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**Psychological Predictors of Deterrence from Travel**

**Due to Terrorist Action**

**Jacqueline Gray**

**University of Kent**

Thesis submitted in fulfilment of the requirements for examination of the  
degree of Doctor of Philosophy (PhD)

October 2004

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## ABSTRACT

Research has shown that terrorism is associated with a decline in tourism to targeted countries (Enders & Sandler, 1991). The existing studies are based on a retrospective analysis of tourism statistics in relation to occurrences of terrorism. The present research moves beyond these earlier studies by identifying in real-time the duration and extent of the psychological impact of an act of terrorism on deterrence from travelling. It is evident that there are individual differences in this variable, with some people being easily deterred, whilst others continue to visit countries that have been terrorist targets. Other research that has sought to identify factors associated with people's travel decisions in the light of terrorism have used the concept of terrorism in the abstract, rather than with reference to a real-world event (Sönmez & Graefe, 1998). The present research identifies the utility of risk perception, sensation-seeking personality, attitude and socialisation variables as predictors of deterrence from travelling due to the threat of terrorism. The measure of deterrence from travelling was again assessed with reference to real-world terrorist events. Prospect Theory (Kahneman & Tversky, 1979), Sensation seeking (Zuckerman, 1994) and the Theory of Planned Behaviour (Ajzen, 1988) provide the theoretical bases for this research. The research also investigates these factors as predictors of the intention to travel by air, and the role of travel motive in relation to travel intentions. It was found that attitude to international travel, risk perception for the threat of terrorism and level of thrill and adventure seeking were the strongest predictors of deterrence from travelling. The relationship between the predictor variables and the intention to travel by air was found to alter depending upon the destination and reason for which the travel was intended. The implications of the findings are discussed, both in relation to how they develop the theoretical approaches and for the application of these in understanding and limiting the negative consequences of terrorism on the public.



## CHAPTER 1 – INTRODUCTION

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At the start of the 21<sup>st</sup> century terrorism has become a high-profile topic, both in terms of academic interest and in the rest of society. The attacks on the World Trade Centre in New York and the Pentagon in Washington and the downing of a passenger airliner in Pennsylvania on 11<sup>th</sup> September 2001 have been the focus of much research, with whole volumes of journals such as 'Political Psychology', 'The Journal of Conflict Resolution' and 'Terrorism and Political Violence' dedicated to the subject. This research frequently addresses issues such as factors leading to the rise of terrorism, what makes individuals turn to terrorism, or the development of particular terrorist groups or individuals (e.g. Post, Ruby & Shaw, 2002). Some research also considers the consequences of terrorism, but this is often in terms of psychological factors such as stress, depression and Post Traumatic Stress Disorder (e.g. Gidron, 2002; Jacobs & Kulkarni, 1999; Scurfield, 2002). There has been relatively little research that has considered the social psychological consequences of terrorism.

An issue of particular interest, due to the social and economic impact it can have, is the deterrent effect of terrorism on tourism. Previous research based on the analysis of tourism statistics has shown that terrorist incidents are associated with a decrease in tourism to targeted countries (Enders & Sandler, 1991). However, there have been remarkably few studies conducted to identify the underlying psychological factors associated with this deterrence. Having established that previous research has identified that terrorism is associated with changes in travel behaviour, this thesis sets out to identify factors that may be associated with that behavioural change. This is ultimately achieved through the application of the Theory of Planned Behaviour (Ajzen, 1988, 1991), which provides a framework for investigating factors that are associated with intention to travel.

This thesis has two main themes. The first is to assess the impact of terrorism on individuals' travel attitudes and to identify temporal changes in that impact. Studies are reported that investigate the impact of terrorism on willingness to travel, which is assessed using a measure of attitude that frames the issue in terms of the extent of deterrence from travelling due to terrorism. The studies consider the changes in impact over time and also whether such acts affect attitudes just to the

targeted country or whether there may also be an effect on attitudes to other destinations.

The second theme is the development of a model accounting for the relationships between various psychological and personal factors, and intention to travel. An intermediate stage of the research process is reported in which a model is developed of the relationship between a number of psychological and personal factors and deterrence from travelling. This identifies factors that contribute to the differentiation between those deterred from travelling by terrorism and those who are not, bringing together personality, socialisation and social cognitive variables. This is based on an analysis of responses given with reference to the events of 11<sup>th</sup> September 2001, which hereafter will be referred to in the widely used American form 9/11. However, it will be argued that this analysis will provide evidence that could be applied to other acts of terrorism. The final analyses reported in this thesis modify and extends the model of deterrence from travelling by developing models of intention to travel, according to the motivation for that travel. These models identify the relationships between the various psychological and personal factors, reported impact of terrorism on previous travel behaviour, motivation for travel and intention to travel in future, based upon the Theory of Planned Behaviour (Ajzen, 1988, 1991). Such a model increases the understanding of the social psychological impact of terrorism, and has the potential to facilitate the identification of possible interventions to counteract the negative impact of terrorism on individuals and society. A brief indication of the content of each of the following chapters is given below.

Chapter 2 provides a review of the previous terrorism literature. Studies that have investigated the psychological and behavioural consequences of terrorism are reviewed. These include changes in attitude, time spent with family and travel behaviour.

The next three chapters review the literature relating to the factors to be integrated in the models of deterrence and intention. Chapter 3 presents the literature relating to risk perception and the travel decision process, which is characterised as a decision under conditions of risk. The chapter provides a brief description of Prospect Theory and heuristics (Kahneman & Tversky, 1979; Tversky & Kahneman, 1974), and a more detailed consideration of the recent literature supporting the reliance on these processes in real-world decisions. Chapter 3 finishes with a

discussion of the literature relating to attitudes. This includes the tripartite conceptualisation of attitudes, which was used to inform the development of the measure of deterrence from travelling due to the threat of terrorism. It also includes a discussion of the Theory of Planned Behaviour (Ajzen, 1988, 1991), and the implications for this theory on the tripartite model of attitudes. Chapter 4 considers the evidence regarding the association between risk assessment or risky behaviours, and the socialisation factors of age, gender and travel experience. Studies are reviewed that consider reactions to events such as natural disasters or man made hazards, as well as terrorism. Chapter 5 introduces the personality trait of sensation seeking and examines its relationship to participation in various risk activities

Chapter 6 provides an account of the methodological issues arising from this research. Issues such as the participants used, the use of questionnaires, the generalisability of results based on 9/11, the use of both traditional statistical techniques and those associated with Facet Theory, and ethical considerations are considered. It also provides an overview of the design of this research programme.

The results of the study to investigate changes over time in deterrence from travelling after 9/11 are reported in Chapter 7. The development of a questionnaire assessing deterrence from travelling due to the threat of terrorism is described. This chapter shows that a substantial number of people were deterred from travelling, but that this declined in the year following 9/11 and that there was some generalisation of deterrence to locations beyond the U.S.A. However, there were also many people who were not deterred from travelling, and the following three chapters develop the model to account for these differences.

Chapter 8 looks at the individual utility of sensation seeking as a predictor of deterrence from travelling due to the perceived ongoing threat of terrorism post 9/11. This factor is considered together with the socialisation factors, but without the psychological variables of attitude to international travel and risk perception. Preliminary analyses considering the reliability of the scale employed are also included in this chapter.

Chapter 9 commences with the development of a questionnaire to assess the different types of risk that people face when travelling, as terrorism is not a hazard that is faced in isolation. The relationship between risk perception for the various types of travel hazard, including terrorism, and deterrence from travelling post 9/11 is assessed. The second component of this chapter considers attitude to international

travel as a further potential predictor of deterrence from travelling. The socialisation variables are included in both of the analyses reported in this chapter.

In Chapter 10 the three psychological factors are brought together, along with previous travel experience, gender and age, to develop an integrated model of the factors associated with deterrence from travelling due to the threat of terrorism. Regression based path analysis is used to identify the significant associations between the factors. A further study is then reported that identifies the relationship between reported deterrence from travelling and actual travel behaviour.

Chapter 11 reports the development of the final model of intention to travel by air to various destinations. This model again includes the sensation seeking and risk perception variables used in the development of the model reported in Chapter 10, but develops the attitudinal aspect. The attitude measures used previously are replaced by a series of measures assessing aspects of the Theory of Planned Behaviour (Ajzen, 1988, 1991), being behavioural beliefs, subjective norm, perceived behavioural control, and intention. Variables differentiating the motivation for travel and past travel behaviour in the aftermath of terrorist action are also included. The model is again analysed using multiple regression-based path analysis. The participants in this study are a non-student sample of residents obtained from the South East of England, selected as being likely to be people with the opportunity and means to travel. The thesis closes with a discussion chapter, bringing together the findings, conclusions and outstanding issues.

## CHAPTER 2 – THE IMPACT OF TERRORISM.

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There is a substantial quantity of literature that discusses the possible causes of terrorism (e.g. Crenshaw, 2000; Post, Ruby & Shaw, 2002; Turco, 1987), and also the psychological consequences of terrorism in terms of clinically diagnosed disorders (e.g. Gidron, 2002; Jacobs & Kulkarni, 1999; Scurfield, 2002), but relatively little that considers the social psychological consequences. However, this is an area that merits greater attention as terrorism can have a wide-ranging impact on people, at both the individual and the social level (Muldoon, 2003), which may not be identified by clinically based approaches. The purpose of this chapter is therefore to provide an overview of the previous research conducted relating to the social psychological and behavioural impact of terrorism, with particular focus on the impact of terrorism on travel.

### **2.1. The Psychological and Behavioural Impact of Terrorism**

It is not the intention of this thesis to explore the debate surrounding the definition of terrorism, the ongoing discussion of which is presented by Martin (1985) and Crenshaw (1992 and 2000). However, the following fairly comprehensive definition produced by the RAND Corporation provides a context for the discussions in this thesis:

‘Terrorism is defined by the nature of the act, not the identity of the perpetrators or the nature of the cause. Terrorism is violence, or the threat of violence, calculated to create an atmosphere of fear and alarm. These acts are designed to coerce others to take actions they would otherwise not take or to refrain from taking actions that they desired to take. All terrorist acts are crimes. Many would also be violations of the rules of war, if a state of war existed. This violence or threat of violence is generally directed against civilian targets. The motives of all terrorists are political, and terrorist actions are usually carried out in a way that will achieve maximum publicity. The perpetrators are members of an organized group, and unlike other criminals, they often claim credit for their acts. Finally, terrorist acts are intended to produce effects beyond the immediate physical damage they cause: long-term psychological repercussions on a particular target audience. The fear created by terrorists, for example, may be intended to cause people to exaggerate the strength of the terrorists and the importance of their cause, to provoke governmental overreaction, to discourage dissent, or simply to intimidate –

and thereby enforce compliance with their demands.’ (Gardela & Hoffman, 1990, p1)

This definition emphasises that terrorists aim to instil fear in the public with the intention of changing their behaviour, and ultimately to influence an authority such as a government. Based on these aims the following argument can be reasoned, and is similar to that suggested by Friedland and Merari (1985). If members of the public change their normal behaviour in response to terrorism this may have an impact on a variety of social and economic structures, in which case the terrorists have had an effect. Furthermore, if the public are sufficiently frightened they may put pressure on the targeted authority to capitulate to the terrorists’ demands. The authority may then come to believe as a result of public opinion that the political cost of negotiating or giving in to the terrorists is less than the cost of continued resistance. In which case the terrorists will probably have achieved at least some part of their goal. As stated by Fromkin (1975), terrorism is:

‘the indirect strategy that wins or loses only in terms of how you respond to it ... Terrorism wins only if you respond to it in the way the terrorists want you to; which means that its fate is in your hands and not in theirs’ (p. 697).

This suggests that if the public reaction to terrorism can be reduced, then terrorism would not achieve the desired effect, making it a less attractive option for potential terrorists (Merari & Friedland, 1985). The first step towards such a goal is to identify how the public actually react to terrorism.

There is evidence that suggests that terrorism does have a psychological impact on people in countries targeted. Most of these findings do not assess fear directly, but relate to factors that may be, and are frequently interpreted as, evidence that terrorists do succeed in instilling fear in a population. During a period of intense terrorist activity in Israel, Friedland and Merari (1985) investigated the impact of terrorism on the attitudes of the Israeli public to issues around terrorism and the ‘Palestinian problem’ (p592). In the days immediately after a highly publicised incident they found that 93% of the respondents were worried about terrorism in Israel generally. Seventy-nine percent of participants were also worried that they or members of their family would be victims of a terrorist attack. This proportion only reduced slightly, to 73% over the following weeks. However, it is not known what

the reported levels of worry on these various measures would have been prior to the referenced attack. Consistent findings were reported in a later experimental study also based in Israel (Slone, 2000), which found that showing participants film footage of terrorist acts led to an increase in anxiety. Although anxiety and worry are not the same thing, the findings of this study are generally consistent with the claim by Friedland and Merari that the attack their study followed did lead to an increase in worry.

Kuzma (2000) conducted a review of a number of public opinion polls asking about the effects of terrorism, carried out in the U.S.A. during the 1990s. These polls were principally in response to the first attack on the World Trade Centre in 1993, the Oklahoma City bombing in 1995 and the Atlanta Olympics bombing in 1996. This study indicated that Americans generally believed terrorism to be a threat, but that the level of people reporting this did not change in the period from the mid 1980s to the mid 1990s, although the incidence of terrorism increased during that period. Despite this general belief that terrorism was a threat, a fairly low proportion of people reported that they were concerned for their or their family's personal safety due to the threat of terrorism. This increased from 23% to 36% immediately after the Oklahoma bombing, but the effect was short lived with a reduction in concern the following month and a return to around the baseline level after one year.

Huddy, Khatib and Capelos (2002) who conducted a review of U.S. opinion polls taken after 9/11 identified a larger effect, but a similar pattern regarding perceived personal safety. They found that worry regarding the possibility that people or their families could be victims of a terrorist attack increased in the period immediately after 9/11, and then decreased over time. In May 2001 a poll reported that 34% of people asked were worried that they or a family member would be victims of terrorism. On 11<sup>th</sup> September 2001 this increased to 58%, declining to just under 40% by late October 2001 and 35% in early February 2002.

The levels of worry and concern indicated by the U.S. samples reported by Kuzma (2000) and Huddy et al. (2002), even after the attacks of 9/11, are lower than those reported by Friedland and Merari (1985) among their Israeli participants. This is likely to be due to the persistent nature of terrorism in Israel and the general security situation in the Middle East at the time of the study, which would be expected to lead to higher baseline levels of concern and worry. The U.S. studies indicate that acts of terrorism have an impact on the level of personal threat

perceived, but that this is relatively short-lived. Therefore any attempts to counter the negative impact of terrorism would need to be focussed in the period immediately following an incident.

The finding that there was no change in perceived threat throughout the 1990s, despite the increase in terrorism is particularly notable. It would be expected that an increase in terrorist activity in a country that had previously experienced very little terrorism on home territory (Kuzma, 2000) would have been highly salient and have led to an increase in the perceived threat. One possible reason for the lack of reaction is that the polls reviewed in the studies of Kuzma (2000) and Huddy et al. (2002) were taken across the U.S, which is a very large country. Hence an attack in one area may have less impact on people in other areas that are geographically distant. However, it also seems possible that this lack of reaction to these acts of terrorism may have been due to the nature of the attacks.

