses on the subjective risk perception of Czech tourists, who travel to the city of Jerusalem.

The most important findings about the influence of cognitive distortions on subjective risk perception of terrorism in tourism and results of experiments are summed up in the conclusion of this dissertation thesis.

1. Theoretical definition of behavioural economics and its difference compared to neoclassical economics with respect to tourism

Neoclassical economics, which dominates the field of economics since the late nineteenth century consider people's decision-making to be rational and agrees on the assumption that humans make choices based on a perfect information and use of cold-headed logic, when deciding what to buy, what to sell, what kind of museum or country to visit, what kind of fear is it good to feel and how we should protect ourselves. Behavioural economics is using a quite a different approach, its concept arose in the second half of the twentieth century by integrating insights from neuroeconomics and psychology, since its followers believe that mainstream economic theory has been largely based on an unrealistic picture of human decision-making and rational agents are rather mythical heroes than real human-beings. Behavioural economics can be applied in individual situations as well as in wider actions of a society or trends in financial markets. (Nature, 2017)

First aspects of behavioural economics (or the importance of emotions in economics) can be seen already in Adam Smith's book "*The Theory of Moral Sentiments*" from 1759, which served as an underpinning of his future famous book „*An Inquiry into the Nature and Causes of the Wealth of Nations*“ or shortly "*Wealth of Nations*." *Wealth of Nations* has become a classic book used as an argumentation supply for many authors, governments, organisations and economists, who preach liberalism, deregulation, the invisible hand of the market as well as recommended literature for students at economic universities. Less famous, but for the behavioural economists much more important *Theory of Moral Sentiments* consists of seven parts (Of the propriety of action, Of merit and demerit; or of the objects of reward and punishment, Of the foundations of our judgments concerning our own sentiments and conduct, and of the sense of duty, Of the effect of utility upon the sentiments of approbation, Of the influence of custom and fashion upon the sentiments of moral approbation and disapprobation, Of the character of virtue, Of systems of moral philosophy) and begins with the following assertion:

„How selfish so ever man may be supposed, there are evidently some principles in his nature, which interest him in the fortunes of others, and render their happiness necessary to him, though he derives nothing from it, except the pleasure of seeing it. Of this kind is pity or compassion, the emotion we feel for the misery of others, when we either see it, or are made to

conceive it in a very lively manner. That we often derive sorrow from the sorrows of others, is a matter of fact too obvious to require any instances to prove it; for this sentiment, like all the other original passions of human nature, is by no means confined to the virtuous or the humane, though they perhaps may feel it with the most exquisite sensibility. The greatest ruffian, the most hardened violator of the laws of society, is not altogether without it. “(Smith, 2002)

Some prominent intellectuals even state that Adam Smith was not the founder of economics, but the science of human behaviour, which is closer to behavioural economics than to neoclassical economics. Even though Adam Smith has written about the importance of sentiments in human decision-making and could be considered as one of the first experts on human nature, the important thinker, who has provided the necessary basis for future development of behavioural economics, came much later. It was Herbert Alexander Simon (back in 1957), who has suggested that human beings are bounded in their ability to be completely rational and behave in an irrational manner because of the shortage of necessary information, time pressure and cost constraints that limit them from obtaining all the information they need to make a rational choice. Furthermore, Simon has also observed that decision makers have limited usable memory and limited intelligence. This know-how results in the fact that people are bounded in their ability of making rational choices and they will forgo the best possible decision in favour of the first one they find reasonable or acceptable, not really considering other options. He actively tried to bring closer and cooperate between natural sciences and social sciences, which are both crucial when studying human decision-making. Even though Simon’s findings have simply demonstrated that human judgment deviates from rationality, he still was not able to explain, how our judgment is biased. (Ballester, Hernandez, 2011; Biran 2015)

That was explained later by map of “*cognitive biases*” and “*heuristics*” (better described in chapter 1.2.), which came to the world thanks to long cooperation of Amos Tversky and Daniel Kahneman, who have written the most influential articles about human judgement and decision-making in uncertain world. Their work has led to a Nobel Prize victory and to our understanding of judgment and uncertainty as we know it today. Until now only 6 % of economics Nobel Prize laureates could be described as behavioural economists, forming a small fraction of all recipients. Nevertheless, it is important to mention that all these prizes were awarded in the new millennium making the discipline of behavioural economics more visible, appreciated and prestigious. The last Nobel Prize winner for behavioural economics from 2017, Richard Thaler, is particularly well known for his work on “*nudge theory*”, which explains how relatively small

interventions can encourage individuals to make totally contradictory decisions. (Economist, 2017; Guardian, 2017)

Recently we can see increasing numbers of policy makers around the globe, who are eager to use the methodology and results of behavioural economics for improving public policies and rise of public well-being. Behavioural economics brings progressivity and applicability to the natural environment of financial markets, city halls, shopping centres as well as places of higher perceived security threats and therefore the approaches of behavioural economics and more specifically the potential effect of security nudges are used also in this dissertation thesis. (Rehman, 2016; Nature, 2017; Economist, 2017)

1.1. Main principles of behavioural economics

Contrary to the concept of neoclassic economy, behavioural economics comes with the concepts of bounded rationality, bounded willpower and bounded self-interest, which makes cognitive limitations constrain human judgement and choice leading to the fact that people occasionally make choices that are against their own best interests. (Nature, 2017)

1.1.1. Bounded rationality

„*Bounded rationality*“ is a term for the theory used in different fields such as economics, psychology and computer science and firstly developed by Herbert Alexander Simon (1916–2001), who himself preferred to call a theory about economic decision “*satisficing*”, a combination of two words: “*satisfy*” and “*suffice*.” Herbert Alexander Simon could clearly observe the limitations of the concept of a rational agent against a real human being. According to this scientific thinker humans are not able to digest all the information that would be needed for maximising the benefit from a particular course of action. In his two seminal papers, for the Rand Organisation and the other of which was published in the Quarterly Journal of Economics, Simon postulates that most people are only partly rational, and that they are in fact emotional in the remaining part of their actions. Three features characterize his view of bounded rationality: search for alternatives, satisficing, and aspiration adaption. After this seminal approach, an active branch of research was born, giving rise to a new approach to modelling repeated games. Simon decides to construct a more realistic theory of human economic decision-making, with many researchers and thinkers to follow. (Ballester, Hernandez, 2011; Economist, 2009)

One of Simon's followers are the Nobel Prize winner from 2002, Daniel Kahneman, who proposed bounded rationality as a model to overcome some of the limitations of the rational-agent models in economic literature. In a team work, Daniel Kahneman and Amos Tversky have explored human intuition and choices, while examining aspects of bounded rationality. More specifically, they have generated a map of bounded rationality by exploring the systematic biases that separate the beliefs that people have, the choices they make from optimal beliefs, and the choices assumed in rational-agent models. From Kahneman's Nobel Prize presentation we can read: *"From its earliest days, the research that Tversky and I conducted was guided by the idea that intuitive judgments occupy a position – perhaps corresponding to evolutionary history – between the automatic operations of perception and the deliberate operations of reasoning. Our first joint article examined systematic errors in the casual statistical judgments of statistically sophisticated researchers (Tversky & Kahneman, 1971). Remarkably, the intuitive judgments of these experts did not conform to statistical principles with which they were thoroughly familiar. In particular, their intuitive statistical inferences and their estimates of statistical power showed a striking lack of sensitivity to the effects of sample size. We were impressed by the persistence of discrepancies between statistical intuition and statistical knowledge, which we observed both in ourselves and in our colleagues."* (Kahneman, 2002)

Their work has provided more solid foundations for behavioural economics and clearly show how bad statistician and probability evaluator the human mind is. To sum up Kahneman and Tversky's concept of bounded rationality suggests that economic agents employ heuristics to make decisions rather than a strict rigid rule of optimization in light of the complexity of the situation, or the inability to process and compute all the possible alternatives due to deliberation costs and the presence of other economic activities. Kahneman's and Tversky's approach based on Herbert Simon's theory of limited information human beings can have and absorb and on the limited ability of computational and cognitive processing of human mind, is widely accepted among the scientific community. Therefore, we can assume that, in many circumstances, decision makers lack the ability and resources to arrive at the optimal solution, and instead apply their rationality only after having greatly simplified the choices available in a pre-processing stage. (Ballester, Hernandez, 2011)

Nevertheless it is important to mention that the term „*bounded rationality*“ cannot be precisely defined, To some extent it is only possible to say, what bounded rationality is not. The theory of bounded rationality does not try to explain superstitious thinking, thinking of mentally disadvantaged people or people, who believe in astrology. In such cases, we speak of

irrationality, not a bounded rationality. The theories of bounded rationality should not be confused with theories of irrational decision-making, since the term „*bounded rationality*“ signifies a type of theory, not its outcomes. (Gigenzer, Selten, 2002)

Also, subjective expected utility maximization, which includes some isolated cognitive constraints does not provide a realistic description of boundedly rational decision-making in a complex environment. The other way around the concept of bounded rationality must not contain optimizing procedures. It can be also very hard to distinguish between „*bounded rationality*“ and automatic routine (learned or inherited actions we do without really thinking about them). (Gigenzer, Selten, 2002)

Even though there is not a complete theory of bounded rationality, we can specify three classes of processes that are typical for the concept of bounded rationality:

1. *Simple search rules (The process of search is modelled on step-by-step procedures, where a piece of information is acquired, or an adjustment is made, and then the process is repeated until it is stopped).*
2. *Simple stopping rules (Search is terminated by simple stopping rules, such as to choose the first object that satisfies an aspiration level. Simple stopping rules do not involve optimization calculations, such as computation of utilities, probabilities etc.)*
3. *Simple decision rules (After search is stopped and a limited amount of information has been acquired, a simple decision rule is applied – for example the choice of an object that is favoured by the most important reason – rather than trying to analyse the pros and cons, their optimal weights and integrate into the final decision).*

(Gigenzer, Selten, 2002)

These step-by-step rules are typical for decision-making, where limited search, knowledge and time occurs and can be observed from different perspectives, since the field of bounded rationality is an interdisciplinary topic and occurs not only in humans, but also in animals, institutions as well as artificial agents. (Gigenzer, Selten, 2002)

1.1.2. Bounded willpower

While bounded rationality reflects the limited cognitive abilities that constrain human's ability to solve problems, bounded willpower emphasizes the fact that people often make choices that

are not in their long-term interest. Humans, even if they know what is best, sometimes fail to choose correctly because of self-control reasons (f.e. eat, drink, smoke, watch movies too much or exercise, work, save money too little). (Mullainathan, Thaler, 2000) Most of humans have the experience of being torn between two selves—a "good" self that has our long-run welfare in mind and a "bad," short-sighted self— and of the "bad" self-winning unless some efforts are made to thwart it. For example, most smokers say they would prefer not to smoke. (Posner, 2002)

One example can be the phenomenon of under-saving for retirement. Even though individuals may be constantly informed about the importance of saving for retirement, it would mean for them to decrease the spending out of current income to put more into a savings scheme. Behavioural psychologists argue that individuals are much more impatient when confronted with a short term decision (about consumption) compared with long term decisions (about saving), where individuals are much more patient, and take a „*I'll start saving for my retirement next year*“ attitude. The fear of losing a certain amount of short term consumption is much greater than the expected benefit of increased consumption in the future, through savings today. (O'Donahue, Rabin, 1999)

In recent years tendency to succumb to short-run impulses at the expense of long-run interests have been transformed into different models in a wide range of economic issues, including consumption and savings decisions, asset pricing, addiction, procrastination, and fiscal policy. Most of this literature either takes as a given that agents are unable to commit to an optimal course of action (f.e. people also often lack a clear conception of their long-term consumption needs, minimizing imagination costs or else emphasizes the external commitment devices that they use to substitute for their deficient willpower: avoiding sources of temptation, holding illiquid assets, signing binding contracts, personal rules². However even implying personal rules for behaving more rationally and effectively in the long-term may give rise to very different kinds of costs, which until now have received surprisingly little attention in economics – like the compulsive or obsessive behaviours (workaholism, avariciousness, anorexia). Many psychologists emphasize the importance of self-monitoring (keeping track of one's actions) for successful self-regulation, as well as the often-devastating effects on a subject's self-view and subsequent feelings when breaking a personal rule. (Benabou, Tirole, 2004)

² the kind of impulse control, which allows a person to resist impulses while he is both attracted by them and able to pursue them

1.1.3. Bounded self-interest

Neoclassical economists stress self-interest as the primary motive, which cannot explain actions like volunteering, charity donations. Also during laboratory experiments subjects systematically often cooperate in public goods games and prisoners dilemma games and turn down offers in „*ultimatum*“ games. (Mullainathan, Thaler, 2000)

In practical not theoretical framework we can see that self-interest is bounded by norms of reciprocity and fairness. When actors perceive a norm of fairness has been violated, they seek to enforce that norm in subsequent interactions with the responsible party. If an actor perceives that someone else has behaved in an unfair way, he or she negatively reciprocates to preserve justice. Quite contrary to homo-economicus people are consistently willing to incur costs to enforce norms of fairness they trust. Therefore, negatively reciprocal behaviour can be more hostile and punitive than the behaviour described by narrow self-interest or opportunism. Bounded self-interest is not only the source of altruism and volunteering. For example, the negative reciprocity mentioned above can destroy greater total value and social welfare than opportunism. Boundedly self-interested actors are not solely concerned with maximizing their material outcomes the way narrowly self-interested actors are. (Bosse, Phillips, 2016)

The bounded self-interest is also the cause of limited self-control. For example, when investors are exposed to a series of “*good news*” stories about investments they tend to over-value the investment, while “*bad news*” stories about other investment would lead to an under-valuation of the investment. They in short over-react to the data and prove that the absolute self-control is hard to be exercised. (De Bondt, Werner, Thaler, 1985)

1.2. Heuristics and cognitive biases, which are important for the research of subjective risk perception on tourism

Heuristics (from Greek “*find*” or “*discover*”) serve as a mechanism for us to cope with the complex environment that surrounds our decisions. Where finding an optimal solution is impossible or impractical, heuristic methods can be used to speed up the process of finding a satisfactory solution. They may be useful at sometimes but can also lead to severe errors other times. Heuristics eventually cause humans to deviate from rational behaviour during the decision-making process.

Cognitive biases are systematic patterns of deviation from norm or rationality in judgment and can be organized into four categories: biases that arise from too much information, not enough meaning, the need to act quickly, and the limits of memory. In the stage of information selection, we are influenced by availability bias and selective perception bias. In the stage of information processing it mostly occurs representativeness bias, conservatism bias, herding bias, and anchoring bias, framing bias, overconfidence bias and optimism bias. When making decision, people get influenced by mental accounting bias and endowment bias and sunk cost bias. And when looking in retrospect and evaluating our decision hindsight bias and prospect theory start to play an important role. (Biran, 2015) The following chapters focus on the cognitive biases, which influence human decision-making in tourism when consumers, policy-makers or operators are exposed to terrorism.

1.2.1. Affect heuristic and influence of terrorism on tourism

An affect means the specific quality of goodness or badness which is experienced as a feeling state (with or without consciousness) and demarcating a positive or negative quality of a stimulus. Affective responses occur very fast and automatically (for example we quickly sense the feelings associated with the stimulus words treasure or hate). The reliance on such feelings can be characterized as the affect heuristic. Shortly affect heuristic describes the way people let their emotions colour their beliefs about the world. (Slovic, Finucane, Peters, MacGragor, 2002)

For example, political affiliation often determines which arguments a person finds persuasive. Emotions also affect the way we perceive risks and benefits of different activities. For example, people tend to dread developing cancer, so they see activities related to cancer as much more dangerous than those linked to less dreaded forms of death, illness, and injury, such as accidents. The affect heuristic is typically used while judging the risks and benefits of something, depending on the positive or negative feelings that people associate with a stimulus. It is the equivalent of "*going with your gut*". Affect also plays a central role in what have come to be known as dual-process theories of thinking, knowing, and information processing. (Chaiken and Trope, 1999; Sloman, 1996)

Although a systematic and careful analysis is certainly important in some decision-making circumstances, reliance on affect and emotion is a quicker, easier, and more efficient way to navigate in a complex, uncertain, and sometimes dangerous world. Many theorists consider

affect to have a direct and primary role in the motivating behaviour. (Slovic, Finucane, Peters, MacGragor, 2002)

One of the most comprehensive and important theoretical accounts of the role of affect in decision making is presented by neurologist Antonio Damasio, whose theory is derived from observations of patients with damage to the ventromedial frontal cortices of the brain. These patients have a healthy left side of the brain responsible for basic intelligence, memory, and capacity for logical thought, but have impaired their ability to feel (or associate affective feelings and emotions with the anticipated consequences of their actions). Close observation of these patients combined with a number of experimental studies led Damasio to argue that this type of brain damage destroys the individual's ability to make rational decisions (decisions that are in his or her best interests). Persons suffering this damage became socially dysfunctional even though they remain intellectually capable of analytical reasoning. When playing gambling games Damasio's patients responded normally to gains and losses when they occurred (as indicated by skin conductance responses immediately after an outcome was experienced) but did not seem to learn to anticipate future outcomes (e.g., they did not produce normal skin conductance responses when contemplating a future choice from a dangerous deck). Shortly, Damasio's patients were unable to show any proper anticipatory responses, even after numerous rounds of the game, which is normally a great opportunity to learn them. (Damasio, 1994; Slovic, Finucane, Peters, MacGragor, 2002)

Damasio therefore comes to the conclusion that our thought and rationality is made from images, broadly construed to include sounds, smells, real or imagined visual impressions, ideas and words. (Damasio, 1994)

When a negative somatic marker is linked to an image of a future outcome, it causes an alarm in human's brain. When a positive marker is associated with the outcome image, it becomes an incentive. Damasio has based on his experiments concluded that somatic markers are important for increasing the accuracy and efficiency of the human decision-making and their absence degrades decision performance. Images connected with terrorism or sunny beach (marked by negative and positive affective feelings) therefore guide human judgment and decision making. (Slovic, Finucane, Peters, MacGragor, 2002)

We can expect that one short video of terrorist attack broadcast on television or on the internet or picture under headline in newspapers creates a strong reaction and stimulates negative marker stimulating a negative incentive to travel to the presented city.

1.2.2. Availability heuristic and influence of terrorism on tourism

According to Tversky and Kahneman's availability heuristic, people have the tendency to judge the number of certain events or risks in the world by the ease with which these events or risks come to their mind. They precisely say: *"There are situations in which people assess the frequency of a class or the probability of an event by the ease with which instances or occurrences can be brought to mind. For example, one may assess the risk of heart attack among middle-aged people by recalling such occurrences among one's acquaintances. Similarly, one may evaluate the probability that a given business venture will fail by imagining various difficulties it could encounter. This judgmental heuristic is called availability. Availability is a useful clue for assessing frequency or probability, because instances of large classes are usually reached better and faster than instances of less frequent classes. However, availability is affected by factors other than frequency and probability. Consequently, the reliance on availability leads predictable biases."* (Kahneman, Tversky 1974)

Availability heuristic means that people overestimate the importance of information that is easy to remember. This process has generally been demonstrated by questioning participants about the relative likelihood of two categories in which instances of the first category are more difficult to recall than instances of the second category. (Fox, 2006) The availability heuristic is also the topic of famous quote of Nobel prize winning social scientist for bounded rationality description and expert of artificial intelligence Herbert Simon, who famously wrote: *"I soon learned that one wins awards mainly for winning awards: an example of what Bob Merton calls the Matthew Effect. It is akin also to the phenomenon known in politics as "availability," or name recognition. Once one becomes sufficiently well known, one's name surfaces automatically as soon as an award committee assembles."* (Simon, 1996)

Robyn Dawes looks at the availability heuristic from even broader perspective: *"This availability to the imagination also creates a particularly striking irrationality, which can be termed with the conjunction fallacy or compound probability fallacy. Often combinations of events or entities are easier to think about than their components, because the combination might make sense whereas the individual component does not. A classic example is that of a*

hypothetical woman names Linda who is said to have been a social activist majoring in philosophy as a college undergraduate. What is the probability that at age thirty she is a bank teller? Subjects judge the probability as very unlikely. But when asked whether she might be a bank teller active in a feminist movement, subjects judge this combination to be more likely than for her to be a bank teller.” (Dawes, 2002)

The availability heuristic is also connected with retrievability bias based on memory structures. People are better at retrieving words from memory using the word's initial letter than a random position like 3. In 1984 Tversky and Kahneman demonstrated the retrievability bias when asking participants to estimate the frequency of seven-letter words that had the letter “n” in the sixth position. Their participants estimated such words to be less common than seven letter words ending in the more memorable “ing” even though this response is incorrect since all seven letter words ending with “ing” also have an “n” in the sixth position. However, because it was easier to recall seven letter words ending with „ing “than „n, “respondents answered incorrectly. (Kahneman, Tversky, 1984)

The availability heuristic is also closely connected with exposure effect, in other words people’s tendency to develop a preference for things because they are familiar with them. The more we are exposed to something the easier it is to recall in our minds. The exposure effect influences us in many ways (brands, stocks, songs, companies). When a holiday package to Tunisia is offered by TV channels in prime time, offered by billboards as well as ads on the internet, we can expect that Tunisia will be a fast association for holidays for a big proportion of population, which was forced to see these messages.

And last but not least availability heuristic is supported by vivid evidence. An impression may be so exciting emotionally that it can even evolve in a pathological delusion. William James had described it as: *“An impression may be so exciting emotionally as to almost leave a scar upon the cerebral tissues; and thus, originates a pathological delusion. For example, “A woman attacked by robbers takes all the men whom she sees, even her own son, for brigands bent on killing her. Another woman sees her child run over by a horse; no amount of reasoning, not even the sight of the living child, will persuade her that he is not killed.” (James, 2013)* Exciting experience from vacation shared on traditional or new media platforms therefore reinforce the availability heuristic making the given image of situation even more important and memorable.

1.2.3. Bandwagon effect and influence of terrorism on tourism

The probability of one person adopting a belief increases based on the number of people who hold that belief. It is also a powerful form of groupthink. Rudiger Schmitt-Beck defines Bandwagon effect as: *„a tendency of people to affiliate with the winning side of a competition. More generally, it can be defined as an inclination of persons to join in their preferences or behaviours what they perceive to be existing or emerging majorities or dominant positions in society. This implies that success breeds further success, and alternatives that appear to enjoy a broad popular backing are likely to gain even stronger support. Sometimes, it is correspondingly claimed that minorities or losing alternatives, because of their weakness, suffer further losses of support. In any case, the notion of bandwagon effects implies the idea that perceived public opinion exhibits the quality of a self-fulfilling prophecy. For public opinion perceptions, information conveyed by the mass media is crucial.”* (Schmitt-Beck, 2016) Reporting on public opinion polls is not the only source of influence on public opinion. For example, if media or politician publicly report terrorism as the biggest threat for society, it will be discussed as the biggest threat also by general population, which makes its decisions also about vacation plans with the potential of influencing the whole tourism industry.

Also, we have to realise that the possibility that a critical mass or bandwagon effect takes place is different in the world of terror and in the world of crime, namely that the key in terrorism is to increase the support for the cause (not the goal) – there is not such a dependence on external audiences in the world of crime. Support for the cause can even increase, if the state decides to impose penalties which are considered too high. We can look at this issue mathematically in the following equation, where “ Z ” represents the ultimate goal like a communist society, islamist society or other religious ideology, “ p ” stands for punishment, “ U ” for the utility of status quo (when status quo decreases the “ Z ” falls), “ q ” shows the probability that extremist methods will succeed (the higher the state’s capacity for repression, the lower the probability that extremist methods will succeed), “ f ” is the function of power which consists of pressure and aspects of the structure of the political system, “ r ” represents the probability of an outcry or bandwagon effect that gains and “ h ” represents the overreaction of state:

$$qU(Z_0 + g) + (1 - q)prU(Z_0 - f + h) + (1 - q)p(1 - r)U(Z_0 - f) + (1 - q)(1 - p)U(Z_0) > U(Z_0 + m)$$

From the pattern above, we can see that the payoff to terrorist methods is larger, the larger the level of “ r ” (which represents the probability of an outcry or bandwagon effect). (Wintrobe, 2006)

According to Schmitt-Beck the bandwagon effect is one of several hypothesized manifestations of impersonal influence which has an impact on people’s beliefs, or behaviours that derive from the persons impressions about the attitudes, beliefs, or behaviours of collectives of anonymous others outside their personal contact sphere. Bandwagon effect is also sometimes described in connotation with “*underdog effect*,” which contrary to the bandwagon effect states a positive impact of perceptions of failure or losing. (Schmitt-Beck, 2016)

1.2.4. Bias Blind Spot and the influence of terrorism on tourism

According to many studies we can see the existence and operation of cognitive and motivational biases much more in others than in themselves. This phenomenon is relevant mainly for naive realism, conflict and misunderstanding. (Pronin, Lin, Ross, 2002)

People also accept all things they hear that they do not have any prior knowledge of or opposition too. It is sort of truth bias. Altogether, it seems like at some point, we just basically believe what we hear (children certainly have this tendency, and it carries to adulthood). We accept it as truth, just like we do the existence of rocks or stones that we can see. Then, this carries with us our whole lives, unless we go to fairly deep strides to undo what we have learned. The result is that people tend to think that their beliefs are factual. And, people think that they are immune to the biases, mostly, that impact others. When people hear something counter to their beliefs, they react not as though someone is sharing a difference of opinion, but is largely denying reality, and the flaw is with them, not us. It is sort of like they are telling us that a clock that is in the room, that we all can see, it isn't there. (Heflick, 2012)

It was found out that believing in being less biased than people’s peers have detrimental consequences on judgments and behaviours, such as accurately judging whether advice is useful. One of the researches said openly: “*Our research found that the extent to which one is blind to her own bias has important consequences for the quality of decision-making. People more prone to think they are less biased than others are less accurate at evaluating their abilities relative to the abilities of others, they listen less to others’ advice, and are less likely to learn from training that would help them make less biased judgments.*” (Scopelliti, Morewedge, McCormick, Min, Lebrecht, Kassam, 2015)

Carey Morewedge states clearly: *“People seem to have no idea how biased they are. Whether a good decision-maker or a bad one, everyone thinks that they are less biased than their peers. This susceptibility to the bias blind spot appears to be pervasive, and is unrelated to people’s intelligence, self-esteem, and actual ability to make unbiased judgments and decisions.”* (Rea, 2015)

In the past when terrorists were depicted as biased and irrational rather than objective and rational, general population showed a greater preference for a military over a diplomatic resolution of a conflict, which is likely to result in a spiral of conflict escalation. Therefore, we can see that assessing individual differences in bias blind spot may help predict the likelihood of interpersonal conflict, misunderstanding, and the need for dispute resolution. (Scopelliti, Morewedge, McCormick, Min, Lebrecht, Kassam, 2015)

The fact that perception of bias can perpetrate a spiral conflict can be illustrated by the experiment Pronin, Kennedy and Butsch from 2006. They have split participants of their experiments into two groups exposing them to two different views of suicide terrorists (exposing them to an alleged New York Times article on the terrorist mind). Half of the subjects of the experiment was exposed to an article, which described that terrorists come to their decisions and actions through an objective analysis and the other half of participants read an article from a different perspective – suggesting that terrorists come to their conclusions via a biased worldview. The results of this experiment clearly show that the way people perceive terrorists enormously influences their opinion about the topic how to combat terrorism. Those, who were by experimenter made to view terrorists as biased considered counterterrorist measures as bombing and ground attacks as beneficial. On the other hand, those, who have because of the read article perceived terrorists as objective found negotiating and diplomacy as beneficial. Viewing our opponent as objective and rational and realizing that bias blind spot is again not owned by some groups and not others but are part of having a human brain that is designed to operate efficiently, makes us more inclined to pursue diplomatic approaches rather than viewing violence as the only option. Therefore, policy consequences of the bias blind spot can be serious. (Shafir, 2012)

Because of blind spot bias even well-informed tourists or experts on security and counterterrorism can have the tendency to overreact, since they also believe to be less biased than others and therefore they can be less accurate about evaluation of their abilities.

1.2.5. Confirmation bias and the influence of terrorism on tourism

Confirmation bias makes people prefer the information that confirms their preconceptions or hypotheses regardless of whether the information is true. The academic studies clearly show that people gather evidence and recall information from memory selectively, and interpret it in a way, which corresponds with their preconceptions. The biases appear as especially strong in emotionally significant issues and for established beliefs. Experiments from the second half of 20. century point to the fact that people are biased towards confirming their already existing beliefs. It is because of a human's tendency to test ideas in a one-sided way – one-sided focus on one possibility, while ignoring all the other alternatives. Confirmation biases lead to overconfidence which can make one stuck in an irrational trap. For example, a consumer who prefers a particular brand and searches for its purchase may be motivated to seek out reviews of the product on the internet that favour that brand. (Nickerson, 1998)

Confirmation bias makes people reinterpret inconvenient evidence to support their views, even if it actually does not. This kind of confirmation bias is particularly strong in an era of high political polarization, where the majority has strong bias in favour of our own party's ideas, and against those associated with the opposition. For example, if population's reaction to terrorist attack in Paris is a strong emotional feeling that it reinforces whatever they previously believed about terrorism, radical Islamism, gun control, or immigration, there is a good chance that they are engaging in confirmation bias rather than objectively considering the evidence. That does not automatically mean their reaction is wrong. But only that we should not have too much confidence in its reliability as a guide to policy-making and counterterrorist measure introduction. There is a long history of dubious and counterproductive policies enacted as a consequence of high-profile tragedies connected with terrorism. One example can be the “*zero tolerance*” policies adopted in many schools in the aftermath of the 1999 Columbine shootings, which have done little to reduce crime, and much to harm school children. (Somin, 2016)

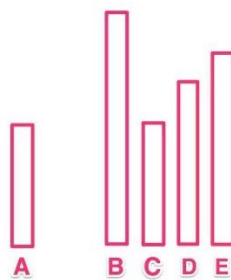
Confirmation bias can be also related to unmotivated processes, including primacy effects and anchoring, evident in a reliance on information that is encountered early in a process (Nickerson, 1998). For example, when tourists once hear that Paris is dangerous because of terrorism they will trust with the highest probability this information and later selectively choose further information on this topic to keep the perception of Paris as a dangerous place.

Confirmation bias of general population is also supported by media industry, which informs about terrorism. Confirmation bias enters the system of media industry at two points. It motivates some readers to click on certain kinds of stories, and it encourages journalists to produce those kinds of stories even if they're misleading. It's useful to keep in mind that confirmation bias is present at work of politicians, experts, as well as the general public. (Wright, 2012)

1.2.6. Conformity and the influence of terrorism on tourism

Conformity means there is the tendency of people to conform with the rest of the group or whole society. This bias was famously proven by social-psychology expert Solomon Ash, who has asked one subject and several fake subjects (who had cooperated with Solomon Ash as the experimenter) which of lines B, C, D, and E is as long as line A. In case all the fake subjects said that D is the same length as A, 75% of real subjects have agreed with this objectively false. (BusinessInsider, 2015) Subjects were very upset by the discrepancy between their perceptions and those of others and the majority has decided to conform. Only 29% of his subjects refused to join fake participants and have responded with „C“ instead of „D“. This research has started a huge boom of gave rise to decades of research on conformity and has given a new view on human behaviour: *„Behaviour is not a response to the world as it is, but to the world as perceived.“* To picture Solomon Ash's research better, we can look at his experimental question in first picture. (Solomon Ash Centre, 2008)

Picture 1 - Conformity experiment of Salomon Ash



Source: Business Insider, 2015

According to Ash people conform for two main reasons: because they want to fit in with the group (normative influence) and because they believe the group is better informed than they are (informational influence). A common response to seeing people behaving foolishly or wrongly under social pressure is to think *“I would never do that”*, and yet everyone conforms

to social influences to a high degree, and most people will show astonishing levels of conformance in an experimental setting. Researchers investigating cultural evolution have shown that in computer simulations of cultural evolution, conformity bias is necessary for cumulative cultural evolution. On the other hand, there are lots of critics of Solomon Ash's experiments. One limitation of this study was that all the participants were male students who all belonged to the same age group (lacking population validity and therefore its results cannot be generalized to females or older groups of people.) (McLeod, 2008)

For his experiment Ash also used an artificial task to measure conformity - judging line lengths, task people are not normally asked to do. Therefore, this study has also a low ecological validity and the results cannot be generalized to other real-life situations of conformity. Some critics even say that the high levels of conformity found by Asch were a reflection of American, 1950's culture and tells us more about the historical and cultural climate of the USA in the 1950's rather than about the phenomena of conformity. Studies from the 1970's and 1980's show lower conformity rates (Perrin, Spencer, 1980). Researchers from 1990 have concluded that the Asch effect appears to be an unpredictable phenomenon rather than a stable tendency of human behaviour. (Lalancette, Standing, 1990) When replicating Ash's experiment in 1995 in Portugal, the conformity level was not as high as in Ash's experiment, on the other hand participants (also females and minority groups represented) reported considerable distress under the group pressure. (Neto, 1995)

Regarding the influence of terrorism in tourism, conformity makes people, who would (individually not knowing opinion of general population) disagree with the mainstream public discourse (about the necessity of armed guards in European streets, about the level of safety of Paris after terrorist attack) conform to mainstream public discourse and for example decide not to travel with their family to a destination after terrorist attack in order not to be perceived as gamblers with lives of their relatives.

