

Travel Risks in a Time of Terror: Judgments and Choices

Baruch Fischhoff,^{1,2*} Wändi Bruine de Bruin,² Wendy Perrin,³ and Julie Downs²

Shortly after the 2002 terrorist attacks in Bali, readers of Condé Nast Traveler magazine were surveyed regarding their views on the risks of travel to various destinations. Their risk estimates were highest for Israel and Bali, and lowest for Canada and New York city. Estimates for the different destinations correlated positively with (1) one another, (2) concern over aspects of travel that can make one feel at risk (e.g., sticking out as an American), (3) worries about other travel problems (e.g., contracting an infectious disease), and (4) attitudes toward risk. Respondents' willingness to travel to a destination was predicted well by whether their estimate of its risk was above or below their general threshold for the acceptability of travel risks. Overall, the responses suggest orderly choices, based on highly uncertain judgments of risks. Worry played a significant role in these choices, even after controlling for cognitive considerations, thereby supporting the recently proposed "risk as feelings" hypothesis.⁽¹⁾ Thus, even among people who have generally consistent and defensible beliefs, emotions may affect choices. These results emerged with people selected for their interest in and experience with the decision domain (travel), but challenged to incorporate a new concern (terror).

KEY WORDS: Decision making; emotion; risk perception; terrorism; travel

1. INTRODUCTION

The aftermath of September 11th has thrown many everyday choices into sharp relief. When deciding whether risks are worth taking, people must now often factor in the prospect of terror. These are decision problems without universal solutions. Risks and benefits can differ widely across choices and individuals, as might personal values regarding the acceptability of trade-offs among them. Thus, the implications of terror-related risks will need to be worked out as they arise, for specific individuals, in specific domains.

Few domains have been affected by terrorist attacks as much as travel. We report here on a large sample of avid travelers' responses to terror. Such individuals have particular interest, for several reasons. Their domain expertise provides a test of informed lay people's ability to make sense of novel risks. Their travel choices matter to the industry, both because they are disproportionate consumers of its services and because they may be opinion leaders, defining the responses of informed travelers.

Our questions and analyses focus on cognitive appraisals of risk, of the sort central to most theories of judgment and decision making.⁽²⁾ However, risk researchers have long known the supplementary role played by affective features of risk (e.g., dread) as well as features with both cognitive and affective content (e.g., novelty, voluntariness).⁽³⁻⁵⁾ Recent studies have highlighted the role of emotions in risk judgments^(6,7) and desire for mitigation.⁽⁸⁾ Affective responses can be useful, orienting people to risks and mobilizing their coping ability. However, affect can

¹ Department of Engineering and Public Policy, Carnegie Mellon University, Pittsburgh, PA, USA.

² Department of Social and Decision Sciences, Carnegie Mellon University, Pittsburgh, PA, USA.

Q1 ³ Condé Nast Traveler.

* Address correspondence to Baruch Fischhoff, Department of Engineering and Public Policy, Carnegie Mellon University,

Q2 Pittsburgh, PA, USA; baruch@andrew.cmu.edu.

also undermine effective decision making, for example, by evoking worry about events that people believe to be unlikely, but simply cannot ignore.⁽¹⁾ The recently proposed “risk as feelings” hypothesis attempts to integrate the roles of both emotional and cognitive factors in decisions about risks.⁽¹⁾ We present one of the first tests of this hypothesis, seeing whether affective considerations improve predictions based on cognitive ones. The vivid, horrific, events like the September 11th attacks ought to increase the role of affect, as has been reported in several studies with general samples of American.^(9–11) Having experienced travelers as respondents should decrease the role of affect, to the extent that they have relatively high cognitive mastery of the (travel) domain and interest in the implications of terror.

Thus, the study shows “expert lay” responses to an important (but little studied) class of risks, while informing general theories about risk judgments and choices.

2. METHOD

2.1. Design

The survey elicited four kinds of judgment: (1) risk estimates for terror attacks at specific locations, (2) general tolerances for terror attack risks, (3) worries about travel-related events, and (4) hypothetical travel decisions. The analyses are organized around these topics and the associated theoretical issues. The questions were dispersed, through the survey, in order to preserve its conversational flow and reduce any induced consistency (from proximal placing of related questions).