The attacks against the World Trade Centre in 1993 and the Atlanta Olympics in 1996 both resulted in small numbers of fatalities and limited amounts of property destruction. The U.S. public may therefore not have perceived them as indicating a significant threat. The Oklahoma City bombing did result in many more casualties, but as with the bomb in Atlanta, it was an act of domestic terrorism carried out by an American. This fact may have influenced how widely the threat from individual attacks such as these was generalised. In accordance with Social Identity Theory (Tajfel & Turner, 1979), the American public may categorise themselves as American and therefore identify themselves as belonging to the same group as these terrorists. This could lead to these incidents being interpreted as one-off attacks by people perceived as 'abnormal' members of the ingroup, rather than as a widespread threat to the national group from an outgroup member, which may have been more likely to increase the general perception of threat. It is also possible, that regardless of social identity processes, the attacks by individuals may have been perceived as isolated incidents, and hence as not representing an ongoing threat, rather than as part of a co-ordinated campaign of violence. The review conducted by Huddy et al (2002) does not report the effect of 9/11 on the generalised sense of threat posed by terrorism. It is therefore not possible to compare the impact of this attack with the earlier ones reported by Kuzma (2000), which would have given a clearer indication whether social identity processes were involved.



The findings reported above relating to both Israel and the U.S.A. suggest that there is some psychological impact of terrorism on the populations of targeted countries when measured in terms of worry, concern and anxiety. However, direct comparisons between these studies and between the polls reviewed by Kuzma (2002) and Huddy et al. (2002) is difficult due to the different ways in which the reaction to terrorism is assessed: being worry, concern, and anxiety. The reported changes may be the result of increased fear as stated by the definition of terrorism, but as discussed in the fear of crime literature it is questionable whether assessing concern or other factors is a valid measure of underlying fear (Hale, 1996). This issue is addressed in greater depth later in this chapter.

In addition to the predominantly emotionally based psychological changes reported above there is also evidence that terrorism can have a cognitive impact. Friedland and Merari (1985) provide evidence that may indicate an effect of terrorism on attitudes. They found that a high proportion of participants were opposed to social changes in favour of the Palestinians, and saw Palestinian terrorism as a reason for not granting the Palestine Liberation Organization, which was an active terrorist group at that time, recognition or making any political changes. Participants also favoured the use of extreme counter terrorism measures, particularly against the terrorists, and there was substantial support for action that had the potential to harm Palestinian civilians.

Some caution is necessary in interpreting the findings of Friedland and Merari (1985). Firstly, it is noted that there is no prior measure of attitudes, so it is not conclusive that there was any change in attitude, whether or not associated with terrorism. Furthermore, these findings only indicate that terrorism is seen as *a reason* for objecting to a political solution. There is no evaluation of how important a reason the participants believe terrorism to be, or what other reasons they may also see to be relevant. Finally, the questionnaire used by Friedland and Merari (1985) does not establish how the participants evaluate a political solution regardless of terrorism. If they were strongly opposed to a political solution on other grounds, then the impact of terrorism on their attitudes may be minimal. However, the participants in this study did report tough attitudes towards terrorists and counter-terrorism measures, and it is not unreasonable to suggest that this is, at least in part, the result of the ongoing acts of terrorism in Israel at that time, as claimed by the authors. Such an interpretation would be consistent with the claim by some terrorists that their own

experience as victims of political violence led to a hardening of their attitudes (Muldoon, 2003).

Kuzma (2000), in the review of U.S. polls in the mid 1990s, found that terrorism seemed to have an effect on people's attitudes towards their own government and national security. Although the respondents were generally only somewhat confident in the government's ability to prevent terrorism, it was found that there was a shift towards lacking confidence after the Oklahoma bombing. In contrast, Huddy et al (2002), also summarising the results of U.S. polls, found an increase in confidence in the government's ability to prevent terrorism after 9/11, although this declined over time. It is possible that this difference is due to the rapid response to 9/11 in the 'War on Terrorism' and measures such as the high profile increase in security at airports in the U.S.A. and other countries around the world after 9/11. However, ongoing terrorism, such as that in Bali in October 2002 may have contributed to the observed reduction in confidence.

In addition to confidence in the government, Kuzma (2000) found that more people reported being prepared to accept greater security measures, which would come at the cost of some government intrusion in their lives and a reduction in their liberty. Huddy et al (2002) also found strong support for security measures to prevent terrorism, particularly a national identity card system and increased security checks at work. However, support for increased surveillance of communications was affected by who is described as the target, with more support if the target was unspecified than when the target was identified as ordinary Americans. This again indicates that social identity processes may be an important component to consider when attempting to understand the impact of terrorism (Tajfel & Turner, 1979). In this case, 'ordinary Americans' could be seen as explicitly representing the participants' ingroup, with which they would be likely to identify. These participants were less willing to see the privacy of their own group invaded by surveillance than when the target was unspecified, which they may have conceptualised as being 'potential terrorists' and therefore unlike themselves. These findings indicate that terrorism can lead to an increased desire for the feeling of security, even if this leads to greater personal inconvenience.

These studies, whilst few in number, do suggest that terrorism is associated with changes in attitude, both towards the terrorists and the targeted government. Such changes seem to reflect an unsurprising desire for the terrorism to be stopped,

either in the form of actions taken against the terrorists or increases in national security. Although the studies reviewed so far have all identified psychological changes associated with terrorist attacks, the evidence regarding changes in behaviour is not as consistent; suggesting that psychological impact is not necessarily translated into behavioural changes.

In their sample of Israeli participants, Friedland and Merari (1985) report little change in behaviour associated with terrorism. As noted previously, this study was conducted in a period when there had been prolonged, and ongoing, acts of terrorism in Israel. This feature of that particular situation may mean that the effects on behaviour are different from the effect of isolated, and hence more 'remarkable' incidents. The ongoing nature of the attacks in Israel may mean that although the population experience worry and concern for their own safety and that of their family and friends, this is not translated into changes in behaviour for practical as well as 'political' reasons. When violence is an ever-present threat it may not be realistic to change behaviour, as life has to continue, with, for example, people going to work, doing the shopping, and children going to school. This may also be a function of people's attitudes and beliefs, such as that they are not going to let terrorists 'beat them' and cause them to stop doing the things they enjoy. The findings of Friedland and Merari (1985) that very high proportions of these participants held attitudes reflecting a hard position towards the terrorists and the Palestinians in general can be seen as consistent with this interpretation.

Muldoon (2003) supports the contention that ongoing terrorism does have a different impact on people in the affected communities than do one-off acts of terrorism. This author argues that exposure to ongoing conflict, such as that observed in Northern Ireland, Israel and Palestine is associated with increased social polarisation, such that members of the different groups in the conflicts are more committed to and active in the cause of their social group. This is accounted for in terms of social identity processes. In terms of coping with the ongoing violence, Muldoon suggests that people become desensitised and habituated to the violence, and integrate it into the context of their lives. These processes are consistent with the argument made regarding the possible reasons for the findings of Friedland and Merari (1985). They also indicate that if an act of terrorism is an isolated occurrence, then people would not have the opportunity to develop the self-protecting systems

seen where violence is ongoing, and would hence be more likely to alter their behaviour as a consequence.

Whilst not a universal finding, Kuzma (2000) found some evidence that the terrorist attacks considered, occurring in the U.S.A throughout the 1990s, were associated with changes in behaviour. Eighty percent of the respondents did not change their vacation, travel plans, or other aspects of their way of life. However, although the large majority did not change their behaviour, this indicates that around one fifth of the people did. If these findings were consistent throughout the U.S.A. there would still be a large number of people whose behaviour was altered by terrorism.

Huddy et al (2002), in the summary of polls conducted across the U.S.A. in the period after 9/11, found that the impact of this terrorist act was higher, with over one third of respondents saying that they changed or planned to change their behaviour. However, the evidence indicated that the proportion of people actually changing their behaviour was somewhat lower, being around 10%. The changes identified included altered travel plans, avoiding crowded places and stockpiling goods in case of a future attack. It is not reported whether the nature and extent of these changes altered, or whether the proportion of people reporting changed behaviour decreased over time. These findings are as would be predicted based on the argument of Muldoon (2003), as they do support the proposal that isolated attacks may have more of an impact on behaviour than does ongoing terrorism. They also suggest that the scale of the terrorist attack may be a factor in determining the behavioural impact.

Huddy, Feldman, Capelos and Provost (2002) conducted a survey in New York in the weeks following 9/11 and found similar behavioural responses to elsewhere in the U.S.A, although some of the types of changes were different, being specific to the location in New York. It is also evident that the proportions of people in New York reporting actual changes in behaviour were somewhat higher than in the rest of the U.S.A., which is likely to be associated with their proximity to the attack on the World Trade Centre. This supports the argument that geographical relationship to an act of terrorism plays some role in determining peoples' reactions. Respondents reported a number of behavioural changes, with 26% having delayed or cancelled air travel, 7% changed vacation plans, 18% driving into Manhattan less,

13% taking public transport to Manhattan less and 31% changing their routine to spend more time with their family.

It is noticeable that all three of these U.S. based studies have identified that travel behaviour is affected by terrorism, with people cancelling or delaying travel. Air travel is not mentioned specifically in the two studies into the impact of terrorism across America, but it is likely that there would have been a negative impact on air travel if other types of travel were also affected. The study based on the New York sample after 9/11 found that a substantial proportion of respondents changed behaviour to spend more time with family. Considered together, these findings suggest that after an act of terrorism, people are more inclined to stay at home, or in their familiar environments, which are probably perceived as being safer. This is consistent with the evidence that fear of crime in general is associated with people spending more time at home and avoiding places that they perceive as increasing their risk of becoming a victim (Hale, 1996).

These surveys suggest that terrorism can indeed have a psychological and behavioural impact on quite a substantial proportion of the population. The effect seemed to be somewhat greater for the residents of New York, suggesting that proximity to an attack, as well as the scale of the attack may be a factor in the extent of the changes experienced. The contrasting results of Friedland and Merari (1985), who found little evidence of changed behaviour among their Israeli participants, indicate that persistent terrorist attacks do not have the same degree of impact on behaviour, as do one-off large events. This is in line with the argument made by Muldoon (2003) that people use different coping strategies depending upon whether the terrorism is a single acute attack or a protracted campaign of violence.

Looking at a somewhat different change in behaviour as a result of terrorism, Trivizas and Smith (1997) identified an unusual and probably unanticipated effect of terrorist bombings of Paddington and Victoria railway stations in London. They found that the number of thefts of luggage from railway stations in the period immediately after these bombings decreased sharply, and took about five weeks to return to the pre-attack levels. Control comparisons indicated that the drop was not due to greater police vigilance or due to people being more careful not to leave their bags unattended. The authors conclude that luggage thieves may have been deterred from stealing unattended bags due to the fear that they might contain a bomb. This study provides some evidence of terrorism affecting a specific behaviour, which is

very different from the types of behaviour addressed in the other literature. It may therefore indicate that a range of behaviours, in addition to the more obvious ones such as avoiding crowded places or spending more time with family, could also be affected by terrorism.

The findings reported above do suggest that terrorism has various effects on members of the public, but the ultimate aim of terrorists according to the definition of terrorism is to influence an authority or government. The only viable way to analyse whether terrorists have generally been successful in this aim is to look at the actual decisions and behaviours of governments that have been targets of terrorism. Whilst this type of analysis cannot comment on causality with any certainty, it may indicate cases where terrorists have achieved their goals. Merari and Friedland (1985) cite the example of the U.S. government withdrawing troops from Lebanon after 241 U.S. soldiers were killed by a car bomb attack on the U.S. Marine headquarters. They suggest that this is a case where the deaths of what is a relatively small number of people in relation to the numbers killed for instance on U.S. roads, had a major effect on U.S. government policy.

Other possible evidence for the impact of terrorism on the behaviour of governments might be elicited from the recent history of Northern Ireland and the Middle East, where there have been attempts to bring peace. The creation of the Northern Ireland Assembly, which has representatives from both republican and unionist political parties, and the 'roadmap to peace' for the Middle East, announced by George W. Bush on 15<sup>th</sup> March 2003 might both ultimately have come about due to the previous campaigns of terrorism. Whilst neither would be attributed directly to terrorism and it cannot be known whether other means would have led to the same or better results for the terrorists, and it can be questioned whether either would have come about without some form of vigorous protest.

The evidence presented in this section suggests that terrorism does have both a psychological and behavioural impact on the population of the countries targeted by terrorists. Increases in anxiety, concern and worry have all been reported, as have changes in attitude towards the authorities and security issues. There seem to be some differences in the effect on behaviour dependent on the scale or nature of the terrorism, with large attacks seeming to have more impact than smaller or frequent attacks. The behaviours affected include time spent with family; the types of places visited such as crowded public areas, criminal activity, and travel arrangements. It is

also suggested that in certain circumstances, terrorism may also lead to changes in the behaviour of governments.

## **2.2. Fear of Crime**

There are some conceptual differences between terrorism and the types of crime typically investigated in the various crime surveys, such as the British Crime Survey (e.g. Kershaw, Chivite-Matthews, Thomas & Aust, 2001). For example, terrorism is a public act, intended to achieve a goal beyond the act itself, whereas other types of crime are generally kept as secret as possible and are usually an end in themselves. However, there are also some striking similarities between terrorism and other types of crime, such as its illegality and the use of violence, which is a feature of many crimes. Whilst these similarities and differences are predominantly related to issues of definition and practice, there are also comparisons that can be drawn at a psychological level.

The definition of terrorism discussed above specifies that terrorism seeks to instil fear in the targeted population. That this is achieved is to some extent supported by the findings that people do experience a range of psychological consequences in the aftermath of a terrorist attack (e.g. Friedland & Merari, 1985; Huddy, Khatib & Capelos, 2002). It can be seen in the research reviewed in this chapter that cognitive, affective and behavioural consequences of terrorism have previously been identified, and Gabriel and Greve (2003) have proposed a similar conceptualisation of the fear of other types of crime. These authors suggest that fear has affective, cognitive and behavioural components, and that these should be included when assessing fear of crime. They further argue that 'crime' should not be studied as a single construct in fear of crime research, but rather the effects of different types of crime should be addressed individually. This approach suggests that there may be common mechanisms underlying the effects of various types of crime, but that there may be different foci associated with specific crimes. It can be seen that much of the existing research into the social psychological effects of terrorism has already employed the distinction proposed by Gabriel and Greve, and that there are some parallels with the effects of other types of crime. It therefore seems that consideration of the literature regarding the impact of the fear of crime in other contexts may also be relevant to the issues around the impact of terrorism on travel behaviour.

It has been seen from the research reviewed above that terrorism can have an impact on the attitudes and behaviour of people in the population at large. This is broadly consistent with the definition of terrorism, which indicates that terrorists seek to create fear and to cause people to change their behaviour (Gardela & Hoffman, 1990). However, it is not clear from the studies reviewed whether fear is the mechanism driving the observed changes in behaviour and attitude, or whether some other factor may be involved. Similar issues have previously been debated in the fear of crime literature, and this will be presented in this section.

