

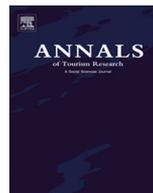


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# Can terrorism make us feel safer? Risk perceptions and worries before and after the July 22nd attacks

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### ABSTRACT

The present investigation examines the effect of the July 22nd, 2011 Oslo/Utøya massacres on short- and long-term risk perceptions and worries among tourists. Convenience samples of tourists to Norway rated the perceived risk regarding Norway as a destination and regarding terrorism occurring in Norway, as well as their worries about terrorism during their current trip to Norway. Data were collected in 2004, 2010, 2011 (before and after July 22nd), and in 2012. Results show that risk perceptions and worries are relatively low. Perceived risk remained unchanged from 2004 until 2011, and did not change immediately after the attacks. However in 2012 perceived risk for Norway as a destination and worries about terrorism declined. Possible explanations for these unexpected findings are being discussed.

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### Introduction

The July 22nd terror attacks in Norway in 2011 were two sequential terrorist assaults against the government and the civilian population in Oslo and against participants of a summer camp on the island of Utøya organized by the youth division of the Norwegian Labour Party. The first attack was a car bomb killing eight and injuring over 200 people. In the second attack, the perpetrator opened fire at the participants of the summer camp, killing 69 and injuring over 100 of them, many under the age of 18. The massacre was the deadliest attack in Norway since World War II, and a survey found that on average, one in four Norwegians knew someone affected by the attacks (Skjeseth, 2011). The current

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paper aims at investigating the effect of these attacks on short- and long-term risk perceptions and worries among Norwegian and international tourists to Norway.

### *Literature Review*

Within the social sciences there has been an extensive focus on both man-made and natural disasters in the postmodern society during the last two or three decades. [Nolen-Hoeksema \(2010\)](#) claims that mass media have created the impression of burgeoning of natural disasters, political crises, and acts of war and terror since the beginning of the millennium. Examples of such crises include the 9/11 terrorist attacks on the USA, the “War on terror”, the 2004 Madrid train bombings, the 2004 Boxing Day tsunami in the Indian ocean, the 2005 bomb attacks at London’s transport system, the threat of a pandemic “Swine flu” (2009–2010), and the German *E. coli* incident of 2011. [Beck \(1992\)](#), coining the idea of a “risk society”, claims that in today’s societies we are all exposed to new, man-made risks such as pollution and crime, which directly result from modernization itself.

This increased focus on different types of risk is accompanied by an ever increasing number of publications on the subject both within generic and applied fields, including tourism. Examples from the more generic domain include [Gigerenzer \(2006; Gaismaier & Gigerenzer, 2012\)](#) who claims that following the 9/11 terrorist attacks, highway fatalities especially around New York City increased due to a substitution of driving for flying which was caused by a fear of dread risk, that is a fear of risks which are low in probability, but high in their catastrophic potential. Another example are [Fischhoff, de Bruin, Perrin and Downs \(2004; Fischhoff, Gonzales, Lerner, & Small, 2005\)](#) who showed that emotions like fear and anger can influence risk estimates as well as behavioral choices.

Examples from the tourism literature include risks related to adventure tourism or backpacking ([Callander & Page, 2003; Elsrud, 2001; Larsen, Øgaard, & Brun, 2011](#)), drug use ([Uriely & Belhassen, 2006](#)) food ([Larsen, Brun, Øgaard, & Selstad, 2007; Larsen & Brun, 2011](#)) and health related risks ([Cosens & Gin, 1995; Lepp & Gibson, 2003](#)). Several studies have also focused on the impact of terrorism, war and political instability on travel choice and risk perceptions among tourists. Some of this research is based on the analysis of tourism statistics following acts of terror (see for example: [Neumaier, 2004; Yang & Wong, 2012](#)). In many cases the number of tourists has been shown to decline after terrorist attacks, for example in Spain ([Enders & Sandler, 1991](#)), Northern Ireland ([Pizam, 1999](#)), Egypt ([Wahab, 1996](#)), China ([Gartner & Shen, 1992](#)) and the USA ([Lepp & Gibson, 2003](#)).