1.2.7. Curse of knowledge and the influence of terrorism on tourism

Curse of knowledge means that even if there is a professional person, who fully understands risks, uncertainties and problems connected with certain events, it is hard for him/her to transfer this knowledge and explain it to a common man. Biases caused because of curse of knowledge have been famously examined in Stanford experiments of Elizabeth Newton in 1990. Newton organized a simple game in which participants were assigned to one of two roles: "*tapper*" or

“*listener.*” Each tapper was asked to pick a well-known song and tap out the rhythm on a table. The listener’s job was to guess correctly the tapped out the song. The success ratio of participants was 2, 5 %. But when Newton asked the tappers to predict the success (that the listener will guess the tapped-out song correctly), she found out the participants thought there is 50 % chance to have it correctly. The explanation for such a discrepancy is the fact that when a tapper taps his song it is impossible for her/him to avoid hearing the tune playing along to her/his taps and therefore do not realize how hard such a task is. The curse of knowledge simplifies the complex reality. (Heath, Heath, 2006)

According to Daniel Decker the curse of knowledge points out to the facts that we can often be so close to something that we fail to see it in the way that someone without our knowledge does: *“We can assume someone else understands it, because we do, but they are actually completely lost; We can use wording and terminology that makes since to those within our circle but that has absolutely no meaning to the rest of the world around us; We can trick ourselves into thinking that what worked last year will work this year but in reality we might just be blind to the shift that needs to occur since we’re stuck in what was instead of what is and what’s to come. On a broader sense if we think we already know then we’re closing ourselves off to the possibilities of what could be.”* (Decker, 2010)

We generally consider people, who are more informed about a topic, to be less dogmatic because they are able to better realize the limits of their own understanding (in other words come to a wise conclusion of Socrates: *“knowing you know nothing.”*) Yet some people with decades of immersion in an area of expertise also possess unrealistically inflated senses of their own knowledge. According to other research on curse of expertise both insight and illusion into one’s explanatory competence can co-exist and occur in systematic ways related to the kind of expertise involved. In 2015 researchers have found out that expertise increases confidence in the ability to explain a wide variety of phenomena. However, this confidence is unwarranted - after actually offering full explanations, people are surprised by the limitations in their understanding. For familiar topics, miscalibration is moderated by education; more educated people are accurate in their self-assessments. But when those with more education consider topics related to their area of concentrated study (college major), they also display an illusion of understanding. This phenomenon happens because of a failure to recognize the amount of detailed information that had been forgotten. Expertise can sometimes lead to accurate self-knowledge, and sometimes create illusions of competence in different fields of human activities – also in tourism and security services. (Fisher, Keil, 2015)

1.2.8. Empathy gap and the influence of terrorism on tourism

People in one state of mind (carefree and relaxed) fail to understand people in another state of mind (scared or anxious). It is because an affect has the capacity to transform human beings profoundly. In different affective states we are different people with a different functioning of our perception, attention, inference, learning, memory, goal choice, physiology, reflexes, self-concept and so on. Such a transformation caused by an affect have a huge influence on decision-making. Affect can also make people lose control of their own behaviour or lead to a self-destructive behaviour. (Lowenstein, 2015)

There are two sorts of empathy gaps. In “*hot-to-cold empathy gap*” people, who are in the affective state of mind tend to believe that they are behaving more dispassionately than they actually are. Underestimating the current presence of transient effect causes people to overestimate their current preferences. This is the reason, why people behave on short-termly driven preferences. On the other hand, in the “*cold-to warm empathy gap*” people are not affectively aroused and have little appreciation for their own feelings and hot state behaviour. When not being hungry, jealous, sleepy, it is hard to picture oneself in such circumstances. Therefore, people in cold states tend to underestimate the motivational force for their future hot states and also for hot states of other people. (Lowenstein, 2015)

The empathy gap can be seen also for people from different background or culture. For example, the reaction on terrorist attacks. There were three times more deaths in Paris, France than in Beirut, Lebanon. But Americans are much more likely to have been to Paris than to Beirut—or to Cairo, or to Nairobi, or to any number of cities that have experienced bloody attacks. If they haven’t travelled to the French capital themselves, they’ve likely known someone, who has been there, or have definitely seen movies and TV shows that take place in Paris. And even though there were three times less victims of terror in Paris than in Beirut, Americans are more likely to relate more closely to violence in Paris than in other parts of the world. (Graham, 2015)

As Liebermann from Human Development Project says about the terrorism empathy gap: „*When a bomb rips through a crowded transit hub in Ankara, we react as if this is to be expected. Meanwhile, when scores die in Paris due to terrorism, we react with outrage, scorn and deep empathy for the French people. We react with deep empathy for France because most of our Western coverage of France is positive. We’ve all eaten French food, we’ve likely enjoyed a French film or two and it’s more than likely that if we’ve travelled abroad, we’ve*

been to Paris or plan to visit one day. We can imagine ourselves in the shoes of those French citizens and travellers there at the time; we can relate to them because we have some understanding of their identity or some form of personal relationship to their culture or country. In popular culture, the MENA character (Middle East and North Africa region) is usually depicted as a terrorist or political operative. MENA settings are often used in political thrillers or espionage dramas as exotic locales, framing the people living there as third world dwellers alongside our high tech and mainly white heroes. When MENA is presented in a positive light, the story often takes place centuries ago... and still stars White people in the roles of ethnic, non-White natives. So, when a bomb rips through a crowded transit hub in Ankara or Beirut, we react as if this is to be expected. “ (Liebermann, 2016)

1.2.9. Framing and the influence of terrorism on tourism

Because of framing the perception of decision problems and the evaluation of probabilities and outcomes produce predictable shifts of preference when the same problem is framed in different ways. According to the definition of Tversky and Kahneman from 1981: *“The frame that a decision-maker adopts is controlled partly by the formulation of the problem and partly by the norms, habits, and personal characteristics of the decision-maker.* “(Tversky, Kahneman, 1981)

A frame is a story line or idea, which is created by selecting some aspects of a perceived reality and making them more salient in a communicating in such a way as to promote a particular problem definition, causal interpretation, moral evaluation or treatment recommendation. In short, frames may guide how people understand the world and form judgments and framing of terrorism through multiple, intersecting, discursive systems impacts radically how we make sense of the world. (Brewer, Graf, Willnat, 2003; Campbell, 2017)

There are two psychological mechanisms for explaining framing effects. Some argue that framing works through an accessibility-driven process resulting in the situation, when frames influence the accessibility of associations in memory, thereby increasing the likelihood that audience members will follow those associations when thinking about the issue. Others argue that framing works through a more thoughtful process than the accessibility model suggests. Previous experiments have showed that frames really affect the way people decide and make a judgement. Since citizens heavily depend on the mass media for information about the world, media to play an important role in framing security of foreign destinations for the public. These

news frames come in many forms and influence public opinion in many different ways. For example, a news story could frame a particular country as a supporter of terrorism, thereby suggesting that if one is from country, which supports a War on Terrorism, one should evaluate that nation negatively as a tourist destination, one is not welcome to visit. (Brewer, Graf, Willnat, 2003)

Campbell describes how framing influences counterterrorist measures: *„These framings come to be institutionalized in the form of anti-terror policies and practices. As an example, the War on Terrorism slogan and the accompanying Orientalist imagery of the Muslim terrorist, was integral to lending legitimacy to international military action, the detentions in Guantanamo Bay, the use of torture, and more, post-9/11. Prevailing framings—dehumanizing and devoid of real context—were the scaffolding on which such policies and practices could be built. Indeed, undergirding the ever-increasing nexus of authoritarian, repressive counter-terrorism measures, is a cultural repertoire of Orientalist meanings that provide the cultural conditions necessary for us to consent to increasing social control. The material and often-brutal consequences of these policies are felt most keenly by those who are caught in the expansive, amorphous category of “Other.” This suffering is largely out of the frame, and instead, we are invited to think of the state response as a logical and necessary step to ensure our safety.“* (Campbell, 2017)

1.2.10. Herd behaviour and the influence of terrorism on tourism

The term "herd behaviour" as it applies to humans comes from Dr. Wilfred Trotter's, who has written a book *“Instincts of the Herd in Peace and War”* in 1914. Herd behaviour in human society can be observed for example on the stock market. If a few people begin to sell a certain type of stock, it may lead to a mass selling and panic, and make the stock market open to crashing. It is typical for herd not to be interested in protection of the group. Instead, self-interest is a primary motivator. Herding behaviour is typical for difficult or uncertain times (which can be caused by a perception of serious threat of one's security). (Badelley, 2015)

Herd behaviour heuristic has very similar explanations as the conformity heuristics. Herding, fads and customs can also be explained in terms of reputation building. When people care about their status, conformity helps them to maintain status, while departing from social norms carries the risk of impaired status. According to Baddeley: *„The propensity to herd is strong and reflects social responses that were hard-wired during evolution and reinforced via childhood*

conditioning.... Scientific evidence can and should be interpreted keeping these biases in mind.” (Badelley, 2015)

The connection between terrorism and herding instinct is clearly described by Scott Stewart: *“After the attacks over the past six months on airports in Brussels and Istanbul and on a beachfront in Nice, people are understandably on edge. Some 40 people were hurt on the evening of Aug. 14 in the French resort town of Juan-les-Pins when vacationers, mistaking firecrackers for gunshots, caused a stampede in their effort to flee what they thought was a terrorist attack. An ocean away on the same night, police evacuated two terminals at John F. Kennedy International Airport in response to reports of shots fired. The Federal Aviation Administration implemented a ground stop at the airport, diverting flights and causing significant travel delays. Within a few hours, the Port Authority of New York and New Jersey announced that it had found no evidence of gunfire in the terminal, and the airport returned to normal operations. But in the interim, thousands of passengers had been forced out of terminal buildings and then congregated in large crowds. Both incidents turned out to be false alarms, but they illustrate the ease of inducing panic in crowds of people and how disruptive that panic can be. Perhaps more ominously, the events demonstrate how easily victims might be herded toward an attack zone — especially if security protocols drive people from relatively safe zones into areas where they are more vulnerable.” (Stewart, 2016)*

1.2.11. Hindsight bias and the influence of terrorism on tourism

After a certain event happens, many people have the feeling of having intuition or having known all along how the event or case is were going to turn out. The classic experiment on hindsight bias is from 1970s, when formed head of the United States, Richard Nixon was about to depart for trips to communist block - China and the Soviet Union. Researchers decided to take advantage of that event and asked the participants to predict various outcomes of Nixon’s journey. When Richard Nixon back in homeland after the trip, participants were asked again and in this case were motivated to recall the probabilities that had been initially assigned to each outcome. Results clearly show that participants thought they had rated the events unlikely if the event had not occurred and remembered having rated the events likely if the event had occurred. (Fishhoff, 2007) It is no wonder that after an unpredictable event as terrorist attack happens, population has the tendency to blame the government since the common man has the feeling that had known something like that could happen.

When people try to recall past beliefs, their view is unwittingly contaminated by subsequently acquired ones. As a result, they exaggerate the extent to which they knew all along what they actually learned only later. Few studies have used long periods between prediction and recall, presumably because of the logistical difficulty of finding respondents the second time. Anyway, these few studies have found that the longer the time period, the greater should be reliance on gist memory, enhancing its natural preferential status. An average bias of approximately 10 % difference between actual predictions (in foresight) and recalled ones (in hindsight). Hindsight bias can make people unduly critical of themselves and their leaders— feeling remorse and blame while underestimating how little was known (Fishhoff, Gonzalez, Lerner, Small, 2012)

That is also one of the reasons why for example Czech Ministry of Interior preventively invest public resources into armed police patrols in the city centres of bigger cities. The blame for terrorist attacks (which could be prevented by the presence of soldiers in streets only with the lowest probabilities) would be in case of terrorist attack definitely worse than current blame for spending exaggerated amount of resources on counterterrorism. From the political perspective is the visible presence of armed soldiers and police officers in Prague and other bigger Czech cities sort of insurance against public remorse.

1.2.12. Illusion of control and the influence of terrorism on tourism

Illusion of control is the sign of human's tendency for people to overestimate their ability to control events. The traditional approach to the illusion of control has been framed in motivational terms. From this perspective, people's judgments of control are influenced by subjective needs related with the maintenance and enhancement of the self-esteem. One of those is the so-called need for control, because the sense of having control benefits well-being. The illusion of control is also seen as a self-esteem enhancing mechanism that allows people to take credit for successful actions and to deny responsibility for failures or negative consequences. (Yarritu, Matute, Vadillo, 2013)

In research of Alloy and Abramson from 1979 it found that depressed and non-depressed people differed in their ability to detect the absence of control. Nondepressed participants showed an illusion of control when they judged the control they exerted over uncontrollable outcomes. (Alloy, Abramson, 1979) Depressed participants showed an accurate perception of their absence of control. It is usually interpreted as a lack of motivation of depressive

participants to make use of the self-service mechanism that leads to the illusion of control. (Yarritu, Matute, Vadillo, 2013)

New researches suggest that leaders and commanders of nations active in war conflict regularly underestimate the costs in time, money, and human lives required for winning battles and the war itself. Association for Psychological Science for example states: *“Power can influence human reasoning causing individuals to think they have more personal control over outcomes than they, in fact, do. During experiments there was no difference, whether the participant recalled power by an experience of holding power or it was manipulated by randomly assigning participants to Manager-Subordinate roles. At the end participants in the experiment were persuaded to have a control over outcomes that were beyond the reach of the individual. Another important aspect of the illusion of control is the fact, that having the feeling of being able to control a chance result, leads to unrealistic optimism and inflated self-esteem to prevent or fight terrorism.”* (Association for Psychological Science, 2009)

People exhibit the illusion of control because they also strive for controlling chance events and have the desire to avoid anxiety from the perception of having no control. These motivations may also apply to living with frequent terrorism. Research has shown that high levels of desire for control often produce positive outcomes, such as elevating subjective well-being and assisting in psychological adjustment. Desire for control also leads individuals to engage in attributions that may distort their view of events and others. From previous researches we know that consumers who perceive some control over terrorist attacks, because of their own skill and comprehension of past events, make only minor and mainly strategic adjustments of their consumer behaviour and their lives are mostly unaffected by terrorism concerns. (We can say that participants who believe that their actions can control their likelihood of being victims can be biased in the illusion of control theory.) In contrast, participants of the study who felt that victimhood was not controllable were much more influenced by terrorist attacks and engaged in avoidance behaviours, routinely foregoing previous outing preferences in favour of staying home and avoiding public contexts in which terror attacks have been concentrated. (Herzenstein, Horsky, Posavac, 2015)

1.2.13. Irrational escalation and the influence of terrorism on tourism

Irrational escalation is present when people make irrational choices based on the past rational decisions leading them to the paradoxical tendency of people to invest more and more energy

in a course of action even as the calamitous consequences of that course of action become increasingly obvious. (McGough, 2015) The term is frequently used in psychology, philosophy, economics, and game theory. It has often the form of escalation of commitment, where people increase their investment in a decision despite new evidence suggesting that the decision was probably wrong. The wasted investment which results from the escalation of commitment may include money and time (in case of investing huge amount of resources to protect local population and tourists from terrorist attacks in Europe) and also human lives (in case of a war conflicts). (Staw, 1976)

For example, the terrorist crime on World Trade Centre in 11 September 2001 generated deep fears among western (and especially American) publics. Civilian airliners started to be perceived as weapons of conspicuous destruction, subsequent anthrax scare drew attention to the dangers of chemical and biological warfare agents in the hands of non-state actors bent solely on devastation. The fear that Iraqi dictator Saddam Hussein possessed nuclear weapons ready to launch on a hair trigger evoked even deeper fears. The ideologies of al-Qaida militants made Western population even more afraid. Fortunately, those fears are massively disproportionate to the actual threats. Even though it is more likely as a US citizen to drown in your bathtub (a one in 800,000 chance) than die from terrorism (a one in 3.8 million chance), the government of the United States of America have spent several trillions of dollars on the fight of terrorism, providing one of the best examples of irrational escalation. Holden has said it directly: *“However, it is crucial to consider that the “war on terror” might have been a horrendous error. Such an argument runs like this: the attempt to impose a military solution on complicated political problems was simplified thinking with a false promise of total national safety. In turn, the militarisation of the response – as seen in the massive expansion of military deployments, arms spending, and the license to do anything in pursuit of national security – has in reality worsened the problem of armed violence in the world.”* (Holden, 2017) The effect of irrational escalation on public policy is described in chapter six, which deal with risk perception of terrorism from the perspective of public sector.

1.2.14. Overconfidence and the influence of terrorism on tourism

Overconfidence serves as a term for the fact that humans are often too confident about their abilities. The overconfidence effect does not deal with whether single estimates are correct or not. Rather, it measures the difference between what people really know and what they think they know. (Taleb, 2011)

It is quite interesting that especially experts are more prone to this bias than a common man. When making a prediction a layperson is usually more open to doubts. Expert is usually not having so many doubts and is quite often much more convinced about his or her truth. The effect of overconfidence can be seen not only in political or economic predictions, but also in everyday life's situations. 84 percent of Frenchmen estimate that they are above-average lovers. 93 percent of the U. S. students estimated to be above average drivers. And 68 percent of the faculty at the University of Nebraska rated themselves in the top 25 percent for teaching ability. The effect of overconfidence is stronger in men, since women tend not to overestimate their knowledge and abilities as much. Not only optimists, but even self-proclaimed pessimists overrate themselves, just less extremely. (Dobelli, 2013) The same overconfidence can play a role for experts on security issues, as well as experts on tourism. They may have the tendency to overreact to a certain situation (as for example terrorist attacks) not really taking seriously opposing views or pleas of others. We know that all population, from managers, planners, to people working in academia often ignore statistical information about how long it will take them to complete large projects rather relying on their own expertise and insight leading to unrealistic plans, unexpected delays, higher costs and disappointing outcomes. (Kahneman, Lovallo, 1993)

Previous studies have also shown that overconfidence depends on context and task. For example, absolute overconfidence appears to be greatest during difficult tasks, whereas relative overconfidence appears to be greatest during easy tasks. Overconfidence is induced if the reason for joy (an unexpected gift) was unrelated to the judgment task and if participants were not made specifically aware of this mood manipulation. It was also observed that participants of experiments have well-calibrated judgments when being in their resting mood. Being aware of one's positive mood and the reason for that mood may effectively reduce overconfidence for a short period. (Koellinger, Treffers, 2015) Therefore the personality, gender and current mood has a huge influence on managers in tourism, as well as security policy makers when deciding about appropriate terrorist countermeasures.

1.2.15. Placebo effect and the influence of terrorism on tourism

Placebo effect means that something will have a certain impact by believing it will have an impact. The term is usually used in connection with a "*fake pill*." The placebo effect has been shown to account for between 30 to 40 per cent of the efficacy of active medication for a wide range of pathologies and is probably a powerful agent of cure in other therapies, for example

surgery. (Price, 2008) From the point of view of security it can also demonstrate a situation on the streets when citizens can feel more secure when walking along soldiers with machine guns, which are not charged, but still provide the desired sense of security. The same placebo effect applies for security guards, who are responsible for public safety in front of tourist facilities, train stations etc. These security guards often have cudgel and chains to arouse respect but are not really allowed to use them for establishing security in their work routine.

1.2.16. Priming and the influence of terrorism on tourism

Priming is a psychological concept involving implicit memory, in which memory consists of an organized network of concepts (or nodes) that are linked through associative pathways. In this associative network model, the activation of concepts follows the principle of spreading activation, in other words once one node is activated, activation spreads along the associative pathways to other nodes in the mental network. (Brewer, Graf, Willnat, 2012)

The most important category of priming in behavioural economics is conceptual priming. Conceptual priming describes how ideas will prompt other ideas with similar meanings, leading to the situation that if you're introduced to an idea, you'll more readily identify related ideas or ideas you associate with the given idea. For example, seeing water can easily activate the word drink. The soldier in European streets could in tourists easily activate the connection with danger and terrorism. Previous studies have found out that participants primed with terrorism desire significantly more control compared with participants primed with thoughts of death unrelated to terrorism. Participants' gender and age did not affect these results. These findings about priming confirm the desire for a sense of control when one has to live in fear of terrorism. (Herzenstein, Horsky, Posavac, 2015)

Regarding the perception of tourist destinations most people are heavily dependent on the mass media for information about international affairs and problems in different part of the world. As a result, the media can play an important role in shaping mass perceptions of other nations and security in different countries. Experiments from 1987 show that news coverage of an issue can prime viewers to give that issue more weight in their overall evaluations of public officials and political candidates. Priming the shortcut strategy for ordinary people, when facing complex political issues or events – in these circumstances people do not base their judgments on all of the relevant knowledge stored in their memories. Since people typically depend on the

mass media to inform themselves about political events, the accessibility of such information is determined partly by which stories the media choose to cover. (Brewer, Graf, Willnat, 2012)

The process of activation may expand from one political concept to other, indirectly associated concepts, and therefore news stories about issues on the domestic agenda may affect how citizens evaluate foreign nations. For example, a story about domestic terrorism may prime the issue of terrorism in citizens' memories, thereby heightening the impact of attitudes about terrorism on judgments of foreign tourist destinations previously associated with terrorism. News stories may activate contradictory associations and thus fail to guide citizens' judgments in any consistent direction when informing picturing security in a tourist destination. (Brewer, Graf, Willnat, 2012)

1.2.17. Scope insensitivity and the influence of terrorism on tourism

Scope insensitivity explain the situation when willingness to pay for something does not correlate with the scale of the outcome. For example, when three groups of subjects were asked how much they would pay to save 2,000, 20,000 or 200,000 migrating birds, these groups respectively answered \$80, \$78, and \$88. From this research we can see that the amount of saved birds had little effect on willingness to pay. Further experiments also showed that there is almost no difference in the amount of money people are willing to pay to clean up all polluted lakes in Ontario and one polluted lakes in a particular region of Ontario.

This scope insensitivity is not typical only when asking about cleaning lakes and saving birds, but also when saving human lives. For example, a proposed health program aimed at saving Rwandan refugees garnered much bigger support when it promised to save 4,500 lives in a camp of 11,000 refugees, rather than 4,500 lives in a camp of 250,000 refugees. The reason for this inconsistency is that human perception of human deaths follows Weber's Law – people need to see a noticeable difference in the fraction of the whole. (Yudkowsky, 2007) The same rule could be applied for the security in tourism. Institutions may be more willing to invest tremendous amount of money into decreasing the risk of terrorism close to zero while completely neglecting other risks, which would be more cost-life effective, but would not decrease the number of victims by a significant proportion.

1.2.18. Selective attention and the influence of terrorism on tourism

Selective attention influences the way we perceive the world and can be described as the act of focusing on a particular object for a period of time while simultaneously ignoring irrelevant information that is also occurring. This kind of situations are happening regularly, since humans do not have the capacity to absorb all the information and therefore we use selective attention to select what stimuli are important as events occur. Selective attention is the result of the storing memories. (Chabris, Simons, 1999)

The degree of selective attention varies depending on the person and their ability to focus or concentrate; it's also affected by distractions in the environment. Selective attention may be a conscious effort, but it can occur subconsciously as well. The famous experiment of The Invisible Gorilla proves that humans are missing a lot of what goes on around them, and that humans have no idea that they are missing so much. (Chabris, Simons, 1999) In context of the influence of terrorism on tourism it could happen that policy-makers would focus such a huge attention to terrorism that they could completely miss other serious threats, which do not attract so much attention.

Media and therefore also general population has also the tendency to focus more on terrorist attacks which take place in the North America or Western Europe (even though they do not happen so often here as in other regions). When such an attack happens, everyone is well informed about the tragedy, even public which does not normally follows news or traditional media, since shortly after such a tragedy Facebook user have the tendency to apply an overlay of the Belgian/British/French flag over their profile pictures in solidarity, while iconic landmarks in respective national colours. People speak in this regard not only of selective attention, but also of selective sympathy since even though in for example there were bloody terrorist attack in different parts of the globe during March 2016 – 65 victims in Lahore, Pakistan, 5 victims in Istanbul, Turkey, 31 victims in Brussels, Belgium, 41 victims in Iskanderia, Iraq, 22 victims in Maidiguri, Nigeria, 16 victims in Peshavar, Pakistan, 37 victims in Ankara, Turkey and 16 victims in Ivory Coast – it was mainly global (selective) sympathy with Belgium, which was covered on social media. (Maketab, 2016)

Terrorist attacks in Western countries are given far more media coverage compared to ones in non-Western countries and also differ in the way they are reported about. When comparing news information about terrorist attacks caused by so called Islamic State in Beirut (November

the 12th, 2015), Baghdad (November the 13th 2015) and Paris (November the 13th 2015), terror incidents in non-Western countries were often written in a detached style, while if Westerners were involved, the coverage would be providing a more sensitive perspective. To provide a statistical view on the day of each respective attack, there were 392 articles online about the attack in Baghdad and 1,292 articles about the attack in Beirut and on the day of the Paris attack, there were over 21,000 articles. (Maketab, 2016)

1.2.19. Zero-risk bias and the influence of terrorism on tourism

Zero-risk bias points to the fact that people love certainty – even in circumstances when it is counter-productive. Humans often prefer the absolute certainty of a smaller benefit to a larger benefit of less certainty. For example, people tend to prefer approaches that eliminate some risks completely, as opposed to approaches that reduce all risks, even though the second option would produce a greater overall decrease in risk. From the risk perception and security perspective we can say that humans prefer large decreases in small risks (terrorism) to small decreases in large ones (heart-attack deaths), even when the overall benefit of the latter is vastly superior to the former. Such a discrepancy is often triggered under conditions of uncertainty. (Psyfi Blog, 2014) In one study from the decision lab we can get a precise example of experiment, which proves the existence of zero-risk bias: *„Subjects were told of two hazardous sites that caused a certain amount of cancer each year. They were given options of how many cases of cancer they could reduce. One option eliminated all cases from one site, while the other eliminate more total cases, but failed to eliminate all cases from either site. 42 % of people chose the option that eliminated less total cases.“* (DecisionLab, 2018)

This bias is very similar to the bias of scope insensitivity meaning that institutions may be more willing to invest tremendous amount of money into decreasing the risk of terrorism close to zero while completely neglecting other risks, which would be more cost-life effective, but would not decrease the number of victims close to number zero. One example is the comparison from the United States of America, where the federal budget for the Transportation Security Administration (people responsible for the airport security) in 2012 was \$7.8 billion. By contrast, the Center for Disease Control and Prevention (CDCP), whose mandate covers just about every risk to human health, including infectious disease, non-communicable diseases like cancer, and even accidental death, received just \$6.1 billion. Even though sending more money to the CDCP and less money to Airport security departments would look rational (the top five causes of death in the US are (in order) heart disease, cancer, respiratory diseases (like

pneumonia), stroke and accidents. The infectious and non-communicable diseases on this list alone account for about 1.5 million deaths in 2010, meaning a 2 % reduction of these diseases would save thirty thousand people per year, almost ten times the number that would die from terrorism in this scenario of repeated attack on World Trade Centre in September 2001), because of the zero-risk principle the majority of population and the majority of politicians will not be willing to behave according to this rational calculation. (Bonham, 2013)

2. Terrorism and responses to terrorism

Terrorism and the threat of terrorism have a central place in collective consciousness of our society. New geopolitical realities suggest that terrorism will most likely have an increasingly prominent place in public discussion. Given the intensity of worry concerning terrorism, it is reasonable to assume that behavioural manifestations may occur when tourists perceive terror threats. Concerns about terror underscores the importance of understanding perceptions of the risks posed by terrorism, since terror has a huge effect on our reasoning and thinking.

Since the attack on the World Trade Centre in September 2001, there have been nearly 5000 terrorist attacks worldwide, four times more than in the period before the attack on the World Trade Centre in September 2001. Even though many Western countries have experienced terrorist activity, the number of incidents in this region was relatively low compared to the rest of the world. But even these rare incidents had a huge impact on subjective risk perception of terrorism of citizens of the Western world.

2.1. Terrorism

There has been a multitude of definitions used for terrorism. Courts and police agencies require definitions that permit prosecution and incarceration; political leaders and people working in academia have often quite a different perspective. Generally we can say that terrorism consists of six major elements a) the use of violence; b) by an organized group; c) to achieve political objectives; d) The violence is directed against a target audience that extends beyond the immediate victims, who are often innocent citizens; e) Further while a government can be either the perpetrator of violence or the target, it is considered an act of terrorism only if one or both actors is not a government; f) Last but not least terrorism is the weapon of the weaker actor. This definition does not include kidnappings for financial purposes and other acts of individuals even if carried out with political purposes. (Lutz, 2010)

United Nations Security Council Resolution 1566 has defined terrorism as: *„Criminal acts, including against civilians, committed with the intent to cause death or serious bodily injury, or taking of hostages, with the purpose to provoke a state of terror in the general public or in a group of persons or particular persons, intimidate a population or compel a government or an international organization to do or to abstain from doing any act, which constitute offences within the scope of and as defined in the international conventions and protocols relating to terrorism, are under no circumstances justifiable by considerations of a political,*

philosophical, ideological, racial, ethnic, religious or other similar nature.“ (United Nations, 2004)

In Article 1 of the *Framework Decision on Combating Terrorism of the European Union* we can see a different definition regarding to: *„given their nature or context, may seriously damage a country or an international organisation where committed with the aim of: seriously intimidating a population; or unduly compelling a Government or international organisation to perform or abstain from performing any act; or seriously destabilising or destroying the fundamental political, constitutional, economic or social structures of a country or an international organisation.*“ (Official Journal of the European Communities, 2002)

Walter Laqueur has written for Foreign Affairs: *„Terrorism has been defined as the substate application of violence or threatened violence intended to sow panic in a society, to weaken or even overthrow the incumbents, and to bring about political change. It shades on occasion into guerrilla warfare (although unlike guerrillas, terrorists are unable or unwilling to take or hold territory) and even a substitute for war between states. In its long history terrorism has appeared in many guises; today society faces not one terrorism but many terrorism.* “ (Laqueur, Foreign Affairs 1996)

Terrorism has been present in the world for centuries. International terrorist incidents are considered to be actions where indigenous terrorists attack against a target in another country (for example 9/11 attacks or IRA attacks against British soldiers in Germany). Domestic terrorism does not usually generate the same amount of fear, anxiety and media attention as international terrorism, even though domestic terrorism is the most prevalent form of terrorism. The greatest amount of terrorist attacks (domestic as well as international) steadily occurs in the Middle East, various parts of Asia and sometimes in Western Europe.

The variety of techniques used by terrorists include bombings, kidnappings, assaults including assassinations, takeovers of buildings and planes and ships, invariably with hostages. One of the deadly techniques that has been used are also suicide attacks, a technique known from 11th

century because of assassins³. In modern history were suicide bombers commonly known because of Tamil Tigers⁴, who tried to use this technique to influence the politics in Sri Lanka. Other common fear of governments is that terrorists will use the weapons of mass destruction – biological, chemical, nuclear or radiological to cause more casualties. There have been only few attacks of this kind to this date. One of the rare examples is the Japanese cult Aum Shinrikyo⁵, which fortunately unsuccessfully attempted to use nerve gas in the Tokyo subway. The causes of terrorism are disconnection and frustration with the inability to bring about what they see as necessary changes that they resort to violence. The terrorists have the perception that they are discriminated by the political system and that they are treated unfairly. Terrorists view themselves as dissidents, because dissidents and potential dissidents can be jailed, suspects can be tortured, families can be held hostage, and convictions can be guaranteed in the courts. (Lutz, 2010)

Terrorism is rational political choice and terrorist groups have a consistent set of values, beliefs and images of the external environment making the goals and ideals of terrorist organization essentially collective and coherent. Terrorist groups have a defined structure and protocol to make collective decisions, functionally differentiated roles for members of its structure, recognized leaders in position of formal authority, collective goals as well as collective responsibility for their action. (Gunaratne, Oreg, 2015)

2.1.1. al-Qaeda and Islamic State (IS)

The synonym of terrorism is recently IS and al-Qaeda, which both provide the most prominent contemporary examples of a terrorist groups, which are organized as a network. Before the

³ Assassins were a warlike sect, hidden away in mountain fortresses and obeying a mysterious leader known as the Old Man of the Mountain. Over the next two centuries, returning crusaders and travelers brought back their own stories, adding sensational new details to the legend of the Assassins. It was said that they were experts in the craft of murder, trained from childhood to use stealth and deceit, and that they were so devoted to their leader that they would sacrifice their lives for his slightest whim. Their fanatical determination was the result of intoxicating drugs or a brainwashing process in which recruits were kept in a paradisiacal garden stocked with fine food and beautiful women. It was from these legends that the word assassin soon entered European languages as a common noun meaning “a murderer, usually one who kills for politics or money.” (Britannica.com)

⁴ Tamil Tigers, byname of Liberation Tigers of Tamil Eelam (LTTE), guerrilla organization that sought to establish an independent Tamil state, Eelam, in northern and eastern Sri Lanka. The LTTE was established in 1976 by Velupillai Prabhakaran as the successor to an organization he had formed earlier in the 1970s. The LTTE grew to become one of the world’s most sophisticated and tightly organized insurgent groups. (Britannica.com)

⁵ It originated in Japan, where it was behind the deadly sarin nerve gas attack on the Tokyo subway in 1995. Aum Shinrikyo, whose name means “supreme truth”, began in the 1980s as a spiritual group mixing Hindu and Buddhist beliefs, later working in elements of apocalyptic Christian prophecies. (BBC)

attacks on World Trade Centre on September 9th, 2001 (abbreviation 9/11 attacks) al-Qaeda had a core of planners and close associates of Osama bin Laden and groups in individual countries that cooperated with this central group. al-Qaeda worked as a financial and technical assistance provider to national groups in Muslim countries, especially those, which were more pro-Western governments took place. Once Afghanistan was invaded, al-Qaeda maintained only some of these network capacities, but rather became a form of global leaderless resistance. Some of the recent terrorist attacks (as London transit attacks from 2005 and Glasgow bombing attempt from 2007) are inspired by al-Qaeda, but rather carried out independently by local group of extremists, who participate in the broader global jihad against the West. (Lutz, 2010)

The jihadist group Islamic State became famous in the year 2014, when this terrorist organization seized huge unstable territories in Syria and Iraq and establishing a „*caliphate*“ started to rule over them with an unusual level of brutality. IS has also told other jihadist groups worldwide that they must accept its supreme authority. Many already have, among them several offshoots of the rival al-Qaeda network. Between IS terrorist fighters are not only Iraqi or Syrians. In October 2015, Counterterrorism Centre Director Nicholas Rasmussen announced that the group had attracted more than 28,000 foreign fighters, and more than 5,000 from the Western World. (BBC, 2015) In May 2018 groups of terrorists proclaimed to be part of the Islamic state are responsible for suicide bombings in Indonesia, Libya, Afghanistan, Australia making this terrorist network world seen and pervasive globally. (Guardian, 2018)

The followers and supporters of the Islamic State organization believe in a radical utopian ideology of Islamism, which does not consider Islam only as a religion, but as a complete guide for private and public life – religion, politics, economics, law system, science. (Černý, 2012) The main political goal of Islamism is the restoration of a caliphate with a unitary codified system (which is actually not in Quran). The driving force behind this ideology is Muslim sadness of European colonialism in the 19th and 20th centuries¹⁶ and the creation of the state of Israel in 1948. (Nawaz, 2013)

Both organizations al-Qaeda and Islamic State are considered as „*islamist*“ since they both use the radical interpretation of Islam and use brutal violence and terrorist attacks for reaching public attention and achieving their goals.