The survey⁴ began by asking, “Imagine you were to win a free trip to one of the following places in the near future. Are there any you would not go to because it feels to risky? (Choose all that apply).” Fifteen destinations, with widely varying risks, appeared alphabetically. This travel decision appeared first, lest other questions suggest specific concerns. The rest of the survey focused on eight of these destinations, listed in Table I.⁵

The next questions elicited attitudes regarding travel risks, first in general and then for one specific destination, Bali. Respondents then indicated which

Table I. Gamma Correlation Between Estimated Risk of Being Involved in a Terror Attack and Other Measures of Concern

Travel Destination	Worry About Being a Terror Victim	Overall Travel Worry	Overall Travel Vulnerability
Israel	0.15*	0.10*	ns
Bali	0.27*	0.11*	ns
Morocco	0.25*	0.15*	0.18*
Thailand	0.32*	0.18*	0.16*
Turkey	0.25*	0.15*	0.16*
Russia	0.20*	0.18*	0.12*
NYC	0.20*	0.21*	0.20*
Canada	ns	ns	0.18*
Mean terror risk	0.23*	0.15*	0.13*

* $p < 0.01$, ns = nonsignificant.

of several strategies “would increase your sense of security in a risky country” (e.g., booking a group tour, visiting the U.S. Embassy) and “when flying to a foreign country” (e.g., flying a U.S. airline).⁶

Nine questions asked about *travel worries*, prefaced by “When you travel abroad, how much do the following risks worry you?” These events included ones that allowed protective action (e.g., exposure to the sun, getting food poisoning) and ones that did not (being victim of a terrorist, being in a plane crash). Respondents also indicated whether they had experienced four of these risks.

Respondents’ perceived *vulnerability* was examined by asking “When you travel abroad, which of the following do you feel put you at risk?” for each of eight travel-related circumstances. Some reduced the effectiveness of normal control measures (e.g., driving on the left side of the road, not knowing local customs and nonverbal signals); others involved ceding control, by the very act of traveling (e.g., sticking out as an American, questionable medical care).

The next six questions concerned possible effects of war and terror on travel plans. Because of space limitations, responses to these questions are not reported here.

Two questions elicited *personal risk thresholds*, for pleasure and business trips: “How big a risk of being involved in a terror attack would you accept in a pleasure [business] trip before deciding not to

⁴The complete survey is available from the authors, and also online at <http://www.hss.cmu.edu/departments/sds/risk/TravelAppendix.htm>.

⁵The other destinations were California, Egypt, England, Greece, India, Jordan, and Sicily.

⁶Details are available from the authors. Responses suggested collective confusion regarding the efficacy of risk-reduction strategies. Roughly equal numbers of respondents endorsed several sets of contradictory strategies (e.g., using and avoiding Western hotels, traveling singly and in groups, visiting and avoiding the U.S. embassy).

go?”⁷ The response mode used a log scale, with options ranging from 1 in 10 million to 1 in 100. Previous research^(12,13) has shown that such a scale helps respondents to express low probabilities, while maintaining the validity, reliability, and usability of linear 0–100% scales. Compared to open-ended response modes, it prevents such anomalies as the “fifty-fifty” bias⁽¹⁴⁾—a tendency to say “50%” when risks are unknown⁽¹⁴⁾ or uncontrollable.⁽¹⁵⁾ The broad range sought to reduce any suggestion of the expected answer. The questions were preceded by, “The risk of being struck by lightning is 1 in 600,000.” Following Lichtenstein and colleagues,⁽¹⁶⁾ this anchor was intended to suggest the magnitude of risks, using a familiar event. It seems reasonable to assume that respondents inferred little about risk acceptability from this value. However, it might have affected subsequent risk judgments,⁽¹⁷⁾ like other design details, in tasks with unfamiliar response modes.^(18,19)

The final questions asked, for 8 of the 15 destinations, “If you were to travel to each of the following places, what do you think is the risk of being involved in a terror attack?” It used the same log scale. Comparing each risk estimate with the respondent’s risk threshold should predict his or her willingness to accept a free trip to that destination. The many intervening questions, on related topics, should reduce respondents’ memory for their initial responses and any induced consistency.