Another line of research has focused more directly on how tourists perceive the risk of terrorism. For example [Sönmez and Graefe \(1998\)](#) found that risk perceptions influenced destination choice among tourists, [Reisinger and Mavondo \(2005\)](#) found perceptions of risk to be correlated with travel anxiety. [Gray and Wilson \(2009\)](#) found that political hazards including terrorism were perceived as more risky than physical hazards like the weather and social hazards like for example a strange culture. Political hazards also decreased participants desire to travel to a greater extent than physical and social hazards did. In contrast [Sjöberg \(2005\)](#) showed that perceived terrorism risk was quite low in a Swedish sample, and that participants judged their own risk to be lower than that of others. Also [Uriely, Maoz, and Reichel \(2007\)](#) and [Fuchs, Uriely, Reichel, and Maoz \(2012\)](#) have shown that tourists who disregarded governmental advisories and traveled to destinations threatened by terrorism reported low to moderate perceived risk about terrorism, and used different rationalizations to reduce their concerns.

An understandably very limited number of studies have directly compared tourists risk ratings before and after a terrorist attack. [Larsen, Brun, Øgaard, and Selstad \(2011\)](#) found a direct effect of terror attacks on tourists risk judgments. Comparing before and after measurements they found that participants reported increased perceived risk for Madrid as a holiday destination following the 2004 train bombings and for London as a holiday destination after the 2005 bomb attacks on London’s transport system. They also reported that participants’ general desire to travel and risk judgments for other destinations remained unaffected. Furthermore [Brun, Wolff, and Larsen \(2011\)](#) found that the percentage of tourists who believed the world had become more dangerous as a consequence of the “War on terror” increased after the terrorist attacks in London and Sharm el Sheik in 2005, and that tourists worried more about terror after these attacks.

The latter finding is particularly interesting since the concept of worry has received ample research attention in recent years, albeit not in the tourism literature. While worry and subjective risk might be related (Sjöberg, 1998; Rundmo, 2002), they are far from identical. Subjective risk is defined as the individual's perception of the probability of certain negative outcomes weighed by the magnitude of these outcomes (Brun, 1994). Worry on the other hand is a key component of anxiety, and is characterized by a tendency to view ambiguous or uncertain situations as threatening (Butler & Matthews, 1987; Freeston, Rhéaume, Letarte, Dugas, & Ladeouceur, 1994). Thus tourists might judge certain hazards as risky without worrying too much about them, or they might understand the harmlessness of certain "risk factors" and still worry intensely about them. Conceptualizing perceived risk as worry, as some researchers have done (Uriely et al., 2007; Fuchs et al., 2012) is therefore *not* warranted. The differential denotation of these constructs has been demonstrated by Larsen, Brun, and Øgaard (2009) who found tourists' risk judgments and tourists' worries to be only weakly related. In some cases worry has been shown to be a better predictor of behavior than risk perceptions (for example: Peters, Slovic, Hibbard, & Tusler, 2006; Cameron & Reeve, 2006).

The present paper aims at investigating both perceived risk and worry among tourists to Norway before and after the July 22nd Oslo/Utøya attacks in 2011. Norway and the Nordic countries<sup>1</sup> have earlier been reported to be perceived as low risk destinations among international tourists (Larsen, Brun et al., 2011). However we hypothesize that the terror attacks might have increased risk perceptions and worry regarding Norway as a destination. This is what Larsen, Brun et al. (2011) and Brun et al. (2011) reported after the terror attacks in Madrid in 2004 and London in 2005. Both short- and long-term effects on risk perceptions are being investigated.

## Material and methods

The current paper is part of a larger investigation on risk perceptions among tourists that has been ongoing since 2004. The administered questionnaires assessed different aspects of holiday making during the years, such as travel motives, tourist's mood during vacations, perceived risk concerning food, and environmental attitudes. In the following however only data on risk perceptions and worries concerning Norway are being presented. It lies in the nature of the events at hand that this is not a carefully preplanned investigation, but rather a post hoc analysis of data that were collected over the years for different purposes.

### *Sample and Design*

Data collections were undertaken at tourist sites in Western Norway during the tourist season, that is during the summers of 2004, 2010, 2011, and 2012. The tourist sites chosen for data collection were popular low threshold sites that most tourists would visit during a trip to the area; examples include the tourist information office and Mount Fløyen in the city of Bergen. Participants constitute a convenience sample of tourists visiting Norway. The Research assistant approached subjects asking whether they were tourists and whether they would fill in a questionnaire concerning different aspects of holiday making. In 2004 the questionnaire was administered in English, Spanish, French, German, Japanese, and Norwegian; in 2011 the questionnaire was administered in English and German, and in 2010 and 2012 the questionnaire was administered in English only. Response rates were very high, about 90%. Data from a total of 6388 completed questionnaires are being reported here. Tourists came from all together 79 different countries, 52.8% of respondents were female, and the mean age was 41.84 (SD = 16.77). Table 1 shows the demographics of the different samples.