2.2. Government response to terrorism and its importance for tourism

The importance of security and safety considerations were consistently ranked as the least important factor in making destination choice by 1980s. Tourism and hospitality literature gave little analysis of the effects of safety and security on vacation destination decision-making at that time. (Sirakaya, Sheppard, McLellan, 1997) However, circumstances such as terrorist attacks on major airlines and the US raid on Libya have changed safety-related attitudes of tourists. In 1991, the Wall Street Journal reported that fear of terrorist attacks caused international travel to drop by 30–40 % and domestic travel to drop by 20 %. This factor has completely changed the perception of importance of safety and security on tourism and this topic gain on importance in academic literature. (Sirakaya, Sheppard, McLellan, 1997)

Tourism is very vulnerable to terrorist action. For example, the effect of hijackings on the US market have been well documented, and various sources indicate that the level of transatlantic traffic fell by 20% consequently. Terrorist groups not only seek publicity for their views, but also a confirmation of their own importance. From the terrorists' viewpoint the generation of political change requires public recognition in order to create the desired change. We can see lots of different cases, when terrorism influenced tourism. The linkages between tourism and terrorism are clearly described on the following examples. *„National Front for the Liberation of Corsica (FNLCj), and its more extreme counterpart, Cuncoltu, attacks on tourist complexes are consistent with their political views. In 1990 and 1991 attacks were made on the Corsicana complex, 17 miles south of Bastia. In the second case, in January 1991, 30 terrorists held a dozen tourists hostage for four hours. In the same month holiday homes were blown up or set on fire in Anghone and Porto Vecchio. Further attacks occurred in 1992. As nationalist groups, the perpetrators justified the attack on tourism complexes on the grounds that tourism represents a threat to a Corsican way of life. Leo Battesi, a Corsican nationalist leader, has stated on French TV that Corsica should not become simply a „sun-trap location for tourists.“But other variables are also important. Not only is there a conflict with the French authorities, perceived as an occupying power, but also a feud with Mafia clans. The attacks on at least some of the tourist complexes may have been because they were built with Italian funding that was suspected to be of Mafia origin. The same justification of an attack on tourism, as being a legitimate target because it threatens a valued pattern of life, is made by other nationalist groups.“* (Ryan, 1993)

Another European example of the connection between tourism and terrorism is from British mainland: „There were a series of attacks by the „Meibion Glyndwr (Sons of Glendower)“ on holiday homes and other tourist-associated businesses, such as the burning of a windsurfing shop at Bala in 1987. This attack has been justified as an attack both against English occupation, and on tourism which undermines a traditional culture.” (Ryan, 1993)

Another country, which has suffered significantly from terrorist attacks aimed specifically at tourist targets was Peru: „In 1989 the value of overseas tourism to Peru was approximately US\$430 million with over 350 000 visitors. In 1991 it is estimated that Peru received few more than 30 000 overseas tourists. A major reason for this decline has been the activities of Sendero Luminoso. In 1989 the group killed a British tourist, Edward Bartley. In January 1990 two French tourists, Stephane Marino and Christelle Bertholot, were ordered off a bus and shot. A tourist hotel at Huaraz was attacked in July 1990. Strong*’ has reported that hotel management and staff in Lima have been subjected to threats. For much of 1991 the British Foreign Office Travel Advisory Notes indicated ‘no-go’ areas in Peru, and warned that the Group Senderos Luminoso is very dangerous indeed and any foreigner falling into its hands is likely to be killed.“ (Ryan, 1993)

Terrorist action against tourism is validated by the view that tourism is symbolic of capitalism; tourists are generally from wealthier countries, and hence symbolic of regimes perceived as capitalist or otherwise repressive; and state-sponsored tourism becomes symbolic of governments, and hence an attack on tourism is an attack on the government. (Ryan, 1993)

All governments practice prevention of terrorism and try to seek to arrest or eliminate those actively involved in this type of violence. The military and police actions have no dividing line in this type fighting of criminality. Responses to terrorist attacks vary depending on its perception – depends on the fact if terrorism is perceived as warfare, crime, or disease. If the war analogy holds, retaliation and punishment become a common norm. The war response might be devastating for hostages, since the metaphor with war makes them potential casualties of a conflict with terrorists rather than considering their safety as prime objective. When terrorism is commonly viewed as a disease, terrorism is viewed as a symptom, which needs to be solved by an arrest of prevention. Reform packages may be important effort for reducing the threat of terrorism.

To fight terrorism countries often sign treaties and take part in international coalitions and organizations, since intelligence agencies operate best on their own soil and region. The most

common example of cooperation between Intelligence services of national governments provide the European Union. The governments do not cooperate only in the way they provide information to each other, but can also implement sanctions against governments, which aid terrorists.

In respect of government response to terrorism a common concern appears – counterterrorist activities lead to potential threat that such measures can have a negative impact on civil liberties. The common questioning about the border line of democracy and need for strong government response to terrorism brings the case of Guantanamo Detention Camp⁶ in Cuba.

Benoit Gomis concludes his book “*Counterterrorism? Reassuring the policy response*” with following recommendations that could serve as guidance for policy makers:

- (1) be mindful of the term terrorism itself as a vague term;
- (2) understand that terrorism is a multifaceted problem that is often oversimplified and overblown;
- (3) overestimating and overacting to terrorism carries a range of negative consequences that often outweigh their benefits;
- (4) allow for more oversight and accountability in counterterrorism policies;
- (5) address the emotional and psychological components of both terrorism;
- (6) government and media narratives may play into the hand of the terrorists;
- (7) tackle the underlying political, institutional and socio-economic factors instead of the symptoms;
- (8) appreciate the limits of the state in responding to terrorism;
- (9) adopt a more balanced foreign policy that does not centre on terrorism as the primary lens of analysis and response. (Gomis, Raton, 2015)

⁶ *Guantánamo Bay detention camp, also called Gitmo, U.S. detention facility on the Guantánamo Bay Naval Base, located on the coast of Guantánamo Bay in southeastern Cuba. Constructed in stages starting in 2002, the Guantánamo Bay detention camp (often called Gitmo, which is also a name for the naval base) was used to house Muslim militants and suspected terrorists captured by U.S. forces in Afghanistan, Iraq, and elsewhere. The facility became the focus of worldwide controversy over alleged violations of the legal rights of detainees under the Geneva Conventions and accusations of torture or abusive treatment of detainees by U.S. authorities. (Britannica.com)*

2.2.1. The effect of the implementation of security measures on perceived risk

Even though crime levels have fallen in the Czech Republic (Police of the Czech Republic, 2017) United Kingdom and other observed European countries during the last 15 years, public perceptions are quite opposite and people commonly believe, that it is rising (Millie, Herrington, 2012) and their feelings of safety have barely improved. (Cooke, 2005) It happens because perceptions often do not depend of real security.

According to Moutinho: „*Perception is the process by which individual selects, organises and interprets stimuli in a meaningful and coherent way. A stimulus is any unit of input affecting any of the senses. Perceiving stimuli involves exposure, reception and assimilation of information. Our sensory system is sensitive to different modalities of external stimuli: auditory, visual, tactile, olfactory and taste. When inputs are transmitted, information reception will depend upon the cues from the source of stimuli (a product, a message etc.) and the individual's reactions based on current knowledge.*“ (Moutinho, 2007)

Risk is the probability of certain adverse events times the magnitude of their consequences whereas subjective risk is the intuitive individual perceptions of these factors (Brun, 1994).

Subjective risk perception is also not the same as worry. Worry can be understood as negative affect and relatively uncontrollable chains of thought as a function of uncertainty concerning possible future events. Such thoughts represent the peoples’ attempts to engage in mental problem solving on issues where the outcome is uncertain but contains a possibility for negative results. Worry is also a cognitive activity closely related to anxiety and depression. (Brun, 1994)

Subjective risk perception differs among people. Different people feel unsafe in different places. Indeed, feelings of unsafety may cause tourists to avoid particular destinations and taking part in certain activities at a destination. The reasons for such a decision differ significantly. Findings also suggest that it is tourists’ nationality, duration of stay, and whether they had encountered any crime which influences their perceptions of safety and security. (George, 2003)

Perception is key for understanding the damage that terrorism causes and the impact on the tourism industry. It is well understood in terrorism studies that fear of terrorism has an impact far beyond any actual damage that terrorism causes. (Howie, 2014)

Pizam and Smith say: *“Fear and insecurity about the possibilities of terrorism affect tourism demand, even when, in fact, deaths and injuries from terrorism for US citizens are statistically insignificant – less likely to occur than being struck by lightning or killed in an accident on the roads or at home. At the same time, however, terrorism has gained premier power and efficiency as a political weapon through mass media coverage and the exaggerated perceptions about traveller safety and security that this perpetuates.”* (Pizam, Smith, 2000)

Modern theories describe a dual process, or two different systems, the individual evaluates the information and then the risk itself, in our case, the fear of refugees or migrants. (Chaiken, Trope, 1999, Kahneman, 2011, Sloman, 1996). One of these evaluation systems has a natural evolution in man and resembles an animal instinct - it is fast, automated and therefore not too accessible to conscious perception and control. This system works primarily on the basis of similarities, associations, and includes the whole range of emotions that serve as the first warning system (Slovic, 2002).

The second system processes information and evaluates risk based on algorithms and probability rules, Bayesian updates and formal logic. For this reason, the second system is slower, more demanding, and requires full awareness, including conscious control. The second system is also more abstract (Slovic, 2002; Stanovich, West, 2000). The illustrative distribution of the two information processing systems on which the risk is assessed is plotted in the following table

Table 1 - Explanation of the difference in risk assessment for System 1 and System 2

System 1	System 2
Fast	Slow
Automatic	Controllable
Does not require effort	Requires effort
Based on associations	Based on rules
Emotional	Advisory

Source: Stanovich, West, 2000

Many studies have already documented that perception of risk is influenced by associations and emotions similarly stronger or even stronger than their own reason and a conscious evaluation of probability rules. The two systems mentioned above (System 1 and System 2) are involved

in the risk assessment, and the risk is far from being rational. In the case of strong impulses, such as concerns about their own security, there is more frequent emotional processing in the ordinary population than the conscious processing of the likelihood that the risk of repetition of a given terrorist attack will be evaluated (Slovic, 2002). The involvement of emotions in decision making has also been demonstrated by laboratory neurobiology experiments. (Damasio, 1994)

Generally, people tend to overestimate the importance of events and information that are suggestive, emotional, recent, recurring often, or most often occurring in memory. (Houdek, 2016). As noted in 1974 by a psychologist and later famous Nobel Prize winner for economics, Daniel Kahneman it is common for a subjective perception of the probability of a traffic accident to increase temporarily when we pass a car roof down at the highway – such a situation creates a specific cognitive framework under which people interpret further information. (Tversky, Kahneman, 1974). One tends to assess the relative importance of things according to the ease with which they are remembered - and this is largely influenced by the extent of coverage of the matter in the media. Frequently mentioned topics in people's minds remain, while others leave (Kahneman, 2011).

In contemporary urban context, public spaces, which are accessible by various collective and lifestyles, are often seen as places of fear, pain, danger, crime, incivility and disorder. Therefore, people seem to prefer more controlled and privatized environments such as gated communities and shopping malls. It seems that privatization and surveillance turned out to be a global trend regardless of the level of threat. (Akinci, 2012)

As Lyon states: *“Having said all that we are not in a position to say under what conditions, for which social groups, in which countries and at what rate of acceleration surveillance is on the increase. What we have alluded is an exceedingly rapid quantitative expansion of surveillance, which simultaneously raises questions of a qualitative shift.”* (Lyon, 1994)

Environmental criminology tries to understand why certain places attract crime or criminals while others do not and suggests that location design is very important for tackling crime problems. For example, it was found that the presence of specific security measures was associated with violence rates in bars, and that certain physical characteristics of apartment complexes were also associated with increased violence rates. Other previous studies came up with conclusions that some bar interior features do not prevent, but quite contrary enable violent

acts. Therefore, research has begun to link crime to certain facets of interiors and exteriors. We know that some environments may not only enable offending, but even provoke criminal actions, since certain store designs seem to attract criminal behaviour. (Cardone, Hayes, 2012) Therefore we often talk about the “*Crime Prevention Through Environmental Design.*”

Crime Prevention Through Environmental Design (CPTED) is actually a group of related place-based crime prevention theories based on the premise that “*the proper design and effective use of the built environment can lead to a reduction in the fear of crime and the incidence of crime.*” (Crowe, 2000) Crowe describes fundamental principles of this design:

- 1) **Access control:** any measure that denies access to a crime target, whether through spatial definition, locks, glass cases, or guards, access control helps inhibit crime opportunity
- 2) **Surveillance:** elements that enable occupants and casual observers to observe and monitor a space, thus increasing the sense of risk for offenders. Surveillance can be facilitated by employees, security guards, or closedcircuit television (CCTV), but cannot be effective without design and spatial arrangements that maximize lines of sight
- 3) **Territoriality:** a more recent addition to CPTED, this concept refers to the formation, through physical design, of a “sphere of influence” in which legitimate users begin to feel a sense of responsibility or proprietorship, which in turn leads to their active protection of the space. In the retail setting, territoriality is often defined through real and symbolic space markers: a “territory” may be very clear, such as a jewelry counter, or more ambiguously defined through flooring pattern, color, light, ceiling condition, or displays.
- 4) **Activity support:** refers to any activity that increases legitimate consumers and encourages increased business, because these can have an indirect effect on crime. Facilitation of legitimate activity is one of the easiest areas for design to affect in retail interiors: adding a cafe of small coffee/tea area to a store will cause legitimate consumers to spend more time in the space, which indirectly contributes to informal surveillance. (Crowe, 2000)

One type of Crime Prevention Through Environmental Design can be the presence of armed guards, police and soldiers, whose presence could decrease the subjective risk perception of terrorism.

2.2.2. Presence of armed guards, police and soldiers

Tourism managers and terrorist organizations share something in common. Both tourism and terrorism rely on media management and the creation and manipulations of beliefs and perceptions. Similarly, security services often have more to do with providing the appearance and feeling of safety than providing actual, physical security. For example, security guards in front of buildings and tourist facilities are mostly employed to deter vandalism, prevent minor violence and damage and are not allowed to use violence, are often unarmed, and have little hope of stopping a determined criminal or terrorist. This is especially the case for suicide bombers. (Howie, 2014)

Safety, reassurance and the maintenance of civil order are at the heart of policing, which involves societies authorising people to create public safety. Visible, uniformed foot patrol is a key element in this process, which improves feelings of safety and security. Uniformed patrol officers counter feelings of insecurity through their visible presence which enhances feelings of safety. Patrol officers should be visible, accessible and familiar and should represent a recognisable national brand in terms of their uniform. (Rowland, Coupe, 2014)

Private security guards currently outnumber those employed in public policing in many jurisdictions. The presumption of safety as a public good is slowly being replaced by security as a private commodity. And the topic of security has become an enterprise in its own right with a dynamic distinct from crime rates. (Zedner, 2000) These changes create a challenge to the modernist presumption that the state should be the primary actor, which has a main responsibility for crime control. (Zedner, 2003)

Bayley and Shearing for example said: *“Modern democratic countries have reached a watershed in the evolution of their systems of crime control and law enforcement. Future generations will look back on our era as a time when one system of policing ended and another took its place.”* (Bayley, Shearing, 1996)

According to British study from 2014 police officers provide notably more reassurance than either street wardens, or neighbourhood wardens and traffic wardens. Police officers together with police community support officers⁷ achieved the highest public reassurance (64% of

⁷ Both police community support officers and accredited safety officers possess more limited powers than police constables, who may also be contracted to patrol privately managed shopping malls. Whereas warranted police officers have powers of arrest and are trained in first aid, PCSOs, who are employed by police services, deal with

respondents) by their visible presence, compared to private security guards (32% of respondents) and to council wardens (20% of respondents). In this research respondents were shown four photographs of different patrol officers dressed in the uniforms of a PO (police officer), a PCSO (police community support officer), an ACSO (accredited safety officers)⁸ and a SG (private security officer or security guard) and it was found out that police officers offer higher levels of reassurance in shopping malls than PCSOs, ACSOs or security guards. But it is important to mention that the results for perception of presence of security guards have shown a positive effect of their presence in this British study, but there were conducted also other studies, which prove the opposite - a negative effect of police patrol presence and safety guard presence. (Rowland, Coupe, 2014) The reason for a risk perception differences between the presence of security guard and police officer may also be that security guards occupy an ambivalent place in contemporary society. Popular culture pictures security guards as figures of failure, the subjects of jokes and humiliation. Not only are security guards viewed as satirical under-achievers, they are often viewed as dangerous and potentially violent members of society. Also, media when portraying security guards often highlight criminality, delinquent behaviour, and violence. (Howie, 2014)

One of the examples of biased risk perception, which leads to irrational measures are safety guards in front of secondary schools in the US. Because of the well-publicized school shootings, school's safety has become a national concern commonly expressed in American media. Although all available data suggest the safety risks significantly decreased in the past years, the fear for pupil's safety because of media coverage increased. To respond to the fears of parents a demand for implementing more visible security measures such as hiring security guards, installing metal detectors and/or locking doors was established. All the empirical research on school security measures has been focused on their effectiveness in reducing violence and

minor offences, such as begging, truancy, littering, breach of dog control orders or underage drinking or smoking. They also protect crime scenes until police officers arrive, act as witnesses, deal with missing person enquiries, seize illegal narcotics, remove abandoned vehicles, collect CCTV evidence, carry out stop and search under certain circumstances, and visit the public to gather intelligence. PCSOs cannot arrest people, investigate crimes or interview prisoners

⁸ Accredited community safety officers are employed by UK local government councils to improve community safety and reduce anti-social behaviour. Their powers can cover the issuing of fixed penalty notices for dog fouling, littering, throwing fireworks on a thoroughfare, railway trespass, consuming alcohol in public, attempts to illegally purchase alcohol, giving false alarms to the fire service, failure to ensure regular attendance of pupils at school, behaviour likely to cause harassment, alarm or distress, and preventing cycling on pavements. Their other powers can include confiscating alcohol and cigarettes from young people, stopping vehicles for emission testing, requiring removal of abandoned vehicles, and requesting the name and address of persons acting in an anti-social manner

misbehaviour while the negative consequences such as the security measures' effect on the overall school environment has been left unintended. We only know that between 1995 and 2007 there was a decrease from 12 % to 5 % in student-reported fear of victimization. And we also know that during that same period many schools and school systems implemented security measures such as hiring security guards, installing security cameras and/or metal detectors and changing school policies such as requiring student and faculty IDs to be worn while in the building. (Perumean, Sutton, 2012)

The fear of crime is driven by both actual victimization and perceived risk of victimization. The perceived risk of victimization is heightened through knowledge about local victimizations or through national incidents portrayed on TV, Facebook or other sources of public news. Paradoxically, the perceived risk of victimization is often greater than the actual likelihood of a criminal victimization. In theory, the presence of security measures deters potential offenders by increasing the likelihood they will be caught, and early detection of crime prevents or reduces escalation of potentially serious incidents. Therefore, the presence of security measures like security guards might have an effect on student fear by stating that the school is safe. On the other hand, the presence of armed guards might also suggest that violence is normal. In this second case, security measures actually increase fear of crime and remind students that the possibility for violence always exists. According to previous study from 2003 students reported that metal detectors, locked doors, restroom limits, supervised hallways and drug education were predictive of increased worry about being a victim of school crime. The presence of security guards as well as visitor sign-in, locker checks, and hall passes had no significant effect on the students' worrying about crime. (Schreck, Miller, 2003)

Other studies focused on student reported fear found that when security activities were defined as either being present or absent, or as intrusive or benign, there was no significant effect on student fear. Some studies, which examined the use of specific security measures adopted by the schools such as security guards, staff monitors, metal detectors, locked doors during the day, visitor sign-in required, locker checks and IDs/dress code, came to conclusion that none of these measures were significant predictors of student fear for the U.S. students. Other studies found that security guards and metal detectors were associated with an increased student fear while at school for all students. (Perumean-Chaney, Sutton, 2012)

The usage of security guards is not popular only in the United States and not only as a protection of American secondary schools. Security guards protect the majority of critical infrastructure

in developed countries and are therefore hired mainly by the national or federal government. In recent years we could have observed also the increase of safety guards hired by private sector. The government role in offering security has become increasingly fragmented, resulting in law enforcement no longer being the monopoly of the state. Part and parcel of this trend is the growth of the security guard industry around the globe. For example, in the Netherlands, the number of personnel employed in the private security industry has grown significantly, from 10,000 in 1980 to over 32,000 over the past three decades. (Steden, Nalla, 2010)

First researches on the security guards started in the 1970s, when Kakalik and Wildhorn portrayed private security workers as underpaid, poorly trained and hopelessly low-skilled „*bodies in uniform* “. Later on, lots of academic scholars view private security as a „*second rate service compared to the police* “, have doubts about the effectiveness of guarding personnel, and warn against harmful social impacts expressed in terms of convenience, personal liberty and privacy. Not only academia, but also general public has the tendency to see private security as a perilous business, mostly driven by low prices instead of high quality, and by external pressures from insurance companies. (Stenden, Nalla, 2010)

Apart from their visible presence in „*mass private properties*, “like shopping centres, zoos, sport facilities, leisure parks and airport terminals, private security is also present in neighbourhoods and other urban public domains. Previous studies suggest that respondents, who personally had an interaction or encounter with security personnel had a less positive view of the nature and goals of security work and also less positive view of the professionalism of security officers. (Stenden, Nalla, 2010)

Personal experiences with police officers and safety guards, whether public or private, appear to be the most important predictor of an individual's perceptions. Furthermore, there is evidence that gender, age, ethnicity and income may affect how people perceive the police and safety guards. (Stenden, Nalla, 2010)

2.2.3. The effect of security measures on consumer behaviour

Consumption is often considered to be a coping strategy against existential concerns. The analysis of consumer behaviour (process of acquiring and organising information in the direction of a purchase decision and of using and evaluating products and services) requires the consideration different elements – culture, reference group influences, the relationship between individuals and their environments, family decision process and last not least the perceived risks

connected with the purchase. The tourist consumer behaviour also differs from other consumer behaviour's situations: it is an investment with no tangible rate of return, and the purchase is often prepared and planned through savings made over a considerable period of time. In other words, the vacation tourist invests with no expectation of material and economic return on his or her purchase of an intangible satisfaction. (Moutinho, 2007)

After processing all available information, the tourist has final opinion about the product, (positive, negative and neutral altogether) and the image of destination is based on these opinions. This attitude is based partially on feelings, not solely on knowledge. Therefore, the destination image tends to be an oversimplification in the mind of the tourist and, at the same time, a consistent configuration constructed according to the available information. According to Moutinho there are three components in image formation:

- (1) related to awareness, implying the information the tourist believes a tourist destination or service possesses;
- (2) related to attitude, implying feelings and beliefs about the tourist product;
- (3) related to expectations, implying the benefits expected to be derived from the tourist product.

When using equations the concept of image can be formulated as:

$$I = f(Aw, BA, Ex)$$

where I = image of a destination or service;

Aw = level of awareness in relation to the product;

BA = beliefs and attitudes developed about the product;

Ex = expectations created with the product.

The attractiveness of a tourist destination and the choice of it will greatly depend on its image. From the perspective of security, it is very important that tourist perceived the tourist destination as safe. (Moutinho, 2007)

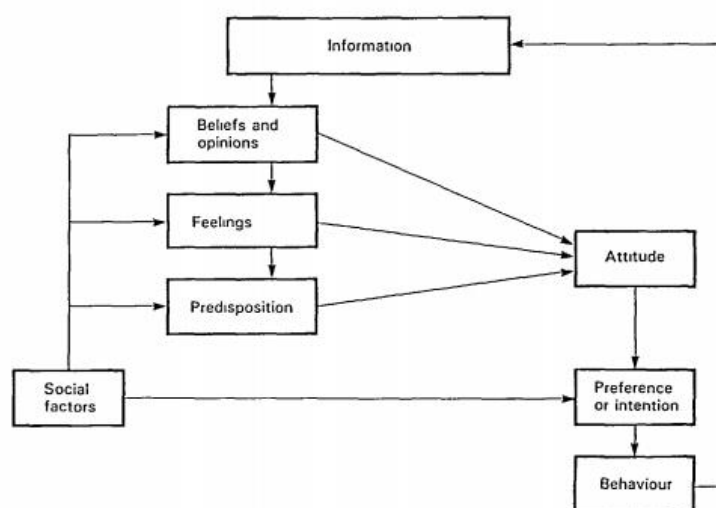
To take adequate actions for supporting consumer behaviour in the area of tourism, it is important to understand how people perceive such things as destination areas, air travel, travel distances and travel advertising; how they learn to consume and to travel; how they make travel decisions; how personality affects those decisions; how they perceive risk and make them afraid of travelling to certain places. Therefore, it is important to analyse motivations that influence

the individual's travel decisions and forming attitudes. Perception strongly influences evaluation and judgemental processes. (Moutinho, 2007)

There are two stages of perception. The first stage is the attention filter, since one cannot perceive all the arriving stimuli but grasps information selectively through a process of comparison of inputs with previous information. Furthermore, most stimuli to which one is exposed are screened out if they are uninteresting and irrelevant (individuals usually attend to those stimuli which are regarded as relevant to his or her needs and interests, and neglects or distorts inconsistent stimuli; Perceptual bias or selective distortion is a tendency of people to modify information in the direction of personal meanings). The second stage is the interpretation process, which helps to organize the stimulus content into one's own model of reality, resulting in awareness and interpretation of the stimulus.

Depending on the source of information, communication of tourists can be classified as primary (experiences derived directly from the product), secondary (mass communication), tertiary (information obtained from travel agencies or exhibitions), and personal. Tourists will actively process the information provided by the source but will not make judgements about the product based only on information; they combine it with other experiences and previous knowledge to develop attitudes and intentions and to reach a buying decision. (Moutinho, 2007) Attitudes and the Travel Decision Making Process can be also described by the following picture:

Picture 2 - Attitudes and the Travel Decision Making Process



Source: Mayo, Jarvis, 1998

The effect of terrorism on consumer behaviour can be explained theoretically by protection motivation theory (PMT) or terror management theory (TMT). This part of the dissertation thesis focuses not only on these theoretical approaches, but also on the results of previous studies, which asked the question on the effect of presence of counterterrorist or other security measures on the consumer behaviour.

2.2.3.1. Protection motivation theory and terror management theory

PMT was created to clarify fear appeals and predicts when and how individuals respond to threats. According to PMT people protect themselves based on four factors: perceived severity of a threatening event, perceived probability of the occurrence, or vulnerability, efficacy of the recommended preventive behaviour, and perceived self-efficacy. (Rogers, 1975). Protection motivation stems from the threat appraisal as well as the coping appraisal. The threat appraisal process consists of both the severity and vulnerability of situation. It focuses on the source of the threat and factors that increase or decrease likelihood of maladaptive behaviours. The coping appraisal consists of the response efficacy, self-efficacy, and the response costs. Response efficacy is the effectiveness of the recommended behaviour in removing or preventing possible harm. (Plotnikoff, Ronald, Trinh, Linda, 2010)

Previous studies have showed that adaptive behaviours are prompted to the extent that a health threat is perceived to be serious. The magnitude of threat appraisal is dependent on the probability of an aversive outcome, and the severity of the outcome should it occur, and adaptive avoidance behaviours are likely when both are judged as severe. PMT can be extended to the context of consumers' response to terrorism. Initially, it may seem intuitive that people would engage in avoidance behaviours when concerns with terrorism are strong. Nevertheless, based on PMT, it is suggested that consumers' responses may be more nuanced. When terrorism-related concerns are heightened, there likely will be an increase in subjective probability of additional attacks. However, the perceived severity of the attack may vary. (Herzenstein, Horsky, Posavac, 2015)

TMT describes that when the inevitability of general mortality is primed, individuals may engage in distal defences to manage their fears. These distal defences can be important since they provide people with a sense of figurative immortality — if one leaves a mark on the world, one will be remembered after his or her death. For example, when interviewing women with breast cancer, it was found out that interviewees consume products that have a future

orientation, such as traveling, savings, and purchasing pets. Such consumption signals to the buyer that she does not expect to die in the near future. (Pavia, Mason, 2004)

Awareness of mortality triggers the need to upgrade self-esteem, which is often measured by assets and possessions. In studies from 1999 and 2008 following a mortality salience induction, it was found out that participants spent more on pleasurable items such as clothing and entertainment, these individuals have also found luxury products more appealing, and it was also found that in these circumstances individuals have overconsumed and increased the immediacy of consumption. Study of Ferraro from 2005 show that some participants primed with mortality chose to indulge with food. (Herzenstein, Horsky, Posavac, 2015)

2.2.3.2. Results of previous studies on the effect of security measures on consumer behaviour

From previous studies we know that feeling safe while shopping is important and 81% of respondents rated safety as very important, underlining its significance for the shopper. It was as important as the mix of shops available in deciding to visit a shopping centre. (Rowland, Coupe, 2014) Shopping is also one of the most pervasive leisure activities of tourists, whose shopping expenditures according to previous account for approximately one third of total tourism spending. It is mainly safety and security of tourists which functions as prerequisite for a prosperous tourist business. Positive emotions evoked by a safe shopping increase purchasing and time spent in the shopping location. Perceived financial, psychological, physical, product and/or time-related risks would provoke a contrary reaction. (Yuksel, Yuksel, 2007)

The most important is the perceived risk in a shopping location since the location in general must be considered safe before the interior of the shops or facility is ever experienced. Whether real or perceived, risks associated with tourism activities are likely to place serious constraints on tourist consumer behaviour. Risk perceptions are likely to affect tourist's emotions, level of shopping satisfaction and decisions as to whether they exhibit any loyalty behaviours. (Yuksel, Yuksel, 2007) The more risk customers perceive, the less likely they will purchase.

According to previous research people who have already been a victim of crime are often more fearful than those who have never being victimised; women are more fearful than men; older adults express more fear than younger individuals; familiarity with the environment makes people feel safer and newcomers are therefore more fearful; people have also the tendency to

declare fear for their family and friends, what is called “altruistic fear”. But perceived safety can be influenced also by other, more complex factors that affect individuals in their daily routines as for example media. (Ceccato, Tcacencu, 2017)

From research of Russell Aylott and Vincent-Wayne Mitchell we know that some shoppers were stressed by the presence of security cameras and shop lifting notices. This was induced by fears of wrongful arrest for shoplifting after cases of wrongful arrest have been reported in the media. One respondent of their research reported: *„With all these security cameras I feel I’m being constantly watched.”* One respondent from an ethnic minority of their research indicated to feel intimidated by the presence of security guards and cameras. (Aylott, Mitchell, 1998)

We know that some individuals might feel more secure in places under surveillance where others are marginalized – such as the unemployed, the homeless and young people who are seen as non-consumers or disruptive. Marginalized groups might feel even more excluded for the sake of “*true citizens*.” To sum up, the impact of surveillance on customers behaviours and usage patterns may depend on how people think about surveillance and different feelings it evokes. (Akinci, 2012)

From previous researches about the perception of surveillance in the Turkish shopping malls it is quite interesting that all 43 respondents stated that surveillance was necessary in shopping malls even when they thought that it was useless. Some of the responses were: *„Surveillance is totally related to the security and the safety of users. It helps to prevent terrorist attacks, fraud, theft and especially hit-and-run attacks.”* (62-year-old female) Other has said: *„I think surveillance is totally useless. If someone is determined to do something bad, no one can stop him or her.”* (25-year-old male) And to make a bigger picture of responses this was an answer of another respondent: *„I believe surveillance is for making us feel secure in the mall, but it might also be disturbing, especially for my age group.”* (17-year-old female) Generally a significant difference was observed between the youth and adult age groups in terms of the aim of surveillance in shopping malls. The younger generation have more often associated surveillance in the mall with practices of discrimination, exclusion and uneasiness. But of course, even among young respondents in Turkish shopping mall study were differences. One of them reported: *“I think young people from low-income groups should not be in the mall, since they are not potential consumers. Experienced security guards should distinguish the ones that should be monitored and the ones that should be sent away according to the way they dress.”* (24-year-old female) This kind of comment have not been so rare: *„The behaviours of*

mall users are very important. If they seem to have the potential for trouble then they should be watched, not be let in, or sent away.“ (55-year-old male) Overall, almost half (20 out of the 43) respondents claimed that they felt safe when they saw security personnel. In another field survey, which was conducted in another Turkish shopping mall, similar findings were also revealed. Lots of respondents felt more relieved, on the other hand almost a quarter of 104 respondents complained about the feeling of being unfairly excluded in respect to the behaviours of security personnel in the mall. (Akinci, 2012)

Interestingly although almost all of the respondents in the above-mentioned study noted that they had never been ejected or excluded or received any warning from security personnel or store staff of the shopping mall, they stated that they would leave the mall if they had got in such a situation. This notion can be argued to be an important indicator of how surveillance can work as an exclusionary practice. (Akinci, 2012)

2.3. The effect of chronic anxiety and depression on perception of terrorism

The impact of mental health problems on the change of risk perception of terrorism has been already studied the following chapter provides information about the current state of knowledge about this issue.