A major issue in the discussion of fear of crime centres on how fear is conceptualised and assessed. This is a wide-ranging debate, but this analysis will only consider those aspects relevant to the studies previously reviewed, none of which actually ask participants to report their 'fear' of terrorist victimisation, but use other similar words instead. As highlighted by Fattah and Sacco (1989) it is necessary to distinguish between fear, which can be a debilitating emotion, and caution, which may be a prudent response to a genuine hazard. In a similar vein, the Home Office (1989) noted that the behaviours and attitudes involving guarding against being victimised, which could be interpreted as indicating fear may be better understood as awareness or concern regarding actual threats. This suggests that the studies reported above, asking respondents how concerned they are about their own safety or that of family and friends, may in fact be accessing a response based on a cognitive evaluation of the risk. Similarly, measures of behaviour change may not be reflecting fear, but people taking reasonable precautions to avoid becoming victims.

Ferraro & LaGrange (1987) note that the evaluation of risk is distinct from the emotional response of fear. Whilst worry can be seen as being an emotional response to a threat, as indicated by Hale (1996) this is distinct from the emotion of fear, and a similar point can be made regarding the assessment of anxiety. The argument made by Gabriel and Greve (2003) that fear of crime has affective, cognitive and behavioural components does suggest that some of the previous research has at least assessed some aspects of fear. Furthermore, in accordance with this conceptualisation, studies that have addressed factors such as perceived risk, concern and behaviour change as a result of terrorism could be seen as providing some indication that people do experience fear. Whether or not terrorists achieve their aims through the creation of fear, it does not detract from the conclusion that



terrorism does have some broad psychological effects on members of the population not directly involved in an incident.

In addition to the psychological consequences of terrorism, the literature reviewed above indicated that terrorism had an effect on a variety of behaviours, such as travel, spending time with family, and avoiding certain places. The fear of crime literature reveals a number of behaviours that are similar to this. Hale (1996) summarising previous research into the effects of fear of crime identifies six consequences, two of which can be seen in the behavioural responses to terrorism identified above. The first is that some places become 'no-go areas'. This can be paralleled to the finding that the number of visitors declines to destinations affected by terrorism (e.g. Enders & Sandler, 1991). It is also reflected in the findings of Huddy, Feldman, Capelos and Provost (2002) who found that New York residents were avoiding taking public transport and were not going into Manhattan. The second behavioural consequence of fear of crime, that is also relevant to terrorism, noted by Hale (1996) is that people who are afraid of being victimised tend to stay at home, or change their behaviour so that they only go to places they perceive to be safe. They also avoid behaviours they consider to be dangerous, such as travelling on public transport. Similar types of behavioural change are also evident in response to terrorism, with people cancelling travel plans and wanting to spend more time with their family.

The similarities identified between the consequences of terrorism and crime in general suggest that, whether or not the various studies have accurately assessed fear of crime, there may be common mechanisms underlying these effects. It is therefore apparent that when assessing the psychological impact of terrorism, there are similar issues regarding the concepts used to assess psychological reactions to those previously raised in the fear of crime literature. The similarity between the behavioural consequences of terrorism and other crime again suggests that similar mechanisms may be involved in both, and that the fear of crime literature may provide a useful resource in the developing understanding of how populations respond to terrorism.

### **2.3. The Impact of Terrorism on Tourism**

It was seen in the studies reviewed previously that some of the respondents to the U.S. polls reported having delayed or cancelled travel arrangements. Changes in behaviour of this type would be likely to have a negative impact on the travel businesses in the country where the terrorism occurred. This would have a knock-on effect for the wider economy of the country in terms of impact on associated businesses and taxation, and could also lead to social changes, as indicated in the above discussion of fear of crime. In this case there is a focussed impact on terrorism at the source of travel behaviour, with the effects on the potential destinations of such travel being spread between the places that would have been visited. However, terrorism can also have negative consequences for travel if it occurs in a place that is a potential destination for travellers. This leads to the losses due to lack of visitors being focussed at the one destination, whilst the losses from departures are spread among the places from which visitors usually originate. Whether or not the impact of terrorism is at the point of departure or arrival, it can be seen that the impact is potentially widespread, and that travel is a behaviour that seems to be particularly vulnerable to the effects of terrorism.

Much of the previous research into the impact of terrorism on travel discusses this in terms of the impact on tourism. However, when the measure is in terms of arrivals at a destination it is not possible to determine the purpose of that travel, and therefore in the following discussion the terms tourism and travel will be used interchangeably. As noted by Enders and Sandler (1991), the general public, including tourists, are easy targets for terrorists as they do not have high levels of security, and during the 1980s there was an increase in terrorist victimisation of the public. Statistics reported by the U.S. Department of State for the period 1996 to 2001 suggest that this pattern has continued, with most terrorist action world-wide being targeted against those categorised as 'business' and 'other', and considerably less against diplomatic, military and government targets. Attacks against tourists are also associated with high levels of international media exposure, which is very desirable for the terrorists (Pizam, 1999), and may serve other ideological or economic functions (Sönmez, Apostolopoulos, & Tarlow, 1999). These functions may include protesting against tourist behaviour and its impact on local culture, and

seeking to harm the tourism-based economy as a means of damaging the current government or other authority.

Terrorism at a travel destination may deter potential visitors, but this is especially likely when visitors are specifically targeted by the terrorists. This has been seen in a number of popular tourist destinations, such as Spain where tourists were targeted by Euzkadi Ta Askatasuna (ETA) during the summers of 1985 to 1987 (Enders & Sandler, 1991) and Egypt and Turkey where various attacks against tourists occurred during the mid-1990s (Sönmez & Graefe, 1998a). Whether or not terrorists directly target tourists it is likely that terrorism will cause visitors to stay away from destinations that they see as dangerous. This alteration in behaviour is consistent with changed behaviours that have been associated with fear of crime, discussed previously (Hale, 1996).

Previous research has clearly identified that acts of terrorism are associated with a subsequent reduction in the numbers of visitors to the country targeted. Bar-On (1996) analysed monthly tourism figures to measure the effect of terrorism on tourism to Israel, Spain, Egypt and Turkey. By way of an example, the analysis indicated that ongoing terrorism cost Israel approximately 332,000 visitors from North America between Spring of 1985 to the end of 1987, at a cost of around 540 million U.S. Dollars. Other authors have also reported reductions in tourist arrivals and receipts in the periods following terrorist action in, for example, Israel (Pizam, 1999), Egypt (Wahab, 1996) and Northern Ireland (Pizam, 1999; Wall, 1996). It was argued above that terrorism might have a negative impact on travel if it occurs at either the country that visitors come from or at the potential traveller's destination. The first of these sources of impact was demonstrated in the literature regarding the impact of terrorism in the U.S.A. (e.g. Huddy, Khatib & Capelos, 2002). The second source of impact is shown by these findings that terrorism in a country that is a popular travel destination is associated with a reduction in the number of visitors.

In addition to quantifying the reduction in the number of visitors to destinations affected by terrorism, studies have also assessed the duration of this impact. Using newspaper reports of terrorism world-wide between 1985 and 1998 Pizam and Smith (2000), found that 79% of media reported terrorist incidents were associated with a significant decline in tourism, and that the effect lasted between one and six months. Enders and Sandler (1991) estimated that an average terrorist incident in Spain in the period between 1970 and 1988 resulted in a decrease of

approximately 140,000 visitors. However, the decline did not start until three months after the incident, and took around two years for visitor numbers to stabilise at a level just below that prior to the incident. A somewhat longer delay was observed for tourism to Greece and Italy, where it was between six and nine months after a terrorist attack before tourism figures started to decrease (Enders, Sandler & Parise, 1992). Pizam & Smith (2000) argue that observed time delays in the deterrent effect of terrorist action might be because travellers would usually forfeit the costs of their travel if they were to cancel at short notice. Therefore deterrence would not be observed immediately if people elect to continue with their original plans, but may continue to impact on future bookings until people's memory of the incident has faded (Sönmez, 1998). The mechanisms that may be responsible for these observed changes in travel behaviour will be considered in the following chapter.

In addition to the effects of terrorism on tourism over time, research has also examined whether the deterrent effect is limited just to the country targeted by the terrorists or whether it extends to other destinations. Enders, Sandler and Parise (1992) identified a generalised deterrent effect of terrorism in certain European countries on tourism throughout continental Europe during the 1970s and 1980s. They also identified that terrorism in France did not specifically impact French tourism, but that it did contribute to lost revenues for continental Europe as a whole, suggesting that the deterrence was generalised to the whole continent. However, it is not clear why there was not any reduction in visitors to France. Similarly, Richter and Waugh (1986) state that tourism to Switzerland was adversely affected by terrorism in France, Italy and Austria. These analyses of tourism statistics in relation to terrorist events indicate that destinations may experience a reduction in tourists due to terrorism occurring in other countries, although it is not clear whether this generalisation is limited to countries that are geographically close or extends further afield.

The studies reviewed above are based on the retrospective analyses of tourism statistics in relation to the occurrence of acts of terrorism. Whilst they indicate that terrorism does have a deterrent effect on tourist behaviour they do not provide evidence regarding how tourists respond psychologically to terrorism. The only study that has attempted to do this was conducted by Sönmez & Graefe (1998a) who found that 57% of their respondents agreed that the possibility of terrorism discourages them from international tourism and 77% said they would only travel to

countries they believed to be safe. This suggests that people do perceive terrorism as a potential hazard and that it would be something that was likely to impact on behaviour.

## **2.4. Chapter Summary and Conclusions**

This chapter has presented evidence that indicates that terrorism does have both psychological and behavioural consequences in the general population of countries experiencing terrorism. These included increased anxiety, concern and worry related to terrorism, changes in attitude towards government and national security, and changes in behaviours such as the amount of time spent with family and avoiding crowded places. The similarities between these effects, and the mechanisms likely to cause them, and those identified for fear of crime in general were highlighted. These findings only identify the psychological and behavioural impacts of terrorism on people within the countries targeted, and do not identify whether the effects are more widespread, affecting other countries. For example the attacks of 9/11 may be associated with changes in attitude and behaviour of people outside the U.S.A. due to the perceived threat that similar acts of terrorism could happen elsewhere.

The research reviewed also indicated that terrorism has a detrimental effect on tourism, with tourists opting not to visit countries that they perceive to be dangerous due to this threat. In the aftermath of 9/11 and the Oklahoma City bombing in 1995 there were between about 20 to 25% of people who reported that they had changed flight or vacation arrangements. Evidence was also presented indicating that the reduction in numbers of visitors to countries experiencing terrorism, and the reports that people change their travel plans are based on some psychological factors, rather than for reasons external to the individual such as lack of availability of transport. The following chapter considers the literature pertinent to the decision making process that people employ when deciding whether and to where to travel.

The literature reviewed in the previous chapter provided evidence that terrorism is associated with changes in attitude and subsequent behaviour, including travel behaviour (e.g. Enders & Sandler, 1991; Friedland & Merari, 1985; Huddy, Khatib and Capelos, 2002). Furthermore, it was also seen that terrorism has been reported as a factor that would discourage over half the respondents in a study from travelling internationally (Sönmez & Graefe, 1998a). However, this same evidence also indicates that not everyone's behaviour is affected by terrorism, as there are still people visiting targeted destinations and reporting that terrorism would not discourage them from travelling.

The question therefore arises of how people choose whether to travel and what destination they are going to visit, as it appears that there are individual differences in this process. Assuming that potential travellers are rational consumers who weigh the costs of travel against the benefits, it is likely that the increased threat to well being posed by terrorism would lead to a higher perceived cost (Sönmez, 1998). This would be expected to cause them to avoid destinations where they are at risk from harm (Pizam & Mansfeld, 1996). However, the evidence that terrorism does not prevent everyone from travelling suggests that not everyone perceives it as a significant or realistic cost.

It is likely that among a group of individuals there would be numerous different reasons why they choose to travel or decide instead to stay at home. Leisure travel has been described as offering 'fun, serenity, relaxation, beautiful scenery, luxury, interesting cultures, and/or adventure' (Richter, 1999). These benefits could be attained through both domestic and international travel. Therefore, if the individual does perceive terrorism as a threat that would deter them from travelling to a particular foreign destination, it is generally relatively easy for them to switch their travel to a safer destination, even if that means taking a domestic holiday. Business travellers may not have the same freedom of choice if they are required to visit a destination by their employer (Sönmez, 1998). However, as highlighted by Pizam and Mansfeld (1996), businesses are likely to be unwilling to send employees to destinations that are unsafe. This may be for various reasons, such as simply not wanting to see harm come to an employee or for more commercially based reasons

including there being the possibility of them being held liable should that person be harmed. Whilst the opportunity for diverting business travel to other destinations is less than for leisure travel, it seems likely that terrorism could still impact on this type of travel. It is likely that this is increasingly the case with the advent of facilities such as video conferencing, which have the capacity to reduce the need for international business travel. This may mean that there is not such a differential in the impact of terrorism between business and leisure travel. It also seems that whether for business or pleasure purposes, the decision whether or not to travel would be based on the consideration of the same basic factors, such as economic, health and security (Sönmez & Graefe, 1998a).

Whenever a person has to make a decision regarding any behaviour there is always an element of choice, at the least the choice of whether to behave in that way or not. In the case of travel decisions there is the option not to travel, or there may be a number of alternative destinations for a person to choose between. To understand what differentiates those who do continue to travel despite terrorism from those who do not, it is necessary to consider the factors that influence individuals' travel decisions, which it is proposed can be characterised as three types. The first type of factor in this suggested are psychological constructs that can be argued as being internal to the individual, specifically personality variables. The second type are those based on the experience of the individual, for example experience of international travel, or those that influence their experience through opportunity and socialisation, such as age and gender. Whilst these factors may be influential in the decision process, they are not traditionally characterised as psychological constructs. The final types of factor are those social cognitive constructs that fall between the internal factors and those based on experience. Two examples of this, which are relevant in the present context, are risk perception and attitude. Both of these factors could be characterised as psychological constructs that appear to be based on internal predisposition, but it also seems likely could be affected by experience. This proposed classification of the factors that may influence travel decisions provides a basis for the later development of the research reported in this thesis, and hence indicates the areas of the literature that are relevant for this review.

The social cognitive factors that could influence travel decisions in the face of terrorism are the focus of this chapter, with the experience and internal factors being considered in the two following chapters. The first section of this chapter

presents Prospect Theory (Kahneman & Tversky, 1979), which describes the relative impact of costs and benefits in risk perception. The various heuristics associated with Prospect Theory, being the availability, representativeness and anchoring and adjustment heuristics, and the role of the media in the risk perceived from terrorism are also discussed. The second section addresses the literature regarding the relationship between attitudes and behaviour, and considers the likely relationship between attitudes and risk perception.