2.2. Procedure

The survey was conducted shortly after the Bali hotel bombing of October 6, 2002, but before the Mombasa, Kenya, attack of November 28, 2002. In the United States, terrorism was a focus of intense public discussion, but few recent overt events. Violence continued in the Middle East, Southeast Asia, West Africa, and elsewhere.

Potential respondents received an e-mail invitation to answer the survey online. Digital Connexions conducted the data collection and tabulation for Condé Nast Traveler. Some descriptive statistics appeared in Condé Nast Traveler’s February 2003 issue.⁽²⁰⁾ Because the survey was conducted for a private client, by a commercial firm, it did not pass through an Institutional Review Board (IRB) prior to its administration. Our secondary analysis was deemed exempt by Carnegie Mellon’s IRB, because no record of respondents’ identity was retained.

⁷ The distributions for pleasure and business trips were not significantly different.

2.3. Sample

A random sample was drawn from Condé Nast Traveler readers who had supplied an email address. The magazine describes itself as “the leading affluent travel lifestyle publication, reaching the highest-yield, active consumer.” Given their interest in travel news and advice, respondents should be relatively well informed and experienced in judging travel risks, choosing destinations, and evaluating protective measures.

Invitations to participate were emailed to 13,857 people, 710 of whom completed the online survey, for a 5.1% response rate. Response rates for web surveys are typically in this range, especially when potential respondents receive only one invitation.⁽²¹⁾ The present rate was not corrected for undeliverable invitations, which other studies have found to vary between 8% and 28%.⁽²¹⁾

Although no demographic information was requested, a follow-up survey, using the same procedure found that its sample was 52.4% male, with a median age group of 50–59. Overall, magazine subscribers are 54% female with a median age of 46;⁽²²⁾ thus, older, male readers were somewhat overrepresented here. Compared to Americans in general, the target population reports a high median household income (\$135,242) and education level (65.2% graduated college).⁽²²⁾

3. RESULTS

3.1. Estimates of the Risk of a Terror Attack at Specific Locations

Fig. 1 shows respondents’ estimated risk “of being involved in a terror attack” for the focal destinations.⁸ Each distribution was unimodal, demonstrating some consensus among respondents. Kendall’s concordance coefficient showed good agreement among respondents, regarding the destinations’ relative risk ($W = 0.52$; $p < 0.01$). The largest median estimates were for Israel (1 in 10,000), Bali (1 in 100,000), and Morocco (1 in 100,000). Canada was seen as safest (med = 1 in 10 million), with New York City, Russia, Thailand, and Turkey close behind (med = 1 in 1 million). Both Cronbach’s alpha and a nonparametric measure of internal consistency (α_τ) suggested relatively consistent

⁸ Because the risk estimates were not normally distributed, parametric statistics are not appropriate. We present corresponding nonparametric statistics.⁽²³⁾ Parametric and nonparametric analyses of our data show similar results regarding our hypotheses.