2.3.1. Global perspective on mental health

The amount of population, which suffer from depression is increasing. More than 350 million people across the world – of all ages and from all communities – suffer from depression. (World health Organisation, 2015) People, who suffer from anxiety disorder quite often also suffer from depression or vice versa. According to the statistics of Anxiety and Depression Association of America, nearly one-half of those diagnosed with depression are also diagnosed with an anxiety disorder. Anxiety disorders are the most common mental illness in the U.S., affecting 40 million adults in the United States age 18 and older, or in total 18,1 % of the population every year. Anxiety disorders affect 25, 1 % of children between 13 and 18 years old. There are different types of anxieties. The most often is Generalized Anxiety Disorder (affects 6.8 million adults, or 3,1% of the U.S. population and women are twice as likely to be affected as men; often co-occurs with major depression.); and Panic Disorder (affects 6 million adults, or 2,7 % of the U.S. population and women are twice as likely to be affected as men). (Anxiety and Depression Association of America, 2016)

According to large population-based surveys, up to 33,7 % of the population are affected by an anxiety disorder during their lifetime. From previous researches we also know that there is a natural decrease in prevalence rates with older age. In cross-cultural comparisons, prevalence rates are highly variable. It is more likely that this heterogeneity is due to differences in methodology than to cultural influences. (Bandelow, Michaelis, 2015)

Results from a review of 174 surveys across 26 high income countries and 37 low and middle-income countries identified substantial heterogeneity in the prevalence of common mental disorder. (Countries of North and South East Asia in particular returned lower prevalence estimates than other regions of the world). Metadata show that on average we can say one in five adults 17,6 % experienced a common mental disorder within the past 12 months and 29,2 % of world population had mental problems across their lifetime. (Steel, Marnane, Iranpour, Chey, Jackson, Patel, Silove, 2014)

2.3.2. Terrorism can kill some, but hijack the brain of millions

Anxiety is in other words a fear of the unknown and bad that could happen in the future. This might be the fear of having a panic attack while standing in line at the grocery store or worry that a small mole might be cancer. It is the fear created by the fact that we have no idea, what are all the factors, which might threaten our life. How Shannon states: *“Similarly, terrorism and mass shootings activate this fear of the unknown, that carnage could happen anywhere at any time, in places that we have always assumed were safe. When we become afraid, the first instinct is to neutralize the threat and therefore the primitive, survival-oriented part of our brain (the amygdala) sends chemicals and neural messages throughout our bodies prompting us to do something. Therefore, we are no longer thinking with our more rational evolved minds.”* (Shannon, 2016) When this primitive part of our brain takes control over our thinking, it is impossible to calculate any probabilities of events that are occurring. Our brain gets basically hijacked and not able to act rationally. (Shannon, 2016)

After France experienced a several of bombings in 1995 and 1996 (12 killed and more than 200 injured), a 2004 study of Verger, Dab, Lamping, Loze, Abenhaim, Rouillion examined post-traumatic stress disorder rates in the victims and found that 31 % experienced post-traumatic stress disorder. (symptoms as flashbacks, nightmares, or intrusive thoughts about the event; as symptom people may also avoid situations that remind them of the trauma or have intense feeling of anxiety they didn't have before.) These researchers came to the following main

conclusion: „*The high prevalence of PTSD 2.6 years on average after a terrorist attack emphasizes the need for improved health services to address the intermediate and long-term consequences of terrorism.*“ (Verger, Dab, Lamping, Loze, Abenhaim, Rouillion, 2004; The Conversation, 2015)

Another survey, in this case among Madrid residents one to three months after the attacks on a commuter rail line in 2004 it was found out an increase in post-traumatic stress disorder and depression. Of respondents 2,3 % reported symptoms consistent with PTSD related to the March 11 bombings and 8,0 % of respondents reported symptoms consistent with major depression. The prevalence of PTSD was substantially lower, but the prevalence of depression was comparable to estimates reported after the September 11 attacks in Manhattan. Further research suggests that the increase in post-traumatic stress disorder was only temporary. (Tobal, Vindel, Gonzalez, Iruarizaga, Rudenstine, Vlahov, Galea, 2006; The Conversation 2015)

The Conservative also describes a study conducted among London residents only a few weeks after the 7/7 attacks, when 31 % of participants of the survey reported a significant elevation in stress levels and 32 % reported an intention to travel less. In short it states: “*A follow-up study conducted seven months later found that the elevated stress levels were significantly reduced. But, the study also noted that a residual level of worry remained. Many people reported relatively high levels of perceived threat to self and others, and a more negative world view.*” (The Conversation, 2015)

It is not only the population in effected city, but also population not locally effected by the terrorist attack, which can suffer from serious mental problems. A survey conducted soon after the September 11 attacks found that 17 % of the US population living outside of New York City reported symptoms related to post-traumatic stress disorder. The main conclusion of research of Silver, Holman, McIntosh, Poulin, Gil-Rivas states: „*The psychological effects of a major national trauma are not limited to those who experience it directly, and the degree of response is not predicted simply by objective measures of exposure to or loss from the trauma. Instead, use of specific coping strategies shortly after an event is associated with symptoms over time. In particular, disengaging from coping efforts can signal the likelihood of psychological difficulties up to 6 months after a trauma.*“ (Silver, Holman, McIntosh, Poulin, Gil-Rivas, 2002; The Conversation, 2015)

There are of course also other very important factors, which has an influence on development of elevated rates of post-traumatic stress disorder after a terrorist attack occurs. After 9/11 a US study on more than 2,000 adults found that more time spent watching television coverage of the attacks was associated with elevated rates of post-traumatic stress disorder. The results were exactly these: *“The prevalence of probable PTSD was significantly higher in the New York City metropolitan area (11.2%) than in Washington, DC (2.7%), other major metropolitan areas (3.6%), and the rest of the country (4.0%). A broader measure of clinically significant psychological distress suggests that overall distress levels across the country, however, were within expected ranges for a general community sample. In multivariate models, sex, age, direct exposure to the attacks, and the amount of time spent viewing TV coverage of the attacks on September 11 and the few days afterward were associated with PTSD symptom levels; sex, the number of hours of television coverage viewed, and an index of the content of that coverage were associated with the broader distress measure. More than 60% of adults in New York City households with children reported that 1 or more children were upset by the attacks.”* (Schlenger, Caddell, Ebert, Jordan, Rourke, Wilson, Thalji, Dennis, Fairbank, Kulka, 2002)

Media can help to create the so called contagion effect when people live and relive the attacks when they watch or read stories about them. (Marshall, Bryant, Amsel, Suh, Cook, Neria, 2007) But the threat of terrorism does not have the same effect on everyone and triggers different emotions. For instance, previous research shows that anger may actually function as a positive factor. In the context of feeling angry, people tend to have a larger sense of being in control, a preference for confrontation, and feeling optimistic; whereas with fear comes a greater sense of not feeling in control and pessimism. Experiencing more anger triggers more optimistic beliefs; experiencing more fear triggers greater pessimism. These effects held across a range of risks (terror and non-terror related) (Lerner, Gonzalez, Small, 2003)

Compared with women, men generally report lower risk estimates. (Slovic, 1999) Drawing on the demonstrated effects of fear and anger on risk perception and men's tendency to report experiencing less fear and more anger than women. (Biaggio, 1980; Grossman, Wood, 1993)

Conventional wisdom holds that adolescents have a sense of invulnerability that encourages risky behaviours. However, studies have found similar risk perceptions for adolescents and adults. (Quadrel, Fishhoff, Davis, 1993)

3. The influence of subjective risk perception of terrorism and related factors on the outbound tourism of Czech population

The data of Institute of Sociology, Academy of Sciences of the Czech Republic, clearly show, that Czech population have suffered from an immense fear of terrorism since 2015 and therefore the following chapter tries to explain if and how have these fears influenced Czech outbound tourism.

Table 2 - Survey of fears among the Czech public (from a wide range of respondents, the respondents always chose the two worries they feel the most)

Concerns of the Czech population	Expressed as a percentage in 2010	Expressed as a percentage in 2015
Migration, refugees	0 %	31 %
Illness	20 %	12 %
Unemployment	31 %	9 %
Concerns about family, children, partner, friends, about their health	14 %	3 %
Crime, security	9 %	11 %
Terrorism	5 %	36 %
Muslim world	0 %	12 %

Source: Institute of Sociology ASCR

3.1. Fears of terrorism

In general, terrorist attacks are primarily aimed at attracting attention, creating an atmosphere of fear, destabilizing the state or organization and enforcing a change in internal or foreign policy (Eichler, 2006). Tourists can become the primary targets of a terrorist attack that targets Western capitalism, consumer values and other values such as wealth, freedom and independence. (Reisinger, Mavondo 2005). Some experts even think that for tourists who oppose Western consumption, tourists are too much symbolic to be ignored. (Sonmez,

Apostolopoulos, Tarlow, 1999). Attacks against tourists symbolize attacks against its governments. (Reisinger, Mavondo, 2005).

According to the findings of the World Travel and Tourism Council, it lasts 13 months on average for the tourist destination to fully recover from the terrorist attack and come to the stage, when the number of arriving tourists equals the number before the attack. However, the 13-month period is average and there are large variations between the impact of terrorist attacks on affected destinations. For example, after the terrorist attacks of September 11, 2001, hotels in New York managed to fill up to a level before the terrorist attack in just 34 months, Madrid in the 2003 bombings recovered 12 months and the London metropolis from the attacks in 2005 about 9 months Economic Forum, 2015).

The following table shows the numbers of victims of terrorist attacks, the number of terrorist attacks and the number of arrested suspects from terrorist attacks between 2012 and 2015 in EU countries, according to Europol annual reports.

Table 3 - Statistics of terrorist attacks in countries of the European Union

Year	Numbers of victims of terrorist attacks in EU	Number of terrorist attacks in EU (both executed and thwarted)	Number of arrested suspects from terrorist attacks
2012	17	219	537
2013	7	152	535
2014	4	201	774
2015	151	211	1077
2016	134+	-	-

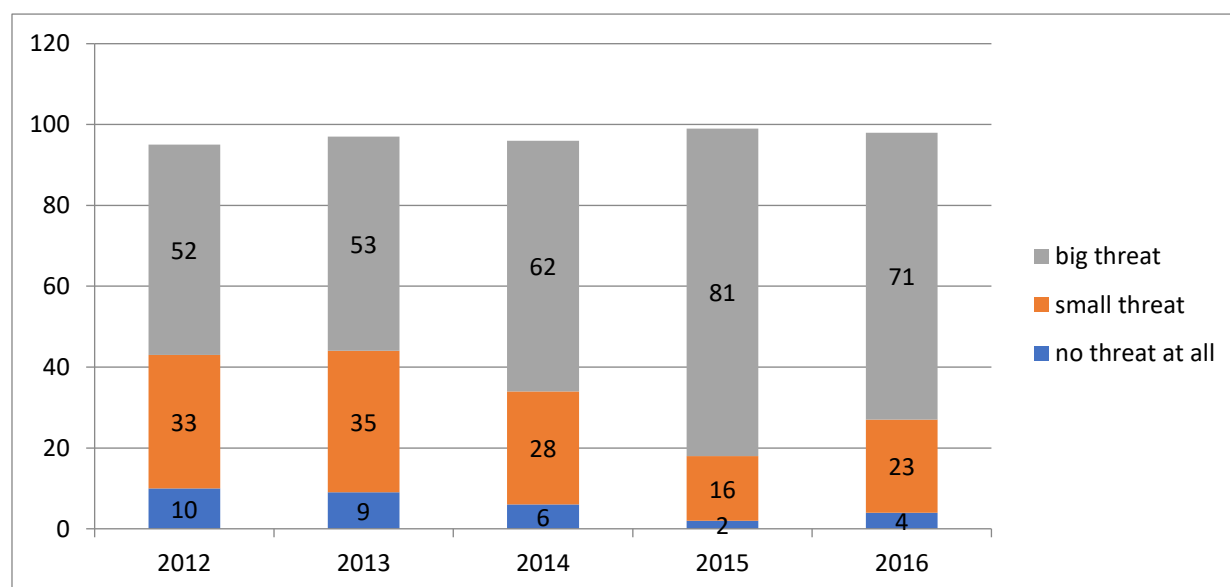
Source: TE-SAT 2013, TE-SAT 2014, TE-SAT 2015, TE-SAT 2016

The table above shows a sharp rise in the number of victims of terrorist attacks in the EU in 2015. We divide the terrorist attacks into subgroups according to the aims they want to achieve on religiously or Islamist oriented, separatist (with these attacks, France and Spain have met in the last five years), left-wing, right-wing, targeted on another specific topic and non-specific attacks. Terrorist attacks motivated by the ideas of Islamism have the most victims of terrorist attacks in the countries of the European Union in 2012-2015 (TE-SAT, 2016).

France, which has become the target of eight terrorist attacks with a total of 247 human victims over two years, is the country most affected by terrorist attacks in Europe. However, with the size of the population (66 million inhabitants), the probability of a victim of a terrorist attack is 27 times lower than that of a car accident (Independent, 2016). In terms of the number of victims of terrorist attacks, Western Europe is even one of the safest places in the world. Between 2001 and 2015, 571 people died in Western Europe as a result of terrorist attacks, which does not correspond to even five hundredths of the global terrorist attacks (Global Terrorism Database, 2016).

According to the results of the poll conducted by the Centre for Public Opinion Research in December 2015 and December 2016, terrorism was a major threat to 81% (2015) and 71% (2016) of the Czech population. The concern among terrorist groups or individuals was the most widespread concern among the Czech population during the survey in 2015 and 2016.

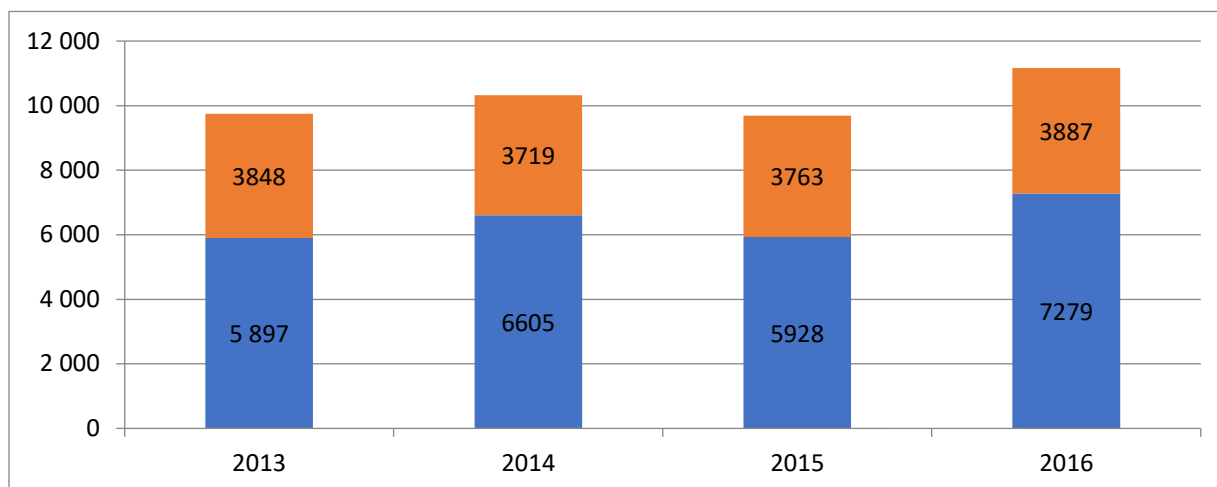
Graph 1 - The reality of the threat for the Czech Republic - terrorist groups or individuals (in%) according to a survey among the Czech public; Counting up to 100% is a "do not know" answer.



Source: Centrum pro výzkum veřejného mínění, Sociologický ústav Akademie věd České republiky, v. v. i. (2016).

It is precisely the perception of the risk of terrorist attacks caused by frequent repetitive and emotional scenes of attacks that could influence the decision of the Czech population, whether they spend their holidays abroad (mostly in another EU country) or in the Czech Republic.

Graph 2 - Number of longer stays (four and more overnight stays) of the population of the Czech Republic in the Czech Republic (blue) and abroad (red) in thousands in period 2013 - 2016



Source: Czech Statistical Office, data on travel and tourism Czech population in I. II. and III. quarter of years 2013, 2014, 2015 a 2016.

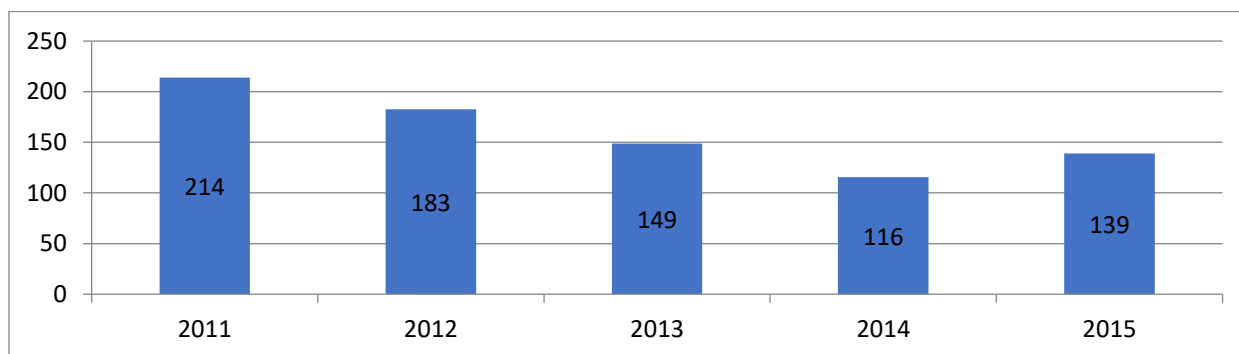
Although terrorism was most commonly perceived as a major threat during the 2015 survey, the number of long-haul journeys in the Czech Republic declined compared to 2014 and the number of trips abroad among Czech residents grew. It cannot therefore be said that fears of terrorism in 2015 would lead to a drop in outbound tourism abroad.

A large increase in longer tourist stays in the Czech Republic can be seen in 2016, when the number of trips made compared to 2015 increased by more than 22%. Nevertheless, the graph shows us not only the increase in domestic but also the increase in foreign tourism in 2016. It did not grow as impressive as domestic tourism, but by 3%, but we cannot claim that foreign travel tourism suffered due to the subjective perception of risk.

3.1.1. Czech outbound tourism to France

As described above, the target for the number of victims of the largest terrorist attacks has been in France. In 2014, only one person died in France (due to a terrorist attack in December 2014, so this event in 2014 could not have had such an impact). In 2015 (January and November), however, France has been the target of terrorist attacks that have claimed 236 victims together. These attacks were widely publicized on the Czech social networks caused by the mass solidarity wave "*Je suis Charlie*." We can see if and how was the Czech outbound tourism to France changed after the attacks from January and November 2015.

Graph 3 - Number of longer trips (4 nights or more) of Czech citizens to France (in thousands) in 2011-2015



Source: Czech statistical office (2016)

The number of journeys made by Czechs to France declined steeply between 2011 and 2014, even with a 46% difference between 2011 and 2014. In 2015, in France, two of the victims were hit by large attacks in January and November, however, the number of voyages by Czechs to France compared with 2014 increased by a fifth to 139,000. It seems therefore that the terrorist attacks in France did not have a big influence on the decision-making of the Czechs, whether they were abolished for fear of the attacks in France.

The fact that the two major terrorist attacks in France (January 2015 and November 2015) have shown only a minimal impact on tourism is evidenced by the dates of the Convention and Visitors Bureau. This, based on the number of people registered in hotels, shows that in the very centre of the attacks (Paris), the number of incoming tourists dropped by only 1.1% compared to 2014. The total number of arriving tourists to France in 2015 even grew (the Convention and Visitors Bureau, 2017).

The increase in the number of trips to France in 2015 for the Czech population can be explained by various theories. Citizens of the Czech Republic could be influenced by cheaper air tickets. Or they could have been afraid of security in France years before the attacks, and those who have decided to come had also a smaller tendency to interrupt their holidays and are less averse to risk. It is also possible that, due to the terrorist attacks, frequent reports from France in the Czech media could, on the contrary, have a promotional effect on some citizens.

In 2015, 81% of the Czech population saw terrorism as a major threat (compared to 71% in 2016). These fears of the Czech public from terrorist attacks are naturally given and caused by an evolutionary evaluation system, which is fast, automated and therefore not accessible to conscious control. This system, based primarily on similarities, associations and emotions, is

able to respond automatically to unexpected, emotional and fast-paced reports of terrorist attacks in the media. In the case of questions about the subjective perception of security threats, so much of the Czech population raises the fear of terrorism more frequently than other, more likely threats. However, fears of a terrorist attack that predominate in the population did not in 2015 or 2016 cause a sharp rise in domestic outbound tourism at the expense of foreign travel. In 2016 there was an increase in domestic outbound tourism by 22% compared to 2015, while foreign travel abroad grew slightly in 2016 and so we cannot see this strong increase in the number of domestic trips as a substitution for foreign journeys. Surprisingly, in 2015 (as opposed to 2014), the number of Czech citizens' trips to France did not fall, although there were two highly publicized and large terrorist attacks in January and November 2015. This finding is in opposition to already conducted foreign studies, which have resulted in a significant negative impact of terrorism on tourism in the attack of the affected destination and, at the same time, the substitution effect among countries due to the efforts of tourists to minimize the risk of terrorist attacks.

4. Risk perception of terrorism reflected by the Czech public sector

Economic well-being and security is interconnected and security is one of the main topic of crucial importance also on World Economic Forum, which was founded in 1971. In the 1970s, when WEF's main concern was slumping productivity growth in Europe, in the 1980s market deregulation, in 1990s innovation and technological progress connected with the internet came to the centre of attention, and by early 2000s, with the global economy humming social concerns and post- 9/11 security anxiety has taken place.

Public institutions are responsible for spending funds in a manner that most effectively and efficiently keeps its people safe and for taking actions, which have a good chance to divert life-threatening risks its population is facing. The number of potential life-threatening risks is enormous (from diseases, accidents, crimes to wide range of natural disasters), and the funds available for this purpose are limited. Moreover, there are inevitably distortions stemming from public and personal emotion and from political pressures. One of the distortions, which evoke disproportionate fear and anxiety, is terrorism. (Mueller, Stevart, 2014; Kahneman 2011) No wonder this fear and anxiety of general public is transmitted also on decision-making of public institutions, which can therefore spend on counterterrorist measures disproportional amount of money.

Research journals and institutions recently published different research articles and reports related to the inefficient public spending on security in the United States and the disability of the American governance to evaluate the likelihood of terrorist attacks rationally. (Mueller, Stewart, 2014; Brooks, Manza, 2013; Lint, Kassa, 2015) Normally regulators and administrators in the US begin to become extremely unwilling to spend over \$10 million to save a life, preferring instead to expend funds on alternative measures that save lives at a lower cost. But in case of domestic counterterrorism they spend \$100 billion per year, meaning they should prevent the death of at least 10 000 people annually to justify such a spending. (Mueller, Stevart, 2014) Even though since 2001 (2996 victims during the attacks from 9/11) the probability of the death from terrorism in the US is lower than the death of lightening making such a spending on domestic counterterrorism disproportioned. (In the fifteen years after 9/11, jihadists have killed 95 people and lightening 735 people. (Global Terrorism Database, 2017)

Even in the unusual context of 2001, the risk of dying from terrorism in the US was one in 100 000. That contrasts with higher risks of other causes of deaths like homicide (one in 22 000), traffic accident (one in 8 000) and cancer-related fatalities (one in 540). (Brooks, Manza, 2013) The attacks on the World Trade Centre and Pentagon in 2001 (initially estimated from \$27.2 to 55 billion), did not lead just to higher spending on domestic counterterrorism (for example \$ 589 billion spent on the Homeland Security Department). The attacks in 2001 also led to the so called “War on Terror” in Afghanistan causing further costs (\$1.6 trillion spent on war funding and \$867 billion spent on future veterans’ care) adding the total cost of 2001 attacks up to \$ 3.3 trillion. (Sorkin, 2015)

The goal of this chapter of the dissertation thesis is based on the risk perception data of Institute of Sociology at Academy of Sciences of CR to find out the potential for fear of terrorism, which could lead to similarly disproportioned public spending in the Czech Republic and using the cost per saved life methodology evaluate the public spending on domestic counterterrorism and total expenditure for the Czech involvement in the War on Terror in Afghanistan. For this evaluation will be used data of Ministry of Defence of CR, Ministry of the Interior of CR and Transport Research Centre in CR. The main purpose of this chapter is to analyse the adequacy of Czech counterterrorist measures and find out if Czech counter-terrorist expenditures are connected with similar scale of controversy as the counterterrorist measures in the United States mentioned above.

4.1. Methodology of the research on risk perception of terrorism reflected by the Czech public sector

Terrorism is a hazard to human life, and it should be dealt with in a manner similar to that applied to other hazards. One of the option, how to compare and analyse the cost of an institutional change or safety measure connected with counterterrorism is the „*cost per saved life*“ which defines how much it will cost under the new proposal to save a single life. This cost per saved life is than compared with the economic value of human life, which is based on the assumption that the loss of human life due to an accident is a loss not only for the victims themselves and their closest, but also for the state and the overall society causing lower tax revenues, lower productivity and lower spending leading to decline of GDP.

For example, the US Department of Transportation has appraised the life of one American citizen on \$9, 4 million in 2015. (US Department of Transportation, 2014) This leads to the fact

that in the U. S., where the economic value of human life is stated around \$9, 4 million, regulators and administrators generally begin to become extremely unwilling to spend over \$10 million to save a life, preferring instead to expend funds on alternative measures that save lives at a lower cost. (Mueller, Stevart, 2014) If we compare this economic value of human life of an American citizen with the real domestic counter-terrorist spending (about \$100 billion per year), we get the U.S. government should for these measures prevent or protect against between 10 000 to 11 000 terrorism deaths in the country each year. Using this methodology for the total cost of the “War on Terror” (including the War in Afghanistan) with funds of \$3, 3 trillion we get that if efficient all these measures should save the minimum of 351 000 human life’s in the U.S. If we compare these 351 000-potential saved human lives with the real U.S. statistics (95 victims of terrorist attacks in the last 15 years) we can speak about financial inadequacy of U.S. counterterrorist funding. (Of course, it is possible there would be more victims, if fewer measures were implemented; despite this fact there is still a huge cost exaggeration). The goal of this paper is to use the same methodology for evaluating the adequacy of counterterrorist measures in the Czech Republic.

I will firstly carry out thorough research of open government data and strategic security conceptions in the Czech Republic and prepare a list of recent counterterrorist measures, which has been already implemented or can be implemented in the Czech Republic in near future. Subsequently follows the cost per saved life analysis for each counterterrorist measure. The Czech counterpart (Transport Research Centre in the Czech Republic) has calculated the economic value of human life in the Czech Republic for the year 2015 at 20 881 000 CZK, about \$ 829 692 if we recount this figure from 2015 in the Czech Republic by exchange rate from April 2017. This economic value of human life in the Czech Republic will be used for cost per saved life analysis of domestic counter-terrorism measures and also for the overall involvement of the Czech Republic in the War on Terror in Afghanistan. (Transport Research Centre, 2015)

4.2. Importance of counter-terrorist steps in the Czech Republic

Between 2001 and 2015, 571 people died (on average 38 victims a year) in all Western Europe and in the Czech Republic there was no jihadist terrorist attack at all. (Global Terrorism Database, 2016) Despite this low probability of death from terrorist threats, the majority of the Czech population felt more threatened by terrorism than by illness or fear of losing family member, children or partner in 2015. (Institute of Sociology, 2015)

According to the survey results of Institute of Sociology 81% (2015) and 71% (2016) of the population regarded terrorism as a major threat. Fear of terrorist groups or individuals was during the survey in 2015 and 2016 the most widely widespread concern among the Czech population. (Institute of Sociology, 2015, 2016)

This irrational fear of terrorism has a big potential to be used for political purposes and an important influence on policies and measures, which are and will be taken by public authorities. Especially the populists, who are feeding on the fear that current governments cannot or will not keep their citizens safe and call for a complete shutdown of Czech borders for Muslims and further measures. (The Economist, 2015) Since the fear of terrorism is so spread, the reaction of the government in power is needed.

There is neither a coherent policy strategy nor an unmistakable political consensus on European level regarding counterterrorism. Even more previous studies revealed a methodological nationalism, jumble of ethically inconsistent and practically contradictory measures taken by ruling governments in Europe. Because of this incoherent and fragmented counter-terrorism agenda in Europe, it is the reaction of Czech national government, which is by fear of terrorism threatened population strongly expected. (O'Brien, 2017)

4.3. Results of the research on Czech domestic counterterrorism measures

Because of the widely spread fear among Czech population the reaction on terrorist attacks in Western Europe was needed. An important step for the Czech counterterrorist agenda was the establishment of the National Focal Point for Terrorism (NKBT) launched on 30 March 2009 at the Unit for Combating Organized Crime of the Criminal Police and Investigation of the Police of the Czech Republic. NKBT department is engaged in collecting, evaluating, analysing and processing information that are related to the issues of terrorism and radicalism. The cost of setting up NKBT amounted to 21 million and the estimate of its regular operation at 15 - 20 million CZK a year. (Ministry of the Interior, 2013) Using the cost per saved life analysis this NKBT centre is efficient if it saves approximately one human life annually.

In January 2016 the Czech government has introduced a four-stage warning system focusing on the threat of terrorism. The introduction of this warning system was a response to the terrorist attacks in Paris in 2015. The main shortcoming of the introduced warning system is the absence

of concrete measures connected with particular security stages. This warning system presents rather a symbolic designation of terrorist threats by colours, which works as a tool for communication with public rather than a real tool for state's safety and rescue system. This measure is not connected with costs, which are worth mentioning (Ministry of the Interior, 2017)

The Centre against Terrorism and Hybrid Threats (*Centrum proti terorismu a hybridním hrozbám*) started operating since 1.1. 2017. The centre was formed within an existing department using the budget of the Ministry of the Interior with up to 20 employees. The main purpose of this centre is not just counterterrorism and therefore these costs cannot be estimated. (Ministry of the Interior, 2017)

The Ministry of the Interior has proposed amendments to the Constitutional Law on Security of the Czech Republic, which states: "*Citizens of the Czech Republic have the right to acquire, keep and bear arms and ammunition in order to protect the lives, health and property and thus to contribute to securing internal order and security and protection of the territorial integrity, sovereignty and the democratic foundations of the Czech Republic. The conditions and details provided by law.*" The main reason for this amendment is according to the head of the Ministry of the Interior to provide citizens with a constitutional right to shoot terrorists. (Česká televize, 2017) This amendment has not been at the date of preparation of this paper approved.

All these institutional measures were financed by standard budgetary resources and National Focal Point for Terrorism and Centre against Terrorism and Hybrid Threats were established within already existing institutions meaning lower financial demands. More expensive than institutional changes were an immediate deployment of security forces immediately after the attacks in Western Europe. Most recently after the terrorist attacks in Brussels (March 2016) the Czech government deployed for two months several hundred soldiers who were patrolling together with the police in three biggest cities – Prague (350 soldiers), Brno (100 soldiers) and Ostrava (100 soldiers). Next security measures in the Czech Republic followed after the terrorist attack in Berlin (December 2016) when enhanced police patrols (about 500 policemen) were sent to streets of Czech cities to protect some busy locations such as Christmas markets in larger cities or make barriers (for example the Prague Wenceslas Square barricades). All these immediate actions ranged in the tens of millions of Czech crowns. For example, the immediate police patrol used after the terror attack in Berlin was estimated at 30 million CZK (\$

1 191 422). Using the cost per saved life analysis these funds should serve for saving 1, 4 human lives.

Since 2001, the number of cameras and security scanners at the entrance to the state institutions has also increased considerably. Counterterrorism is usually just one reason for their implementation. Also, it is not possible to quantify their total number and the staff costs for those, who take care of them. At this level of the fight against terrorism we deal with an asymmetry of information and only pieces of data can be found. For example, for the protection of Prague Castle, the Security Committee approved 100 million CZK (over \$ 4 million).