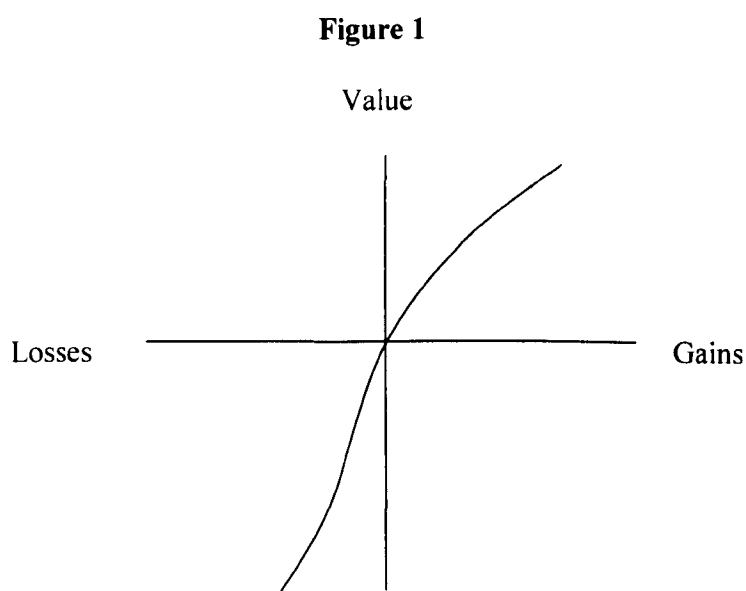
### **3.1. Prospect Theory and Heuristics**

Prior to the development of Prospect Theory the main theory employed to analyse decision making under conditions of risk was Expected Utility Theory (Kahneman & Tversky, 1979). Kahneman & Tversky (1979) present various studies and examples of observed behaviours that indicate that Expected Utility Theory is not an adequate model for risky decision making. According to Expected Utility Theory an 80% probability of winning £1000, which has an overall utility of £800 (£1000 X 80%), should be more attractive than a certain gain of £700, which is the overall utility of that choice. However, Kahneman & Tversky (1979) report that people overweight outcomes they consider certain, compared to those they consider probable and that in this situation people generally prefer the safe bet despite its lower overall utility.

Prospect Theory (Kahneman & Tversky, 1979) provides a useful framework for understanding how people perceive and assess risks, as it allows for biases and distortions in estimating the probabilities of uncertain events (de Blaeij & van Vuuren, 2003). It is therefore particularly relevant to the decision whether to travel to a destination affected by terrorism, as terrorism is an unpredictable event, the perceived frequency of which appears to be overestimated. It is also a theory, together with the associated mental heuristics employed in assessing risk, which is widely used and has provided the basis of much research into decisions under conditions of risk and uncertainty. The comprehensive nature of this theory, and particularly the heuristics, means that it has been found to account for both traditional laboratory-based risk decisions and real-world decisions, as shown in the research presented below, and for this reason has been selected as a basis for the present research.



There are a number of assumptions that are central to Prospect Theory (Kahneman & Tversky, 1979). Utility is measured in terms of changes in asset position, rather than the resulting asset position. This means that, for example, a gain of £100 has greater utility if it increases the individual's wealth from £100 to £200 than if it increases their wealth from £1100 to £1200. In both of these cases the net gain is £100, but it is of greater relative consequence in the first situation than in the second. This leads to the principle that the utility function is concave for gains, meaning that for a gain of a given absolute value the rate of increase in subjective value declines as the absolute asset position increases. This is represented graphically in the top right quadrant of Figure 1. People are proposed to be risk averse in the domain of gains, meaning that they generally prefer a certain gain of a smaller amount that an uncertain gain of a larger amount, as noted above.



**Figure 1: A hypothetical value function, from Kahneman & Tversky (1979)**

In contrast, in the realm of losses people are characterised as risk seeking, preferring the risk that they may lose a greater amount than the certainty of losing a lesser amount. Related to this proposition is noted that losses are felt more keenly than the equivalent gain, which is consistent with the idea that people prefer to risk a loss, even if it is of a greater amount, than be sure that they will suffer a smaller loss. The utility function for losses is therefore convex and steeper than the function for

gains, as shown in the bottom left quadrant of Figure 1. This means that the subjective value of a loss of a given absolute value decreases as the overall asset position increases, but that in the case of losses the rate of change in subjective value is less than in the realm of gains.

Prospect Theory (Kahneman & Tversky, 1979) proposes that there are two phases to making a choice: firstly editing and secondly evaluation. The process of editing contains a number of components, which serve to code the prospects in terms useful to the individual. This means that outcomes are coded in terms of gains and losses rather than the final asset position, as this provides information of the greatest relevance. Prospects are edited to simplify the information being processed. This is achieved by combining prospects with identical outcomes, segregating any non-risky components from the decision, cancelling any components that are shared by two or more prospects, rounding probabilities into more simple and easily interpreted numbers and detecting any dominant options that do not require any further evaluation.

Kahneman & Tversky (1979) suggest that after editing, the prospects are evaluated and the prospect with the highest value will be chosen. The evaluation process applies a decision weight to each probability in the decision, which is not just the likelihood of an event, but takes into consideration the impact of that probability on the overall value of the prospect. It is noted that low probabilities are frequently over weighted, while moderate and high probabilities are under weighted (Tversky & Kahneman, 1992). A subjective value is also assigned to each possible outcome, which represents deviations from the reference point, being the current position, in terms of gains and losses. As described above, the resulting value function is claimed to be concave for gains and convex for losses, and losses are felt more keenly than gains. In a development of Prospect Theory, Tversky and Kahneman (1992) proposed Cumulative Prospect Theory to account for decisions with uncertain as well as risky prospects, and prospects with any number of outcomes. The revised theory also allows for different decision weights to be applied to gains and losses.

The two versions of Prospect Theory provide detailed mathematical models to describe how people make choices in situations of risk and uncertainty by attaching values to the choices. In the development of the theories the authors utilise monetary gambles to illustrate the arguments. However, Kahneman and Tversky (1979) state that the principles of Prospect Theory can also be applied to other non-

monetary situations. Shafir, Simonson and Tversky (1993) argue that in the 'real world' people do not assign numerical values to the options available, as this is usually not possible. They suggest that instead the complex choices of real-world decisions are based on reasons, and that making a decision requires producing reasons for and against, without usually assigning a numeric value, and then evaluating these reasons to reach a decision. However, this process of making decisions in the real world is still expected to operate in accordance with Prospect Theory.

The principles of Prospect Theory can be applied to the decision whether to travel to a country perceived to be at risk from terrorism. The potential traveller is likely to weigh the benefits of going, such as relaxation, scenery, experience, adventure or the ability to participate in a particular activity, against the costs, such as the price of travel and accommodation. The threat of terrorism would be another item to be included as a cost in the calculation. The proposed differences in effect for losses and gains suggest that people would be expected to accept some risk posed by terrorism to obtain their desired goal, but that the risk from terrorism may be exaggerated leading it to be more of a deterrent than the actual risk would merit. The reliance upon cognitive heuristics is proposed to account for this over-weighting of the risk of loss.

Tversky & Kahneman (1974) suggest that in uncertain situations people rely on heuristics and biases to simplify the assessment of the probabilities of the various possible outcomes. Three main heuristics are proposed, being the representativeness, availability, and adjustment and anchoring heuristics. The representativeness heuristic is employed when an individual

'evaluates the probability of an uncertain event, or a sample, by the degree to which it is: (i) similar in essential properties to its parent population; and (ii) reflects the salient features of the process by which it is generated.' (Kahneman & Tversky, 1982, p. 33)

This means that if an event is judged to be representative of a class of events, then it will be judged as being more likely than are other events that are judged to be less representative. The examples provided by Kahneman and Tversky (1982) serve as useful illustrations of how this heuristic is suggested to operate. In relation to the

point that a representative event will have similar properties to its parent population, the following example is provided.

‘All families of six children in a city were surveyed. In 72 families the *exact order* of births of boys and girls was G B G B B G.

What is your estimate of the number of families surveyed in which the *exact order* of births was B G B B B B?’ (Kahneman & Tversky, 1982, p. 34, authors’ emphasis)

The authors note that whilst the two sequences are reasonably equally likely, that the second is likely to be judged as less representative, because it does not reflect the actual proportion of boys and girls within the general population, which is likely to be fairly equal. It can therefore be seen that in this first case, use of the representativeness heuristic requires that there be some expected underlying pattern, against which a specific example can be compared. The second component for the use of the representativeness heuristic is that the probability of an event is judged by the extent to which it represents the process generating it. Kahneman and Tversky (1982) illustrate this using the example of a sequence of coin tosses. It would be anticipated that overall a fairly equal number of heads and tails would occur. However, if these are produced in a sequence in which the first half of all the tosses produced heads and the second half produced tails, then this would not be perceived to be representative. A representative distribution would be expected to display some irregularity, and not have all the heads in one block and all the tails in another. This example illustrates how if the process by which an event occurs is expected to be random, then it will also be expected that the event will reflect that randomness.

The examples of the representativeness heuristic discussed by Kahneman and Tversky (1982) use cases where it is possible to calculate actual probabilities. However, as these authors acknowledge, in many real-life judgements it is not possible to be so precise. In a real-world situation they suggest that people still rely on the representativeness heuristic, for example in judging how likely it is that a company will go out of business we compare the essential characteristics of the present example to other companies that have failed. In relation to travelling to a destination that has been targeted by terrorists, it is possible that peoples’ judgements are to some extent influenced by the representativeness heuristic. A potential traveller may consider their proposed journey and compare it to other examples of

travel of which they are aware. The risk posed to them by terrorism may then be assessed by the extent that they judge their travel to be representative of travel that has led to themselves or others being victims of terrorism. However, whilst this could lead to some overestimation of the risk of travelling in such circumstances, it is also possible that people would have more examples of travel that they could bring to mind that did not lead to the travellers being involved in an act of terrorism. In this case it would be anticipated that the risk would be assessed as being lower, which is not consistent with the evidence of a steep decline in the number of people visiting countries targeted by terrorists.

However, reliance upon the availability heuristic could account for the observed decline in tourist numbers, both directly and through a potential influence on judgements of representativeness. The availability heuristic states that the probability of an event is judged by the ease with which examples of similar events can be recalled. Availability is therefore based upon the ease of association of two or more concepts, which may be determined by existing knowledge or current events. As an example, a person may believe that if they go to New York they are likely to be mugged if they travel on the subway at night. This would be a long-standing association that may be based on personal experience or cultural knowledge. Since 9/11, they may also believe that if they travel to New York they will be involved in a terrorist attack, as this association is also likely to be relatively easy for them to make, and hence would be available due to the effects of more recent events. As emphasised by Taylor (1982) it is the ease of recall and not the actual number of examples that can be recalled that impacts on the estimate of frequency. In relation to the New York example, the fact that the U.S.A. in general and New York in particular has experienced fewer terrorist attacks than many other countries, would be unlikely to lessen the ease of recall of 9/11 due to the scale and salience of that event. In a development of the availability heuristic, Kahneman and Tversky (1982) added the simulation heuristic, in which the ease of generation of a particular realistic mental scenario is used to estimate the likely probability of that event occurring.

Tversky and Kahneman (1974) propose that a number of biasing factors can lead to an overestimation of frequency of an event. The biases particularly relevant to the impact of terrorism on travel are salience, imaginability, recency and illusory correlation. As argued in Chapter 2, one of the primary aims of terrorism is to obtain

publicity through the use of violence, which is frequently of a dramatic nature. This is likely to make the association between terrorism and the affected destination particularly salient. It also means that when considering travel to an affected country it may be very easy for people to imagine the possible consequences of their decision if they were to be caught in a terrorist attack. It would also be expected that recent events would be more available than events further in the past. Furthermore, an illusory correlation may be formed between travel and terrorism after very few attacks on travellers. In such a situation the individual may believe that they are highly likely to be a target for terrorists, despite the fact that many millions of people travel every year without being a victim of terrorism. As Tversky and Kahneman (1982) argue, reliance on the availability heuristic is particularly likely as people do not generally have the capacity to evaluate the impact of several interacting factors, but instead focus on those scenarios that are the most simple and available.

The third heuristic proposed by Tversky and Kahneman (1974) is the adjustment and anchoring heuristic. The authors suggest that reliance on this heuristic leads people to make errors of estimation because their judgements are dependent upon the starting point of their consideration. The examples given to illustrate this heuristic indicate that it is likely to be used in making estimates of a numerical nature. Anchoring occurs when a value is given or calculated against which another value is to be estimated. It is further claimed that adjustments to estimates are usually insufficient (Tversky & Kahneman, 1974). These concepts are shown in the following example. A group estimating the product of  $8 \times 7 \times 6 \times 5 \times 4 \times 3 \times 2 \times 1$  gave the value of 2250, whereas a group estimating the product of  $1 \times 2 \times 3 \times 4 \times 5 \times 6 \times 7 \times 8$  gave the value of 512. Tversky and Kahneman suggest that this is because participants carry out the first few calculations and then extrapolate from the value they obtain. As previously noted, it is expected that the adjustment will be too small in both cases, but the effect of anchoring means that the starting point for the first example would probably have been higher than in the second example. Hence it can be seen that the starting value can influence the final estimated value. The numerical nature of this heuristic means that it is unlikely to be the heuristic principally relied on in decisions whether to travel to a country that has been targeted by terrorists. It is possible that anchoring and adjustment may play some role, for example a potential traveller to Israel may base their judgement of the likelihood of being involved in a terrorist attack based upon the number of terrorist

attacks they can recall. However, it again seems likely that this would be influenced by the ease to which such examples can be brought to mind, and hence be more likely to be influenced by reliance on the availability heuristic.

The three heuristics proposed by Tversky and Kahneman (1974) can be seen as being largely applicable to quite different types of judgements, although they all share the characteristic of being judgements under uncertainty. The evaluation of these heuristics in relation to travelling to a country that has been targeted by terrorists suggests that the availability heuristic is the most applicable in this situation. The following research is reviewed as it provides empirical support for the claim that people do actually rely upon the availability heuristic.

Evidence supporting reliance on the availability heuristic has been found in a variety of situations. Laboratory studies using a variety of different tasks have shown evidence consistent with the use of the availability heuristic (Tversky & Kahneman, 1982; Wänke, Schwarz and Bless, 1995). Support has also been identified in more ecologically valid studies where real issues are the topic of the investigation, rather than abstract monetary gambles.

In a study based on pen-portraits of people that were varied by gender, sexual orientation and symptoms, Triplet (1992) found a biasing effect of the availability heuristic in the perception of illness among two samples of American psychology students. Participants were given lists of the symptoms for various diseases, some of which had symptoms in common, and pen-portraits describing a patient who was either homosexual, heterosexual or with no information given regarding sexual preference. When asked to make a diagnosis based on the symptoms given, which did not allow a clear diagnosis of a single disease, male homosexual patients were diagnosed as having AIDS more frequently than would be expected by chance. A similar, although not as strong, association with an AIDS diagnosis was found for female patients described as homosexual. This association was not identified for heterosexual patients or patients where no information was given regarding their sexual preference. For homosexual males this may represent a real assessment of the higher risks (Triplet, 1992), which may demonstrate a non-biasing use of the availability heuristic. However, the results for females and the finding that homosexual patients were diagnosed as having AIDS, even when their symptoms were not consistent with such a diagnosis, suggests a biasing effect due to the highly publicised association between AIDS and homosexuality.

Triplet (1992) discusses these findings, and other subsidiary analyses, in terms of the relationship between fear of AIDS and anti-homosexual bias and concludes that these concepts are separate. Regardless of whether or not the findings were a manifestation of homophobia or fear of AIDS, these participants evidenced a biased association between homosexuality and AIDS that is consistent with the availability heuristic. Although this was an experimental, laboratory-based study, it employed a real-world issue, rather than the abstract monetary gambles often used in decision-making research. This means that, in relation to the present thesis, these findings provide support for the position that people rely on the availability heuristic in more realistic decision making situations.