### *Measures*

Subjective risk assessments were obtained for different destinations and for different hazards. Perceived destination risk was measured in the following way: "Consider the following destinations; how

<sup>1</sup> The Nordic countries consist of Norway, Sweden, Denmark, Finland, Iceland, and the Faroe Islands.

**Table 1**  
Sample demographics

	2004	2010	2011 Before terror	2011 After terror	2012
N	1867	718	562	570	2669
Mean Age (SD)	48.55 (16.13)	37.72 (15.25)	44.08 (17.63)	34.99 (13.83)	39.28 (16.40)
Females	53.5%	48.5%	53.3%	49.7%	54.0%
Top ten nationalities	Norway (25.31%)	Germany (15.69%)	Great Britain (25.29%)	Germany (28.24%)	Germany (15.38%)
	Great Britain (16.26%)	Great Britain (10.64%)	Germany (16.92%)	Norway (10.30%)	Great Britain (14.65%)
	Germany (12.06%)	USA (8.54%)	USA (13.69%)	The Netherlands (8.35%)	USA (12.07%)
	USA (9.77%)	Norway (8.26%)	The Netherlands (5.89%)	USA (5.86%)	France (6.88%)
	The Netherlands (4.69%)	France (7.42%)	Norway (5.70%)	Great Britain (4.97%)	The Netherlands (5.92%)
	Japan (3.55%)	The Netherlands (6.58%)	Australia (3.61%)	Spain (4.44%)	Norway (5.38%)
	Faroe Islands (3.49%)	Spain (6.44%)	Spain (2.47%)	Switzerland (4.09%)	Spain (3.50%)
	Denmark (3.49%)	Italy (5.32%)	Sweden (2.28%)	France (3.91%)	Italy (3.46%)
	Sweden (2.84%)	Australia (4.06%)	Denmark (2.09%)	Italy (3.73%)	Australia (3.08%)
	Spain (2.46%)	Sweden (2.52%)	Belgium (2.09%)	Denmark (2.66%)	China (2.92%)

risky would you judge them to be for you? Rate each destination concerning risk for unwanted events.” This was followed by a list of destinations (as reported in [Larsen, Brun et al., 2011](#)), including “Norway and the Nordic countries” which we report on here. Perceived destination risk was assessed at all data collections.

The perceived riskiness of different hazards was measured as follows: “How risky do you consider the trip you are on now to be for you concerning. . .” This was followed by different hazards (as reported in [Larsen et al., 2009](#)) including “terrorism or actions of war?” which we report on here. Terror risk was assessed in 2004, 2010, and 2012. Participants rated all risk-items on 7 point rating scales anchored by “not risky” (1) and “very risky” (7).

Tourist worries were measured using the Tourist Worry Scale, TWS ([Larsen et al., 2009](#); [Brun et al., 2011](#); [Wolff & Larsen, 2013](#)). The scale measures state-dependent worry, that is the degree to which tourists worry about specific hazards during the specific trip they are on. It consists of eight items assessing worries about for example crime and accidents, getting lost, or facing a strange culture. The following item assesses worries concerning terrorism during the current trip to Norway: “. . . I worry about the possibility of acts of terror or war at the destination.” Answers are given on a 7-point scale anchored by “don’t agree at all” (1) and “agree very much” (7). Tourist worries were assessed in 2004 and in 2012.

Four items directly asked participants about the effect of the 2011 Oslo/Utøya massacre on safety in Norway and the world: “After the Oslo/Utøya massacre in 2011, do you think that the following have become safer or more dangerous for you? . . . Norway/Tourist destinations in Norway/The world/Tourist destinations in the world” Answers were given on 7-point semantic differential scales anchored by “much more safe” (1) and “much more dangerous” (7). These retrospective questions regarding the July 22nd attacks were asked at the very end of the questionnaire in order to avoid priming effects.