Shortly the financial value of measures connected with domestic counterterrorism does not exceed the Czech economic value of human life as much as in the United States. On the other hand, the introduced measures are definitely not in balance with the cost per saved life analysis.

The most expensive item of American counter-terrorist measures was the funding of the war in Afghanistan (\$1.6 trillion), which followed as a War on Terror shortly after 9/11 attacks. If we also include this financial item as part of the Czech counter-terrorist policy (Czech Republic also supported the War on Terror in Afghanistan), we come across much bigger overestimation than in the case of Czech domestic counterterrorism. Only in the year 2015 the cost of Czech participation in mission ISAF in Afghanistan was 907, 39 million CZK (\$ 36, 66 million). And the year 2015 was quite sparing compared to the year 2009 for example, when Czech authorities has spent on mission ISAF in Afghanistan 2,17 billion CZK or \$ 87,68 million (should serve as a prevention of 104 deaths). The total Czech expenditure for the War on Terror in Afghanistan between 2002 and 2016 amounted to 14, 307 billion CZK (\$ 578 million) and using the cost per saved life analysis (with the economic value of human life at 20 881 000 CZK for 2015 and neglecting inflation) we get that such a spending is appropriate when preventing the death of the minimum of 685 people. (Ministry of Defence, 2017)

4.4. Discussion and conclusion of the research on risk perception of terrorism reflected by the Czech public sector

Including the Czech participation in the war in Afghanistan as a counter-terrorist measure can be questionable. Although there was an official declaration of Czech officials describing the War on Terror as a main objective of Czech involvement in Afghanistan, fighting terrorism could be only secondary objective. From the political perspective Czech Republic, a smaller state in the midst of Europe, with the experience of occupation, war, needs a strong ally and

therefore fulfilling commitments to its foreign partners from the organization NATO can be important for its security. The motivation of the Czech Republic to participate in the War on Terror in Afghanistan can be therefore very different from the motivation of the U.S. It would be a mistake to look at the Czech mission in Afghanistan from purely economic and cost per saved life perspective. The aim of this paper, however, is to point out the overall controversy of the war in Afghanistan as a suitable Czech anti-terrorist instrument.

Also, it is important to note a significant difference between the economic value of human life in the United States and in the Czech Republic, which makes the cost per saved life analysis for the Czech policy-makers much stricter. This difference in economic value of human life does not depend only on disparity of welfare and prosperity (the GDP per capital for the year 2015 was \$ 56 115, 7 in the United States and \$ 33 770, 5 in the Czech Republic meaning that the economic value of Czech life should be at worst half of the American one), but also in the methodology of Transport Research Centre in the Czech Republic and its American counterpart. Czech authorities operate with “*human capital*” approach based on models of economic productivity producing relatively low economic values of human life. Whereas the US federal agencies operate with a “*willingness to pay*” approach reflecting consumer choice and producing much higher values.

Although there has been no single terrorist attack in the Czech Republic associated with jihadism, and even in Western Europe, such deaths are rare (about 38 deaths per year) Czech population suffers from a disproportionate fear of terrorism and therefore there is a huge potential for taking irrational counterterrorist actions of similar scale as in the United States. It is not easy for a rational policy-maker to act. The fears of terrorism are so widespread that if no counter-terrorist actions are taken, the policy-makers automatically give space to populists. And on the other hand, the valuable funds devoted to non-rational counter-terrorist measures can be missed elsewhere causing real casualties.

Although Czech costs of domestic counter-terrorist actions do not meet the expectations of cost per saved life analysis, they are far from being as exaggerated as in the United States. Some of the implemented measures like change of the constitution, four-stage warning system are not financially demanding at all, and the institutional changes like establishing Centre against Terrorism and Hybrid Threats and National Focal Point for Terrorism were financed by standard budgetary resources established within already existing institutions meaning lower financial demands.

Much more controversial is the security forces deployment and especially the Czech involvement in the War in Afghanistan, which has cost more than 14 billion CZK since 2002. Such a financial means would normally save life of 685 people at least. If this huge investment was motivated only by counterterrorism, it would be clearly inadequate public spending. In conclusion misappropriate public spending on counterterrorism is not just the problem of the United States of America, but also of the Czech Republic. But it is also important to note that the impact of the overestimation of terrorist risks in the Czech Republic is far from being as extreme as in the U.S., nevertheless represents a real challenge for Czech policy-makers, who should prefer rational-based choices and also have the motivation to stay in power.

5. Presence of soldiers in European cities and their influence on risk perception of terrorism

A straightforward response of population, which suffers from worry about terrorism is to avoid situations in which they may be victimized in an attack. For example, in 2004, when the terror threat was high, pedestrian traffic in Washington, United States of America, decreased. Similarly, in 2005, following the terror attacks on London's transportation system, there was a 30 % drop in metro passengers, especially leisure commuters who changed their behaviour because of their aversion to unnecessary risks. (Herzenstein, Horsky, Posavac)

To prevent these fear, we are witnessing a new trend in European capitals recently – there are more and more often armed soldiers or police officers standing in centres of European cities. We can see them around government buildings, major transport hubs, synagogues, galleries and main tourist landmarks. These soldiers or armed police officers are not only sitting in cars equipped with cameras, which enable concentration and precise monitoring of surrounding area. They are quite often standing on one visible spot to attract an obvious attention of tourists as well as local population. (Bohlen, 2016; Chrisafis, 2016)

The main goal of this chapter is to find out if the presence of armed soldiers in European streets, helps tourists to feel more secure and the deployment of armed guards is therefore beneficial for tourist's subjective risk perception.

5.1. Introduction to a subjective risk perception when armed soldiers stand in front of the Eiffel Tower in Paris

It was already written in the introduction of this dissertation thesis that terrorism and the threat of terrorism have a central place in collective consciousness of our society. And that it is not only terrorism, but also fear of terrorism, which has a significant impact on public discourse as well as the national and global policies. The ubiquity of concerns about terror underscores the importance of understanding perceptions of the risks posed by terrorism, since terror has a huge effect on our reasoning and thinking, (Aven, 2015; Herzenstein, Horsky, Posavac, 2015; Wedell, 2011; Tversky, Kahneman, 1974; Kahneman 2011; Qingxuan, 2017; Sunstein 2003), as well as mental wellbeing (Sjoberg, Lenhart, 2005; Vorsina, Margarita, 2015; Peña, Andrés, Villagrasana, Escartín, 2017) Many studies have already documented that perception of risk is influenced by associations and emotions similarly stronger or even stronger than their own

reason and a conscious evaluation of probability rules. Generally, people tend to overestimate the importance of events and information that are suggestive, emotional, recent, recurring often, or most often occurring in memory. (Slovic, 2002; Demasio, 1994; Chaiken, Trope, 1999; Kahneman, 2011; Sloman, 1996)

Terrorism cannot be viewed with a conventional rational view of classical economics, which assumes that people behave rationally, can make effective risk assessments and decide freely about the need for security measures. (Kahneman 2011; Sunstein 2003) Completely the contrary, terrorism fully reveals how easy it is to manipulate human judgment and how bounded is one's rationality, willpower and self-interest. Therefore, security services often have more to do with providing the appearance and feeling of safety than providing actual, physical security. The visibility of uniformed foot patrol is a key element for improving feelings of safety and security than its ability to really be able to act. (Howie, 2014; Rowland, Coupe, 2014)

The best defences against Islamic terrorism as investigation, intelligence, and emergency response, are mostly invisible. Enhancing the intelligence-gathering abilities of the secret services, hiring cultural experts and Arabic translators, building bridges with Islamic communities both nationally and internationally, funding police capabilities, both investigative arms to prevent terrorist attacks, and emergency communications systems for after attacks occur and arresting terrorist plotters without media fanfare are effective, but not really so attractive from the perspective of public relations. General population has the need of a visible government's response and strict government's counterterrorist intervention, since security is both reality (security explained by probabilities and mathematical calculations) and a feeling (security explained by psychological reactions to both risks and countermeasures). (Schneier, 2008)

Therefore, in Western world we can observe a new trend recently. There are more and more often armed soldiers or police officers standing in centres of European cities. We can see them around government buildings, major transport hubs, synagogues, galleries, main tourist landmarks, monuments of national significance and they are especially visible during national events and events of television coverage. The armed soldiers or armed police officers present in European city streets are not only sitting in cars equipped with cameras, which enable concentration and precise monitoring of surrounding area. They are quite often standing on one visible spot to attract an obvious attention of tourists as well as local population. It is for example hard to imagine, that the soldiers in Paris would really use their submachine gun

against a target, which stands in the crowd of tourists watching Eiffel Tower or squeezing in front of the stadium's entrance. The security theatre presentation is not typical only for Europe. National guard troops stationed at US airports in the months after 9/11 had for example guns without bullets. (Bohlen, 2016; Chrisafis, 2016; Schneier, 2009)

Regarding the presence of armed soldiers in European street expert on political terrorism, Grant Wardlaw, states: *„As a rule the enemy is trained to apply the maximum force that is necessary to take an objective and eliminate an enemy. The army need not usually be worried about causing damage or loss of life, gaining or maintaining public support or avoiding confrontation. It seems obvious that, in a society which is not accustomed to the sight of heavily armed detachments, on public-order duties supported by armoured vehicles and with little usual contact with the public, the army is unsuited, both by training and doctrine, to an internal security role.“* (Duyvesteyn, 2008)

5.2. Reasons for the deployment of armed guards in front of tourist attractions

Shortly after a terrorist attack and when questioning by media, policy makers get under pressure and clearly feel *“something must be done for protection of civilians.”* The following adoption of counterterrorist measures does not usually follow a logical selection process with reactive rather than proactive tendencies. The increase of police patrols as well as the deployment of military might be logical choices in the absence of clear policy. If policy-maker was incapable of responding to terrorism, he would lose public support. (Mueller, 2006; Duyvesteyn, 2008; Jackson, 2014)

The tendency of policy makers to deploy armed forces to city streets is encouraged by zero risk bias and a hindsight bias. Hindsight bias means that after a certain event happens, many people have the feeling of having intuition or having known all along how the event or case is were going to turn out. It is no wonder that after an unpredictable event as terrorist attack happens, population has the tendency to blame the government since the common man has the feeling that had known something like that could happen. (Fishhoff, 2007) Hindsight bias can make people unduly critical of themselves and their leaders— feeling remorse and blame while underestimating how little was known (Fishoff, Gonzalez, Lerner, Small, 2012) The blame for terrorist attacks (which could be prevented by the presence of soldiers in streets only with the lowest probabilities) would be in case of terrorist attack definitely worse than current blame for

spending exaggerated amount of resources on counterterrorism. From the political perspective the visible presence of armed soldiers and police officers in Prague and other bigger European cities sort of insurance against public remorse.

Policy-makers are also influenced by zero-risk bias, which points to the fact that people love certainty – even in circumstances when it is counter-productive. For example, people tend to prefer approaches that eliminate some risks completely, as opposed to approaches that reduce all risks, even though the second option would produce a greater overall decrease in risk. From the risk perception and security perspective we can say that humans prefer large decreases in small risks (terrorism) to small decreases in large ones (heart-attack deaths), even when the overall benefit of the latter is vastly superior to the former. Therefore, institutions may be more willing to invest tremendous amount of money into decreasing the risk of terrorism close to zero while completely neglecting other risks, which would be more cost-life effective, but would not decrease the number of victims close to number zero. (Bonham, 2013)

The biases of policy-makers connected with counterterrorist measures may not have only a negative impact on effective use of public financial resources (Mueller, Stevart, 2014; Kahneman 2011; Brooks, Manza, 2013; Lint, Kassa, 2015) and health risk prevention (Bonham, 2013), but according to some experts the use of troops on the streets can play into the hands of the terrorists. The wide deployment of armed troops implies an extremely serious terrorist threat which could easily be used by the terrorists to their own propaganda advantage. (Duyvesteyn, 2008)

Shortly the deployment of armed forces to European cities has political as well as psychological reasons. The main goal of this article is to find out, how the presence of armed forces in European city streets influences subjective risk perception of terrorism and if the presence of armed forces really helps to calm down the nerves of civilians and decreases the subjective risk perception of terrorism or if the presence of armed soldiers rather increases the subjective risk perception of terrorism and plays a role of a stress factor.

5.3. Perception of counterterrorist measures

There has been conducted lots of research about the effect of terrorism on changes of human and consumer behaviour, perceived risk or development of mental problems as anxiety. Surprisingly there is not so much research about the development and impact of counterterrorist

measures on subjective risk perception. International Terrorism Attributes of Terrorist Events (ITERATE), the Study of Terrorism and Responses to Terrorism (START) do not contain any information on responses to terrorist acts. (Malkki, 2015; Duyvesteyn, 2008)

From previous studies we know that deadbolt locks, closed-circuit TV cameras, door view ports, as well as caller screening by the hotel's telephone operators, locking side hotel entrance doors at night, and routine visits by law enforcement agencies in hotel have a positive influence on subjective risk perception among tourists. (Milman, Jones, Bach, 1999) But we have not found research which would focus specifically on the effect of soldier's presence in city streets on subjective risk perception of terrorism.

Perception is key for understanding the damage that terrorism causes. (Howie, 2014) Risk is the probability of certain adverse events times the magnitude of their consequences whereas subjective risk is the intuitive individual perceptions of these factors (Brun, 1994). Subjective risk perceptions differ between men and women (Slovic, 2012); people from different cultural backgrounds (Hofstede, 1999) and between different types of personalities (Morakabati, Kapuscinski, 2016). Other factors influencing risk perception include age, status and parenthood, religion, chronic anxiety or depression, income level or type of employment, and relationship to the environment (home-based versus immigrant). (Mavletova, Witte, 2016). We know that people who have already been a victim of an attack are often more fearful than those who have never being victimised; women are more fearful than men; older adults express more fear than younger individuals; familiarity with the environment makes people feel safer and newcomers are therefore more fearful; people have also the tendency to declare fear for their family and friends, what is called "altruistic fear". (Ceccato, 2016) The perceived risk of victimization is also influenced by source of information one is absorbing and therefore the general subjective risk perception of terrorism is strongly influenced by national incidents portrayed on TV, Facebook and other sources of public news. (Schreck, Miller, 2003)

The components of the subjective risk perception of terrorism are as follows: (a) perception of control, which is a feeling of loss of control; (b) perception of vulnerability to the threat, comprising of a feeling of vulnerability to terrorism versus a feeling of lack of vulnerability and a feeling of personal security; (c) perception of fear of terrorism, which includes responses of fear, anxiety, a feeling of danger, and emotional distress. (Cohen-Louck, 2016)

The armed soldiers standing in city streets can have two contrary effects on subjective risk perception of terrorism. Through illusion of control (belief that one has the ability to influence outcomes that are largely determined by chance) presence of armed soldiers in city streets can calm down the nerves of civilians, decrease their subjective risk perception and give them the feeling of control over the uncertainty of terrorist attack. (Association for Psychological Science, 2009). Previous studies from Israel suggest that the feeling of control over terrorism helps the population to cope with the risks better. (Herzenstein, Horský, Posavac, 2015)

On the other hand, soldiers standing in city streets can because of priming effect increase the subjective risk perception of terrorism and lead to an increase of stress. Priming is a psychological concept involving implicit memory, in which memory consists of an organized network of concepts (or nodes) that are linked through associative pathways. In this associative network model, the activation of concepts follows the principle of spreading activation, in other words once one node is activated, activation spreads along the associative pathways to other nodes in the mental network. (Brewer, Graf, Willnat, 2012; Tversky, Kahneman, 1974; Herzenstein, Horský, Posavac, 2015) Priming means that when we are exposed to an image (armed soldier) it can make us unconsciously focus on a topic connected with this image (terrorism). As noted in 1974 by a psychologist and later famous Nobel Prize winner for economics, Daniel Kahneman: *"It is common for a subjective perception of the probability of a traffic accident to increase temporarily when we pass by a terrible car accident at the highway, since this accident creates a specific cognitive frame under which people interpret further information."* (Tversky, Kahneman, 1974).

The main research question of this chapter is to find out if it is more the illusion of control (a positive effect on subjective risk perception of terrorism among Czech population) or the effect of priming (a negative effect on subjective risk perception of terrorism among Czech population) which influences the perception of the presence of armed soldiers in city streets.

5.4. The effect of chronic anxiety and chronic depression on subjective risk perception

The perception of threat and the experience of anxiety influence public reactions to terrorism. We know that specific effects of anxiety differ from the general response to perceived threat. Anxiety worsens cognitive functioning because it diverts attention to threatening stimuli and increases cognitive preoccupation with threatening sources, shifting attention and resources

away from nonthreatening stimuli. Anxiety leads to an overestimation of risk and increased risk-averse behaviour, whereas external and perceived threat increase support for outwardly focused retaliatory action. (Eysenck, Santos, Derakshan, Calvo, 2007; Huddy, Feldman, Taber, Lahav, 2005) According previous studies exposure to terrorism was significantly related to greater loss and gain of psychosocial resources and to greater posttraumatic stress disorder (PTSD) and depressive symptoms. (Hobfoll, Canneti-Nisim, Johnson, 2006) Psychological reactions to terrorism are therefore necessary for understanding of public support of different counterterrorist measures. When analysing the effect of presence of armed soldiers in city streets we will therefore distinguish between population, which suffers from chronic anxiety and chronic depression and population of respondents, who do not suffer from chronic anxiety and depression, since their subjective risk perception could be substantially different.

5.5. Changes in subjective risk perception of terrorism when armed soldiers are present in Paris

To find out if armed guards in French streets serve as a psychological support for calming nerves of tourists or rather a stress factor we have decided to test reactions on two different environments – when armed soldier is present and when armed soldier is absent in the given environment. As the background of the environment we have decided to use Paris, since this city has experienced bigger terrorist attacks in the last three years.

To test reactions in the environment, when there is an armed soldier standing in Paris city streets and when there is not an armed soldier standing Paris city streets we have used the electronic version of questionnaire, which makes is possible to randomly split respondents into two different treatments. Every member of both treatments was asked the same questions during the process of electronic questioning: One question was using indication on the Likert scale and asked: *“You have received a birthday voucher to visit Paris this Christmas. Please rate on scale 0 (no worries) 1 (almost zero fear) 2 (little worry) 3 (medium worry) 4 (a great concern) 5 (very scary fear - I do not want to see Paris) to which extent you fear a terrorist attack.”*

The only difference between the respondents in these two treatments is the fact that when answering to the above cited question, respondents in the first treatment (n = 152) were presented with a picture of Paris city streets without armed soldiers (Picture 3), respondents on the second treatment (n = 148) were presented with the same picture Paris city streets, just with

the difference there was also one soldier standing in front of the Paris city street and holding a gun on the picture (Picture 4)

Picture 3 - Picture presented in Treatment 1 (no soldier is present)



Source: Edited photo from Laurent Cipriani/AP

Picture 4 - Picture presented in Treatment 2 (soldier is present)



Source: Laurent Cipriani/AP

The data were collected in Czech language among citizens of the Czech Republic in winter 2017/2018 (from mid-November 2017 to February 2018). Respondents were also asked about their gender, age and chronic depression diagnosis. In the first treatment, there were 98 women

and 54 men, in the second treatment there were 98 women and 50 men. In the first treatment 30 respondents have indicated to suffer from chronic anxiety or chronic depression, in the second treatment 37 respondents indicated to suffer from chronic anxiety or chronic depression.

Results of this research are based on the comparison between respondents' responses in treatment 1 and treatment 2 when asked about indicating their level of subjective risk perception on the Likert scale. Differences between responses on subjective risk perception of terrorism in Paris in treatment 1 and treatment 2 were tested using independent T-Test, statistical test that is used to compare the means of two groups, which can be used when the two groups under comparison are independent of each other. T-tests are usually used in cases where the experimental subjects are divided into two independent groups, with one group treated with A and the other group treated with B group. (Kim, 2015)

We estimated the t statistic using the following equation:

$$t = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{\left(\frac{(N_1 - 1)s_1^2 + (N_2 - 1)s_2^2}{N_1 + N_2 - 2} \right) \left(\frac{1}{N_1} + \frac{1}{N_2} \right)}}$$

Where X_1 stands for treatment 1 and X_2 stands for treatment 2, N_1 stands for the number of respondents in treatment 1, N_2 stands for the number of respondents in treatment 2, $(s_1)^2$ is the sum of the squared deviations around the mean of a random sample in treatment 1 divided by the sample size of treatment 1 minus one, $(s_2)^2$ stands for the sum of the squared deviations around the mean of a random sample in treatment 2 divided by the sample size in treatment 2 minus one. P-values were considered significant at $p < 0,10$. Data were analysed using the Social Science Statistics.

Some methodologists have cautioned against using the T-Test when the sample size is extremely small, whereas others have suggested that using the T-Test is feasible in such a case. Compared to the regular T-test, the Welch test tends to reduce statistical power. Therefore, if sample sizes of some result subcategories are low (less than 10 responses) we will try to find the statistical significance with Welch test, which provides diminished power as compared to the regular T-test. (Winter, 2013)

The following part consists of results gained through the method of T-Test and compares the Treatment 1 scenario (without the presence of armed soldier) and Treatment 2 scenario (with the presence of armed soldier) from the perspective of prevalence of chronic anxiety and/or chronic depression (comparing respondents, who suffer from chronic depression and/or chronic anxiety with respondents, who do not suffer neither from chronic depression nor from chronic anxiety), from the perspective of age (comparing group of respondents below the age of 30 and group of respondents above the age of 30) and also from the perspective of gender (comparing males and females).

5.5.1. Results regarding the prevalence of chronic anxiety and chronic depression

Group presented with no soldier on the picture when indicating their answer about subjective risk perception (Treatment 1) have indicated smaller fear of terrorism (mean = 2, 05) than respondents presented with soldier on the picture (mean = 2, 07). When running T-Test to compare all responses in first treatment and second treatment, we find out that the t-value is -0,13543. The p-value is 0,446184. The result is therefore not significant at $p < 0,10$. We can say that the presence of soldier in Paris city streets has not influenced the subjective risk perception of terrorism of general population in a way, which would be statistically significant.

When comparing both treatments, we can look at the following table presenting distribution of subjective risk perception of terrorism on the Likert scale for both treatments. Data are rounded to two decimal places.

Table 4 - Distribution of subjective risk perception of terrorism on the Likert scale for both treatments (all respondents included)

Points on Likert scale	Treatment 1 (no soldier) – proportion of responses	Treatment 1 (no soldier) – amount of responses	Treatment 2 (with soldier) – proportion of responses	Treatment 1 (no soldier) – amount of responses
0 – no worries	13,16 %	20	13,51 %	20
1 – almost zero fear	27,63 %	42	23,65 %	35
2 – little worry	25,00 %	38	22,97 %	34
3 – medium worry	15,79 %	24	25,68 %	38
4 – great concern	12,50 %	19	10,81 %	16
5 – very scary	5,92 %	9	3,38 %	5

Source: Author

In the next phase of our research we try to compare results for respondents, who suffer from chronic depression and anxiety and for respondents, who indicated not to suffer from chronic depression or chronic anxiety. In Treatment 1 we had 30, in Treatment 2 we had 37 respondents, who have indicated to suffer from chronic anxiety and/or chronic depression. When armed soldier was present on the picture, the mean indicating subjective risk perception on the Likert scale went down from 2,33 to 1,76 among chronically anxious or depressed respondents. On the other hand, respondents, who indicated not to suffer from chronic anxiety or depression have reported much higher subjective risk perception on the Likert scale when soldier was present on the picture than in the situation when presented with a picture without the armed guard. In case of respondents, who reported not to suffer from chronic anxiety or depression

the mean indicating subjective risk perception on the Likert scale went up from 1,97 when soldier was not present on the picture, to 2,24 when soldier was present of the picture.

Table 5 - Differences in means between respondents who suffer and do not suffer from chronic anxiety and/or chronic depression when asked about the subjective risk perception of terrorism in given scenarios

Do you suffer from chronic anxiety or chronic depression ?	Treatment 1 Amount of responses	Treatment 1 Mean	Treatment 1 Standard deviation	Treatment 2 Amount of responses	Treatment 2 Mean	Treatment 2 Standard deviation
Yes	30	2,33	1,64	37	1,76	1,32
No	108	1,97	1,34	94	2,24	1,34
I do not know	14	2,00	1,30	17	1,76	1,25

Source: Author

To find out if there is a statistical significant difference between Treatment 1 and Treatment 2 among respondents, who suffer from chronic anxiety or/and from chronic depression, we use T-Test and find statistical significance. The t-value when comparing the Treatment 1 and Treatment 2 for chronically depressed or chronically anxious respondents is 1, 65204. The p-value is 0,051638. Therefore, we can say that the presence of armed soldier has a statistically significant impact on subjective risk perception of respondents, who suffer from chronic anxiety and/or chronic depression at $p < 0, 10$, not at $p < 0, 05$.

To find out the effect of armed soldiers' presence in city streets we use the T-Test also for searching if there is statistical significant difference between non-depressed participants in Treatment 1 and Treatment 2. In case of respondents, who do not suffer from chronic anxiety and/or chronic depression, we find also a statistical significant difference at $p < 0,10$, not at $p < 0, 05$. The t-value is -1,48299. The p-value is 0,069822. Therefore, we can say that the presence of armed soldier has a statistically significant impact also on subjective risk perception of respondents, who do not suffer from chronic anxiety and/or chronic depression.

5.5.2. Results regarding the prevalence of chronic anxiety and chronic depression as well as age difference

According to previous studies older people have the tendency to have higher subjective risk perception than younger people. To prove if this is also true for the counterterrorist measure of armed soldier presence in European cities from the perspective of chronic anxiety and/or chronic depression, we have decided to compare differences between respondents not older than 30 years and for respondents above the age of 30.

To find out the effect of armed soldiers presence we run a T-Test comparing the Likert scale values of depressed and anxious respondents, who are 30 years old or younger in Treatment 1 with Likert scale values of depressed or anxious respondents in Treatment 1, who indicated to be older than 30 years. For these two groups we have found out that the t-value is -2,37307. The p-value is 0,012243. The result is significant at $p < 0,10$ and $0,05$. There is a significant difference in subjective risk perception of chronically depressed and/or chronically anxious respondents between respondent below and above 30 years of age in scenario without armed soldier's presence.

As the next step we tried to find out if there is also a significant difference between these two chronically anxious and/or chronically depressed age groups (under and above 30 years old) in Treatment 2, when armed soldier is present. When running the T-test we have found out that the t-value is -0,11766. The p-value is 0,453504 and therefore the result is not significant at $p < 0,05$ and also not significant at $p < 0,10$. Therefore we can say there was not a statistically significant difference between subjective risk perception of chronically depressed and chronically anxious participants below the age of 30 and chronically depressed and chronically anxious participants above the age of 30 in Treatment 2, when armed soldier is present.

When running T test for Treatment 1 between non-depressed respondents at the age of 30 or younger and non-depressed respondents at the age group above 30 years, we got the t-value is -1,10651. The p-value is 0,135495 and therefore the result is not significant at $p < 0,10$. There was not found a statistically significant difference between subjective risk perception of chronically non-depressed and chronically non-anxious participants below the age of 30 and chronically non-depressed and chronically non-anxious participants above the age of 30 in Treatment 1, when armed soldier is absent.

With the usage of T test for Treatment 2 among two different non-depressed age groups (under and above 30 years old) it was found out that the t-value is 0,96512. The p-value is 0,168565. The result is also not significant neither at $p < 0,05$ nor at $p < 0,10$, therefore we can state there was not a statistically significant difference between subjective risk perception of chronically non-depressed and chronically non-anxious participants below the age of 30 and chronically non-depressed and chronically non-anxious participants above the age of 30 in Treatment 2, when armed soldier is present.

Table 6 - Respondents of age 30 or younger when asked about the subjective risk perception of terrorism in given scenarios (treatment 1 and treatment 2)

Subgroup	Treatment 1 N	Treatment 1 mean	Treatment 1 standard deviation	Treatment 2 N	Treatment 2 mean	Treatment 2 standard deviation
Chronically anxious or Chronically Depressed	21	1,9	1,54	27	1,74	1,26
Not chronically anxious or chronically depressed	64	1,84	1,33	56	2,125	1,39
Indicated: “I do not know”	7	2,14	1,55	15	1,8	1,47

Source: Author

Table 7 - Respondents above 30 years when asked about the subjective risk perception of terrorism in given scenarios (treatment 1 and treatment 2)

Subgroup	Treatment 1 N	Treatment 1 mean	Treatment 1 standard deviation	Treatment 2 N	Treatment 2 mean	Treatment 2 standard deviation
Chronically anxious or Chronically Depressed	10	3,3	1,35	10	1,8	1,06
Not chronically anxious or chronically depressed	45	2,13	1,34	38	2,42	1,29
Indicated: "I do not know"	5	1,8	1,42	2	1,5	0,5

Source: Author

5.5.3. Results in subjective risk perception of terrorism between men and women

We also tried to find out if the presence of armed soldier in Paris has a different effect on the subjective risk perception of terrorism on men and women. There were 98 females in the first treatment and 98 females in the second treatment. There were 54 males in the first treatment and 50 males in the second treatment. When calculating the mean for females in first treatment, we got the average value on the Likert scale of 2,01. When calculating the mean for females in second treatment, we got the average value on the Likert scale of 2,14. In Treatment 1 the average value on the Likert scale for men was 2, 17 and in Treatment 2 1,92. When running T-test there was found out no statistical significant difference when comparing average values for females in first treatment and females in second treatment, when comparing males in the first treatment with males in the second treatment, when comparing females in the first treatment with males in the first treatment and also when comparing females in the second treatment with males in the second treatment.

Table 8 - Differences in means between males and females when asked about the subjective risk perception of terrorism in given scenarios (treatment 1 and treatment 2)

Gender	Treatment 1 mean	Treatment 1 amount of responses	Treatment 1 standard deviation	Treatment 2 mean	Treatment 2 amount of responses	Treatment 2 standard deviation
Females	2,01	98	1,43	2,14	98	1,29
Males	2,17	54	1,35	1,92	50	1,38

Source: Author

5.5.4. Discussion and conclusion of the subjective risk perception when armed soldiers stand in Paris

First of all, it is important to point out that this research was carried out exclusively among Czech respondents (in Czech language) and therefore it is possible that if this research was reproduced in a different country, the results could vary significantly. Also, it is relevant to mention there was no bigger terrorist attack in Paris, France or other European country during the period of electronic questioning and the results of this study could be different shortly after a terrorist attack when emotions in the society are running high. Also, it is important to note that the results were considered as statistically significant at $p < 0,10$.

Previous studies have showed an effect of deadbolt locks, closed-circuit TV cameras, door view ports, caller screening by the hotel's telephone operators, locking side hotel entrance doors at night, and routine visits by law enforcement agencies in hotel researched on the risk perception of terrorism. This study shows that also the presence of armed soldiers in city streets can also have an influence on subjective risk perception.

Previous studies have showed that anxiety and influences public reactions to terrorism. This study show that chronic depression and chronic anxiety has not influence only on the perception of terrorism, but also on the perception of counterterrorist measures. People, who suffer from

chronic depression or chronic anxiety perceive the presence of armed soldiers in city streets differently than population without this kind of mental problems.

The main goal of this chapter was to find out, how the presence of armed forces in European city streets influences subjective risk perception of terrorism and if the presence of armed forces really helps to calm down the nerves of civilians and decreases the subjective risk perception of terrorism or if the presence of armed soldiers rather increases the subjective risk perception of terrorism and plays a role of a stress factor. Our data shows that whereas the presence of armed soldiers really calm down the nerves of respondents, who suffer from chronic depression and/or chronic anxiety, for people, who indicated not to suffer from chronic depression or chronic anxiety functions the presence of armed soldiers in city streets rather as a stress factor.

For people, who suffer from chronic depression or chronic anxiety, soldiers in city streets provide an illusion of control, in other words an illusion of feeling of control over the uncertainty of terrorist attack. On the other hand, for people, who do not suffer from chronic depression or chronic anxiety soldiers standing in city streets probably induce the priming effect, which increases the subjective risk perception of terrorism and when they are exposed to an image (armed soldier) it makes them unconsciously focus on a topic connected with this image (terrorism).

This chapter has not found out that the presence of armed soldiers in Paris has a statistically significant difference in its effect on the perception of terrorism between men and women. On the other hand, there was found a statistical significant difference in subjective risk perception of terrorism between chronically-depressed and/or chronically anxious respondents not older than 30 years and chronically-depressed and/or chronically anxious respondents older than 30 years. The results suggest that from the perspective of subjective risk perception of terrorism the most positive effect of armed soldier's presence in European streets is among those respondents, who suffer from chronic anxiety and/or chronic depression and are older than 30 years.

Conclusions of this study can be very important for policy-makers, who are pressured to act to prevent terrorism by visible counterterrorist measures and also are the authorities, which decide on the exact placement of armed soldiers in city streets. The main goal of this study is to emphasize the importance of the effect of chronic depression and/or chronic anxiety on the final outcome of this policy.

5.6. Changes in subjective risk perception of other risks (not terrorism) when armed soldiers are present in front of the Eiffel Tower in Paris

The deployment of armed soldiers and police officers into streets of European cities starts to be common because of terrorism. The main objective of the following part is to find out whether the deployment of armed soldiers in the city of Paris influences the subjective risk perception of other risks than terrorism – for example pick-pocket robbery, loss of luggage, heart-attack and a lightning strike.