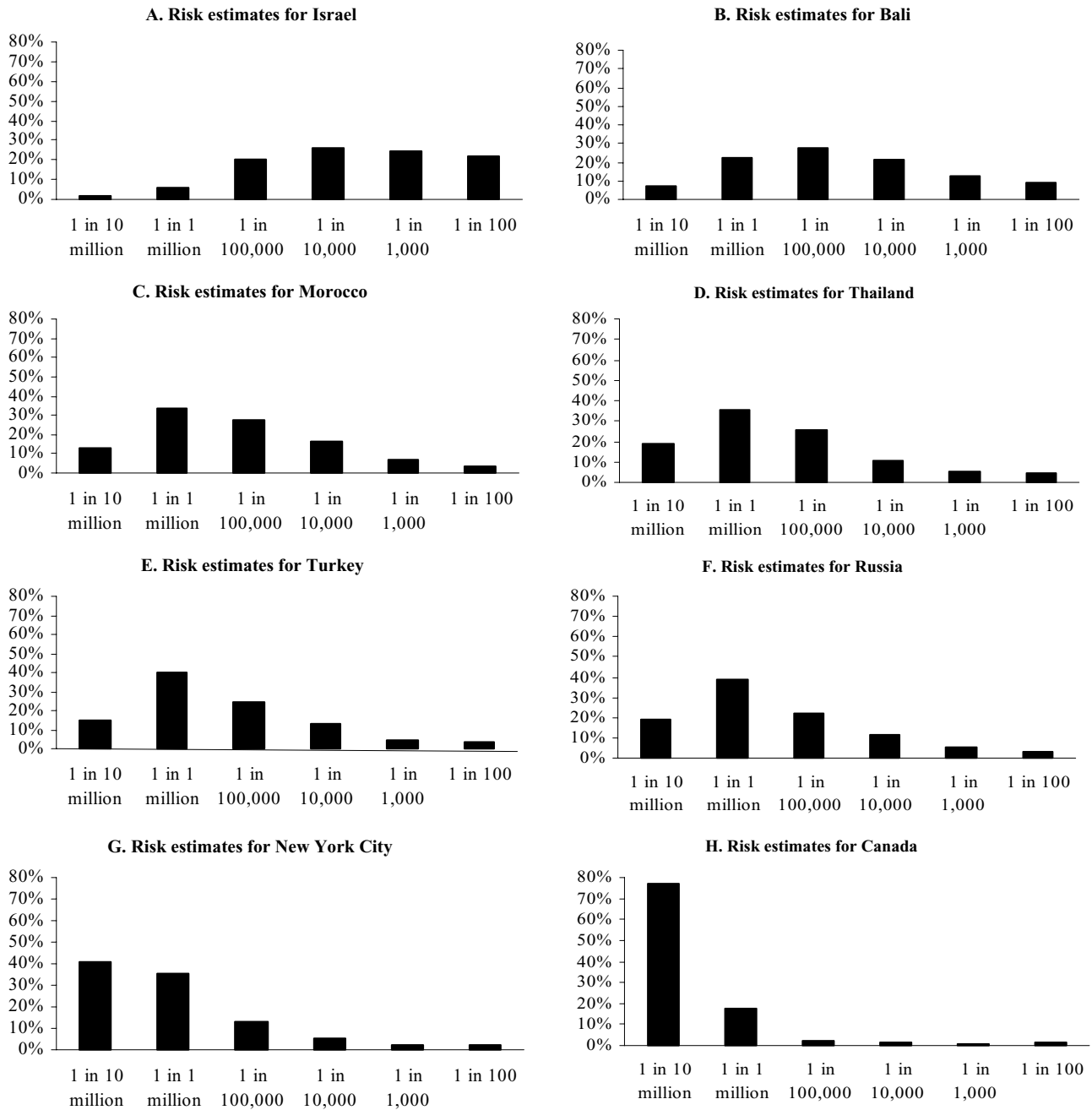


Fig. 1. Distribution of estimated risks.

patterns in individual respondents' risk estimates ($\alpha = 0.75$; $\alpha_\tau = 0.32$).⁹

⁹ Cronbach's α is based on parametric correlation coefficients; values above 0.7 are considered relatively strong for attitudinal items. α_τ is a nonparametric coefficient of internal consistency, reflecting how often respondents use the same response across a set of items; values of 0.2–0.4 are considered relatively strong.⁽²⁴⁾

3.2. Worries About Travel

Respondents rated how much various aspects of travel made them feel at risk, when traveling abroad. We created *overall travel vulnerability* scores by assigning 1–4 to the response options: not at all, not much, somewhat, very much. Means were 2.91 ($SD = 0.78$) for questionable medical care, 2.78 ($SD = 0.86$)

for sticking out as an American, 2.69 ($SD = 0.80$) for not knowing customs, 2.59 ($SD = 1.02$) for driving on the left, 2.58 ($SD = 0.80$) for not knowing the language, 2.57 ($SD = 0.83$) for being unfamiliar with the neighborhood, 2.55 ($SD = 0.92$) for being unable to drink the water, and 2.37 ($SD = 0.87$) for driving abroad. Responses showed good internal consistency within respondents ($\alpha = 0.79$; $\alpha_\tau = 0.47$) and ordinal agreement among them ($W = 0.05$, $p < 0.01$).