A further implication of the findings of Triplet (1992) is that risks may be generalised beyond the case to which they are directly relevant. The findings that lesbian patients were also diagnosed with AIDS more frequently than would be expected by chance suggests that reliance on the availability heuristic led to the risk being generalised to a group, presumably perceived as similar, but for whom the risk should be less. In this case the perception of the likelihood of female homosexual patients having AIDS seems to have been affected by the association between male homosexuality and AIDS, rather than being due to an actual association. This is similar to the observed generalisation of declines in tourism to destinations that are near to countries affected by terrorism, even though they have not actually been terrorist targets. In both cases, be it countries in the same region or lesbians and homosexual males, it seems that people rely on a readily apparent category and employ the same heuristic across all elements of that category.

Lichtenstein, Slovic, Fischhoff, Layman & Combs (1978) also provided support for people's reliance on the availability heuristic. They found that people overestimated the frequency of certain rare causes of death, such as homicide, natural disasters and motor vehicle accidents and underestimated the frequency of the more common causes of death such as stroke, stomach cancer and diabetes. The causes of death that were overestimated were often the more dramatic or well publicised causes, and as such may be more salient, easier to recall and therefore more available. Although the underestimated causes of death were in reality relatively common, they are not highly publicised. The higher frequency of these events should lead to increased availability, but because of the lower level of publicity it may be that they are not so easily brought to mind, leading to the underestimation of



frequency. Although not included specifically, these findings suggest that the frequency of terrorism would be overestimated, as incidents receive a lot of media attention and may be relatively memorable, particularly when people are killed or injured. Such a finding would be consistent with expectations if the mechanism underlying this overestimation is reliance on the availability heuristic. This study therefore supports the idea that the risk perceived from terrorism, when deciding whether and to where to travel, is likely to be exaggerated due to people's reliance on the availability heuristic.

As suggested by Lichtenstein et al. (1978), a potential factor in the increased availability and associated overestimation of frequency of the more sensational causes of death is newspaper coverage. Supporting this proposal, Combs and Slovic (1979) found that causes of death such as tornadoes, drowning and homicides were proportionately over-reported in two U.S. newspapers, whereas more frequent causes such as diseases were under-reported. They further found that higher quantity of newspaper coverage was associated with higher frequency estimates. When considering events involving multiple deaths it was found that these were given more newspaper coverage than single death events, and that their frequency was over estimated.

Combs and Slovic (1979) do not make any claims for causality in the relationship between frequency estimates and newspaper coverage as the study is correlational, but they suggest that in fact it may be a two-way relationship. If this is the case, then regardless of whether people's perceptions of various causes of death influence what is written in newspapers, it seems likely that newspaper reporting does have some influence on risk perception. The findings reported by Lichtenstein et al. (1978) and Combs and Slovic (1979) suggest that acts of terrorism, which are frequently dramatic and sensational and might involve mass casualties, are likely to be heavily reported by the media. This may then lead to over estimation of the frequency of death by terrorism, and hence a perception of greater risk than is actually the case, through the mechanisms of the availability heuristic.

There is empirical evidence that indicates that terrorism is a focus of media interest. An analysis of the U.S. print media coverage of the 1985 hijacking of TWA flight 847 from Athens to Rome identified that three major newspapers gave a large amount of coverage to this event (Nacos, Fan & Young, 1989). Approximately 30% of the main section pages over the 17-day duration of the hijacking contained related

stories. In relation to the same hijacking, Atwater (1991) analysed the early evening broadcasts on three television channels. The day-by-day proportion of the broadcasts across the channels varied between 32.2% and 97.8%. As pointed out by Nacos et al, the lower proportion of the newspapers reported to this event is probably due to the greater 'space' available to the print media, who do not have the constraints of time that are experienced by television broadcasters. However, these proportions are high for both newspapers and television and support the argument that terrorism will be extensively covered by the media, which in turn may lead it to be more available in people's memories when they are making travel decisions.

Farnen (1990) notes the extensive U.S. media interest in the 1981 Iranian Embassy siege and the continuous coverage by the Italian media of the 1978 kidnapping and murder of Aldo Moro and his bodyguards by the Brigade Rosso. Such media interest has also been observed through the coverage of unfolding hostage situations in Canada (Scanlon, 1984). In one situation media coverage was requested by the hostage taker and in the other the media followed it because they heard the name of a prominent member of the community over the police radio (Scanlon, 1984). This indicates that whilst terrorists may want publicity for their actions, there is also an interest on the behalf of the media who actively follow up potential incidents before they have been officially notified of their existence. The findings of both Farnen (1990) and Scanlon (19894) indicate how terrorists can directly manipulate the media, ensuring that they maximise their publicity.

It is also noted that the journalistic tone employed in reporting terrorist events can influence how the public reacts. As noted by Picard (1991), an informational or dispassionate approach can lead to a less emotional and fearful response to terrorism, whereas a sensationalist approach, which improves newspaper sales or television viewing, will lead to more fear. In view of the greater consumption associated with the sensationalist style of reporting it seems likely that this approach will often be employed, exacerbating the effects of the availability heuristic.

The evidence reviewed regarding the media reporting of terrorist events shows that terrorism is clearly considered to be a newsworthy event. As noted in Chapter 2, publicity seeking is central to the aims of terrorists who need people to be aware of their cause, but also and predominantly to experience fear due to the threat that they too may become victims. It therefore seems that the goal of terrorists to attract as much attention as possible is fulfilled by the media who extensively report

acts of terrorism. It is noted that the studies reviewed only indicate the extent of reporting of terrorist events in the U.S.A, Canada and Italy. Although, as argued by Goldstein (1989), the press in certain state monopolies such as China and the former Soviet Union could be prevented from publicising acts of terrorism, in modern Western democracies terrorists are virtually guaranteed media coverage of their acts. This will be likely to lead to the threat posed by terrorism being particularly salient and available to potential travellers to a destination so affected. The declining media coverage as the terrorist act fades into the past should make the association less available as time passes, and may be a factor in the observed recovery in tourism in the months after an act of terrorism (e.g. Enders & Sandler, 1991).

The above evidence indicates that Prospect Theory and the availability heuristic provide a reasonable account for the consideration of risks in the travel decision process. Making the assumption that the objective level of risk posed by terrorism is small, Prospect Theory would predict that potential travellers would overestimate this, as low risks are over weighted. This effect is accounted for by reliance on the availability heuristic. The actual frequency of a particular type of event is one source of information regarding the likelihood of future occurrences, as examples of common events should be readily brought to mind (Tversky and Kahneman, 1982). However, this would mean that even when considering travelling to a destination that has experienced terrorism, terrorism should not be particularly easily brought to mind based on its objective frequency. However, as demonstrated, events that are particularly salient are likely to be more available and the likelihood of similar events in future overestimated. Dramatic images and extensive media coverage of terrorist acts, together with ongoing security measures and political attention serve to keep terrorism salient and readily available, making it appear more of a threat. Reliance upon the availability heuristic would therefore account for the over-weighting of the potential loss due to the risk of terrorism in comparison to the actual threat that terrorism poses. As the association between a destination and terrorism becomes less available over time it would be anticipated that travel to an affected destination should recover.

Whilst the principle focus of this thesis is on the impact of terrorism on travel, it is unrealistic to assume that terrorism affects the travel decision process in isolation from other travel hazards. Indeed in any given travel decision the potential threat of terrorism will probably be only one of many issues that are considered,

although its relative importance in that decision will be likely to vary depending upon its salience to a particular location. However, it is useful to consider what these other travel hazards might be, and how terrorism relates to them.

In an unpublished study, Watson (1996) conducted interviews with 50 participants, both male and female, and covering an age range from under 20 to over 60. These interviews were analysed to identify travel-related factors, aside from time and money, which would deter them from travelling. Smallest Space Analysis (SSA) was used to identify the relationship between the 26 items that had been mentioned in the interviews. SSA is a scaling technique that represents items, in this case travel hazards, as points in multidimensional space, such that the distances between the points are inversely proportional to the rank order of the correlations between them (Brown & Barnett, 2000). Therefore, points that are closer together on the SSA plot are more highly correlated than are points that are further apart. The SSA revealed six types of hazard: amenities, threats to personal well-being, differences in lifestyle, physical attributes of destination, differences in money, and the fact that they had been there before. It was interpreted that these types of hazard were ordered in terms of the immediacy of their impact on the individual, such that amenities had the most immediate impact, whilst the least immediate impact was caused by the fact that they had been there before.

Watson (1996) found that poor facilities and facilities not being suitable for children were the factors having the most immediate impact on the individual, as if they are present they will definitely affect the traveller and detract from their enjoyment. The threat of terrorism was located in the threats to personal well-being category, which also included civil unrest, high crime rate, natural disasters, poor hygiene, tourists being victimised by locals and hazardous fauna. This category was identified as having the second greatest impact on the individual. Whilst many of the items in this group, including terrorism, have the potential to cause serious harm they may be present at a location, but not actually involve the traveller. From this group, only terrorism, poor hygiene and civil unrest were reported as hazards that would actually deter the participants from travelling. Considering the factors reported as being deterrents, across the six categories, there was no clear relationship between deterrence and either category or level of risk.

The study conducted by Watson (1996) provides a useful basis for further research as its methodology used non-student participants, covered a wide age range,

and employed a data gathering technique with good ecological validity, which allowed people to identify for themselves the hazards that were relevant to them when travelling. The SSA in this study indicated that terrorism was associated with other items that could pose a physical risk to a traveller. This suggests that using the same SSA techniques on this set of travel factors that it may be possible to scrutinise these types of hazard in terms of perceived risk of harm.

### **3.2. Attitude, intention and behaviour.**

This chapter has so far addressed the mechanisms that underlie people's judgements of risk, as accounted for by Prospect Theory (Kahneman & Tversky, 1979) and the various heuristics (Tversky & Kahneman, 1974). This theoretical approach provides an account of the travel decision process that is consistent with the evidence of actual and anticipated behaviours reported in previous studies. However, as argued in the introduction to this chapter it is likely that people's orientation to risk is also related to other psychological processes and experience. A social cognitive factor that may be associated with people's risk judgements is their attitudes. These may include their attitude towards the attitude object in question, the specific risk and risk taking in general. For example, an individual who has a generally negative attitude to risk may perceive a given hazard as posing an unacceptable risk, whereas a person with a positive attitude may see the same risks as being reasonable.

An attitude is a 'summary evaluation of a psychological object captured in such attribute dimensions as good-bad, harmful-beneficial, pleasant-unpleasant, and likeable-dislikeable' (Ajzen, 2001, p.28). As such, attitudes can be seen as a general orientation towards an attitude object, be that an actual object, a concept or a specific behaviour. It would therefore be anticipated that if a person has more than one attitude that is relevant to a given object that these would be consistent. However, this is not necessarily the case, and people may hold conflicting attitudes (Ajzen, 2001). It is noted that as attitudes are not directly observable, being psychological constructs, they can only be inferred from a person's response to a stimulus (Fiske & Taylor, 1991).

In addition to the evaluative nature of attitudes indicated in the definition provided by Ajzen (2001), it has been proposed that attitudes have three components:

cognitive, affective and behavioural (M.J. Rosenberg & Hovland, 1960). Research has provided support for this distinction (Breckler, 1984), although Eagley & Chaiken (1993) argue that this conceptualisation is too strong, and that these components should be characterised as categories of response that can be used to assess attitudes. This suggests that a person's attitude can be inferred from their beliefs regarding an object, how they feel about that object and how they behave towards that object, or any combination thereof.

Eagly and Chaiken (1993) state that the expectancy-value model is the most popular framework for understanding the relationship between attitudes and beliefs. This model proposes that people form beliefs about an attitude object, based upon the expected values of the attributes of that object. An expected value is based upon the subjective probability that an attitude object has a particular attribute, combined with the evaluation of that attribute. For example, a potential travel destination may be evaluated as likely to provide relaxation, beautiful surroundings and good value for money, and each of these attributes would be evaluated as being positive features, although possibly to different degrees. Ajzen (2001) suggests that the resulting attitude is determined by the interaction of these values with the strength of the associations, with current attitude being based upon the beliefs that are accessible to memory at that time. This therefore means that the various relevant beliefs, be they positive or negative are summed, but that their value is weighted by their importance. This is indicated by how strongly the beliefs are associated with the object. Importance of the belief is one factor suggested to influence accessibility, together with recency and frequency of belief activation (Ajzen, 2001).

It can be seen that there are certain parallels between expectancy-value models of attitude and Prospect Theory (Kahneman & Tversky, 1979), and the likely reliance upon the availability heuristic in both the processes of judging risk and forming attitudes. In attitude formation it is suggested that the beliefs underlying attitudes have values and that an attitude is the result of the summing of those values, weighted by importance, and influenced by the accessibility of the beliefs. It is therefore likely that the particular beliefs that are most accessible at a given time may change if something has occurred to increase the salience of different beliefs. For example, in relation to the travel decision process, an individual may generally believe that travelling is an exciting adventure, which will give them a needed break from work, allowing their mind time to relax, and that a particular destination will

fulfil their travel requirements. This may be their most available set of beliefs initially, but news of a weather disaster, an act of terrorism, an economic crisis or some other adverse event at their chosen destination may change these. Their most salient beliefs may become those related to the chance of similar future events, whether the destination is still desirable for them or whether they can afford their proposed visit. This shift in the most salient beliefs would then be likely to result in their attitude to that destination becoming less positive.

It seems possible that the same knowledge and the processes that make it more or less important to an individual are shared between risk perception and attitude formation. Continuing with the example of the travel decision, a single act of terrorism at a destination would be likely to act upon both the beliefs most available for attitude formation, as well as affecting the risks perceived for that destination. Similarly, the factors such as the scale, recency, and extent and nature of news reporting of that event would be likely to impact on the extent of the negative shift in attitude, in the same way as it affects the availability of the threat in the perception of risk. Hence a recent, large, highly publicised attack would be expected to have a greater impact on attitudes than a smaller incident or one further in the past.

The examples given of the impact of terrorism on the formation of attitudes to travel highlights the fact that the expectancy-value model provides an account of how the cognitive component of attitude is formed. However, research evidence also supports the notion that affect has a role in forming attitudes jointly with cognition, and that the affective component may be more easily accessible (Verplanken, Hofstee & Janssen, 1998). This is consistent with the results reported by Morris, Woo, Geason and Kim (2002) who found that in response to advertising, affect was a stronger predictor of attitude to consumer behaviour than was cognition. In relation to political candidates and voting behaviour, it has also been found that when cognition and affect are oppositely valenced people rely on the affective component (Lavine, Thomsen, Zanna & Borgida, 1998). These findings are developed by those of Haddock and Zanna (1998) who found that there are individual differences in the component of attitude primarily used, with some people relying on their beliefs while others rely on their feelings to form their attitudes.

The proposed importance of affective responses in the formation of attitude also seems to be consistent with the evidence previously presented regarding risk perception. Whilst risk perception and attitude formation may be based to a greater

or lesser extent on cognitive evaluations, it is reasonable to suggest that emotional reactions may also influence these processes. News of a terrorist attack may lead people to cognitively evaluate a destination as being more dangerous, but it may also cause them to experience fear, worry or upset, which may also influence their attitude towards that destination. This is consistent with the findings reported by Friedland and Merari (1985), Huddy, Khatib and Capelos (2002) and Kuzma (2000), in which evidence was provided of both cognitive and affective reactions to terrorism. However, it should also be noted that although the cognitive and affective components of attitude may be consistent in valence, this is not necessarily the case. It is possible that an individual could experience negative affect, but retain positive cognitions, and people may differ in the component they principally use to form their attitudes. It is evident from this discussion that the resultant attitude is based on a balance of the cognitive and affective processes. This means that when assessing attitude it is useful to use both affective and cognitive measures.