5.6.1. Methodology of the research of subjective risk perception of pick-pocket robbery, loss of luggage, heart attack and lightning strike when armed soldier is in Paris

To find out the impact of the above mentioned public policy we can use the approach of behavioural economics. (Institute for Government, 2010) Our goal is to get to answer the question if armed guards serve as a psychological support for calming nerves of tourists or rather a stress factor we have decided to choose a city, where soldiers with machine guns appear more and more frequently and which is also popular among Czech tourists – Paris. After choosing the destination, we decided to use the electronic version of questionnaire, which makes it possible to randomly split respondents into three groups. Every member of every group was asked the same question during the process of electronic questioning: *“You have received a birthday voucher to visit Paris this Christmas. Please rate on scale 0 (no worries) 1 (almost zero fear) 2 (little worry) 3 (medium worry) 4 (a great concern) 5 (very scary fear) to what extent you fear a terrorist attack, pick-pocket robbery, loss of luggage, heart-attack and lightning strike.”*

The only difference between these three groups of respondents is the fact that when answering to the above cited questions, first group (n = 132) of respondents was presented with a picture of Paris without armed soldiers (pic. 1), the second group of respondents (n = 148) was presented with the same picture of Paris, with the difference there is also one soldier holding a gun on the picture. The third group (n = 130) was the so-called control group and was presented with no picture during the electronic questioning. To compare these three scenarios (presentation of picture without the presence of armed soldier, presentation of picture with the

presence of armed soldier and control group with no picture at all) we decided to calculate means of respondent's Likert scale answers. The data were collected in Czech language among citizens of the Czech Republic in winter 2017/2018 (from mid-November to mid-February 2018).

Picture 5 - Picture presented to group 1 (no soldier is present)



Source: Edited picture from Laurent Cipriani/AP

Picture 6 - Picture presented to group 1 (no soldier is present)



Source: Laurent Cipriani/AP

5.6.2. Results of the research of subjective risk perception of pick-pocket robbery, loss of luggage, heart attack and lightning strike when armed soldier is present in Paris

The next table presents averages of Likert 'scale values for subjective risk perception of pick-pocket robbery, loss of luggage, heart-attack and lightning strike for all three scenarios (picture with no soldier present, picture with a soldier present and scenario without a picture). In case of pick-pocket robbery we can see that the risk perception of this kind of crime slightly decreases when armed soldier is present on the picture. On the other hand, when stating the subjective risk perception of non-crime-related insecurities like loss of luggage, heart-attack or lightning strike respondents had the tendency to state higher points on the Likert scale when soldier was present on the picture than in case they were presented with a picture with no soldier or with no picture at all. The presented values differ only little and therefore are not statistically significant.

Table 9 - Subjective risk perception on Likert scale

Risk	Group 1- soldier is absent	Group 2 – soldier is present	Control Group
Pick-pocket robbery	1,73	1,62	1,77
Loss of luggage	1,5	1,74	1,51
Heart-attack	0,5	0,77	0,54
Lightning strike	0,35	0,43	0,34

Source: Author

5.6.3. Conclusion of the research of subjective risk perception of pick-pocket robbery, loss of luggage, heart attack and lightning strike when armed soldier is present in Paris

The presence of armed soldiers could have an influence on subjective risk perception. First results imply that when armed soldier is present the overall risk-perception of terrorism or other crime decreases. On the other hand, when armed soldier is present the other types of risk not connected with crime – like loss of luggage and heart-attack or lightning strike, are perceived as bigger compared to the situation when armed soldier is not presented.

In any case it is important to point out that this research was carried out exclusively among Czech respondents (in Czech language) and therefore it is possible that if this research was reproduced in a different country/culture, the results could vary significantly. Also, it is relevant to mention there was no terrorist attack in Paris, France or other European country during the period of electronic questioning and the results of this study could be different shortly after a terrorist attack when emotions in the society are running high. Last but not least, only 410 respondents have participated in this research making it rather an initial mapping of this issue than a detailed analysis. It can be because of the small sample that we have not reached statistical significance.

6. The effect of armed police/armed soldiers presence on consumer behaviour in Europe

Influencing people's behaviour is one of the key roles of every company's marketing strategy or state's policy. These strategies or policies are usually well-planned in advance and focused on supporting certain behaviour. Drawing on psychology and the behavioural sciences, the basic insight of behavioural economics is that our behaviour is guided not by the perfect logic of a super-computer that can analyse the cost-benefits of every action. Instead, it is led by our very human, sociable, emotional and sometimes fallible brain. Therefore, it is always important to analyse the real impact or customer interpretation of company's marketing strategy or government policy to make sure that the new marketing strategy or government policy has a real positive impact on supporting certain behaviour. (The Behavioural Insights Team, 2010)

6.1. The effect of armed police presence on consumer behaviour – case of Wax museum in Prague

The main objective of the following chapter is to find out if there are side effects of presence of armed police officers in Prague and whether their presence in front of tourist venue has an effect on Czech citizens, more precisely if the presence of armed police officer in front of the Wax museum in Prague make the Czech population willing to pay more for the entrance since there is such a supervision. The initial hypothesis of this study is based on previous experiments, which have proved that being watched increases the people's willingness to cooperate and pay more into the collection box. In the previous experiments people have paid nearly three times as much for their drinks when eyes were displayed on the collection box. (Batteson, Nettle, Roberts, 2006; Haley, Fessler, 2005) The presence of armed guard could have maybe a very similar effect.

6.1.1. Methodology of the research on the effect of armed police presence on consumer behaviour – case of Wax museum in Prague

For the investigation of the effects of security guards, the electronic questioning was used, in which 1895 respondents were supposed to indicate how much they are willing to pay for entering the Wax museum in Prague. When stating the answer one group of respondents (n = 1094) was presented with a picture of Wax museum with standard marketing banners. (Picture 6)

Picture 6 - Wax museum in Prague without the presence of armed guard



Source: Peter Jung

The second group of respondents ($n = 801$) was presented with a picture of Wax museum with standard marketing banners and an armed soldier at the front of the wax museum when indicating their answer (Picture 7).

Picture 7 - Wax museum in Prague with the presence of armed guard



Source: Edited picture of Peter Jung

This chapter compares the data collected from these two groups of respondents during period from October 2017 to January 2018 and with the use of Z-test tries to combat the hypothesis that the presence of armed police officer changes the willingness of visitors to pay entrance fee. To make sure the electronic questionnaire really reaches the group of respondents, which could be interested in entering the Wax Museum in Prague, our research questions were part of research on the knowledge of famous celebrities, which were portrayed as Wax figures. In our research respondents were firstly supposed to write to every wax figure the name of person it

is representing. By this approach we wanted to minimize the number of respondents, who are actually not interested in visiting Wax Museum in Prague and would not consider entering the Wax Museum anyway. Sample is therefore based on all responses, who decided to voluntarily find out how capable they are to recognize famous celebrities.

Results of this research are based on the comparison between proportion of respondents, who are willing to enter the Wax Museum in Prague when asked about the amount of money they are willing to pay as an entrance fee in Group 1 and in Group 2 (when armed police officer is present and when armed police officer is absent). For finding if there is a statistically significant difference we use Z-Score calculator for two population proportions. This study compares not only the proportion of visitors, who are willing to enter the Museum Louvre in different treatments, but also the average amount of money respondents in these treatments are willing to pay as entrance fee. For the purpose of comparison of the different amount of money respondents are willing to pay as entrance fee in price-levels we work with the mean values (MV) of money visitors are willing to pay.

The respondents did not know the purpose of the questioning and were asked also to recognize the figures in the Wax Museum in Prague. The reason for that was the previous finding that people sometimes behave differently than they indicate to behave when asked directly. Therefore, only one question on consumer behaviour was included and two groups of respondents were formed in order not to ask respondents on the topic directly. The respondents thought that we were interested in the number of figures in Wax Museum in Prague they were able to recognize.

The research was carried in period 25. October 2017 – 10. January 2018 with the rate of 74 % of returned surveys. Overall 71,19 % of respondents were women, 28,81 % of respondents were men. 53,61 % of respondents have indicated not to have children, which is given also by a relatively low age of respondents - 35 % of respondents were younger than 35 years. 50, 8 % of respondents have indicated to have a university degree, and 42, 0 % of respondents indicated to have a high school diploma.

6.1.2. Results of research on the effect of armed police presence on consumer behaviour – case of Wax museum in Prague

The first group of respondents was presented with the picture of Wax Museum in Prague with classical marketing banners and without armed police officer. 23, 2 % of respondents from the first group indicated they would not pay anything to enter the museum. The second group of respondents was presented with the very same picture just with the difference that an armed police officer was standing in front of the Wax museum in Prague on the picture. In this second group 19, 20 % of respondents stated they would pay nothing to enter the Wax museum. The following table presents the distribution of admission fees the respondents were willing to pay to enter.

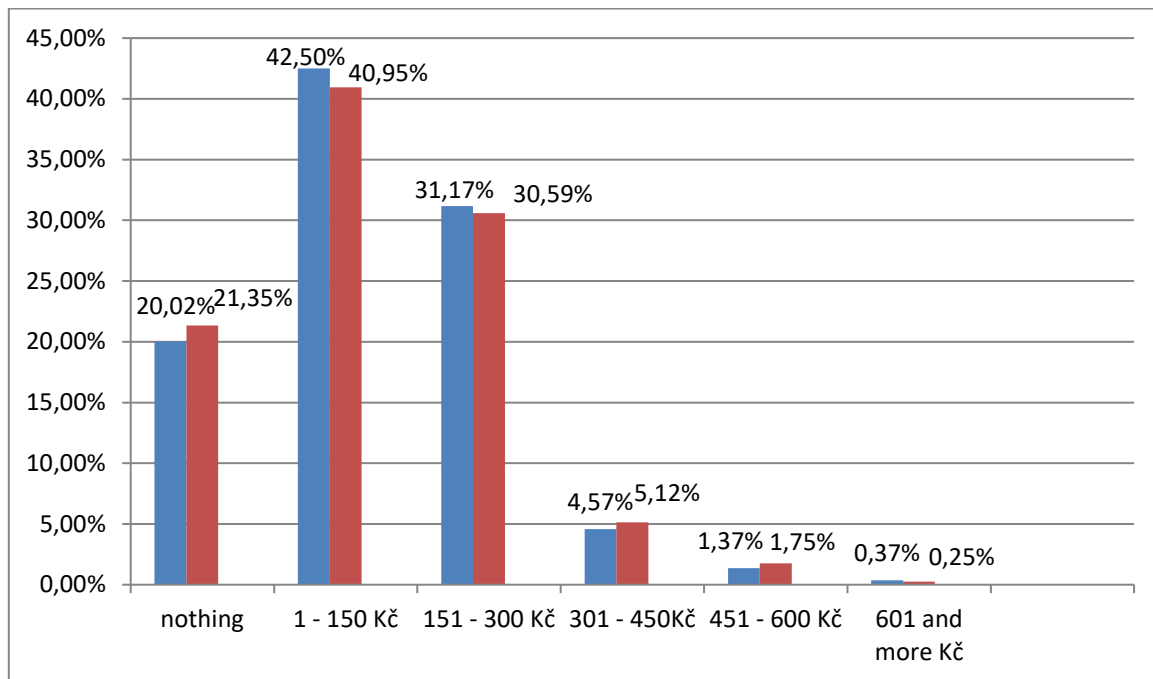
Table 10 - Distribution of admission fees the respondents were willing to pay to enter

How much are you willing to pay as an entrance fee for Wax museum in Prague?	Number of respondents for Group 1 (police officer is absent on the picture)	Percentage of respondents for Group 1 (police officer is absent on the picture)	Number of respondents for Group 2 (police officer is present on the picture)	Percentage of respondents for Group 2 (police officer is absent on the picture)
nothing	219	20,01828154	171	21,34831461
1 – 150 CZK	465	42,50457038	328	40,94881398
151 – 300 CZK	341	31,17001828	245	30,58676654
301 – 450 CZK	50	4,570383912	41	5,118601748
451 – 600 CZK	15	1,371115174	14	1,747815231
601 CZK and more	4	0,365630713	2	0,24968789

Source: Author

When we compare both groups (blue group, which was presented with a picture without armed police officer and red group, which was presented with a picture, where armed police officer is present) in a graph we can see that there is not a clear pattern in differences when there is armed police officer is present in front of the Wax museum in Prague and when there is not.

Graph 4 – Comparism of both group entering the Wax Museum in Prague



Source: Author

To compare whether the measurement results in one group differ significantly from those of the second group we have used Z-test calculator for comparing proportions of two samples on the significance level 5 %.

These results show that there is not a significance difference in the groups (group which was presented with a picture with armed guard and group which was presented with a picture without armed guard) and therefore the hypothesis that the presence of armed guard in front of tourist attraction can have an impact on the amount of admission fee Czech citizens are willing to pay as the entrance fee when armed police officer is present, cannot be confirmed on the significance level 5 %.

From the next table, which focuses only on women, we can see that in the Group 1 (without armed police officer) is the willingness to enter the Wax Museum in Prague only slightly higher (82,90 %) than in Group 2 (82,31 %). When calculating the Z-score test, which decides about statistical significance between two population proportions, we get that the p-value is 0.7859, the result is therefore not significant at $p < 0.05$ and therefore we can say that changes of women's behaviour when armed police officer present in front of Wax Museum in Prague, are not statistically significant. When comparing the average amount of entrance fee paid (after

calculation of mean values of all entrance fee categories) we get the difference of only 1,86 CZK between women in Group 1 and women in Group 2.

Table 11 - Comparison of entrance fee women in Group 1 and Group 2 are willing to pay as the entrance fee to Wax Museum in Prague

Willingness to pay	N1	Group 1	N 2	Group 2
Nothing	131	17,10 %	103	17,67 %
1 – 150 CZK (MV = 75 CZK)	325	42,43 %	237	40,65 %
151 - 300 CZK (MV = 225 CZK)	259	33,81 %	200	34,31 %
301 – 450 CZK (MV = 375 CZK)	36	4,70 %	33	5,66 %
451 -600 CZK (MV = 525 CZK)	13	1,70 %	9	1,54 %
601 -999 CZK (MV = 800 CZK)	2	0,26%	1	1,17 %
N Total	766		583	
Average amount of entrance fee paid		136,52 CZK		138,38 CZK

Source: Author

Regarding male respondents the differences between groups presented with armed soldiers and without armed police officers the differences are higher. In Group 1 higher number of respondents was willing to enter the Wax Museum in Prague (73,17 %) than in Group 2 (68,81 %). When calculating the Z-test, which decides about statistical significance between two population proportions, we get that the p-value is 0.269, the result is therefore not significant at $p < 0.05$ and we cannot say that the behaviour of male respondents have significantly changed because of armed soldier's presence. The average amount of entrance fee paid by male respondents in Group 1 and Group 2 differs almost by 5,13 CZK.

Table 12 - Comparison of entrance fee men in Group 1 and Group 2 are willing to pay as the entrance fee to Wax Museum in Prague

Willingness to pay	N1	Group 1	N 2	Group 2
Nothing	88	26,83 %	68	31,19 %
1 – 150 CZK (MV = 75 CZK)	140	42,68 %	91	41,74 %
151 - 300 CZK (MV = 225 CZK)	82	25,00 %	45	20,64 %
301 – 450 CZK (MV = 375 CZK)	14	4,27 %	8	3,67 %
451 -600 CZK (MV = 525 CZK)	2	0,61 %	5	2, 29 %
601 -999 CZK (MV = 800 CZK)	2	0,61 %	1	0,46 %
N Total	328	100 %	218	100 %
Average amount of entrance fee paid	112,35 CZK		107,22 CZK	

Source: Author

From previous studies we know that not only gender, but also the age can play a significant role in subjective risk perception and behaviour connected with subsequent decision-making. Therefore, in the next two tables we focus on respondents at the age of 45 or younger and on respondents, who are above the age of 45.

When looking at the younger group of respondents we do not find a significant difference in the proportion of visitors, who decided not to enter Wax Museum in Prague in Group 1 (16,27 %) and Group 2 (17,07 %). When calculating the Z-test, which decides about statistical significance between two population proportions, we get that the p-value is 0.7067, the result is therefore not significant at $p < 0.05$ and we cannot say that the behaviour of respondents below 45 years have significantly changed because of armed soldier's presence. The average amount of entrance fee paid (after calculating mean values for entrance fee categories) differs by 0,29 CZK.

Table 13 - Comparison of entrance fee people at the age of 45 or younger in Group 1 and Group 2 are willing to pay as the entrance fee to Wax Museum in Prague

Willingness to pay	N1	Group 1	N 2	Group 2
Nothing	116	16,27 %	92	17,07 %
1 – 150 CZK (MV = 75 CZK)	301	42,22 %	224	41,56 %
151 - 300 CZK (MV = 225 CZK)	246	34,50 %	180	33,40 %
301 – 450 CZK (MV = 375 CZK)	38	5,33 %	31	5,75 %
451 -600 CZK (MV = 525 CZK)	9	1,26 %	12	2,22 %
601 -999 CZK (MV = 800 CZK)	3	0,42 %	0	0,00 %
N Total	713		539	
Average amount of entrance fee paid		139, 27 CZK		139, 56 CZK

Source: Author

Regarding older respondents there is a higher proportion of respondents willing to enter Wax Museum in Prague in Group 1 (70 %) than in Group 2 (64,71 %). When calculating the Z-test, which decides about statistical significance between two population proportions, we get that the p-value is 0.2085, the result is therefore not significant at $p < 0.05$ and we cannot say that the behaviour of respondents above 46 years have significantly changed because of armed soldier's presence. The average amount of entrance fee paid by respondents in Group 1 and Group 2 (after calculating mean values of all entrance fee categories) differs by 9,42 CZK.

Table 14 - Comparison of entrance fee people above the age of 46 in Group 1 and Group 2 are willing to pay as the entrance fee to Wax Museum in Prague

Willingness to pay	N1	Group 1	N 2	Group 2
Nothing	93	30,00 %	72	35,29 %
1 – 150 CZK (MV = 75 CZK)	141	45,48 %	84	41,18 %
151 - 300 CZK (MV = 225 CZK)	63	20,32 %	42	20,59 %
301 – 450 CZK (MV = 375 CZK)	9	2,90 %	5	2,45 %
451 -600 CZK (MV = 525 CZK)	3	0,97 %	1	0,49 %
601 -999 CZK (MV = 800 CZK)	1	0,32 %	0	0 %
N Total	310		204	
Average amount of entrance fee paid		98,39 CZK		88,97 CZK

Source: Author

To conclude for scenario with the presence of armed police officer in front of Wax Museum in Prague was found no statistically significant effect in willingness of tourist to enter the museum

as well as no effect in the average entrance fee, people were willing to pay for entering the museum.

6.2. The effect of armed soldier's presence on consumer behaviour – case of Museum Louvre in Paris

Policy-makers around Europe have an increasing tendency to spend financial resources on visible presence of armed police officers and soldiers in the popular tourist destinations. The main question of this research is whether the presence of armed soldiers and police officers is also reflected in the revenue from the admission, precisely whether due to the feeling of supervision tourists are rather willing to visit a tourist facility compared to situation when such a supervision is missing. To find out electronic questioning among 437 Czech respondents was used. All respondents were asked the same question about the entrance fee they are willing to pay as an entrance fee to Museum Louvre, with the difference that they were randomly split into three groups and presented with different pictures when answering. There was not found out a significant difference in these three scenarios and therefore we cannot say that armed soldiers have an impact on consumer behaviour of tourists and that this public counterterrorist measure influences tourist's willingness to enter Museum Louvre in Paris.

6.2.1. Methodology of the research of the effect of presence of armed soldiers in front of the Museum Louvre in Paris

For the investigation of the effects of security guards, the electronic questioning was used, in which 437 respondents were supposed to indicate how much they are willing to pay for entering Museum Louvre in Paris. When stating the answer first group of respondents ($n = 136$) was presented with the picture of Museum Louvre with tourists and three soldiers standing in front of the entrance. (Picture 5)

Picture 6 - This picture was presented to Group 1 when answering the question about entrance fee the respondents are willing to pay



Source: The National

The second group of respondents was presented with a picture of Museum Louvre with tourists in front of the entrance. There was no soldier represented on the picture (Picture 6).

Picture 7 - This picture was presented to Group 1 when answering the question about entrance fee the respondents are willing to pay



Source: The National

The third group was the control group and these respondents were presented with no picture when asked about the entrance fee they are willing to pay.

Regarding the respondent's structure 71, 62 % of respondents were females and 28, 38 % were males. 64, 5 % of respondents indicated to be aged between 19 and 35 years. Only 3, 89 % of

respondents were older than 56 years. Because of the young age of respondents 70, 94 % of them indicated not to have a child or children. 46, 22 % of respondents have a university degree, 41, 88 % of respondents indicated secondary education as their highest accomplished education. Only 11, 9 % of population indicated to have primary education as their highest achieved education. The survey return's rate was 67, 9 %.

To make sure the electronic questionnaire really reaches the group of respondents, which could be interested in entering the Museum Louvre in France, our research questions were part of research on the knowledge of famous paintings, in which respondents were supposed to write to every painting its author. By this approach we wanted to minimize the number of respondents, who are actually not interested in art and would not consider entering the Museum Louvre in France anyway. Sample is therefore based on all responses, who decided to voluntarily find out their knowledge about authors of famous paintings, which was published at the portal VypInTo.cz

Results of this research are based on the comparison between proportion of respondents, who are willing to enter the Museum Louvre in Paris when asked about the amount of money they are willing to pay as an entrance fee in Group 1 and in Group 2. For finding if there is a statistically significant difference we use Z-Score calculator for two population proportions. This study compares not only the proportion of visitors, who are willing to enter the Museum Louvre in different treatments, but also the average amount of money respondents in these treatments are willing to pay as entrance fee. For the purpose of comparison of the different amount of money respondents are willing to pay as entrance fee in price-levels we work with the mean values (MV) of money visitors are willing to pay.

6.2.2. Results of the research of the effect of presence of armed soldiers in front of the Museum Louvre in Paris

The following table presents results in percentages and illustrates how much euros the respondents in Group 1, Group 2 and Control Group were willing to pay for entrance fee to Museum Louvre. In Group 1, which was presented with picture of three soldiers standing in front of Museum Louvre, higher proportion of respondents (94,12 %) decided to enter the Museum Louvre than in Group 2 (93,55%). When calculating the Z-Score test, which decides about statistical significance between two population proportions, we get that the Z-score is -0.2825 and the p-value is 0.38974 and the result is therefore not significant at $p < 0.05$.

Therefore, we can say that there is not a statistical significant difference in the proportion of visitors in scenario with armed soldiers and scenario without armed soldiers. When calculating the mean values for every entrance fee scale category and then calculating the average value of entrance fee paid by respondents in Group 1 and Group 2, we get also very small difference of 0,35 euro.

Table 15 - Comparison of entrance fee respondents in Group 1, Group 2 and in the control, group are willing to pay as the entrance fee to Museum Louvre

Willingness to pay	N1	Group 1	N2	Group 2	N3	Control Group
Nothing	8	5,88 %	10	6,45 %	8	5,48 %
1 – 25 eur (MV = 13 eur)	84	61,76 %	92	59,35 %	84	57,53 %
26 – 50 eur (MV = 38 eur)	36	26,47 %	46	29,68 %	46	31,51 %
51 – 75 eur (MV = 63 eur)	5	3,68 %	6	3,87 %	7	4,79 %
76 euro -100 eur (MV = 88 eur)	3	2,21 %	1	0,65 %	1	0,68 %
N respondents	136	100 %	155	100 %	146	100 %
Average amount of entrance fee paid		22,35 eur		22,00 eur		23,08 eur

Source: Author

When looking at the general comparison of all respondents in Group 1 and Group 2 we cannot see a significant difference. From previous studies we know, that the effect of armed soldier's presence can also differ based on gender and therefore the next tables focuses only on the effect of armed soldier's presence on men and women.

From the next table, which focuses only on women, we can see that in the Group 1 (presence of armed soldiers) is the willingness to enter the Museum Louvre Paris only slightly higher (96,91 %) than in Group 2 (98, 22 %). When calculating the Z-score test, which decides about statistical significance between two population proportions, we get that the Z-score is -0.0986 and the p-value is 0.46017, the result is therefore not significant at $p < 0.05$ and therefore we can say that changes of women's behaviour when armed soldiers are present in front of Museum Louvre, are not statistically significant. When comparing the average amount of entrance fee paid (after calculation of mean values of all entrance fee categories) we get the difference of only 0,134 euro between women in Group 1 and women in Group 2.

Table 16 - Comparison of entrance fee women in Group 1 and Group 2 are willing to pay as the entrance fee to Museum Louvre

Willingness to pay	N1	Group 1	N 2	Group 2
Nothing	3	3,09 %	3	2,78 %
1 – 25 eur (MV = 13 eur)	63	64,95 %	65	60,19 %
26 – 50 eur (MV = 38 eur)	27	27,84 %	33	30,56 %
51 – 75 eur (MV = 63 eur)	2	2,06 %	6	5,56 %
76 euro and more (MV = 88 eur)	2	2,06 %	1	0,93 %
Total	97	100 %	108	100%
Average amount of entrance fee paid		22,134 eur		22,00 eur

Source: Author

Regarding male respondents the differences between groups presented with armed soldiers and without armed soldiers the differences are higher. In Group 1 higher number of respondents was willing to enter the Museum Louvre (81,18 %) than in Group 2 (85,11 %). When calculating the Z-test, which decides about statistical significance between two population proportions, we get that the Z-score is - 0.2762 and the p-value is 0.38974, the result is therefore not significant at $p < 0.05$ and we cannot say that the behaviour of male respondents have significantly changed because of armed soldier's presence. The average amount of entrance fee paid by male respondents in Group 1 and Group 2 differs almost by 5 euro.

Table 17 - Comparison of entrance fee men in Group 1 and Group 2 are willing to pay as the entrance fee to Museum Louvre

Willingness to pay	N1	Group 1	N 2	Group 2
Nothing	5	12,82 %	7	14,89 %
1 – 25 eur (MV = 13 eur)	21	53,85 %	27	57,45 %
26 – 50 eur (MV = 38 eur)	9	23,08 %	13	27,66 %
51 – 75 eur (MV = 63 eur)	3	7,69 %	0	0 %
76 euro and more (MV = 88 eur)	1	2,56 %	0	0%
Total	39	100 %	47	100%
Average amount of entrance fee paid		22,87 eur		17,98 eur

Source: Author

From previous studies we know that not only gender, but also the age can play a significant role in subjective risk perception and behaviour connected with subsequent decision-making. Therefore, in the next two tables we focus on respondents at the age of 35 or younger and on respondents, who are above the age of 35.

When looking at the younger group of respondents we do not find a significant difference in the proportion of visitors in Group 1 (93,68 %) and Group 2 (93,44 %). When calculating the Z-test, which decides about statistical significance between two population proportions, we get that the Z-score is - 0.0719 and the p-value is 0.4721, the result is therefore not significant at $p < 0.05$ and we cannot say that the behaviour of respondents below 35 years have significantly changed because of armed soldier's presence. The average amount of entrance fee paid (after calculating mean values for entrance fee categories) differs by 0,73 euro.

Table 18 - Comparison of entrance fee people at the age of 35 or younger in Group 1 and Group 2 are willing to pay as the entrance fee to Museum Louvre

Willingness to pay	N1	Group 1	N 2	Group 2
Nothing	6	6,32 %	8	6,56 %
1 – 25 eur (MV = 13 eur)	57	60,00 %	73	59,84 %
26 – 50 eur (MV = 38 eur)	27	28,42 %	35	28,69 %
51 – 75 eur (MV = 63 eur)	2	2,11 %	5	4,10 %
76 euro and more (MV = 88 eur)	3	3,15 %	1	0,82%
Total	95	100 %	122	100%
Average amount of entrance fee paid		22,71 eur		21,98 eur

Source: Author

Regarding older respondents there is a higher proportion of respondents willing to enter Museum Louvre in Paris in Group 1 (95,12 %) than in Group 2 (93,44 %). When calculating the Z-test, which decides about statistical significance between two population proportions, we get that the Z-score is 0.0719 and the p-value is 0.4721, the result is therefore not significant at $p < 0.05$ and we cannot say that the behaviour of respondents above 35 years have significantly changed because of armed soldier's presence. The average amount of entrance fee paid by respondents in Group 1 and Group 2 (after calculating mean values of all entrance fee categories) differs by 0,45 cents.

Table 19 - Comparison of entrance fee people above the age of 35 in Group 1 and Group 2 are willing to pay as the entrance fee to Museum Louvre

Willingness to pay	N1	Group 1	N 2	Group 2
Nothing	2	4,88 %	2	6,56 %
1 – 25 eur (MV = 13 eur)	27	65,85 %	19	59,84 %
26 – 50 eur (MV = 38 eur)	9	21,95 %	11	28,69 %
51 – 75 eur (MV = 63 eur)	3	7,31 %	1	4,10 %
76 euro and more (MV = 88 eur)	0	0 %	0	0,82%
Total	41	100 %	33	100%
Average amount of entrance fee paid		22,51 eur		22,06 eur

Source: Author

6.2.3. Discussion and conclusion of the research of the effect of presence of armed soldiers in front of the Museum Louvre in Paris

It is important to note that there were 437 respondents in this study and therefore the differences could be statistical significant if more respondents participated in the study. It is important to note that unfortunately only 28,38 % of respondents were male respondents. Even though the current results suggest that the presence of armed soldiers could have an effect only on males, we have to keep in mind that these results may be due to the relative small sample of male respondents in this study. Also, it is important to note that the study was run exclusively among Czech respondents and therefore the results could be different for other nationalities. The research was also run in the period, when no major terrorist attack happened in France or rest of Europe and therefore the population probably was not about this topic so emotional. It is also possible that the presence of armed soldier does not have a significant effect on respondents of certain age group or gender, but rather on very different subgroup.

Previous studies showed that certain behavioural and physical devices as - deadbolt locks, closed-circuit TV cameras, and door view ports, as well as caller screening by the hotel's telephone operators, locking side hotel entrance doors at night, and routine visits by law enforcement agencies - can have a stronger impact on tourists' overall perception of safety and therefore they tendency to visit certain places. This study tried to find out if the presence of armed soldiers could also increase the tendency of visitors to visit the Museum Louvre in Paris and overcome avoidant behaviours well described in consumer behaviour studies from second intifada in Israel and post 9/11 attack in the United States.

Our initial hypothesis was that the presence of armed soldiers could increase the proportion of Czech tourists, who are willing to enter the Museum Louvre in Paris and therefore lead to an increase of customer spending.

The results of this chapter combat this hypothesis and show that the presence of armed soldiers generally does not lead to overcoming the avoidance behaviour, since there was not found a significant difference in proportion of visitors of Museum of Louvre in Paris, when armed soldiers are present in front of this tourist facility. Difference in proportion of visitors of Museum Louvre in Paris in Group 1 and Group 2 (group of respondents, which was presented with a picture with armed soldiers and group of respondents which was presented with a picture without armed soldiers) is not statistically significant and therefore the hypothesis about the impact of the presence of armed soldiers in front of Museum Louvre on the change of proportion of visitors entering the Museum Louvre in Paris (connected with a significant increase of expenditure for entrance fees) when armed police officer is present, cannot be confirmed on the significance level 5 %. There also has not been found a significant effect of armed soldiers presence on respondents, who are younger than 35 years or older than 35 years. Also, there has not been found an effect of armed soldier's presence on men and on women. The only bigger difference in the paid average amount of entrance fee was found among male respondents. It is important to note that the difference of total of almost 5 euro between male respondents in Group 1 and Group 2 (group of respondents, which was presented with a picture with armed soldiers and group of respondents which was presented with a picture without armed soldiers) can be caused by underrepresentation of male respondents in our sample, which was based on participant's interest in art and matching of famous paintings with their authors.

7. Subjective risk perception of terrorism in Israel

The majority of Western countries have maybe sometimes in modern history experienced terrorist activity, but only rarely. Population of the Western countries have been able to maintain their daily activities undisturbed by fears regarding terrorism. The experience of terrorism in Israel contrasts sharply with the mainstream experience of Western countries. Global Terrorism Index clearly states that Israel ranks among the nations most affected by terrorism in the past five decades. Only between 2005 and 2015 about 100 terror attacks targeting civilians have occurred in restaurants, nightclubs, coffee shops, buses, train stations, malls, universities, and other places. These attacks have occurred in all Israel's major cities, as well as smaller towns. From the statistical point of view 16,4 % of Israelis are terror victims, and an additional 22 % have a close family member or friend who was a victim of terrorism. Images of exploded buses, ruined coffee shops, wounded people, and general chaos are part of much of the news from this region. Israelis are constantly reminded of the possibility of being a terror attack victim. There have been already conducted different studies about the effects of fears of frequent terrorism among Israelis. For example, it was reported that during a terror peak in Israel, there was an increase in the sales of books, children's workbooks, crossword puzzles, chocolate, ice cream, cakes, furniture, dinnerware, flat-screen TVs, and espresso machines. Also, memberships in DVD rental services rose by 60 %. These data suggest that Israelis tried to make their homes more engaging. (Herzenstein, Horsky, Posavac, 2015)

In Israel, since the beginning of the intifada in September 2000, a nationally representative survey found that 16,4 % of the population had been directly exposed to a terrorist attack, and 37,3 % had a family member or friend who had been exposed (Bleich, Gelkopf, & Solomon, 2003).