## Results

[Fig. 1](#) displays mean values for the perceived risk for Norway as a holiday destination, for the perceived risk of terrorism during the current trip to Norway, and mean values for tourist worries about acts of terror or war during that trip. As can be seen, risk judgments and worries are rather low. The

bivariate correlations between terrorism risk and worry about terrorism are  $r = .33$  in 2004 and  $r = .43$  in 2012.

One way ANOVA revealed that the perceived risk for terrorism remained constant over the years and unaffected by the 2011 Oslo/Utøya massacre. When it comes to Norway and the Nordic countries as a destination, results show that the perceived risk declined in 2012 compared to earlier years where risk perceptions remained constant. The same trend can be observed for tourist worries during the current trip to Norway. Overall scores are significantly lower in 2012 than in 2004, and scores for the specific item assessing worries regarding terror are also lower in 2012 than in 2004 (see Table 2).

Comparing risk perceptions and worries of Nordic tourists with risk perceptions and worries of other tourists showed that tourists from the Nordic countries had significantly lower risk perceptions and worried less than tourists from other countries (see Table 3). Comparing worries and risk perceptions of tourists from within the Nordic countries showed that these were *not* significantly different from each other.

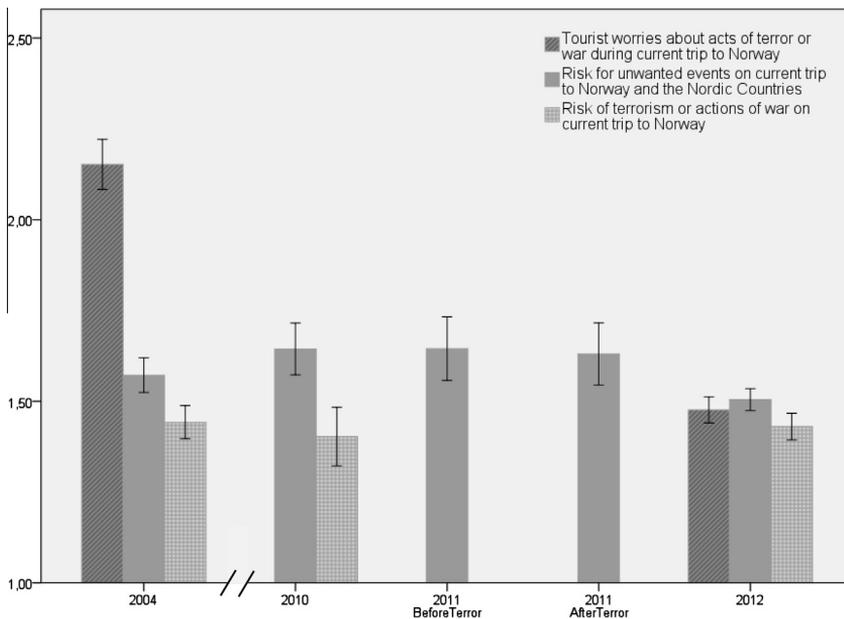


Fig. 1. Worries and risk judgements of tourists to Norway before and after the 2011 Oslo/Utøya massacre. Mean values on a scale from 1 to 7.

Table 2

Risk perceptions and worry among tourists during their current trip to Norway. Numbers are mean values on a scale from 1 to 7.

	2004		2010		2011 Before terror		2011 After terror		2012		ANOVA/t-test	
	M	SD	M	SD	M	SD	M	SD	M	SD	df	F/t
Risk for unwanted events	1.57 <sub>a</sub>	1.03	1.64 <sub>b</sub>	.97	1.64 <sub>c</sub>	1.04	1.63 <sub>d</sub>	1.03	1.50 <sub>abcd</sub>	.78	4	5.76 <sup>***</sup>
Risk for terrorism or actions of war	1.44	.99	1.40	1.10	not assessed		not assessed		1.43	.95	2	.41
Tourist worry scale	2.26	1.02	not assessed		not assessed		not assessed		1.87	.83	4300	13.11 <sup>***</sup>
Worries about acts of terror or war	2.15	1.49	not assessed		not assessed		not assessed		1.48	.94	4382	18.46 <sup>***</sup>

Scores sharing the same subscript are significantly different from each other,  $p < .05$ .