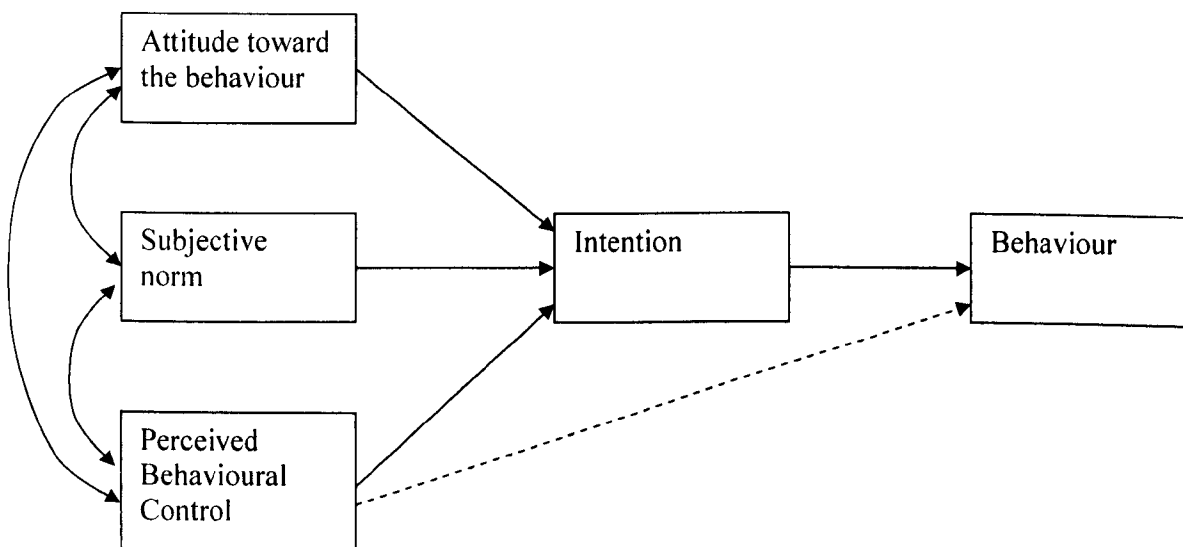
The above discussion has considered the tripartite conceptualisation of attitudes, and the expectancy-value approach to attitude formation based on a weighted summation of relevant beliefs. Although it has been argued that it is generally not possible to distinguish the three components of attitude, Eagley and Chaiken (1993) contend that this conceptualisation provides a useful framework for research. It can be seen that the tripartite model of attitudes and their relation to behaviour has had a long history (e.g. M.J. Rosenberg & Hovland, 1960). It is also evident that the distinction between cognitive and affective components of attitude is still employed, as in more recent research such as that of Giner-Sorolla (2001) or Lavine, Thomsen, Zanna & Borgida (1998), and it is still recognised in reviews such as those of Ajzen (2001), Eagley & Chaiken (1993) and Petty, Wegener & Fabrigar (1997). It therefore seems that two of the components from the three component conceptualisation of attitude have retained currency in the literature. However, the relationship between attitudes and behaviour has received a more comprehensive analysis in the work of Fishbein and Ajzen (1975) with the Theory of Reasoned Action and its development the Theory of Planned Behaviour (Ajzen, 1988, 1991).

The Theory of Reasoned Action (Fishbein & Ajzen, 1975) proposes that behavioural intention is the immediate predictor of a given behaviour. In turn, attitude and subjective norm are both predictors of behavioural intention. The attitude towards a behaviour is formed, in a manner consistent with that proposed by



the expectancy-value model, based upon the combination of the various relevant beliefs held by the individual. Similarly, the subjective norm is formed based upon normative beliefs. These are the beliefs that an individual holds regarding what they think that people who are important to them feel about a particular behaviour. The Theory of Planned Behaviour (Ajzen, 1988, 1991) has the same basis as the Theory of Reasoned Action, but allows for the prediction of behaviours that are not under complete volitional control. The Theory of Planned Behaviour includes a third predictor of intention, which is perceived behavioural control, which is in turn predicted by control beliefs. Perceived behavioural control is therefore the summary of the evaluation of the extent to which the individual believes that they can control their performance of a behaviour. It is also proposed in the Theory of Planned Behaviour that there can be a direct predictive route between perceived behavioural control and the behaviour in question. Figure 2 shows a graphic representation of the Theory of Planned Behaviour.

**Figure 2.**



**Figure 2: Graphic representation of the Theory of Planned Behaviour (From Ajzen, 1991, p.182)**

Since the proposition of the Theory of Planned Behaviour a number of developments and refinements have been proposed. Those relevant to the present thesis will be discussed below. However, it should be noted that many of these are not considered by Ajzen (2001) to provide any substantial improvement in the prediction of behaviour, who appears to generally consider that the original model provides a comprehensive account of the attitude/behaviour relationship.

Armitage and Conner (1999 & 2001) have emphasised a key theoretical aspect of the Theory of Planned Behaviour model, which was part of the original conceptualisation proposed by Ajzen, in relation to the Perceived Behavioural Control (PBC) component. These authors argue that self-efficacy, defined as 'confidence in one's own ability to carry out a particular behaviour' (Armitage & Conner, 2001, p. 479) is an important element of Perceived Behavioural Control. This was supported by the findings of their 1999 study relating to food choice, in which self-efficacy was identified as a stronger predictor of both intention and behaviour than was Perceived Control over Behaviour. In their 2001 meta-analysis, Armitage and Conner distinguished between three conceptualisations of PBC used in the reviewed research. These are self-efficacy, defined as noted above, Perceived Control over Behaviour, defined as 'perceived controllability of behaviour' (2001, p. 479), and PBC, defined as 'the perceived ease or difficulty of performing behaviours' (2001, p. 479). The analysis showed that self-efficacy and PBC were similar in terms of predictive utility of both intention and behaviour, across a wide range of behaviours. However, the correlation between Perceived Control over Behaviour and intention and behaviour was significantly less. These findings therefore suggest that it may be useful to utilise measures of both PBC and self-efficacy in predicting intentions and behaviours.

In addition to the change in the measurement of PBC proposed by Armitage and Conner (1999, 2001), the other main amendments to the Theory of Planned behaviour that have been suggested are the addition of extra variables, such as past behaviour (e.g. Bentler & Speckart, 1979). Past behaviour has been found to improve the prediction of future behaviour, over and above that predicted by the Theory of Planned Behaviour, in a variety of behavioural domains. Past behaviour in areas such as cigarette smoking (O'Callaghan, Callan & Baglioni, 1999) and alcohol consumption (Conner, Warren, Close & Sparks, 1999) has been found to add to the predictive utility of the Theory of Planned Behaviour. However, this is perhaps

unsurprising, especially in the case of smoking, where addiction and habit may have a role in maintaining such behaviour. Similar findings supporting the inclusion of past behaviour have also been reported for more volitional behaviours, such as car use (Verplanken, Aarts, van Knippenberg & Moonen, 1998), driving behaviour (Conner, Smith & McMillan, 2003), exercise (Abraham & Sheeran, 2004; Norman, Conner & Bell, 2000) and studying (Leone, Perugini & Ercolani (1999)). These studies have variously found direct relationships between past and future behaviour and have also identified moderating and mediating relationships with the intention and PBC components of the Theory of Planned Behaviour. It is therefore concluded that past behaviour is a useful addition that can increase the variance predicted by the Theory of Planned Behaviour.

Ajzen (2001) notes that many other variables have been added to the Theory of Planned Behaviour across a number of different behavioural domains, and argues that these additions only provide small improvements in prediction, and have not demonstrated their generalisability to other settings. However, studies such as Abraham and Sheeran (2004) and Courneya, Bobick and Schinke (1999) do indicate that it can be useful to consider the potential impact of other variables that are relevant to a given behaviour. In the present chapter it has been argued that risk perception is a potential predictor of deterrence from travelling due to the threat of terrorism. It could therefore also be a factor in the travel decision process affecting whether or not an individual forms an intention to travel, and may therefore be a useful variable to consider in addition to the variables indicated by the Theory of Planned Behaviour. It would be anticipated that the perception that travel in general and terrorist victimisation of tourists in particular are serious threats to the well-being of the individual would be associated with a negative attitude to travel. Furthermore, it would be expected that these factors would predict the extent of deterrence from travelling, and the formation of intentions to travel.

The joint utility of considering attitudes and risk perception is demonstrated by Sönmez & Graefe (1998a), who included travel risk perception and attitude to international travel as predictor variables in a model of the travel decision process, which was analysed as having three stages. The first stage was the decision to travel internationally, as opposed to domestic travel within the U.S.A., which was predicted by a positive attitude to international travel and low levels of perceived risk for travelling. The second stage of the process was the extent of information search

about potential destinations, which was also predicted by positive attitude to international travel, as well as higher income and a higher perception of risk. The final component of the travel decision considered was concern for safety in the evaluation of destination alternatives. This too was predicted by higher perception of risk and less positive attitudes to international travel. Although not directly predicting any of the stages of the travel decision, travel experience was identified as a predictor of less perceived risk and a more positive attitude to international travel.

These findings support the contention that there is likely to be consistency between attitudes and risk perception, and that these factors would be likely to be related to the degree of deterrence from travelling experienced due to the threat of terrorism. Whilst attitude and perceived risk are not compared directly by Sönmez & Graefe (1998a), they both related in the predicted manner with the travel decision process, indicating that there is likely to be consistency between these factors. It is noted that the sample used in this study consisted mainly of 'older, well educated and affluent males' (Sönmez & Graefe, 1998a, p. 130), which may mean that their findings are limited in generalisability. However, there is no obvious reason to suppose that this group of people should be any more or less consistent in their attitudes than are any other group. Whilst this study examines the relationship between the social cognitive factors and the stages of the travel decision process, it does not comment directly on whether these factors are associated with deterrence from travelling due to the threat specifically of terrorism. Terrorism is only one item within one of the risk questionnaires, and therefore this study is not directly focused on the impact of terrorism. A further limitation is that it does not investigate the impact of a real terrorist act, but employs terrorism as an abstract concept. It is therefore not clear the extent to which the participants are focussed upon terrorism, which in a real-world decision could be a highly salient feature of their decision making.

### **3.3. Chapter Summary**

The purpose of this chapter was to consider the social cognitive factors of risk perception and attitude that may be relevant to differentiating between those who are and those who are not deterred from travelling by the threat of terrorism. It was seen that Prospect Theory (Kahneman & Tversky, 1979) provided a useful framework for

understanding the travel decision process, and particularly the disproportionate impact of terrorism on people when the scale of its effect is compared to the objective risk posed by terrorism. The various heuristics associated with Prospect Theory were discussed, and the availability heuristic (Tversky & Kahneman, 1974) identified as being the mechanism that best accounted for the impact of terrorism on travel decisions. It was also seen that research has shown that this theoretical approach can account for real-world decisions.

It was argued that terrorism is only one of a number of hazards that potential travellers may consider in their travel decisions. Previous research (Watson, 1996) was presented that showed that terrorism was perceived as similar to a number of other travel hazards that would be likely to cause serious harm to a traveller should they be encountered. This study therefore indicates that it may be useful to consider a range of hazards when considering people's deterrence from travelling. Even when the focus is specifically on the impact of terrorism, it seems possible that the risk perceived for other closely related hazards may be a useful predictor.

In the final section of the chapter, the issues of the structure of attitudes and the relationship between attitudes and behaviour were considered. It was argued that relevant cognition, affect or behaviour could be observed assess the associated attitudes. The Theory of Planned Behaviour and the potential additional variables to the theory applicable to the present research were discussed, in this case being past behaviour and risk perception. This theory provides a useful framework for identifying variables that are useful in the prediction of deterrence from travelling and forming the intention to travel. The findings of Sönmez & Graefe (1998a) were reviewed, which provide evidence of the utility of considering both attitude and risk perception in predicting travel decisions.

The literature reviewed in this chapter provides evidence that it would be useful to include measures of both risk perception and attitude to international travel in the present research, as factors that could be useful predictors of deterrence from travelling due to the perceived threat of terrorism. It also indicates that the measure of travel risk perception should include a variety of travel hazards, as terrorism does not occur in isolation. Similarly, the measure of attitude to international travel should contain both cognitive and affective components, as it is not clear which of these would take precedence in relation to travel decisions.

## CHAPTER 4: SOCIALISATION AND EXPERIENTIAL FACTORS AS PREDICTORS OF RISK TAKING

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In the previous chapter it was seen that Prospect Theory (Kahneman & Tversky, 1979) and the associated availability heuristic (Tversky & Kahneman, 1974) provided a useful framework for understanding the travel decision process, particularly in relation to the impact of terrorism. Evidence was presented supporting the argument that people do make real-world type decisions in accordance with this theoretical position. It was also argued that in addition to risk perception, attitude was likely to have an impact on the travel decision process, and further that attitude and risk perception are likely to be related. These factors were characterised as being psychological constructs, but that may be influenced by experience. For example, exposure to risks that gives rise to feelings of excitement and enjoyment may lead the individual to become more risk seeking, although it seems probable that a person who is very averse to taking risks is unlikely to become a very high risk taker. Similarly, whilst being a psychological construct, attitudes may be shaped by experience.

The purpose of this chapter is therefore to review the literature that provides evidence regarding the relationship between experiential factors and risky decisions and behaviours. Previous experience of a situation or behaviour is one aspect that will be considered, which as suggested above may lead people to change their attitudes and perception of risk. The other factors to be discussed are the impact of age and gender.

Age may be expected to have two different influences. Firstly, it could be that people are expected to become less risk-taking as they get older, particularly in relation to physical risks such as those associated with travelling to potentially risky destinations. Possible reasons for this could be beliefs that the consequences of physical injury may be worse for older people, in terms of harm done or the rate or extent of recovery. However, it is also possible that as people get older they have had more time to experience a range of situations, which may lead them to judge these situations as more or less risky. It is therefore suggested that age may be associated with either an increase or decrease in the risk perceived for different behaviours, dependent upon the valence of previous experiences.

The expected relationship between gender and risky behaviours is rather more predictable. It seems likely that males will perceive hazards as less risky and hence accept higher levels of risk than do females. This would probably be due, at least to some extent, to the differences in socialisation between males and females, although there may be some biological basis for the anticipated differences. In relation to socialisation, it is generally perceived that females grow up being expected to be less adventurous and to take less risk than are males. The studies reviewed in this chapter will present evidence regarding these proposed influencing factors.

There is limited research that has considered factors associated with the risk perceived due to terrorism, so it is necessary to consider other threats that can be seen as sharing certain characteristics with terrorism. One of the key characteristics of terrorism is that its occurrence is largely unpredictable. Whilst in some cases it can be targeted against particular individuals, such as politicians, it is probably most salient when the victims are random members of the public. In this form, it has the capacity to cause death or serious injury to large numbers of people, for whom involvement is largely a matter of chance, and the risk can be characterised as being involuntary. Terrorism has also been observed to cause large-scale destruction of property. It has also been noted in Chapter 2 that terrorism has been found to lead to increases in psychological conditions of anxiety and Post Traumatic Stress Disorder (PTSD). It can be seen that these characteristics of terrorism can also be paralleled with certain natural disasters, such as lightning storms and tornadoes, which are also involuntary risks. Natural disasters are unpredictable and can cause death or serious injury to many people, as well as causing property damage. It is also observed that psychological effects, such as PTSD, are experienced by survivors of natural disasters (e.g. Kokai, Fujii, Shinfuku & Edwards, 2004).