Respondents also rated nine problems for how much each worried them when traveling abroad. Creating scores as before, mean reported worry was 2.80 ($SD = 0.80$) for being the victim of a pickpocket, 2.48 ($SD = 0.92$) for losing a passport, 2.29 ($SD = 0.79$) for food poisoning, 2.22 ($SD = 0.79$) for being the victim of a terrorist, 2.21 ($SD = 0.79$) for being in a car accident, 2.17 ($SD = 0.77$) for getting an infectious disease, 2.07 ($SD = 0.72$) for being a violent crime victim, 1.96 ($SD = 0.94$) for being exposed to the sun, and 1.90 ($SD = 0.83$) for being in a plane crash. Reported worry showed significant internal consistency within respondents ($\alpha = 0.78$; $\alpha_\tau = 0.38$) and agreement among them ($W = 0.14$, $p < 0.01$). We used each respondent's mean rating, across items, as a measure of overall travel worry.

While traveling abroad, 21.7% of respondents had been pickpocket victims, 12.7% had caught an infectious disease, 9.3% had been in a car accident, and 2.2% had been violent crime victims. These rates are significantly different from one another ($p < 0.05$). They roughly parallel the mean worry ratings, adjusting for problem severity. Personal experience with each event correlated strongly ($p < 0.01$) with worry about it ($\gamma = 0.43$ for being a pickpocket victim, $\gamma = 0.54$ for getting an infectious disease, $\gamma = 0.67$ for being a violent crime victim)—except for motor vehicle accidents ($p > 0.05$). Having experienced violent crime or infectious disease correlated with overall travel worry ($\gamma = 0.42$); the other negative experiences did not. Across respondents, 64.7% reported experiencing none of the four negative travel events. These individuals reported less overall travel worry than did the others ($\gamma = -0.16$), but no less worry about being a terror victim, overall vulnerability, or estimated terror risk for any destination ($p > 0.05$).

Table I correlates terror risk estimates with three other measures of concern. All relationships are positive, most significantly so. Thus, people who estimate greater terror risks also worry more, both about being a terror victim and about travel problems overall. They also see greater vulnerability when traveling.

Thus, individual differences in seeing risks emerge across tasks as well as within them, despite variations in response modes¹⁰—indicating that the consistency reflects more than just a mechanical response bias.

3.3. Personal Risk Thresholds

Respondents reported the terror attack risk level at which they would no longer take a pleasure trip. The median risk threshold was 1 in 100,000.¹¹ If these reported values are meaningful, they should be consistent with respondents' beliefs and decisions.

There were no significant correlations between respondents' risk thresholds and their overall vulnerability judgments, overall worry judgments, or worry about any of the individual items contributing to these measures (γ ; $p > 0.05$). Thus, respondents' affective responses to travel risks were not related to their general willingness to accept them—indicating that these formally independent concepts are also psychologically distinct.

Table II correlates attitudes toward travel with three cognitive variables: risk threshold, mean terror risk estimate (across the eight focal destinations), and the degree to which the risk is unacceptable (equal to the difference between the mean risk estimate and the threshold—with positive differences reflecting unacceptable risks). The results show sensible relationships, supporting the construct validity of the measures involved. For example, lenient attitudes toward risk (e.g., “anything can happen anywhere”) were associated with lower estimates of terror risks, higher thresholds for accepting risks, and seeing mean estimated risk as less unacceptable. Aversion to risk (e.g., “I don't want to spend my vacation worrying”) held the converse pattern (Table II).

Attitudes toward the specific destination of Bali were also sensibly correlated with other responses. Those who estimate lower travel risks and find them less unacceptable (as indicated by the difference between risk and threshold) also had more positive attitudes toward traveling there: “Bali is risky, but I don't think I would get hurt” ($\gamma = -0.24$, $p < 0.01$ for risk; $\gamma = -0.21$, $p < 0.01$ for risk minus threshold); “Bali

¹⁰ Greater concern in the risk estimation task was expressed by options appearing toward the end of the response list, in the others by response options appearing toward the beginning.

¹¹ That is roughly the fatality risk for a 2-hour flight or a 650-mile car journey (in 2000).^(25,26) In this sense, people take personally acceptable risks on such trips. They might, of course, accept other risks levels for vacation trips, which might be longer and less frequent.