7.1. The influence of terrorist attacks in Israel from the perspective of illusion of control (field research among Israelis)

The qualitative study conducted on 27 Israelis through snowball sampling technique (initially contacted informants provided names of additional prospective participants). All participants were asked questions regarding how the spike in terrorism affected their lives, the products they consume, how and where they shop, and generally which (if any) of their habits had changed. In a series of follow-up questions, participants of the conducted research were asked whether

they thought they could learn to increase their chance of survival if they were involved in a terror attack. The structure of the participants of this study can be seen in the following picture. (Herzenstein, Horsky, Posavac, 2015)

Picture 8 – Structure of Israeli respondents on experience with terrorism

Table 1. Informants details (alphabetical by pseudonym)

Pseudonym	Gender	Age (years)	City of residency	Involvement in terror attacks
Alon	Male	39	Tel Aviv	Victim
Ariella	Female	41	Herzeliya	None
Ben	Male	26	Tel Aviv	None
Corrine	Female	33	Ramat Hasharon	None
Daniel	Male	22	Kfar Saba	None
Ester	Female	53	Jerusalem	None
Frank	Male	33	Tel Aviv	None
Gal	Male	17	Herzeliya	None
Haguy	Male	42	Ramat Hasharon	None
Hannah	Female	62	Jerusalem	None
Idit	Female	36	Kfar Saba	None
Ilan	Male	45	Tel Aviv	None
Karmit	Female	31	Ramat Gan	Victim
Maya	Female	28	Tel Aviv	Victim
Meytal	Female	35	Hod Hasharon	Lost her husband
Nir	Male	25	Tel Aviv	None
Nirit	Female	34	Ramat Hasharon	Victim
Revital	Female	46	Raanana	None
Shlomit	Female	41	Givaatime	None
Tamar	Female	29	Ramat Aviv	None
Vicki	Female	75	Jerusalem	Lost her daughter
Yair	Male	31	Ramat Hasharon	None
Yariv	Male	18	Herzeliya	None
Yaron	Male	29	Ramat Hasharon	Victim
Yasemin	Female	16	Raanana	None
Zehava	Female	55	Tel Aviv	None
Zvi	Male	57	Beer Sheva	None

Source: (Herzenstein, Horsky, Posavac, 2015)

Results of this study show that almost all participants have changed their behaviour after experiencing terror attacks. Some have reported extreme consumer behaviour modifications, some of the participants have indicated rather subtler, but quite strategic changes in their consumer behaviour. We can place responses of participants of this quantitative study into two groups. The first group of participants reports that whether one is or one is not a victim of a terror attack is controllable to some degree. Because the first group of participants believe to have control over the likelihood of becoming a victim, the spectre of terror attacks either does not alter their consumer behaviour much or alters their behaviour strategically based on knowledge that informants believe that they have accumulated from learning about past attacks. Although the contexts varied widely from going out to eat, to going to a pub, to shopping, or to driving one's car, the underlying mechanism at play seems to be that consumers who believe that they have control over being a victim in a terror attack continue their consumer behaviour

in an unchanged manner only with small adjustments based on their confidence that they understand the determinants of victimhood. (Herzenstein, Horsky, Posavac, 2015)

The participants of this qualitative research, who belong to the second group, believe that the odds of being a victim of terrorism cannot be controlled to any degree. These individuals believe that one must be very protective and cautious in order to survive. In the conducted interviews, these individuals who consider terrorism uncontrollable indicated that they have dramatically altered their daily behaviour in order to reduce their level of anxiety, even though this means that they will be missing out on key life experiences. (Herzenstein, Horsky, Posavac, 2015)

To present the rapid difference in the change of costumer behaviour because of terrorist attack, we can compare the responses of respondents from first group and second group. The response of Frank from first group was: *„The chance that someone will die from a car accident is higher than from terror attacks, and still people are driving. Most terror attacks happen in specific places and are less random than car accidents, so we should stop panicking and start living again.“* Or the response of Ben from first group was: *„Of course I still go out, life must go on. I go to [a pub in the centre of Tel Aviv] because it has one door, no glass wall, and I sit way inside so if a suicide bomber comes I'll be able to run away through the kitchen in the back.“* The response of Hannah from first group: *„We live in Jerusalem, which is the target of many attacks, but this is our home so we must learn to survive. For example, I shop only in shopping malls that are inside buildings [not strip malls] because there are only a few entrances and they are guarded. All attacks on malls occurred at the street entrance so I simply never use that entrance and always enter through the underground parking lot. Once inside the mall, I feel safe because I know that no suicide bomber will be allowed past the security.“* And the response from Yarin: *„...made a decision not to worry about terrorism. I have to drive to work, it's a given. So I just let a few other cars get between me and the bus, and that way if something happens I will be safe because of the 'buffer zone' I created. If you're at least two-three cars away from the bus, you're safe.“* (Herzenstein, Horsky, Posavac, 2015)

Now these are the responses of participants from the second group, who believe they cannot have the situation regarding terrorist attacks under control. This is the response of Corine from the second group: *„A friend asked me to eat out at a restaurant, so I told her jokingly, 'let's choose one that will not explode.' We both laughed but eventually we didn't go out, it was too scary.“* Maya from the second group have said: *„After a while my friends realized that I'm not the same person. I don't like to go out anymore, I only want to stay at home. I was really only minimally hurt but the horror I've seen with my own eyes will never leave me. If that means having fewer friends, then that's ok. As long as I'm safe.“* Meytal from the second group

described her change in consumer behaviour as follows: „*I only go to the mall if I really need to buy something and I try not to take the kids with me. I usually wait and then do several errands the same day – it is very calculated. It's not fun anymore.* “ (Herzenstein, Horsky, Posavac, 2015)

The research presented above clearly show that consumers who perceive some control, because of their own skill and comprehension of past events, make only minor and mainly strategic adjustments of their consumer behaviour and their lives are mostly unaffected by terrorism concerns. We can say that participants who believe that their actions can control their likelihood of being victims can be biased in the illusion of control theory described in the first chapter of this dissertation thesis. In contrast, participants of the study who felt that victimhood was not controllable were much more influenced by terrorist attacks and engaged in avoidance behaviours, routinely foregoing previous outing preferences in favour of staying home and avoiding public contexts in which terror attacks have been concentrated. (Herzenstein, Horsky, Posavac, 2015)

7.2. The influence of terrorist attacks in Israel from the perspective of illusion of control (study conducted in the United States)

Another research about the risk perception of terrorist attacks in Israel from the perspective of the bias of illusion of control have been run in the United States. 202 American undergraduate students (61% female, average age 20 years) participated in the survey. Participants first read a one-page article about Israel presented on a computer screen for 2 minutes. The article described the 2001–2004 era of frequent terror attacks, an overview of the history of terrorism, and statistics about where attacks often occur in Israel. Then were participants split into two groups. The first group of high controllability was manipulated by adding in the article: „*Do these similarities of attacks suggest that attacks are predictable? Many in Israel would say yes. From listening to the stories of terror attack survivors, many Israelis believe they find common threads. For example, why sit at the entrance to a restaurant if most attacks happened there? Sit at the back, facing the door, and you will have a better chance to run away and survive. If you are driving, always let other cars get between you and a bus so that if there is an attack on the bus, you are more likely to survive. Similarly, go to inconspicuous places, shop at stores, not malls, and you will be fine.*“ The second group of low controllability was manipulated by another adding in the article: „*Do these similarities suggest that terror attacks are predictable?*

Many in Israel would say no. While similarities exist, many other factors may affect one's involvement in an attack. For example, the time of day for restaurant attacks varies greatly (some take place during lunch and some during dinner); some attacks have occurred in less conspicuous restaurants on side streets; several attacks have involved shooting at civilians rather than detonating a body-belt (i.e., suicide bombers).“ Next, participants were instructed to imagine that they were living in Israel and were asked to gauge the frequency in which they will engage in each of the following Saturday night activities (1 = never and 5 = always): “go out wherever I want,” “go out to inconspicuous places,” “go to friends’ houses,” and “stay home.” The results have shown that participants who read the high (versus low) controllability manipulation believe that most Israelis think terror attacks are predictable, also participants primed with low controllability were more likely to engage in avoidant behaviours. Thanks to this other research it was proved again that when consumers believe they have control over the likelihood of becoming a victim of terrorist attack, they hesitate less to go out in public places. (Herzenstein, Horsky, Posavac, 2015)

7.3. The terrorist attacks in Israel from the perspective of stress related mental health symptoms

Today we know that psychological effects of trauma are not limited only to those who were directly exposed to terrorism. Anxiety and stress connected with terrorism was identified among people who were significantly distant from the terrorist event's focus and were only informed about the attacks through media coverage. The influence of terrorist attack on human psyché cannot be predicted only by the extent of the exposure to the event but also by its subjective perception. Perception of risk includes the perception of control over the risk, meaning people's feeling of control over their environment allowing them to cope with external threats, perception of vulnerability to the risk, that is, the person's belief as to the likelihood of becoming a victim, or the extent to which a person perceives himself or herself as vulnerable to risks. (Cohen-Louck, 2016)

Cohen-Louck describes it in 2016: *„Feelings of perfect nonvulnerability can exist in controllable events with absolute confidence in protection against serious events and disasters. However, during a profound and ongoing disaster, such as terrorism, when the event affects a broader circle than the victims themselves, the surreal perception of the events vaporizes the optimism, and the illusion of feeling absolutely safe and even comparative security disappears.*

The perception that “this will not happen to me” is replaced by “when will this happen to me.”
(Cohen-Louck, 2016)

Results of the qualitative analysis among 40 Israeli adults from 2016 indicate that the components of the perception of terrorism (which construct the evaluation and subjective perception of the participants) are as follows:

- (a) perception of control, which is a feeling of loss of control;
- (b) perception of vulnerability to the threat, comprising of a feeling of vulnerability to terrorism versus a feeling of lack of vulnerability and a feeling of personal security;
- (c) perception of fear of terrorism, which includes responses of fear, anxiety, a feeling of danger, and emotional distress. (Cohen-Louck, 2016)

Between September 2000 and April 2002 there had been 472 people (318 civilians) killed in Israel because of a terrorist attack and 3846 people (2708 civilians) had been injured because of terrorist attack. And there were 560 attacks carried out between 1967 and 2002. National representative telephone-based survey among Israeli residents tried to find out if people of Israel suffer from posttraumatic stress disorder as the consequence of these incidents. The results have showed that in the period September 2000 and April 2002 (after 19 months of unrelenting exposure to public terrorism, Israeli society was coping and not severely suffering from substantial mental health symptoms and impairment. Regarding the Israeli society we can speak of a fast process of adaptation and accommodation. (Bleich, Gelkopf, Solomon, 2003)

7.4. Subjective risk perception of Czech people in Israel – impact of the deployment of armed soldiers

In the next part of this dissertation thesis we will look if the presence of armed soldiers standing in front of the Western Wall in Jerusalem make Czech tourists feel more secure, less secure or will have no statistically significant impact. It is important to write right in the beginning that all the difference in subjective risk perception will be measured in respect to a different gender, mental state, familiarity with the environment and media influences.

7.4.1. Differences in subjective risk perception in general population – role of gender, chronic anxiety and/or chronic depression, familiarity with the environment and media influences

One can commonly observe, for instance, that the same level of risk as initially perceived by two individuals may result in quite different levels of "concern," "worry" or "intent to take action." From previous researches we know that the subjective risk perceptions can differ between men and women and women have the tendency to be more fearful than men and therefore also report higher levels of risk as a concern than men. Based on a review of 75 studies that included analyses of gender differences in ratings of environmental and safety risks it was concluded that women more often rate many of these risks as being of more concern than do men. However, this effect was not found uniformly across all types of risk. (Ceccato, 2016; Slovic, 2012; Hitchcock, 1999) Study of environmental risk perceptions of men and women from a range of socioeconomic backgrounds and races revealed relatively higher risk concerns among both men and women who were living in stressed environments (i.e., with multiple hazards). (Greenberg, Schneider 1995) But generally we can say men engage in riskier behaviours than do women, men are more often the victims of accidents than are women. For example, for every 100,000 US drivers, men are three times as likely as women to be involved in fatal car accidents, Male pedestrians in the UK are involved in accidents about 80 % more often than female pedestrians, and men die much more often from drowning or accidental poisoning throughout the Western world. Gender differences in risk perceptions are prevalent already in children. Using pictorial descriptions like „*riding bicycle with no helmet*“ and follow-up interview with the child has found out that girls appraised more general risk (i.e., judged the situations as more unsafe) than boys. While boys' risk judgments were significantly predicted by their ratings of injury severity, the girls' risk judgments were better predicted by their ratings of vulnerability to any type of injury. This suggests that girls may avoid risky situations with any likelihood of perceived injury and boys may avoid risky situations only if the possible perceived injuries are judged as being severe. (Harris, Jenkins, 2006)

Another important factor, which strongly influences subjective risk perception is chronic anxiety (which is in half of the cases also accompanied by depression). (Anxiety and Depression Association of America, 2016) Anxiety worsens cognitive functioning because it diverts attention to threatening stimuli and increases cognitive preoccupation with threatening sources, shifting attention and resources away from nonthreatening stimuli. Terrorism and mass

shootings activate the fear and when we become afraid, the first instinct is to neutralize the threat and therefore the primitive, survival-oriented part of our brain (the amygdala) sends chemicals and neural messages throughout our bodies prompting us to do something. Therefore, we are no longer thinking with our more rational evolved minds. When we let this primitive part of our brain do our thinking, we cannot calculate the likelihood of an event occurring. We can only imagine how bad it might be. When we act while in a state of fear, our attempts to stay safe actually make the problem worse. Our brain gets basically hijacked. (Shannon, 2016) Shortly anxiety leads to an overestimation of subjective risk perception and increased risk-averse behaviour. (Eysenck, Santos, Derakshan, Calvo, 2007; Huddy, Feldman, Taber, Lahav, 2005)

The third factor, which influence the subjective risk perception is the familiarity with the environment. Generally, familiarity with the environment makes people feel safer and newcomers are therefore more fearful (Ceccato, 2016) One aspect of the holiday decision making process is the type and level of risks individuals associate with destinations. Various dimensions of knowledge were found to influence tourist risk perceptions. The results of previous studies revealed that past international travel experience directly reduces the usage of internal sources of information and the objective knowledge directly reduces the usage of promotional sources of information. (Sharifpour, 2012) The sensibility towards the occurrence of any type of risk vary with familiarity with the destination, and travel experience as well as their propensity to seek novelty and therefore the population, which travels more and/or travels outside the mainstream destinations have the tendency to have lower subjective risk perception than those, who travel less or do not travel at all and do not strive for novelty. (Correia, Pimpao, Crouch, 2008).

The next commonly discussed factor, which may influence subjective risk perception is age. While some research has found that older adults are less risk seeking, other research has found the opposite or no differences. Age differences in risk preferences may vary across domains and may result from differing motivations. (Bonen, Ellsworth, Gonzalez, 2015; Ferraro, LaGrange, 1992; Ray, Parker, 2010)

Media are also often believed to be very important or even a key factor for subjective risk perception and some studies state that the general subjective risk perception of terrorism is strongly influenced by national incidents portrayed on TV, Facebook and other sources of public news. (Schreck, Miller, 2003; Kapuscinski, Richards, 2016) News media are often

considered to be a particularly important source of risk perceptions of hazards and the security situation in a tourist destination. While providing people with crucial information news media coverage of hazards is commonly believed to be associated with producing distorted understanding of safety levels at destinations. (Kapuscinski, Richards, 2016) Other studies oppose to this generalized view of media's influence stating that media are diverse in content, often not as biased in their (news) reporting as is commonly thought and even for heavy media users, media are probably not a strong causal factor in risk perception. One opinion about the mass media is that it is maybe not the content that influences people's opinions, but rather the amount of coverage and the availability heuristic playing a vital role in its impact on subjective risk perception. (Kahneman, Tversky, 1972) This means the more people are informed about terrorism, the more they are afraid of terrorism and indicating their subjective risk perception higher. For example, Johnson and Tversky found that all kinds of (general) risks were rated as higher when people had read a story about sudden death, which induced a sad mood. (Wahlberg, Sjoberg, 2000)

7.4.2. Methodology of the research on subjective risk perception of Czech tourists in Jerusalem

To find out if armed guards in Jerusalem streets serve as a psychological support for calming nerves of tourists or rather a stress factor we have decided to test reactions on two different environments – when armed soldiers are present and when armed soldier are absent in the given environment. As the background of the environment we have decided to use the Western Wall in Jerusalem, since this city have experienced several bigger terrorist attacks recently and the Western Wall is a popular symbol connected with the city.

To test reactions on the environment all respondents (n=667) were split into two groups - group 1, which received a treatment 1 and group 2, which received treatment 2. Every member of both groups was asked to evaluate their fear of terrorism by indication on the Likert scale asked: *“Imagine, your boss got sick and it is you, who have to travel for business trip to Jerusalem instead of him to hand out an important document. Please rate on scale 0 (no worries) 1 (almost zero fear) 2 (little worry) 3 (medium worry) 4 (a great concern) 5 (very scary fear - I will not be able to go) to which extent you fear a terrorist attack when travelling to Jerusalem.”* The only difference between the respondents in these two treatments is the fact that first group of respondents (n = 364) is being presented with a picture of the Western Wall in Jerusalem without armed soldiers when answering the question, and the second groups of respondents (n

= 303) is being presented with picture of the Western Wall in Jerusalem with four armed soldiers when answering the question.

Results of this dissertation thesis chapter are based on the comparison between respondents 'responses in first group (treatment without armed soldiers on the picture) and second group (treatment with armed soldiers on the picture) when asked about indicating their level of fear on the Likert scale. Differences between responses on subjective risk perception of terrorism in Jerusalem in treatment 1 and treatment 2 were tested using independent T-Test, statistical test that is used to compare the means of two groups, which can be used when the two groups under comparison are independent of each other. T-tests are usually used in cases where the experimental subjects are divided into two independent groups, with one group treated with A and the other group treated with B group. (Kim, 2015)

We estimated the t statistic using the following equation:

$$t = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{\left(\frac{(N_1 - 1)s_1^2 + (N_2 - 1)s_2^2}{N_1 + N_2 - 2} \right) \left(\frac{1}{N_1} + \frac{1}{N_2} \right)}}$$

where X_1 stands for treatment 1 and X_2 stands for treatment 2, N_1 stands for the number of respondents in treatment 1, N_2 stands for the number of respondents in treatment 2, $(s_1)^2$ is the sum of the squared deviations around the mean of a random sample in treatment 1 divided by the sample size of treatment 1 minus one, $(s_2)^2$ stands for the sum of the squared deviations around the mean of a random sample in treatment 2 divided by the sample size in treatment 2 minus one. P-values were considered significant at $p < 0,05$. Data were analysed using the Social Science Statistics.

In case the T-Test difference in fear of respondents in first group and second group is statistical significant, we will be able to conclude that the presence of armed soldiers in the city of Jerusalem has a statistical significant effect on subjective risk perception. The T-Test will measure, if there is statistical significant difference between all respondents in Treatment 1 and Treatment 2, between men in Treatment 1 and men in Treatment 2, between women in Treatment 1 and women in Treatment 2, between respondents, who suffer from chronical anxiety and/or chronical depression in Treatment 1 and Treatment 2, between respondents, who

do not suffer neither from chronic depression nor from chronic anxiety in Treatment 1 and Treatment 2, between respondents, who have been outside the Western World before (in Latin America, Africa or Asia) in Treatment 1 and Treatment 2, between respondents, who have never been outside the Western World (in Latin America, Africa or Asia), between respondents, who read newspaper in Treatment 1 and Treatment 2, between respondents, who do not read newspaper in Treatment 1 and Treatment 2. If the values indicated on the Likert scale by subgroup 1 will be significantly higher than the values indicated in the Likert scale indicated by subgroup 2, the result will be that the presence of armed soldiers have a positive effect and through the illusion of control significantly decrease the subjective risk perception. If the values indicated on the Likert scale by subgroup 1 will be significantly lower than the values indicated in the Likert scale indicated by subgroup 2, the result will be that the presence of armed soldiers has a negative effect on subjective risk perception of terrorism and soldiers are probably associated with terrorism through priming.

The data were collected in Czech language among citizens of the Czech Republic in winter 2017/2018 (during February 2018 and March 2018) through platform VypIinto.cz and the return rate of a questionnaire was 71,7 %. Respondents were not only asked about their fears, but also about their gender, age, chronic depression and chronic anxiety diagnosis, if they have been to Asia, Latin America or Africa and if they regularly read newspapers. In the first treatment, there were 224 women and 140 men, in the second treatment there were 187 women and 116 men. In the first treatment 51 respondents have indicated to suffer from chronic anxiety and/or chronic depression, in the second treatment 43 respondents indicated to suffer from chronic anxiety and/or chronic depression. 136 respondents indicated to travel to Asia, Latin America or Africa before in the first treatment and 95 respondents have indicated to travel to Asia, Latin America or Africa in the second treatment. No travel experience outside the Western World was indicated by 228 respondents in the first treatment and by 208 respondents in the second treatment.

7.4.3. Results of the research on subjective risk perception of Czech tourists in Jerusalem

All participants of our survey were also asked to indicate on the Likert scale the following: *“Imagine, your boss got sick and it is you, who have to travel for business trip to Jerusalem instead of him to hand out an important document. Please rate on scale 0 (no worries) 1 (almost zero fear) 2 (little worry) 3 (medium worry) 4 (a great concern) 5 (very scary fear - I will not*

be able to go) to which extent you fear a terrorist attack when travelling to Jerusalem.”

Therefore, the lower the average value of subjective risk perception, the smaller is the risk felt by respondents and the more positive is the presented scenario (without presence of armed soldiers or with presence of armed soldiers).

Table 20 - The comparison of two different scenarios (picture with no soldiers, picture with four soldiers) and its effect on the subjective risk perception of terrorism of men, women, people, who suffer from chronical depression and/or chronical anxiety, people, who do not suffer from neither chronical depression nor chronical anxiety, people, who have travelled outside the Western World before, people, who have never travelled outside the Western world.

	Scenario 1 – no soldiers			Scenario 2 – armed soldiers		
	N	Average value of subjective risk perception	Standard Deviation	N	Average value of subjective risk perception	Standard Deviation
All responses	363	2.08	1.52	302	1.96	1.52
Men	140	1.78	1.43	116	1.37	1.31
Women	224	2.26	1.55	187	2.33	1.54
Chronically depressed or anxious	51	2.5	1.67	43	2.41	1.59
Chronically non-depressed, non-anxious	311	2	1.49	258	1.89	1.5
Travel outside the Western world	136	1.66	1.38	95	1.54	1.49
Do not travel outside the Western World	228	2.32	1.55	208	2.15	1.5
30 years or younger	159	2.11	1.47	132	1.87	1.3
Above the age of 30	205	2.05	1.56	171	2.01	1.63
Readers of newspapers	193	1.89	1.4	153	1.875	1,44
Do not read newspapers	171	2.29	1.61	150	2.05	1.59

Source: Author

When using T-Test to find out if there is statistically significant difference between all responses in scenario 1 and all responses in scenario 2, we get the t-value is 0.95788. The p-value is 0.169236 and therefore we can say that the result is not significant at $p < 0.05$. We cannot say that the presence of armed soldiers has had an impact on subjective risk perception of general population.

The average value indicated on the Likert scale for subjective risk perception of men in scenario with four armed soldiers was lower (1,37) than in scenario without soldier's presence. When running T-Test for these two treatments (focused only on values indicated by men), we get t-value of 2.36028 and the p-value of 0.009509. The result is therefore significant at $p < 0.05$ and we can say that the presence of armed soldiers has a statistically significant positive effect on fear of terrorism among men.

Contrary to men, women indicated higher values of fear in scenario with armed soldiers than in scenario without visible counterterrorist measures. When comparing the indicated Likert scale values for women, we work with much higher values of fear compared to men and do not reach statistical significant difference between two scenarios. The t-value is -0.44706 and the p-value is 0.327536 and therefore the result is not significant at $p < 0.05$.

To find out if the presence of armed soldiers in front of the Western Wall had statistical significant effect on people, who suffer chronically from anxiety and/or depression, with use of T-Test we get the t-value of 0.27125 and the p-value of 0.393395. The result is therefore not significant at $p < 0.05$ and we can say the presence of armed soldiers have not had a statistically significant impact on fear of respondents, who suffer from chronic depression and/or anxiety.

Running T-test for respondents, who suffer from neither chronic depression nor chronic anxiety, we get the t-value of 0.94496. The p-value of 0.172541 and can say that the result is not significant at $p < 0.05$ and the presence of armed soldiers have had no significant impact on respondents, who do not suffer from chronic depression and chronic anxiety.

Running T-test for respondents, who have travelled outside the Western world we get the t-value of 0.65629 and the p-value of 0.256148 and therefore the result is not significant at $p < 0.05$. We also have not got statistically significant difference for respondents, who have never travelled outside the Western World (The t-value is 1.13439 and the p-value is 0.12863 and therefore the result is not significant at $p < 0.05$).

Similarly, there have been found no statistically significant difference for respondents of 30 years of younger (the t-value is 1.26504 and the p-value is 0.103438. The result is not significant at $p < 0.05$) and for respondents above the age of 30 years (the t-value is 0.2245. The p-value is 0.411247. The result is not significant at $p < 0.05$).

Contrary to expectations and suggestions of previous studies readers of newspapers indicated to suffer from less fear than non-readers. The presence of armed soldiers has not had a statistically significant effect of fear on neither reader of newspapers (the t-value of 0,05738 and the p-value of 0.477138, the result is not significant at $p < 0.05$), nor non-readers of newspapers (the t-value is 1.3345, the p-value is 0.091496 and the result is not significant at $p < 0.05$).

7.4.4. Discussion and conclusion of the research on subjective risk perception of Czech tourists in Jerusalem

It is important to point out that this research was carried out exclusively among Czech respondents (in Czech language) and therefore it is possible that if this research was reproduced in a different country, the results could vary significantly. Also, it is relevant to mention there was no big terrorist attack directly in Jerusalem during the period of electronic questioning and the results of this study could be different shortly after a terrorist attack when emotions about a terrorist attack in Jerusalem is freshly in respondent's heads.

Previous studies on fear and subjective risk perception came to conclusion that fear and subjective risk perception can depend on respondent's gender, age, chronic anxiety, familiarity with the environment (experience with travelling outside the Western world) and exposure to mass media serving news. In this study we tried to find out if the presence of armed soldiers could have actually an effect on fear and subjective risk perception. To find out the effect of armed soldier's presence we have split respondents into two different treatments and collected data about their fear in environment without the presence of armed soldiers and in the environment with the presence of armed soldiers. When analysing the data, we have compared data for different subgroups, which could differ in the level of fear and tried to find out if the presence of armed soldiers could have had an effect on fear of these specific subgroups – men, women, people, who suffer from chronic depression and/or anxiety, people, who suffer neither from chronic depression nor from chronic anxiety, people, who have travelled outside the Western World before, people, who have never travelled outside the Western World, people at

the age of 30 or younger, people above the age of 30 and people, who read newspapers regularly and people, who do not read newspapers regularly.

The main results of this study are that the presence of armed soldiers in the city of Jerusalem has a positive effect on fear of terrorism among men and that their level of fear in scenario with armed soldiers is statistically significantly lower than in scenario without visible counterterrorist measures. We can say that the presence of armed soldiers in city of Jerusalem function as an illusion of control for men. For all other subgroups (women, people, who suffer from chronic depression and/or anxiety, people, who suffer neither from chronic depression nor from chronic anxiety, people, who have travelled outside the Western World before, people, who have never travelled outside the Western World, people at the age of 30 or younger, people above the age of 30 and people, who read newspapers regularly and people, who do not read newspapers regularly) even though for the majority of them the average values of fear were in the second treatment smaller, there was not found a statistical significant difference in fear between first treatment (no soldiers present) and second treatment (four armed soldiers present). The effect of presence of armed soldiers in the city of Jerusalem have been found only among men.

7.5. The effect of armed soldier's presence on subjective risk perception measured by picture-association method

The goal of the following chapter is also to find out if the presence of armed soldiers in the city of Jerusalem influences the perceived safety by Czech tourists, who plan to travel to this destination. Shortly we try to find out if there is a statistically significant effect on respondent's fears when armed soldiers are present in the city. We have decided to study this issue in the city of Jerusalem, since the greatest amount of terrorist attacks (domestic as well as international) steadily occurs in the Middle East and Jerusalem is one of most popular destination in Middle East among Czech tourists. (Lutz, 2010)

7.5.1. Methodology of the picture association method

To find out if armed guards in Jerusalem serve as a psychological support for calming nerves of tourists or rather a stress factor we have decided to test reactions on two different environments – when armed soldiers are present and when armed soldier are absent in the given environment. As the background of the environment we have decided to use the Western Wall

in Jerusalem, since this city have experienced several bigger terrorist attacks recently and the Western Wall is a popular symbol connected with the city of Jerusalem.

In the first stage of the research all 667 respondents were split into two groups, which have been treated differently using the picture-association method. Both groups were asked to place themselves into a situation they have to travel to the city of Jerusalem next Monday as a business trip (had to replace their bosses last minute). After this placement all respondents both two groups were asked to list all concerns they have with the journey. The only difference between these two groups was the treatment – one group was presented with the picture of the Western Wall in Jerusalem with tourists and locals without any visible counterterrorist measures when listing their concerns and the second group of respondents was presented with the picture of the Western Wall in Jerusalem with not only tourists and locals, but also four soldiers.

To find out the difference in the subjective risk perception of terrorism in this first stage of our research, we will then count the amount of the words “*terror*” and “*terrorism*” which were listed by the first group and by the second group. If there will be higher percentage (“*terror*” and “*terrorism*” words per person) in the first group (no soldier on the picture), it will be a sign that soldier could actually calm down the nerves of tourists. If there will be higher percentage (“*terror*” and “*terrorism*” words per person) in the second group (presented with four soldiers on the picture), it will be a sign that the presence of soldiers makes the population think about population even more and their presence in front of the Western Wall in Jerusalem is rather a stress factor. In case of the first possible result that there will be higher percentage (“*terror*” and “*terrorism*” words per person) in the first group (no soldier on the picture), we could conclude that soldiers provide an illusion of control and make Czech tourists travelling to the city of Jerusalem feel better. In case of the second possible result that there will be higher percentage (“*terror*” and “*terrorism*” words per person) in the second group (presented with four soldiers on the picture), we could conclude that the presence of soldiers is mainly the source of priming and therefore make Czech tourists travelling to the city of Jerusalem think about their presence and possible terrorist attack leading to increased risk perception. It is important to note that to conclude one of these results the difference between the average values indicated on the Likert scale must be statistically significant at p-values lower than 0.05. To find out the statistical significance of our results the 2-sample z-test for 2 proportions will be calculated. (The Pennsylvania State University, 2018)

7.5.2. Results of the picture association method

When the respondents were asked to write down the fears they have in situation they have to travel to the city of Jerusalem because of their work, in scenario with no visible counterterrorist protection (no soldiers present on the picture), 18.68 % of respondents have listed terror or terrorism among their fears. In group of respondents, who were presented with presence of armed soldiers in Jerusalem, 15.18 % have indicated terror or terrorism as their concern. The result of this open question suggests that the presence of armed soldiers in Jerusalem could have a positive impact on subjective risk perception of terrorism. But when using the z-test calculator for comparing proportions of two samples, we can see that the difference of 3.5 % in both scenarios is not statistically significant at p-value lower than 0.05.

Table 21 - The comparison of two different treatments (picture with no soldiers, picture with four soldiers) and its effect on listing terror or terrorism among main concerns when travelling to Jerusalem

	Scenario 1 – no soldiers present	Scenario 2 – armed soldiers present
All responses	364	303
Responses with terror/terrorism	68	46
Average amount of responses with terrorism	18.68 %	15.18 %

Source: Author

7.5.3. Discussion and conclusion of the picture association method

It is important to point out that the research in this chapter was carried out exclusively among Czech respondents (in Czech language) and therefore it is possible that if this research was reproduced in a different country, the results could vary significantly. Also, it is relevant to mention there was no big terrorist attack directly in Jerusalem during the period of electronic questioning and the results of this study could be different shortly after a terrorist attack when emotions about a terrorist attack in Jerusalem is freshly in respondent's heads. It is also important to note that the effect of the presence of armed soldier's presence was tested in the city of Jerusalem, where terrorist attacks happen with higher frequency than in the other parts of the Western world.

Using the picture-association method we have found out the average amount of responses with concerns about terror and terrorism is 18,68 % in first treatment and 15,18 % in the second

treatment and therefore at the first look it could look like that the presence of armed soldiers in front of the Western Wall in Jerusalem could have a positive effect on respondent's fear. But when using z-test calculator for comparing proportions of two samples, we have not found statistically significant difference between these two treatments and therefore cannot really say that the presence of armed soldiers in front of Western Wall in Jerusalem has had an effect on respondent's concerns.

We can therefore conclude that huge amount of money spends on visible presence of armed soldiers in city centres with the goal to calm down the nerves of population, have no statistical significant effect on perceived safety of general population. Security theatre in the form of armed soldier's presence does not have an effect on the feeling of safety and if meant only as an illusion of control, can be considered as a waste of public resources.

7.6. Czech consumption behaviour changes when armed soldiers are present/absent in front of the Western Wall in Jerusalem

It was written already that the majority of Western countries have maybe sometimes in modern history experienced terrorist activity, but only rarely. Contrary to Israel population of the Western countries have been able to maintain their daily activities undisturbed by fears regarding terrorism. Israel, especially the city of Jerusalem is one of the most often global targets of terrorist activity. It was also already written that Czech population suffers from a tremendous fear of terrorism. The following research therefore focuses on Czechs travelling to the city of Jerusalem and on the question if the presence of armed soldiers will make them more willing to visit some tourist sites and increase the average expenditure for the tourist attraction.