\*\*\*  $p < .001$

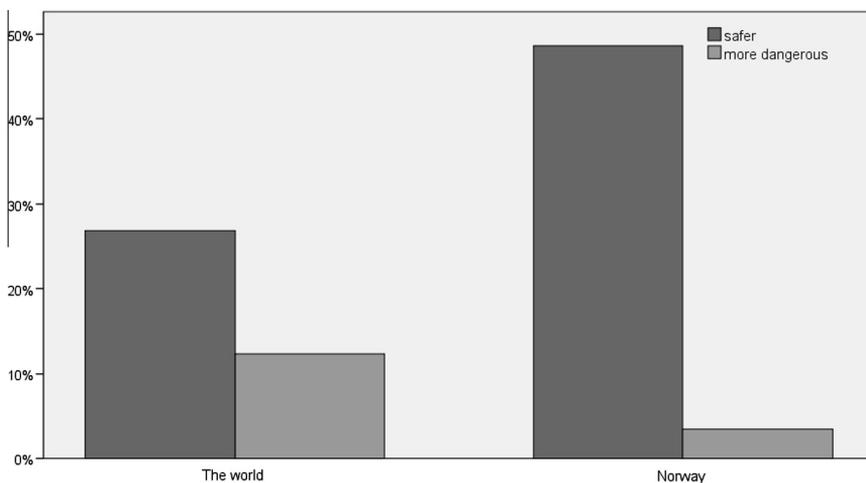
Fig. 2 shows the percentage of participants who indicated that Norway and the world had become safer or more dangerous after the 2011 Oslo/Utøya events. As can be seen, only a small minority of participants thought that Norway (2.81%) or the world (11.16%) had become more dangerous. The corresponding numbers for tourist destinations in Norway and the world are close to identical (Norway: 2.65% and the world: 10.68%). Paired sample *t*-tests comparing mean scores for Norway with mean scores for the world, and scores for tourist destinations in Norway with scores for tourist destinations in the world revealed significant differences for both retrospective comparisons with Norway and Norwegian tourist destinations being perceived as safer than the world and international tourist destinations (Norway:  $M = 3.04$ ,  $SD = 2.21$ ; the world:  $M = 3.68$ ,  $SD = 1.02$ ,  $t(1246) = -18.82$ ,  $p < .001$ ; tourist destinations in Norway:  $M = 3.04$ ,  $SD = 1.22$ ; tourist destinations in the world:  $M = 3.69$ ,  $SD = 1.02$ ,  $t(1244) = -19.21$ ,  $p < .001$ ). In fact, results indicate that on average tourists believe that Norway has become safer whilst the world has become more dangerous after the 2011 Utøya/Oslo massacre.

**Table 3**

Comparing Nordic tourists' with international tourists' risk perceptions and worries. Numbers are mean values on a scale from 1 to 7.

	Nordic tourists		International tourists		t-Test	
	M	SD	M	SD	df	F/t
<i>Risk for Norway and the Nordic countries</i>						
Before Utøya	1.50	.87	1.64	1.06	1756.11	3.73*
After Utøya	1.34	.71	1.52	.79	265.55	3.57*
<i>Risk for terrorism or actions of war during trip to Norway</i>						
Before Utøya	1.29	.74	1.49	1.11	2004.61	5.21*
After Utøya	1.22	.71	1.45	.97	289.85	4.29*
<i>Overall Tourist worries during trip to Norway</i>						
Before Utøya	2.01	.90	2.40	1.06	1468.88	8.04*
After Utøya	1.60	.62	1.90	.85	289.60	6.45*
<i>Tourist worries about acts of terror or war during trip to Norway</i>						
Before Utøya	1.88	1.22	2.30	1.59	1596.10	6.29*
After Utøya	1.27	.67	1.50	.96	303.28	4.61*

\*  $p < .001$  Before Utøya: 2004–21.7.2011/after Utøya: 23.7.2011–2012.



**Fig. 2.** Percentage of tourists indicating that the world/Norway have become safer (more dangerous) after the 2011 Oslo/Utøya massacre.