Table II. Gamma Correlations Between Attitudes Toward Choosing Vacation Spots and (a) Risk Threshold, (b) Mean Terror Risk Estimate, and (c) Acceptability of Mean Terror Risk Estimate Compared to Threshold

Attitude	Endorsing (%)	Gamma Correlations with		
		Risk Threshold	Mean Terror Risk Estimate	Unacceptability of Risk (Mean Risk – Threshold) ^a
I'll go later when it's safe	39.6	-0.13*	ns	0.11*
I don't want to spend my vacation worrying	30.2	-0.20**	0.21**	0.20**
Life is risky; anything can happen anywhere, so I don't worry	32.9	0.15*	-0.18**	-0.15**
I won't let terrorists change my life	32.1	ns	-0.17**	-0.13**
I'll go if rewards outweigh risks	31.3	0.12*	-0.14**	-0.10*
Risk makes travel exciting	6.8	0.25*	ns	-0.27**

* $p < 0.05$, ** $p < 0.01$, ns = nonsignificant.

is risky, but now is the time for great deals and few crowds” ($\gamma = -0.35$, $p < 0.01$ for risk; $\gamma = -0.32$, $p < 0.01$ for risk minus threshold); “terrorists will likely attack somewhere else next” ($\gamma = -0.22$, $p < 0.01$ for risk; $\gamma = -0.20$, $p < 0.01$ for risk minus threshold); “security is tighter now than it was before” ($\gamma = -0.23$, $p < 0.01$ for risk; $\gamma = -0.23$, $p < 0.01$ for risk minus threshold); “staying home or traveling elsewhere is risky too” ($\gamma = -0.21$, $p < 0.01$ for risk; $\gamma = -0.33$, $p < 0.01$ for risk minus threshold). Conversely, not being willing to travel to Bali was related to higher risk estimates ($\gamma = -0.51$, $p < 0.01$) and finding risk less acceptable ($\gamma = -0.44$, $p < 0.01$).

Perhaps surprisingly, respondents giving higher risk estimates also had more lenient risk thresholds. That was true overall ($\gamma = 0.23$, $p < 0.01$) and for each destination: Bali ($\gamma = 0.21$, $p < 0.01$), Russia ($\gamma = 0.25$, $p < 0.01$), Thailand ($\gamma = 0.18$, $p < 0.01$), Turkey ($\gamma = 0.21$, $p < 0.01$), Morocco ($\gamma = 0.19$, $p <$

0.01), Canada ($\gamma = 0.20$, $p < 0.05$), Israel ($\gamma = 0.18$, $p < 0.01$), and New York City ($\gamma = 0.19$, $p < 0.01$). An artifactual contribution to these correlations would come from any response bias toward using large or small numbers. Smaller responses (e.g., 1 in 100) reflect high risk estimates and high risk tolerances. Despite that possibility, risk estimates, risk thresholds, and their difference showed orderly correlations with risk attitudes (Table II).

3.4. Decisions to Cancel Travel to Specific Destinations

If respondents have coherent belief systems, it should be possible to predict their willingness to travel to a destination from the difference between their estimates of its risk and their personal thresholds. The first column of Table III shows the percentage of respondents who would cancel a free trip to each

Travel Destination	Canceled (%)	Estimated Risk Different from Threshold		Estimated Risk Below Threshold (Should Not Cancel)		Estimated Risk Above Threshold (Should Cancel)	
		N	Consistent Decisions (%)	N	Consistent Decisions (%)	N	Consistent Decisions (%)
Israel	84.5	556	86.7	55	50.9	501	90.6
Bali	55.8	483	72.5	147	70.7	336	73.2
Morocco	33.9	458	68.8	229	81.2	229	56.3
Thailand	22.1	465	72.3	270	91.5	195	45.6
Turkey	29.0	455	70.5	255	84.7	200	52.5
Russia	15.8	462	70.8	293	91.5	169	34.9
NYC	1.1	499	80.8	401	99.8	98	3.1
Canada	0.4	571	95.3	545	99.6	26	3.8

Table III. Percentage of Who Would Cancel Trips to Each of the Eight Focal Destinations, and Make Decisions Consistent with the Difference Between Estimated Risk and Personal Threshold

Table IV. Kendall Correlations Between Cancellation Decisions and Specific and General Measures of the Cognitive Variable (Risk – Threshold) and Worry