7.6.1. Data and methodology of research on changes in consumption behaviour in Jerusalem

The very same methodology as in the case of the Wax Museum in Prague was used for the investigation of the effects of security guards on Czech tourists when the setting was changed from Prague to Jerusalem. Also, in this case the electronic questioning was used, in which 667 respondents were supposed to indicate how much they are willing to pay for approaching the Western Wall in Jerusalem. When stating the answer first group of respondents ($n = 363$) was presented with the picture of Western Wall in Jerusalem with tourists and locals walking along the Wall. The second group of respondents ($n = 302$) was presented with the picture of the

Western Wall in Jerusalem, where were not only tourists and local portrayed on the picture, but mainly four armed soldiers visible right in the centre of the picture.

Regarding the respondent's structure 62, 13 % of respondents were females and 37, 87 % were males. 43,15 % of respondents indicated to be aged 30 years or younger. Only 22,99 % of respondents were older than 51 years. In total 47,85 % of respondents have indicated to have a university degree, 47, 46 % of respondents indicated secondary education as their highest accomplished education. Only 4, 70 % of respondents of our research indicated to have primary education as their highest achieved education. The survey return's rate was 71, 7 %. All data were collected through the Czech portal VypInTo.cz

Results of this research are based on the comparison between proportion of respondents, who are willing to enter the Wax Museum in Prague when asked about the amount of money they are willing to pay as an entrance fee in Group 1 and in Group 2 (when armed police officer is present and when armed police officer is absent). For finding if there is a statistically significant difference we use Z-Score calculator for two population proportions. This study compares not only the proportion of visitors, who are willing to go to Western Wall in Jerusalem in these two different treatments, but also focuses on the correlation between the average amount of money respondents in these treatments are willing to pay as entrance fee and their fear of terrorist attack (indicated on the Likert scale).

7.6.2. Results of research on changes in consumption behaviour in Jerusalem

When looking at all respondents in Group 1 and Group 2, we can see that in Group 1 (when soldiers are not portrayed on the picture), more respondents (15,34 %) does not want to visit the Western Wall in Jerusalem, even in case it is for free than in Group 2 (13,58 %). When calculating the Z-test, which decides about statistical significance between two population proportions, we get that the p-value is 0.26109, the result is therefore not significant at neither $p < 0.05$, nor at $p < 0.10$ and we cannot say that the general behaviour of respondents in Group 1 and Group 2 have significantly changed because of armed soldier's presence. The average amount of entrance fee paid by respondents in Group 1 and Group 2 (after calculating mean values of all entrance fee categories) differs by 11,36 CZK and we can see a small tendency that respondents pay more when they armed soldiers are portrayed on the picture of the Western Wall in Jerusalem.

Table 22 - Comparison of entrance fee all respondents in Group 1 and in Group 2 are willing to pay as the entrance fee to enter to Western Wall in Jerusalem

Willingness to pay	Group 1		Group 2	
	N	%	N	%
Nothing, I do not want to go, even if it is free	56	15,34 %	41	13,58 %
I go only if it is for free	44	12,05 %	39	12,91 %
No more than 100 CZK (MV = 50 CZK)	66	18,08 %	44	14,60 %
101 – 200 CZK (MV = 150 CZK)	71	19,45 %	64	21,19 %
201 - 300 CZK (MV = 250 CZK)	58	15,89 %	52	17,22 %
301 - 400 CZK (MV = 350 CZK)	27	7,40 %	19	6,29 %
401 CZK and more (MV 450 CZK)	43	11,78 %	43	14,24 %
N Total	365	100 %	302	100 %
Average amount of entrance fee paid	156,85 CZK		168,21 CZK	

Source: Author

Regarding the results for women in Group 1 and Group 2, we can see that in Group 1 (when soldiers are not portrayed on the picture), more women (14,47 %) does not want to visit the Western Wall in Jerusalem, even in case it is for free than in Group 2 (13,37 %). When calculating the Z-test, which decides about statistical significance between two population proportions, we get that the p-value is 0. 0.37448, the result is therefore not significant at neither $p < 0.05$, nor at $p < 0.10$ and we cannot say that the general behaviour of women in Group 1 and Group 2 have significantly changed because of armed soldier's presence. The average amount

of entrance fee paid by women in Group 1 and Group 2 (after calculating mean values of all entrance fee categories) differs only by 2,18 CZK and the tendency to pay more is observed again in scenario, when there are armed soldiers portrayed on the picture of the Western Wall in Jerusalem.

Table 23 - Comparison of entrance fee all women in Group 1 and in Group 2 are willing to pay as the entrance fee to enter to Western Wall in Jerusalem

Willingness to pay	Group 1		Group 2	
	N	%	N	%
Nothing, I do not want to go, even if it is free	33	14,47 %	25	13,37 %
I go only if it is for free	20	8,77 %	23	12,30 %
No more than 100 CZK (MV = 50 CZK)	37	16,23 %	27	14,44 %
101 – 200 CZK (MV = 150 CZK)	54	23,68 %	44	23,53 %
201 - 300 CZK (MV = 250 CZK)	41	17,98 %	29	15,51 %
301 - 400 CZK (MV = 350 CZK)	17	7,46 %	13	6,95 %
401 CZK and more (MV 450 CZK)	26	11,40 %	26	13,90 %
N Total	228	100 %	187	100 %
Average amount of entrance fee paid	166,00 CZK		168,18 CZK	

Source: Author

Regarding the results for men in Group 1 and Group 2, we can see that in Group 1 (when soldiers are not portrayed on the picture), more men (14,38 %) does not want to visit the

Western Wall in Jerusalem, even in case it is for free than in Group 2 (12,39 %). When calculating the Z-test, which decides about statistical significance between two population proportions, we get that the p-value is 0.32276, the result is therefore not significant at $p < 0.05$ and we cannot say that the general behaviour of men in Group 1 and Group 2 have significantly changed because of armed soldier's presence. The average amount of entrance fee paid by men in Group 1 and Group 2 (after calculating mean values of all entrance fee categories) differs by 12,30 CZK and the tendency to pay more is observed again in scenario, when there are armed soldiers portrayed on the picture of the Western Wall in Jerusalem.

Table 24 - Comparison of entrance fee all men in Group 1 and Group 2 are willing to pay as the entrance fee to enter to Western Wall in Jerusalem

Willingness to pay	Group 1		Group 2	
	N	%	N	%
Nothing, I do not want to go, even if it is free	20	14,38 %	14	12,39 %
I go only if it is for free	23	16,55 %	16	14,16 %
No more than 100 CZK (MV = 50 CZK)	29	20,86 %	18	15,93 %
101 – 200 CZK (MV = 150 CZK)	18	12,95 %	20	17,70 %
201 - 300 CZK (MV = 250 CZK)	18	12,95 %	23	20,35 %
301 - 400 CZK (MV = 350 CZK)	10	7,19 %	6	5,31 %
401 CZK and more (MV 450 CZK)	21	15,11 %	16	14,16 %
N Total	139	100 %	113	100 %
Average amount of entrance fee paid	155,40 CZK		167,70 CZK	

Source: Author

From previous research we know that the age is also a vital factor influencing subjective risk perception. Regarding the results for younger population (at the age of 30 or younger) in Group 1 and Group 2, we can see that in Group 2 (when soldiers are portrayed on the picture), more respondents (15,90 %) does not want to visit the Western Wall in Jerusalem, even in case it is for free than in Group 1 (12,58 %). When calculating the Z-test, which decides about statistical significance between two population proportions, we get that the p-value is 0.20897, the result is therefore not significant at neither $p < 0.05$, nor at $p < 0.10$ and we cannot say that the general behaviour of younger population in Group 1 and Group 2 have significantly changed because of armed soldier's presence.

Table 25 - Comparison of entrance fee all respondents at the age of 30 or younger in Group 1 and in Group 2 are willing to pay as the entrance fee to enter to Western Wall

Willingness to pay	Group 1		Group 2	
	N	%	N	%
Nothing, I do not want to go, even if it is free	20	12,58 %	21	15,90 %
I go only if it is for free	17	10,69 %	15	11,36 %
No more than 100 CZK (MV = 50 CZK)	21	13,21 %	23	17,42 %
101 – 200 CZK (MV = 150 CZK)	47	29,56 %	28	21,21 %
201 - 300 CZK (MV = 250 CZK)	26	16,35 %	23	17,42 %
301 - 400 CZK (MV = 350 CZK)	10	6,28 %	7	5,30 %
401 CZK and more (MV 450 CZK)	18	11,32 %	15	11,36 %
N Total	159	100 %	132	100 %
Average amount of entrance fee paid	164,78 CZK		153,79 CZK	

Source: Author

The average amount of entrance fee paid by younger respondents in Group 1 and Group 2 (after calculating mean values of all entrance fee categories) differs by 10,99 CZK and the tendency to pay more is observed contrary to previous results in scenario, when there are not armed soldiers portrayed on the picture of the Western Wall in Jerusalem.

Here we can look at results for respondents above the age of 30:

Table 26 - Comparison of entrance fee all respondents above the age of 30 in Group 1 and in Group 2 are willing to pay as the entrance fee to enter to Western Wall in Jerusalem

Willingness to pay	Group 1		Group 2	
	N	%	N	%
Nothing, I do not want to go, even if it is free	36	17,56 %	21	12,28 %
I go only if it is for free	27	13,17 %	24	14,04 %
No more than 100 CZK (MV = 50 CZK)	45	21,95 %	22	12,87 %
101 – 200 CZK (MV = 150 CZK)	23	11,22 %	36	21,05 %
201 - 300 CZK (MV = 250 CZK)	31	15,12 %	29	16,96 %
301 - 400 CZK (MV = 350 CZK)	17	8,29 %	12	7,02 %
401 CZK and more (MV 450 CZK)	26	12,68 %	27	15,79 %
N Total	205	100 %	171	100 %
Average amount of entrance fee paid	151,71 CZK		176,02 CZK	

Source: Author

Regarding the results above for older population (above the age of 30) in Group 1 and Group 2, we can see an opposite result than in the case of younger generation - in Group 1 (when soldiers are not portrayed on the picture), more respondents (17,56 %) does not want to visit the Western Wall in Jerusalem, even in case it is for free than in Group 2 (12,28 %). When calculating the Z-test, which decides about statistical significance between two population proportions, we get that the p-value is 0.0778, the result is therefore not significant at $p < 0.05$. But the result is statistically significant at $p < 0.10$, so there was found some statistical significant difference in the general behaviour of older population in Group 1 and Group 2 influenced by the armed soldier's presence. The average amount of entrance fee paid by older respondents in Group 1 and Group 2 (after calculating mean values of all entrance fee categories) differs by 24,34 CZK and the tendency to pay more is observed contrary to previous results of younger generation in scenario, when there are armed soldiers portrayed on the picture of the Western Wall in Jerusalem.

Research focused on the consumption behaviour of potential visitors of the Wax Museum in Prague have not focused on the chronically depressed and/or chronically anxious respondents, even though chronically anxiety can have a huge influence on human subjective risk perception. In case of the research about the influence of armed soldier's presence on the consumption behaviour of respondents visiting Jerusalem, question about chronic depression and chronic anxiety was included and therefore we can also compare the reactions of respondents with and without chronic depression and/or chronic anxiety. Regarding the results for chronically depressed and/or chronically anxious respondents in Group 1 and Group 2, we can that in Group 1 (when soldiers are not portrayed on the picture), more respondents (17,56 %) were not willing to visit the Western Wall in Jerusalem, even in case it was for free than in Group 2 (11,36 %). When calculating the Z-test, which decides about statistical significance between two population proportions, we get that the p-value is 0.14457, the result is therefore not significant at neither $p < 0.05$, nor at $p < 0.10$ and we cannot say that the general behaviour of chronically depressed and chronically anxious respondents in Group 1 and Group 2 have significantly changed because of armed soldier's presence. The average amount of entrance fee paid by chronically depressed respondents in Group 1 and Group 2 (after calculating mean values of all entrance fee categories) differs by 45,98 CZK and this strong tendency to pay more is observed in Group 2, when there are armed soldiers portrayed on the picture of the Western Wall in Jerusalem.

Table 27 - Comparison of entrance fee all chronically depressed and/or chronically anxious respondents in Group 1 and in Group 2 are willing to pay as the entrance fee to enter to Western Wall in Jerusalem

Willingness to pay	Group 1		Group 2	
	N	%	N	%
Nothing, I do not want to go, even if it is free	10	17,56 %	5	11,36 %
I go only if it is for free	2	13,17 %	3	6,82 %
No more than 100 CZK (MV = 50 CZK)	11	21,95 %	8	18,18 %
101 – 200 CZK (MV = 150 CZK)	11	11,22 %	6	13,64 %
201 - 300 CZK (MV = 250 CZK)	7	15,12 %	7	15,91 %
301 - 400 CZK (MV = 350 CZK)	3	8,29 %	5	11,36 %
401 CZK and more (MV 450 CZK)	8	12,68 %	10	22,73 %
N Total	52	100 %	44	100 %
Average amount of entrance fee paid	165,38 CZK		211,36 CZK	

Source: Author

Regarding the results for respondents, who indicated not to be chronically depressed and chronically anxious Group 1 and Group 2, we can that in Group 1 (when soldiers are not portrayed on the picture), more respondents (14,74 %) were not willing to visit the Western Wall in Jerusalem, even in case it was for free than in Group 2 (14,29%). When calculating the Z-test, which decides about statistical significance between two population proportions, we get that the p-value is 0.44038, the result is therefore not significant at neither $p < 0.05$, not at $p < 0.10$

and we cannot say that the general behaviour of non-chronically depressed and non-chronically anxious respondents in Group 1 and Group 2 have significantly changed because of armed soldier's presence. The average amount of entrance fee paid by chronically depressed respondents in Group 1 and Group 2 (after calculating mean values of all entrance fee categories) differs by 2,60 CZK and this strong tendency to pay more is observed in Group 2, when there are armed soldiers portrayed on the picture of the Western Wall in Jerusalem.

Table 28 - Comparison of entrance fee all chronically depressed and/or chronically anxious respondents in Group 1 and in Group 2 are willing to pay as the entrance fee to enter to Western Wall in Jerusalem

Willingness to pay	Group 1		Group 2	
	N	%	N	%
Nothing, I do not want to go, even if it is free	46	14,74 %	37	14,29 %
I go only if it is for free	42	13,46 %	36	13,90 %
No more than 100 CZK (MV = 50 CZK)	55	17,63 %	37	14,29 %
101 – 200 CZK (MV = 150 CZK)	59	18,91 %	58	22,39 %
201 - 300 CZK (MV = 250 CZK)	50	16,03 %	45	17,37 %
301 - 400 CZK (MV = 350 CZK)	24	7,69 %	14	5,41 %
401 CZK and more (MV 450 CZK)	36	11,54 %	32	12,36 %
N Total	312	100 %	259	100 %
Average amount of entrance fee paid	156,09 CZK		158,69 CZK	

Source: Author

7.6.3. Discussion of research on changes in consumption behaviour in Jerusalem

It is important to note that the study was run exclusively among Czech respondents in Czech language and therefore the results could be different for other nationalities, which does not suffer from such a big fear from terrorism. According to data from Institute of Sociology, Academy of Sciences of the Czech Republic, is the fear of terrorism the most prevalent fear among Czech population and three quarters of Czech population considers terrorism as a big threat. (Institute of Sociology, 2017)

The research was in form of electronic questioning run through the internet and we have to emphasize that the sample of respondents is no in the representative sample of population.

Another important factor worth mentioning is the fact that the data collection has run in the period, when no major terrorist attack happened neither in the Czech Republic nor rest of Europe and therefore the population probably was not about this topic so emotional. There were minor terrorist attacks in Israel during the period of data collection.

Regarding the setting of our questions on the Western Wall in Jerusalem, we wanted to choose tourist attractions respondents have no previous knowledge of their price. In case of the Western Wall in Jerusalem, we asked the respondents how much they would be willing to pay to enter it, but in reality, there is no entrance fee to the Western Wall in Jerusalem.

The most interesting results on the presence of armed soldiers were found in case of chronically depressed and chronically anxious population in case of the research on the Western Wall in Jerusalem. It is important to note that that the evaluation of the mental state of the respondents were not run by the experimenters, but by the respondents themselves and therefore their indication does not have to be objective from the medical point of view. On the other hand, according to the statistics of Anxiety and Depression Association of America Anxiety disorders are the most common mental illness. (Anxiety and Depression Association of America, 2016) According to some large population-based surveys, up to 33,7 % of the population are affected by an anxiety disorder during their lifetime. (Bandelow, Michaelis, 2015) Other metadata show that on average we can say one in five adults 17,6 % experienced a common mental disorder within the past 12 months and 29,2 % of world population had mental problems across their lifetime. (Steel, Marnane, Iranpour, Chey, Jackson, Patel, Silove, 2014). In our research 14,39

(96 out of 667 respondents) have indicated to suffer from chronic anxiety and/or chronic depression making the proportion a lower than 20 % (generally accepted rate of prevalence of chronic anxiety and chronic depression disorders on population). In our research chronic depression and/or chronic anxiety diagnosis was indicated by 18,3 % of women and 10,3 % of men and by 16,8 % of respondents at the age of 30 or younger and by 13, 3% of respondents above the age of 30. The question about chronic anxiety and chronic depression was combined into one question, since according to the statistics of Anxiety and Depression Association of America, nearly one-half of those diagnosed with depression are also diagnosed with an anxiety disorder. (Anxiety and Depression Association of America, 2016)

7.6.4. Conclusion of research on changes in consumption behaviour in Jerusalem

The main goal of this research was to find out the effect of armed soldiers in front of tourist attraction on tourist's consumer behaviour, precisely on the tourist's willingness to visit the tourist attraction as well as on the average entrance fee tourists are willing to pay for entering the tourist attraction. From previous researches we know that deadbolt locks, closed-circuit TV cameras, and door view ports, as well as caller screening by the hotel's telephone operators, locking side hotel entrance doors at night, and routine visits by law enforcement agencies are positive for tourist overall perception of safety, so we expected that armed soldier's presence could have a similar effect and lead to an increased willingness to enter a tourist attraction. To test this initial hypothesis, we decided to run independent electronic survey with the setting in the city of Jerusalem with a total of 667 respondents and compared results in treatments with armed guard's presence and without armed guard's presence. From previous researches we also know that the subjective risk perception can largely depend on age, gender, a mental state of respondents and therefore when presenting results, we decided to focus on respondents at the age of 30 or younger, respondents older than 30, male respondents, female respondents, respondents, who suffer from chronic depression and/or anxiety and respondents, who do not suffer from neither chronic depression, nor chronic anxiety.

In our research focused on the Western Wall in Jerusalem there was found a statistically significant difference at $p < 0.10$ between treatment with armed soldiers and treatment without armed soldiers among respondents, who indicated to be older than 30 years. We can therefore say that the only case when the presence of armed soldiers statistically significantly supported the respondent's willingness to enter the tourist attraction was among respondents above the

age of 30. Our data also suggests that those, who suffer from chronic depression and/or chronic anxiety are also more willing to visit a tourist attraction in scenario when armed soldiers are present. Data about people suffering from chronic depression and chronic anxiety are not statistically significant, but it can be given by a relatively small sample of only 14,39 % respondents.

When researching the difference in entrance fees respondents were willing to pay in case of entering the Western Wall in Jerusalem, the differences were compared to the case study of Wax Museum in Prague quite significant. When including all 365 respondents in treatment 1 (without portraying armed soldiers) and all 302 respondents in treatment 2 (with portraying armed soldiers) we get that on average the willingness to pay higher entrance fee is in situation when armed soldiers are present higher by 11,36 CZK. The effect of presence of armed soldiers is stronger among men, who are willing to pay in the presence of armed soldier on average 12,30 CZK more. Younger respondents (at the age of 30 or younger) from previous literature as well as common knowledge considered as less risk-avoidant than older respondents, indicated to be willing to pay higher entrance in scenario without armed soldier than in scenario with armed soldier, with the average difference of 10,99 CZK. On the contrary older respondents (above the age of 30) have showed the willingness to pay higher entrance fee in treatment with armed soldier, by the average difference of 24,34 CZK. But the most significant impact on the average entrance fee paid was found among population, which suffers from chronic anxiety and/or chronic depression. Respondents, who indicated to be chronically anxious or chronically depressed indicated to be willing to pay for the entrance fee to the Western Wall in Jerusalem on average 45,98 CZK more when armed soldiers were present than in scenario, when armed soldiers were absent.

In case of the presence of armed soldiers in front of the Western Wall in Jerusalem, we found out that because of their presence respondents above the age of 30 indicated to be more willing to enter the Western Wall in Jerusalem. Another (not statistically significant), but positive tendency on increased willingness to enter the tourist attraction was found among respondents, who suffer from chronic depression and/or chronic anxiety. And respondents, who suffer from chronic depression and/or chronic anxiety are also prepared to pay much more (by almost 46 CZK) for the entrance fee if armed soldiers are present in front of the Western Wall in Jerusalem.

Conclusion

Contrary to the concept of neoclassic economics, behavioural economics comes with the concepts of bounded rationality, bounded willpower and bounded self-interest, which makes cognitive limitations constrain human judgement and choice leading to the fact that people occasionally make choices that are against their own interests. Therefore, human beings are bounded in their ability to be completely rational and behave in an irrational manner due to lack of important information, time pressure and cost constraints that limit them from obtaining all the information they need to make a rational choice. There are heuristics, which serve as a mechanism for people to cope with the complex environment that surrounds our decisions. Where finding an optimal solution is impossible or impractical, heuristic methods can be used to speed up the process of finding a satisfactory solution. (chapter 1) They may be useful at some times but can also lead to severe errors, especially at cases which are very emotional, suggestive and life-threatening – for example when facing information about terrorism, al-Qaeda, Islamic State etc. (chapter 2) To calm down the nerves of local population, as well as tourists, government institutions and tourist industry companies have the tendency to prevent terrorism and serious crime by environmental design (installation of deadbolt locks, closed-circuit TV cameras, and door view ports, as well as caller screening by the hotel's telephone operators, locking side hotel entrance doors at night, routine visits by law enforcement agencies, deployment of armed guards to the city streets.) (chapter 2)

One of the kind of crime prevention through environmental design is the deployment of armed soldiers, or police officers, or police community support officers or safety guards to protect certain areas (shopping malls or tourist zones) and positively affect the consumer's wellbeing and spending. The way terrorism affects consumer behaviour of tourists can be theoretically explained by different theories, but there have been done until now no research on the real impact of the deployment of armed soldiers or police officers to tourist city centres on subjective risk perception and consumption of tourists. (chapter 2) One of the most influencing factors increasing the overreactions and risk overestimations are chronic mental problems as chronic anxiety and chronic depression. From large population-based surveys we know that up to 33,7 % of the population are affected by an anxiety disorder during their lifetime. (chapter 2)

The main finding of this thesis is that the people suffering from chronic depression and/or chronic anxiety perceive the presence of armed soldiers in front of the Eiffel Tower in Paris very differently than tourists without this kind of mental problems. The presence of armed soldier has a statistically significant impact on subjective risk perception of terrorism among respondents, who suffer from chronic anxiety and/or chronic depression (because of the deployment of armed guards chronically anxious and/or depressed respondents indicate lower fear of terrorism). This effect is particularly strong among chronically anxious and chronically depressed respondents above the age of 30. On the other hand, people who indicate not to suffer neither from chronic depression nor from chronic anxiety have the tendency indicate bigger fear of terrorism when armed soldiers are present than when armed soldiers are absent in front of the Eiffel Tower.

The terrorist countermeasure of deployment of armed guards to European city streets has therefore diverse effects on the perception of terrorism depending on mental state of tourists. For people, who suffer from chronic depression or chronic anxiety, soldiers in city streets provide an illusion of control, in other words an illusion of feeling of control over the uncertainty of terrorist attack. On the other hand, for people, who do not suffer from chronic depression nor chronic anxiety soldiers standing in city streets induce the priming effect, which increases the subjective risk perception of terrorism and when they are exposed to an image (armed soldier) it makes them unconsciously focus on a topic connected with this image (terrorism). (chapter 5) This results clearly show the reason, why the response of Katka was so different from mine when observing armed soldiers in Dejvická metro station (the introductory part of this thesis).

When finding out that the deployment of armed soldiers in Paris city streets statistically significantly influences the subjective risk perception of terrorism, it was necessary to find out if the presence of armed soldiers influences also other terrorism non-related subjective risk perception as for example the subjective risk perception of pick-pocket robbery, loss of luggage, heart attack and lightning strike. For all these other risks were not found statistically significant differences between situations when armed soldier is present and when armed soldier is absent. Therefore, we can say that the deployment of armed soldiers to the European city streets have probably an effect only on the subjective risk perception of terrorism and no other crime-related or non-crime related risks. (chapter 5)

When knowing that the deployment of armed soldiers in European city street influences the subjective risk perception of terrorism (especially among chronically depressed and/or

chronically anxious respondents) the goal of the next research was to find out if the presence of armed soldiers (for example in front of Museum Louvre in Paris or in front of the Wax Museum in Prague) have statistically significant effect on the number of tourists, who decide to enter the museum and on the amount of average entrance fee paid by tourists in these destinations. It was found out that in both cases (case of the Museum Louvre in Paris and the case of the Wax Museum in Prague) the presence of armed soldiers generally does not lead to overcoming the avoidance behaviour caused by the fear of terrorism, since there was not found a significant difference in proportion of visitors of Museum of Louvre in Paris between scenarios when armed soldiers are present in front of this tourist facility and when armed soldiers are absent in front of the tourist facility. (chapter 6)

Since both Paris and Prague are both relatively safe destinations (in Prague there has never been a terrorist attack and in Paris these attacks are rare), the next chapter focuses on the effect of deployment of armed soldiers on consumption of Czech tourists in the city of Jerusalem, where minor terrorist attacks are almost a monthly routine. When studying the effect of deployment of four armed soldiers in front of the entrance to the Western Wall in Jerusalem, it was found out that their presence statistically significantly increased the number of respondents above the age of 30, who indicated to be willing to enter the Western Wall in Jerusalem. Another (not statistical significant), but positive tendency on increased willingness to enter the Western Wall in Jerusalem when armed soldiers are present, was found among respondents, who suffer from chronic depression and/or chronic anxiety. Also, respondents, who suffer from chronic depression and/or chronic anxiety were prepared to pay on average much higher entrance fees (by almost 46 CZK) in scenario when armed soldiers were present than in scenario when armed soldiers were absent in front of the entrance to the Western Wall in Jerusalem. (chapter 7)

To conclude from the perspective of consumption and tourist's spending the effect of the deployment of armed soldiers on increased spending is seen only in the city of Jerusalem, which objectively deals with high risk of terrorist activities. The effects of deployment of armed soldiers on tourist's spending (of anxious and/or depressed tourists) in case of Paris was completely missing. (chapter 6 and chapter 7)

The most interesting findings of this dissertation thesis are therefore connected with the effects deployment of armed soldiers, which becomes a new standard in European city streets. This dissertation thesis has tried to map also the general the subjective risk perception of terrorism of the Czech population and its effect on tourism to France (where were two major terrorist

attacks in January 2015 and November 2015). It was discovered that even though fears of a terrorist attack predominated in Czech population in 2015 and 2016, it did not cause a sharp rise in domestic outbound tourism at the expense of foreign travel and the number of Czech citizens' trips to France did not fall. (chapter 3)

When looking at the total Czech costs of domestic counter-terrorist actions, it was found out that these actions do not meet the expectations of cost per saved life analysis (rational approach), but at the same time they are far from being as distorted and exaggerated as in the United States. (chapter 4)

This dissertation thesis clearly shows that it is necessary to study terrorism from behavioural perspective since cognitive distortions occur not only on the individual level (chapters five, six and seven), but also on the big scale of the public level (chapter four). The results of this thesis show that more proportionate and evidence-based responses to terrorism are important to challenge conventional wisdom in both terrorism and counterterrorism. New findings coming from this dissertation thesis should help to review current counterterrorism policies to save valuable resources. Specifically, this dissertation thesis provides data, which suggest that our society should be more aware of the consequences of terrorism countermeasures such as deployment of armed soldiers and police officers into the European city streets.

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List of Pictures

Picture 1 - Conformity experiment of Salomon Ash.....	22
Picture 2 - Attitudes and the Travel Decision Making Process.....	54
Picture 3 - Picture presented in Treatment 1 (no soldier is present)	83
Picture 4 - Picture presented in Treatment 2 (soldier is present)	83
Picture 5 - Picture presented to group 1 (no soldier is present)	94
Picture 6 - Wax museum in Prague without the presence of armed guard	98
Picture 7 - Wax museum in Prague with the presence of armed guard.....	98
Picture 8 – Structure of Israeli respondents on experience with terrorism	114

List of Tables

Table 1 - Explanation of the difference in risk assessment for System 1 and System 2.....	46
Table 2 - Survey of fears among the Czech public (from a wide range of respondents, the respondents always chose the two worries they feel the most).....	62
Table 3 - Statistics of terrorist attacks in countries of the European Union.....	63
Table 4 - Distribution of subjective risk perception of terrorism on the Likert scale for both treatments (all respondents included).....	86
Table 5 - Differences in means between respondents who suffer and do not suffer from chronic anxiety and/or chronic depression when asked about the subjective risk perception of terrorism in given scenarios	87
Table 6 - Respondents of age 30 or younger when asked about the subjective risk perception of terrorism in given scenarios (treatment 1 and treatment 2)	89
Table 7 - Respondents above 30 years when asked about the subjective risk perception of terrorism in given scenarios (treatment 1 and treatment 2).....	90
Table 8 - Differences in means between males and females when asked about the subjective risk perception of terrorism in given scenarios (treatment 1 and treatment 2).....	91
Table 9 - Subjective risk perception on Likert scale	95
Table 10 - Distribution of admission fees the respondents were willing to pay to enter	100
Table 11 - Comparison of entrance fee women in Group 1 and Group 2 are willing to pay as the entrance fee to Wax Museum in Prague.....	102
Table 12 - Comparison of entrance fee men in Group 1 and Group 2 are willing to pay as the entrance fee to Wax Museum in Prague.....	103
Table 13 - Comparison of entrance fee people at the age of 45 or younger in Group 1 and Group 2 are willing to pay as the entrance fee to Wax Museum in Prague	104
Table 14 - Comparison of entrance fee people above the age of 46 in Group 1 and Group 2 are willing to pay as the entrance fee to Wax Museum in Prague	104
Table 15 - Comparison of entrance fee respondents in Group 1, Group 2 and in the control, group are willing to pay as the entrance fee to Museum Louvre	108
Table 16 - Comparison of entrance fee women in Group 1 and Group 2 are willing to pay as the entrance fee to Museum Louvre	109
Table 17 - Comparison of entrance fee men in Group 1 and Group 2 are willing to pay as the entrance fee to Museum Louvre.....	109
Table 18 - Comparison of entrance fee people at the age of 35 or younger in Group 1 and Group 2 are willing to pay as the entrance fee to Museum Louvre	110
Table 19 - Comparison of entrance fee people above the age of 35 in Group 1 and Group 2 are willing to pay as the entrance fee to Museum Louvre	111
Table 20 - The comparison of two different scenarios (picture with no soldiers, picture with four soldiers) and its effect on the subjective risk perception of terrorism of men, women, people, who suffer from chronic depression and/or chronic anxiety, people, who do not suffer from neither chronic depression nor chronic anxiety, people, who have travelled	

outside the Western World before, people, who have never travelled outside the Western world.....	124
Table 21 - The comparison of two different treatments (picture with no soldiers, picture with four soldiers) and its effect on listing terror or terrorism among main concerns when travelling to Jerusalem.....	129
Table 22 - Comparison of entrance fee all respondents in Group 1 and in Group 2 are willing to pay as the entrance fee to enter to Western Wall in Jerusalem.....	132
Table 23 - Comparison of entrance fee all women in Group 1 and in Group 2 are willing to pay as the entrance fee to enter to Western Wall in Jerusalem.....	133
Table 24 - Comparison of entrance fee all men in Group 1 and Group 2 are willing to pay as the entrance fee to enter to Western Wall in Jerusalem.....	134
Table 25 - Comparison of entrance fee all respondents at the age of 30 or younger in Group 1 and in Group 2 are willing to pay as the entrance fee to enter to Western Wall.....	135
Table 26 - Comparison of entrance fee all respondents above the age of 30 in Group 1 and in Group 2 are willing to pay as the entrance fee to enter to Western Wall in Jerusalem.....	136
Table 27 - Comparison of entrance fee all chronically depressed and/or chronically anxious respondents in Group 1 and in Group 2 are willing to pay as the entrance fee to enter to Western Wall in Jerusalem.....	138
Table 28 - Comparison of entrance fee all chronically depressed and/or chronically anxious respondents in Group 1 and in Group 2 are willing to pay as the entrance fee to enter to Western Wall in Jerusalem.....	139

List of Graphs

Graph 1 - The reality of the threat for the Czech Republic - terrorist groups or individuals (in%) according to a survey among the Czech public; Counting up to 100% is a "do not know" answer.	64
Graph 2 - Number of longer stays (four and more overnight stays) of the population of the Czech Republic in the Czech Republic (blue) and abroad (red) in thousands in period 2013 - 2016.....	65
Graph 3 - Number of longer trips (4 nights or more) of Czech citizens to France (in thousands) in 2011-2015	66
Graph 4 – Comparism of both group entering the Wax Museum in Prague.....	101