## Conclusion

Results indicate that participants perceive Norway to be a relatively safe destination. The findings in 2011 and 2012 replicate earlier findings from 2004 and 2010 (Larsen, Øgaard, & Brun, 2011) in that the perceived risks for terror in Norway and for Norway as a destination are relatively low. Tourist's worries, including worries about terrorism, during their trip to Norway are also low, as in earlier reported findings (Brun et al., 2011). This is true for both tourists from the Nordic countries and for tourists from other countries. However there is a stable difference between these two groups in that Nordic tourists have even lower risk perceptions and worry even less than other tourists. Possibly this difference in subjective risk and worries can be explained by the fact that Nordic tourists are on familiar grounds and therefore have higher perceived control which is known to lower risk perceptions when assessing one's own personal risk (see for example: Shepperd, Carroll, Grace, & Terry, 2002; Klein & Helweg-Larsen, 2002). Findings are also in line with earlier findings by Larsen, Ning, Wang, Øgaard, Li, and Brun (2011; Larsen et al., 2007) who demonstrated a "home is safer than abroad" bias, showing that tourists perceive risks linked to food to be greater abroad than at home, regardless of where "home" is.

Tourists' risk perceptions remained unchanged from 2004 until 2011, and did not change in the late summer of 2011 in the immediate aftermath of the July 22nd terror. However in 2012, one year after the attacks, the perceived risk for Norway as a holiday destination declined. So did worries about terrorism in Norway. These are somewhat surprising results which are in contrast with our initial hypothesis and with earlier cited findings (Larsen, Brun et al., 2011; Brun et al., 2011). Several explanations for these findings are conceivable: The questionnaire itself might have affected responses, for example participants might give low risk ratings because they feel sorry for Norwegians being hit by terrorism. However, the item which is mentioning the July 22nd terror attack was placed last in the questionnaire in order to avoid such problems. Also, if this was the case it is difficult to explain why risk ratings and worries decreased in Norway while they increased for Spain and London after the terror attacks in 2004 and 2005 (Larsen, Brun et al., 2011).

Another possible explanation for the decreased risk ratings might be that participants assume that Norway implemented new security measures after the attacks. However, this is what governments usually do after terrorist attacks, and as before, it is therefore difficult to conceive why risk ratings and worries should decline in Norway, when they increased in other countries (Larsen, Brun et al., 2011).

It is also possible that the results are due to a selection bias. If people who believe that Norway became more dangerous after the July 22nd attacks in 2011, refrained from coming to Norway in 2012, they were not included in our sample, and we only included the people who believed that Norway did *not* become more dangerous. This explanation is however better suited to explain why risk ratings and worries did not increase and is not as well suited to explain why these ratings in fact declined. Furthermore risk ratings and worries show the same decline in Nordic and Norwegian tourists as in other tourists, and it is therefore probably safe to assume that no sampling bias affected the ratings of the domestic tourists.

Finally, terror attacks studied in previous research are often executed by terrorist organizations, like ETA in Spain, IRA in Northern Ireland, Al Qaida in the US, or Hamas in the Middle East. In contrast the Oslo/Utøya massacre was the doing of a single, apparently isolated perpetrator, who after his arrest no longer posed a threat to society. Experts' descriptions of the culprit as a lone wolf (for example: Mudde, 2011) and a black swan (for example: Kristiansen, 2012) in the popular media, as well as conflicting reports and widespread discussions regarding his sanity (for example: Andersen, Givi Brenna, Ravndal, Hopperstad, & Vikås, 2011) may all have contributed towards strengthening this impression in the general population around the world. This could explain why there was no increase in risk perceptions or worries among tourists. Still, the elimination of a threat that no one knew existed, should not by itself explain why worries and risk perceptions declined in 2012, unless participants fell into the gamblers fallacy. This is a well-known cognitive bias where people assume that chance is a self-correcting process in which deviation in one direction makes deviations in the opposite direction more likely for the equilibrium to be restored (Tversky & Kahneman, 1971, 1974).

Coin-tossing is typically used to illustrate the phenomenon: After getting several heads in a row, people often assume that chances for getting a tail increase on the next flip. An example from fiction includes [Irving \(1978\)](#) hero Garp, who decides to buy a house immediately after a small plane smashes into it, reasoning that the chances of another plane hitting the house have just been erased. Along these lines one might speculate that tourists who perceive Norway to be a safe destination victimized by some random perpetrator might (erroneously) conclude that the country now has had its share of terror and therefore will be even safer for the years to come. This could explain the decline in risk perceptions and worries. For the mechanism to work, the destination at hand must be perceived as safe, where terror is seen as the exception, not the rule. As discussed earlier, our data clearly show that tourists perceive Norway to be a safe destination. In fact [Larsen, Brun et al. \(2011\)](#) found that tourists perceived Norway and the Nordic countries to be the safest among nine different destinations in Europe, the US and the Middle East. These possible explanations are not mutually exclusive, and future research will have to investigate which are the most likely mechanisms.