Travel Destination	Specific Measures			General Measures		
	Risk – Threshold	Worry About Terrorism	Worry About Terrorism, Partialing Out Risk – Threshold	Mean Risk – Threshold	Overall Travel Worry	Worry, Partialing Out Risk – Threshold
Israel	0.23*	0.11*	0.09*	0.16*	0.08*	0.07*
Bali	0.32*	0.22*	0.17*	0.16*	0.11*	0.10*
Morocco	0.29*	0.22*	0.19*	0.17*	0.15*	0.14*
Thailand	0.31*	0.19*	0.14*	0.12*	0.13*	0.12*
Turkey	0.29*	0.22*	0.20*	0.16*	0.14*	0.13*
Russia	0.21*	0.17*	0.15*	0.09**	0.16*	0.15*
NYC	0.08**	0.08**	0.07*	0.05	0.09**	0.09*
Canada	–0.00	0.02	0.02	0.02	–0.01	–0.01

* $p < 0.01$, ** $p < 0.05$.

focal destination. Individual respondents’ decisions showed moderately high internal consistency, both for the eight focal destinations ($\alpha = 0.67$; $\alpha_\tau = 0.64$) and the full set of 15 ($\alpha = 0.80$; $\alpha_\tau = 0.63$). There was also significant agreement among respondents, regarding which trips to cancel ($W = 0.42$, $p < 0.01$ for the eight; $W = 0.43$, $p < 0.01$ for the 15). On average, respondents would forego trips to 2.5 of the 8 focal destinations ($SD = 1.64$), and 4.3 ($SD = 2.76$) of the full set of 15.

If respondents have consistent beliefs, preferences, and decisions, they should (1) cancel trips where the estimated risk is higher than their risk threshold and (2) not cancel trips where the estimated risk was lower than the threshold. Column 2 of Table III shows how many respondents had different risk estimates and risk thresholds, thereby providing predictions for their cancellation decisions. The next column shows the percentage of these decisions that followed the predicted pattern; it was significantly greater than 50% for each destination ($p < 0.01$; binomial test). The rest of the table shows the accuracy of predictions for decisions to go and to cancel, separately. Predictions of not canceling were more accurate than predictions of canceling, for destinations where few would cancel ($\chi^2 = 33.04$ for Morocco; $\chi^2 = 118.69$ for Thailand; $\chi^2 = 55.96$ for Turkey; $\chi^2 = 165.76$ for Russia; $\chi^2 = 505.42$ for Canada; $\chi^2 = 473.86$ for New York City; $p < 0.01$ for each). The two predictions were equally accurate for Bali, where about half would cancel; the opposite pattern held for Israel, where most would cancel ($\chi^2 = 67.73$, $p < 0.01$).

Table III predicts cancellation predictions from cognitive factors. Table IV adds affective ones.

For analytical purposes, the first column translates Table III’s predictions to correlations¹² between cancellation decisions and the magnitude of the difference between the risk estimate and threshold. The next column correlates cancellation decisions with respondents’ reported worry about terror. Those who worried more were also more likely to cancel. The next column shows that these relationships remain, after controlling for “risk minus threshold” (taken as a summary of cognitive concerns).¹³

The remaining columns consider general measures of estimated risk and travel worry. The patterns remain. Both cognitive and affective measures predict cancellation decisions, with the latter showing little change after partialing out the former. As would be expected,⁽²⁷⁾ the risk-specific measures show higher correlations with trip decisions.

4. DISCUSSION

Respondents’ estimates of these novel risks were quite orderly. There were consistent individual differences in the magnitude of risk estimates, along with good agreement among respondents about the destinations’ relative risk. Risk judgments, risk thresholds and their difference (reflecting the risk’s

¹² Kendall’s rank-order correlations (Tau b) were used instead of Gammas, because they allow computing Kendall’s partial rank-order correlation coefficients. Kendall’s Tau b is less appropriate than Gamma when there are many ties.⁽²³⁾ However, Gammas showed similar results, obviating the need to choose.

¹³ Logistic regressions using worry and the comparison between estimated risk and threshold to predict cancellation decisions also showed that worry added predictive power to the cognitive risk comparison.