Whilst there are a number of similarities between terrorist attacks and natural disasters, it should be noted that an important difference is the role of human agency in the acts. However, it seems likely that as there are similarities in the consequences of these types of event there may also be similarities in the factors associated with the effects. Literature that has examined the relationship between various socialisation and demographic variables and the risk perceived for certain natural disasters will be considered in this chapter to supplement the little that has more directly studied the effects of terrorism.

#### 4.1. Experience

There is evidence that experience with a risk is associated with the extent of risk perceived. Greening, Dollinger and Pitz (1996) conducted a study into the impact of experience with various weather disasters among a sample of 455 American adolescents, aged between 15 and 20. Three of the groups used in the study consisted of participants who had been involved in three different weather disasters, being two separate lightning strikes and a tornado that gave rise to flash floods. There was also a control group who had not experienced any weather disaster. The measure of risk perception was a list of hazards, including the hazards experienced by some of the participants, and the participants had to indicate how likely they thought it was that 'someone like yourself' would die from each hazard. The participants also indicated their experience and memory of various hazards, again including lightning, tornado and flood. These experiences and memories could be of things that they had actually been present for, or that they had heard about through the news or other sources. In addition to memories of these lethal events, participants indicated how well they could imagine them.

The results of the Greening et al. (1996) study showed that personal experience with a weather disaster was associated with higher perception of personal risk of dying from such an event. The study also provided some support for the roles of imaginability and general memory for events, as mediators between experience and risk perception. The role of imaginability is supportive that people may rely on the simulation heuristic in assessing risks, although the magnitude of the relationship in this study is low. The findings regarding the role of memory as a mediator were particularly strong among the group of participants who had witnessed a peer killed by a lightning strike. It does seem likely that an event of this nature would make the risks of such an incident seem particularly salient, and hence they would be expected to be highly available. However, from a methodological point of view it is not clear that in this study the general memory measure used was really an indicator of availability. The participants assessed the clarity of their memory for each type of weather event, but availability is not the clarity of a memory, but the ease with which it is brought to mind in association with a given stimulus. Therefore, although availability may be a mechanism through which experience influences risk perception, this does not seem to be assessed by this study.



In contrast to the findings of Greening et al. (1996), Benthin, Slovic and Severson (1993) found that experience of various risky behaviours was associated with perceptions of lower risk among their sample of adolescents in the age range between 14 and 18 years. Participants rated a range of behaviours, including both socially acceptable and unacceptable activities, such as climbing, drug-taking, car driving and drinking alcohol on fourteen risk characteristics. Those participating in the risky behaviours reported, amongst other things, greater knowledge and less fear of the risks, perceived the risk to themselves or others as less, and saw the potential effects as less serious. The authors also suggest that their findings may reflect reliance upon the availability heuristic, although they do not claim to have measured this aspect specifically, as participants in the various activities estimated more people of their own age also participating than did non-participants. This is a reasonable interpretation as participation would be likely to make such behaviours among people perceived as similar to the respondents be more easily brought to mind. In contrast to the study of Greening et al., which employed uncontrollable weather disasters as the subject of their investigation, the activities used in this study were behaviours that could be actively performed by the participants, and hence would be under some degree of control. It is possible that this difference in the nature of the hazards is associated with the inconsistent findings.

Halpern-Felsher, Millstein, Ellen, Adler, Tschann and Biehl (2001) also used a sample of adolescents, as well as a sample of young adults to investigate the impact of experience on judgements of risk. Using a sample of 577 participants between the ages of 10 and 30, it was found that experience with natural hazards and various risky behaviours was associated with lower ratings of the chance of a negative outcome for these hazards. This was still the case after controlling for age for all but two of the risky behaviours, which were related to sexual activity. It is noted that the youngest age cohort, who was around 10 years old, was not asked questions regarding sexual behaviour. These findings are consistent with those of Benthin et al. (1993) in relation to the types of risky behaviours that are undertaken voluntarily, but contradict those of Greening et al. (1996) for natural hazards.

It seems likely that the contradictory findings are due to the experiences of the adolescents participating in the studies. Greening et al. (1996) specifically targeted groups who had witnessed acquaintances being struck by lightning and either killed or injured, or who had lived in communities hit by severe flash floods

that had wreaked substantial damage. The participants in the Halpern-Felsher et al. (2001) study were not selected in this way, so although they may have had varying degrees of experience with lightening storms and earthquakes there is no indication of substantial numbers of the participants observing such highly negative consequences. This suggests that there may be differences in the impact of natural hazards, depending on the degree of damage or harm witnessed.

The studies reviewed so far have principally been based on the risk perception of adolescents. Whilst this may be indicative of a similar association between experience and risk perception in the older population, it is by no means certain that this is the case, as it may be that developmental factors influence this relationship. However, Lupton & Tulloch (2002) provide some support for the similarity in relationship between experience and risk perception for adolescents and adults. These authors employed a qualitative approach to risk-taking and explored participants' discourses about voluntarily taken risks. Based on a sample of 74 adult Australians, these authors identified three dominant discourses, in which the participants talked about risk-taking in terms of self-improvement, emotional engagement and control. From this analysis it emerged that voluntary risk taking in a range of physical and non-physical risks was seen by participants as a challenge, something valuable, and a positive experience. This study suggests that people who perceive less risk for a given hazard would evaluate that hazard, and the potential gains arising from accepting the associated risk, in a more positive manner. Therefore, the positive perceptions of voluntary risk taking exhibited by these participants can be seen as being consistent with the relationships identified between voluntary risk taking and lower perceived risk noted by Benthin et al. (1993).

Barnett & Breakwell (2001) provide further evidence regarding the relationship between experience and risk perception for voluntary and involuntary risks. An U.K. sample of 172 university students, aged between 18 and 42, completed a questionnaire study asking about 16 hazards. The participants rated each hazard on a number of variables, including experience with each hazard, the degree of risk and the extent to which they were perceived as being assumed voluntarily. The study showed that the participants reported a significantly higher level of concern for involuntary rather than voluntary hazards. It was also found that experience had a different impact on risk perception depending on whether the risk was voluntary, such as flying, skiing and drinking alcohol, or involuntary, such as

being caught in a hurricane, being mugged or living in a heavily polluted area. In a hierarchical regression analysis, experience was found to be a useful predictor of concern over risks, with greater frequency of experience, negative perceived impact, and negative outcome associated with more concern for involuntary risks. These effects were found over and above the effects of gender, dread and knowledge, which were entered in the first stage of the model. These results support the findings of Greening et al (1996) that experience of involuntary hazards is associated with a higher perception of risk. For voluntary risks, such as those considered by Benthin et al (1993), none of the experience variables added any significant variance above that predicted by the first stage of the model, although they did reveal a trend in the opposite direction to the effects for involuntary risks.

The findings of Barnett and Breakwell (2001) provide support for most of the previously reported findings that experience with voluntary and involuntary hazards had a different impact on perceived risk. The within participants design of this study means that it provides strong evidence that individuals interpret voluntary and involuntary hazards differently. A number of possible mechanisms could contribute to these findings. One clear difference between voluntary and involuntary risks is the degree of control felt by the individual. By definition, voluntary risks are those that the individual has chosen to undertake, which implies that it is their own choice whether or not they expose themselves to that risk in future. Whilst the classification of voluntariness was based upon the ratings of the participants, it is noted that the items used in the study asked how voluntarily each hazard was assumed. This may be interpreted in two ways, one being the assumption of risk each time a particular behaviour is performed, the other being the assumption of risk at the time of first performance. This distinction is important because there may be differences in the degree of future control over different behaviours, such as comparing smoking and skiing, both of which were rated as voluntary hazards. The degree of control at outset may be similar, although social pressures may also influence the uptake of some behaviours, but the future control is likely to be less for behaviours that are addictive, even though they are perceived as being voluntary.

Another possible mechanism for the difference between voluntary and involuntary risks identified by Barnett and Breakwell (2001) is the perception of anticipated benefits. The hazards identified as being involuntary would in general not be seen as having any benefit for the individual, such as being mugged, being in a

hurricane or a car crash. The other involuntary hazards seem to have less obviously negative consequences, but this is still in contrast to the voluntary hazards such as travelling by plane, sunbathing and skiing, for which it is possible to clearly identify potential benefits to the individual who opts for these behaviours. It therefore seems likely that in determining the likely relationship between experience with a hazard and perceived risk it is necessary to consider issues such as control and potential benefit to the individual.

Barnett and Breakwell (2001) also note that their findings regarding involuntary risks are not consistent with the expected effects of habituation and desensitisation. They account for this in terms of these strategies being employed when either the impact of the hazard is low and the outcome is neutral or positive, or when there would be more severely negative consequences, such as threat to identity, by admitting concern. This account initially seems to be in some conflict with the discussion offered in Chapter 2 regarding the findings of Friedland and Merari (1985) and Muldoon (2003) that indicated that exposure to prolonged campaigns of terrorist violence led to desensitisation and a maintenance of 'normal' behaviours. Terrorism would clearly be a potentially high-impact hazard with negative consequences, which would therefore not be expected to lead to desensitisation according to Barnett and Breakwell. However, the lack of impact of this type of terrorism on behaviour could, as suggested by Barnett and Breakwell, be due to the need to protect self-identity. It is also noted that the findings of Friedland and Merari suggest that whilst people's behaviour evidences desensitisation to the hazard of terrorism, their psychological reactions in terms of concern and attitude did not. This therefore indicates that it may be beneficial to separate these factors when considering the impact of experience with hazards.

The findings reported above give some indication of the expected relationships between experience with hazards and perceived risk, depending upon whether the risk is assumed voluntarily or not. However, it is not straightforward to draw direct comparisons between these studies because of the different measures used to assess risk. Greening et al. (1996) and Halpern-Felsher et al. (2001) both measured risk in terms of the chance of dying due to a type of natural hazard. This is an assessment based on the potentially most serious outcome, and comparing these studies seems to suggest that the type of experience is important, with there being a

difference between simple exposure and exposure associated with a highly negative outcome.

Benthin et al. (1993) and Barnett and Breakwell (2001) both asked their participants to assess the risk perceived for various voluntary hazards. This is therefore asking for judgements that are likely to be based upon combinations of the probabilities of various negative outcomes, which differ in degree of seriousness. These studies both indicate that experience with voluntary hazards is associated with lower risk ratings. Barnett and Breakwell also found that experience with involuntary hazards is associated with increased ratings of risk. This is consistent with the findings of Greening et al., which suggests that when people assess the general degree of risk for a natural hazard, previous experience may cause them to focus on the worst potential outcome in a similar fashion to people who have the most negative type of experience. This could be due to the high degree of imaginability of very serious consequences, or because of highly available images of death and destruction due to such phenomena portrayed in the media, both fact and fiction. However, the contrasting findings of Halpern-Felsher et al. (2001) may suggest that when asked to make the specific judgement of the likelihood of dying due to a natural hazard that experience has a different effect. In this case, more experience gives the individual greater evidence that they are not going to die, because they have survived all the previous experiences. Therefore, unless an event has been experienced that makes the chance of dying more salient, such as witnessing a death, it seems likely that experience will make survival the most available outcome. Based on this analysis, it seems that the key distinctions are between voluntary and involuntary hazards, and between specific personal risk judgements and general risk judgements, together with the nature of the experience with a hazard.

The studies reviewed above have considered the impact of experience with various hazards on general and specific risk perception. Previous experience with an involuntary hazard has also been found to predict future risk reduction behaviour. Sattler, Kaiser and Hittner (2000) conducted two separate studies in the periods prior to two hurricanes to identify the relationship between making preparations and the threat perceived for the coming hurricane and a number of variables including experience with an earlier hurricane. These U.S. based studies used 257 and 180 participants, who were a combination of university students and staff, as well as members of the local community.

In the first study, a significant bivariate relationship was identified between experiencing the earlier hurricane, among a number of other variables including psychological distress and property loss due to that hurricane, and preparation for the forecast hurricane. However, when analysed using multiple regression on the data from the complete sample including both those who had and had not experienced the earlier hurricane, these factors did not emerge as significant predictors. However, when considering just those people who had experienced the earlier hurricane, it was found that psychological distress as a result of that hurricane was a significant predictor of preparation for the forecast hurricane. This finding therefore suggests that it is not just exposure to an involuntary hazard that determines future behaviours, but also how the exposure is processed.

In the second study, conducted three years later, experience with the previous hurricane again showed a significant bivariate relationship with preparation for the coming hurricane. However, no aspect of hurricane experience emerged as a significant predictor in the multiple regression analysis. The authors suggest that this is due to the greater interval between hurricanes in the study where experience was not a predictor, and that hence the risk was more available in the first study. Whilst there is greater temporal proximity of the hurricanes in the first study, no account is taken in the second study of whether any of the participants also experienced the hurricane that was the subject of the criterion variable in the first study. Both studies were conducted in the same town, so it seems likely that participants may have experienced both previous hurricanes. It would be expected that experiencing another hurricane in the intervening period would have maintained the availability of the first hurricane. The authors also offer an explanation for the different findings in terms of the ages at which the original hurricane was experienced, with the participants in the first study being young adults, whereas those in the second study would have been adolescents. As argued, this may have had an influence on how the hurricanes were interpreted due to differences in responsibility. However, it may also be due to an element of habituation, if they also experienced the second hurricane, as they would have survived two hurricanes, which could lead them to perceive hurricanes as less threatening.

This study suggests that when considering actual behaviours the relationship with experience may not be quite as clear as is the case when addressing risk perception. Exposure to a previous hurricane was associated with taking practical

precautions about a hurricane that was being forecast. However, it is possible that previous experience of more than one hurricane did not have the same effect. If this is the case, then this is consistent with the findings regarding ongoing terrorism that people do not change their behaviour when they are to some extent habituated or desensitised to a hazard.

Applying this pattern of findings to isolated acts of terrorism, it would be expected, in line with Barnett and Breakwell (2001) that experience of terrorism would be associated with higher risk perception. This is supported by the survey-based studies reported in Chapter 2. An increase in the personal threat perceived from terrorism after an attack was identified, as were behavioural changes to avoid situations perceived as risky, in response to the first attack on the World Trade Centre, the Oklahoma City bombing, and the bombing of the Atlanta Olympics (Kuzma, 2000). A similar impact on the perception of risk was also identified after the attacks in the U.S.A. of 9/11 (Huddy, Feldman, Capelos and Provost, 2002; Huddy, Khatib & Capelos, 2002). In these studies, conducted after actual terrorist attacks, it can be seen that both perceptions of risk and performing risk-reducing behaviours were affected. This is therefore consistent with the argument made above regarding the effects of one-off exposure to involuntary hazards.