Another interesting finding is that while participants on average believed that the world had become slightly more dangerous since the summer of 2011, they also believed that Norway had become slightly safer. That participants believe that the world was safer in the past is in line with earlier findings ([Brun et al., 2011](#)). These results can be explained by a phenomenon known from the literature as rosy retrospection ([Mitchell, Thompson, Peterson, & Cronk, 1997](#); [Sutton, 1992](#)). Rosy retrospection is a memory bias and refers to the finding that subjects in retrospect rate events more positively than they rated them during their occurrence. For example, looking back on a vacation, people often rate the vacation more positively than they did during on-line assessments ([Mitchell et al., 1997](#); [Wirtz, Kruger, Napa, Scollon, & Diener, 2003](#)). Hence: *memoria praeteritorum bonorum*, the past is always recalled to be good. Some researchers ([Wirtz et al., 2003](#)) have also simultaneously demonstrated the opposite effect, a tendency for subjects to recall negative events as more negative than during on-line assessments, that is “gloomy retrospection” so to speak. This could possibly explain why subjects rated Norway to have become safer since the attacks in 2011. However, the fact that on-line risk assessments in 2012 are in fact lower than on-line risk assessments in earlier years speaks against interpreting our findings as a memory bias. Rather findings indicate that people in 2012 in fact did feel safer than people did in 2011 and the years before.

Finally it is also interesting to note that while both general worries and worries regarding terrorism declined in 2012, only general risk judgments for Norway as a destination declined, whilst specific risk judgments for terrorism in Norway remained unchanged. This latter finding can probably be explained by a flooring of the specific terrorism risk scores, that is scores are so low to begin with that a further decrease becomes close to impossible. Note also that the correlations between perceived risk for terrorism and worries about terrorism are only moderate. This goes to illustrate that while the concepts of subjective risk and worry are related, they are not identical and it is important to distinguish between them since they are bound to have differential predictive power.

The present investigation has some limitations which restrict the type of conclusions that can be drawn from it. This concerns for example the fact that convenience samples were used. This of course might limit the generalizability of the findings. It is however impossible to obtain random or even representative samples of tourists, since this is an ever changing and not a clearly defined population. The comparably large sample size reduces some of the problems associated with convenience samples. Another limitation of this enquiry relates to the fact that all data are merely descriptive and correlational in nature. This makes it impossible to conclude anything about what might have caused the observed changes in risk perception and worry and most of the discussion of the findings are pure speculations about possible explanations. Future research will have to look into possible underlying mechanisms which might explain the present results.

A number of limitations result from the fact that the presented findings are not the result of a meticulously planned investigation, but rather a post hoc analysis of data that were collected on several occasions and for varying purposes. This is the reason that risk perceptions and worry about terrorism were assessed by single items, which of course reduces the stability and reliability of the measures. This also led to that some items were measured in some years, and others in other years. A continuous assessment with more elaborated measurement scales would of course enable a sounder conclusion regarding the stability of the observed effects. It lies however in the nature of the investi-

gated event that it is difficult, if not impossible, to plan researching before and after effects. Nevertheless the multiple assessments of perceived terrorism risk and worry about terrorism allow for a direct comparison of these measures before and after the Oslo/Utøya attack. This is a unique possibility which circumvents a number of problems that are associated with employing after-measures only, like for example hind sight bias, faulty memories and perceptions skewed by expectations to name but a few.

To conclude, our findings are in stark contrast to earlier research regarding the effect of terrorism on the tourism industry and on tourists' risk perceptions. Usually a decline in the number of visiting tourists (see for example: Enders & Sandler, 1991; Pizam, 1999; Wahab, 1996) and at least a temporal increase in perceived risk (Larsen, Brun et al., 2011) are observed following a terror attack. Our results however indicate a decline in risk perceptions and worries following the 2011 Oslo/Utøya massacre. Since these findings are novel and unexpected future research will have to look into how these terror attacks differ from other calamities studied in the field. One possible difference are the baseline risk perceptions regarding a destination. In terror ridden areas, terrorist attacks may lead to increased risk perceptions and worries; however this need not be the case when the terror is committed by unorganized individuals in areas that are perceived to be safe to begin with.

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