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acceptability) were plausibly related to risk attitudes. Whether respondents would cancel a free trip, because of its risk, was predicted well by whether they estimated that risk to be above or below their threshold of acceptability. Decisions to cancel were less well predicted than decisions to travel. One possible explanation for this differential accuracy is that the cancellation question referred to a hypothetical free trip, while the reported threshold referred to ordinary trips, where one would expect to pay. Travelers may accept risks for free trips that they would decline for ordinary ones.

In addition to making these cognitive judgments, respondents made affective worry judgments. These, too, showed consistent individual differences, as well as interpersonal agreement about the rank order of concerns. Respondents' reported worry predicted their trip cancellation choices, even after controlling for the cognitive measures. The lower correlations with the affective measures might reflect weaker relationships or poorer measurement (given their lesser specificity). However, their statistical significance suggests that these questions tap a construct that predicts travel decisions over and above explicit risk judgments. Overall, it appears that, even when people have a seemingly consistent set of beliefs, also considering worry improves prediction of their decisions—as proposed by the “risk as feelings” hypothesis.⁽¹⁾

Across the eight focal destinations, risk estimates were highest for Israel,¹⁴ with its intense turmoil, and Bali, where tourists had been attacked shortly before the survey. The lowest risks were seen in Canada and New York City. Only time will tell how accurate these estimates are. The actual risks can only be computed as history unfolds, revealing the rate of terror attacks. Bali, for example, would have had dramatically different historical statistics, if computed in September 2002 or 2 months later. The median estimate (1 in 100,000) equals distributing the 200 casualties from the hotel bombings⁽²⁸⁾ over 10 million tourists, twice the number of tourists visiting Bali in 2001.⁽²⁹⁾

This evaluation of accuracy assumes that respondents interpreted “involved in a terror attack” as “being injured or killed.” If respondents included vicarious effects and disruption of travel as part of “being

involved,” then the actual risks would be higher (and respondents' estimates closer to them). Although the orderliness of the results suggests that respondents adopted a consistent definition, additional research would be needed to determine what it was.⁽³⁰⁾

Interpreting these risk estimates also depends on how literally respondents are assumed to have meant the numbers that they used. The log scale was adapted from earlier studies, including validation ones.^(12–14) It offered values extending beyond the range of plausible responses, so as to avoid constraining judgments. An anchor was used to give a feeling for the magnitude of a familiar risk. As mentioned, respondents showed consistent use within and between respondents. Apparent consistency was also found with other clusters of judgments: (1) vulnerability when traveling abroad, (2) worry about travel, (3) decisions to forego a free trip because of risks. Mean scores for each cluster correlated well with the others, and with the risk estimates, suggesting abiding individual differences in concern. Worries were moderately correlated with negative travel experiences, such as being a crime victim.

Nonetheless, caution is warranted when interpreting quantitative judgments, in absolute terms, unless respondents are very familiar with the response mode, in the specific context.^(18,19) On the other hand, correlational measures of *how* people think should be scale invariant, in ways that expressions of *what* they believe are not. That logic motivated assessing predictive validity with the difference between estimated risks and risk thresholds, two judgments that should be similarly influenced by the anchor and response mode. As mentioned, we found such consistency.

The orderliness of respondents' beliefs may reflect their expertise in the focal domain, as well as their high level of education. They self-selected by having enough interest in (1) in travel to subscribe to *Condé Nast Traveler* and (2) in travel risks to answer the survey. Despite this relative substantive sophistication, emotion seemingly still played a role in their judgments. Less consistent beliefs, and a stronger role for emotions, might be observed in the general public, or with the present respondents, when confronted with a less familiar domain. It might also be observed when they face actual risks and not just hypothetical ones.

Nonetheless, the results suggest that informed lay people can combine their beliefs and emotions about risks in a consistent, reasonable way in a relatively familiar domain. That overall pattern suggests reason

¹⁴ In Israel, there had been roughly one death and eight injuries (many horrific) from terrorist attacks per day over the two years preceding the survey.⁽³¹⁾ If tourists face the same average risk as the 6 million residents of Israel, then a 1-week trip would entail roughly 1 chance in 100,000 of being a casualty, one-tenth the median estimate.

for guarded optimism regarding citizens' ability to respond to terror risks, in domains that matter to them.

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