Whilst terrorism is an involuntary hazard for its victims, this is only one aspect of the relationship between terrorism and travel. As is the case for any behaviour, travel entails an element of risk, which a potential traveller needs to consider when making their decision of whether to travel or which destination to visit. The above findings suggest that experience of travelling, which would probably be classified as a voluntary risk, should lead people to perceive the potential hazards as less risky. It therefore seems that when considering the relationship between terrorism and travel there are two contrasting influences at work. Although experience of terrorism, even if through news reports, should lead people to perceive a higher level of risk, experience with travelling should have a protective function as these people are likely to rate the general risks of travelling as less.

Evidence regarding this proposed relationship is provided by Sönmez & Graefe (1998b), who investigated the role of past experience, together with risk perceived for international travel and level of safety felt during international travel. The study was based upon 240 completed questionnaires returned from a random U.S. national sample of 500 people. Considering 10 global regions, it was found that

previously visiting a region was associated with a greater reported likelihood of going there again, and was also associated with less reluctance to visit a region that was perceived as risky. Risk was determined by participants indicating the extent to which they associated each region with various travel hazards, such as financial, psychological, terrorism and health risks. They also found that risks perceived for various hazards, but particularly of terrorism and political instability, were predictors of avoiding certain regions. Risk perceived for political instability was a predictor of avoiding travel to Asia and South America, whereas risk perceived from terrorism predicted avoiding the Middle East and Africa. However, the proportion of participants reporting they would avoid risky destinations was lower among the group with experience of that region than among those without such experience. It is noted that the authors conducted a telephone poll with a sample of non-respondents and found that the respondents had greater travel experience. Nonetheless these findings are still indicative of travel experience having a likely role in protecting against the negative effects of the increased risk perceived due to a threat of terrorism.

#### **4.2. Gender**

The studies reviewed in the previous section indicate that experience with a hazard is a factor that can influence how that hazard is perceived in the future. However, as argued in the introduction to this chapter, an individual's experience may also be associated with other facets of that person, such as their age and gender, as these factors may influence the opportunity that the individual has had to experience the hazard. The following studies provide evidence regarding the relationship between gender and the perceived risk for a variety of hazards.

There is a substantial quantity of literature that has indicated that there are gender differences in risk perception and the performance of risky behaviours. In a series of studies considering various aspects of risk, Boverie, Scheuffele and Raymond (1995) started by obtaining participants' own views of risk, which were scrutinised using a qualitative approach. This revealed that men and women were more similar in their conceptualisations of risk than they were different, with both genders providing similar definitions of risk. In terms of gender differences, women's definitions and motives for taking risks evidenced greater concern for



others and took risks to get thrills and because it was important to them. In contrast, men took more physical risks than did women, particularly in situations of accident and being out of control, and also took more risks for gain. This therefore suggests that men and women tend to take different types of risk and may have different motives for their risk taking.

Boverie et al. (1995) also conducted quantitative analyses in follow up studies, which revealed that women rated various risks as being more risky than did men. From a list of 118 hazards, the women participants rated 15 as being more risky than did the male participants, and of these 12 were physical hazards, two were legal/moral risks and one was an interpersonal risk. Multidimensional scaling also revealed some differences in the way men and women perceived various risks in terms of consequences and personal cost. This analysis therefore also supports the notion that whilst men and women have broadly similar perceptions of hazards, in terms of how risky they rate hazards as being, that there are some differences, and that this is particularly evident in the risks perceived for physical hazards.

The higher level of risk perceived by women than men is also supported by Finucane, Slovic, Mertz, Flynn and Satterfield (2000), in an U.S. based study of 1204 members of the public. The purpose of this study was to investigate the combination of race and gender on risk perception. In response to a variety of technical and environmental hazards, both voluntary and involuntary, a greater percentage of women than men rated them as being high risk. The main finding of this study was that of all the groups considered, white males gave the lowest risk rating for most of the hazards. The account that the authors provide for why this should be the case is of relevance to the observed differences between the genders, regardless of race. The study showed that white males were more likely to report views supporting the importance of individual achievement, initiative and self-regulation, as well as having greater trust in experts and proponents of risk. It is suggested that these views lead this group to see the world as a safer place, and that white males perceive a greater benefit to themselves of the hazards investigated. This in turn is associated with the differences in levels of power and control experienced by men and women and between white and non-white people in western societies. It therefore seems that socio-political factors might be influential in gender differences in risk perception.

Barnett & Breakwell (2001) appear to provide further support for the claim that women perceive hazards as higher risk than do men. In the study reported above

regarding the differences between voluntary and involuntary risks, they found that gender was a significant predictor of concern over both types of hazard. The direction of the relationship was the same in both cases, but the actual direction of the relationship is not specified. However, it is assumed that it follows the usual pattern that men rate hazards as being lower risk than do women, as otherwise it would presumably have been mentioned by the authors, as it would have been contrary to previous findings.

The above studies have provided evidence regarding gender differences in relation to various hazards, but none of these have specifically included the risk posed by terrorism. Whilst the security situation in Israel is not just related to the threat of terrorism, it seems likely that it is perceived as a hazard, and has been for many years, as evidenced by the research of Friedland and Merari (1985). Bar-Tal, Jacobson & Freund (1995) conducted a study in three Israeli settlements, based on a sample of 387 adult respondents. Using a questionnaire, various types of hazard and potential predictor variables were assessed. In relation to the specific findings for gender, it was found that women reported greater feelings of general insecurity and insecurity in collective situations than did men. Women also reported being more influenced by the media, personal information sources and political and military figures in relation to their feelings of security than did men. Whilst risk and security are not the same thing, as Bar-Tal et al. describe security as the belief regarding one's ability to deal with a threat, it is likely that they are related, as feelings of insecurity rely upon there being a perceived threat in the first place. These findings therefore suggest that gender may be associated with the risk perceived from terrorism, which is a component of the security situation in Israel.

Support for gender differences in the perceived risk posed by terrorism has been identified. Huddy, Feldman, Capelos and Provost (2002) conducted a survey study of 1221 residents in the Queens and Long Island areas of New York in the period immediately following 9/11. It was found that women were more likely to perceive a threat from terrorism than did men, both to themselves directly and to the U.S.A. as a whole. This study has the benefit of a large sample size, and also that the responses were obtained in October and November 2001, meaning that the risks are highly likely to have been referenced to the actual terrorist attacks. Hence these responses have a high degree of ecological validity, indicating that there are likely to

be real-world differences between men and women in the degree of risk perceived due to acts of terrorism.

The specific issue of terrorism was a component in the study of travel hazards reviewed in Chapter 3, which identified that terrorism was a factor that people mentioned as a deterrent from travelling (Watson, 1996). A comparison was made between men and women of the percentages of each group who mentioned the various hazards. Of the 26 hazards identified in this study, only two revealed significant differences in the proportions of people mentioning them. More men mentioned poverty as a deterrent from travelling, whereas more women mentioned lack of knowledge. This study did not provide evidence of the relative risk perceived for the hazards used, so these findings cannot comment on whether there are gender differences in this. However, the similarity between the groups in terms of the proportions of people mentioning types of hazard suggests that their awareness of hazards is similar. This therefore suggests that the observed gender differences in risk perception occur at the evaluation stage, rather than at the point of identification.

It is concluded from the above evidence that there are gender differences in risk perception. It seems that in many circumstances women perceive more risk than do men, but that this is not always the case. However, when the risks are of a physical nature, whether or not they are undertaken voluntarily, women are likely to regard them as being higher risk than do men. Consistent with this, evidence indicates that women perceive terrorism and issues of national security as more of a threat than do men. It is also suggested that the difference between men and women in risk perception is due to the process of assessing the degree of risk posed by a hazard, rather than the recognition of hazards. It therefore likely that gender will be a predictor of deterrence from travelling due to the perceived threat of terrorism.

### **4.3. Age**

It has been demonstrated that both travel experience and gender are likely to have an impact on people's risk perception and hence on their willingness to travel to a destination that is perceived as being risk from terrorism. Another factor that seems likely to have an impact on risk perception is age. Millstein and Halpern-Felsher (2002) suggest that there is a perception that young people are particularly prone to taking risks because of their inability to accurately judge risks. Such a view implies

that there may be age-related changes in risk perception. The first section of this chapter employed some studies based on the risk perception of adolescents, to provide more evidence regarding the relationship with experience. That discussion indicated that there were not any qualitative differences between adolescents and adults. However, the focus of this thesis is not on adolescents, so quantitative changes in risk perception from adolescence through to adulthood are not relevant. The following section therefore considers differences in risk perceptions between different age groups of adults.

There is not a great deal of research that has investigated age differences in risk perception over the course of adulthood, presumably because it would be anticipated that the greatest changes would occur in childhood and adolescence. The one area of voluntary risk taking where there is some evidence is in relation to driving hazards. Traenkle, Gelau & Metker (1990) identified that there were differences between older and younger adults in relation to driving. The 308 participants in this German study were in three age groups, 18 – 21, 35 – 45, and 65 – 75. It was found that the younger men gave significantly lower ratings of risk for various traffic situations presented on slides, but there was no such age difference identified among the female participants. The method of presentation of the hazards using slides means that the study is somewhat limited in its ecological validity. However, these findings do provide some evidence regarding levels of risk perceived, and indicate that there may be an interaction between gender and age for voluntary risks, such that it is particularly younger men who perceive the lower levels of risk. Consistent findings regarding the relationship between age and perceived risk for driving hazards have also been identified by Jonah & Dawson (1987) and Matthews and Moran (1986).

Considering involuntary hazards, some of the studies reviewed above have included age as a variable. Sattler, Kaiser and Hittner (2000), in their study of hurricane preparation behaviour identified that age was a significant predictor of preparation for both the coming hurricanes that were the subjects of their two studies. Older participants took more preparation measures than did the younger people. In this study, perceived threat and age were both predictors of preparation behaviour, amongst other variables, and hence the relationship between age and risk perception was not assessed directly. However, these findings suggest that in this instance

greater age would have been associated with higher estimates of risk from the forecast hurricane, which in turn would motivate the preparatory behaviour.

Bar-Tal, Jacobson & Freund (1995) identified similar age-related differences, indicating that older people in the Israeli settlements studied perceived greater risks to their security in certain situations than did younger people. Older people felt more insecure in collective situations and younger people were more influenced by personal information sources regarding their security feelings. It is not possible to determine the extent of the age range covered in this study as this information is not recorded. However, it is likely that it covers a reasonable range of adults as the participants were taken from every fifth household in the settlements studied. As argued previously, although feelings of security and perception of risk are not the same thing, it is likely that they are related. Hence this study indicates that older people may perceive more risk in collective situations than do younger people.

The studies reviewed in this section generally indicate that older people perceive more risk, regardless of whether the risks are voluntary or involuntary. However, Watson (1996) did not find any age related differences in the types of travel hazard mentioned that would deter the participants in the study from travelling. This therefore suggests that although the degree of risk perceived might increase with age, different types of hazard are recognised as such regardless of age. Huddy, Feldman, Capelos and Provost (2002) also found no age differences in the study of New York residents' reactions to 9/11. Age was entered into regression analyses predicting perceived national threat from terrorism and perceived personal threat from terrorism, and was not a significant predictor in either model. Again, the age range of the participants was not recorded, but as a random sample of residents in New York it is likely that a reasonable spread of ages was included in the sample. It therefore seems that the evidence regarding the relationship between age and risk perception is somewhat inconsistent.

#### **4.4 Chapter Summary**

The purpose of this chapter was to review literature that provides evidence regarding the relationships between experience, gender and age, with risk perception. It was identified that experience had a rather complex relationship with risk perception. Overall, it was concluded that people with experience of voluntary

hazards, such as alcohol consumption or skiing, rated these hazards as posing a lower risk than did people who had not got that experience. Conversely, people with experience of involuntary hazards, such as terrorism and natural disasters, were likely to rate the hazards as higher than were people without such experience. However, it was noted that if participants were asked to judge the likelihood of them dying from a hazard, rather than simply judging how risky it is, then experience was not associated with higher perceptions of risk. These contradictory findings were accounted for in terms of reliance upon the availability heuristic. It therefore seems that the way risk perception is measured can have an impact on the results obtained.

The findings regarding gender were somewhat more consistent, with women rating both voluntary and involuntary hazards as higher risk than do men. Evidence was presented that there seem to be socio-political influences that could lead women to perceive greater risk from the hazards around them. However, it was also noted that although the degree of risk perceived might differ between men and women, the genders identified the same hazards as potential deterrents from travel. This suggests that although there are quantitative differences, there are not qualitative differences in risk perception, at least in relation to travel.

The findings regarding the effects of age on risk perception were mixed. Some behaviours, particularly related to driving exhibit age differences in risk perception, such that younger people perceive the hazards as less risky. Age was also a predictor of feelings of collective security in Israel, suggesting some relationship in a situation where the hazards are of an involuntary nature. However, this contrast with the findings based on a New York sample after 9/11, where there was no effect of age.

In relation to the present research, these findings suggest that travel experience should be associated with lower level of perceived risk for future travel. However, experience of terrorism, whether direct or vicariously through the media, should be associated with higher risk judgements for travel to destinations that are perceived as being at risk from terrorism. In gauging the impact of an act of terrorism on people's travel attitudes, it is therefore useful to include prior travel experience as this could act as a mitigating factor. As both travel and terrorism are types of hazard, it would be expected that women would rate the risks of these as higher than would men. Hence gender is a useful variable to include in the studies of risk perception. Although the previous findings regarding the impact of age are not clear, this

variable will also be included as this research may shed some further light on the relationship between age and risk perception.

## **CHAPTER 5: THE PERSONALITY APPROACH TO PREDICTING RISKY BEHAVIOUR – THE ROLE OF SENSATION SEEKING.**

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The previous chapters have demonstrated that the social cognitive factors of risk perception and attitude, and the socialisation and experiential factors of travel, gender and age are potentially useful predictors of deterrence from travelling due to the threat of terrorism. It was also suggested in Chapter 3 that personality variables could be influential in the travel decision process, as they could contribute to an individual's general orientation to risk. The purpose of this chapter is to consider possible personality approaches that may be relevant to this type of decision, and then to provide an introduction to the personality trait of sensation seeking.

The trait approach to personality suggests that people possess certain relatively stable characteristics that influence how they respond to the various situations that they encounter. The meta-theories of traits provide frameworks that seek to account for people's whole personality. For example the 'Big Five' model of personality (Norman, 1963) suggests that there are five main personality traits: extroversion, agreeableness, conscientiousness, emotional stability and cultural sensitivity. In relation to the relationship between attitudes, behavioural intention and actual behaviour it has been identified that predictive utility is maximised when there is correspondence between the specificity of the attitude and the behaviour (Ajzen & Fishbein, 1977). This means that general attitudes are not good predictors of specific behaviours. This suggests that whilst high-level traits may predict willingness to travel when there is a threat of terrorism, lower level, and hence more specific traits may be better predictors.

A personality approach that is specific to tourism is Plog's (1974) classification of tourist personality types. Plog proposed that there is a continuum of tourist personality, with psychocentric individuals at one end of the scale and allocentric individuals at the other. According to this classification, psychocentric travellers are conservative in their travel choices, preferring non-risky, established tourist destinations. Conversely, allocentric individuals are adventurous, self-confident and prefer novel destinations and cultures. This classification appears to be potentially useful in the prediction of deterrence of travelling due to the threat of



terrorism. However, Sönmez & Graefe (1998a) employed this scale in their study of the stages of the travel decision process, which included prediction of concern for safety, and found that the Plog scale had very low reliability with a scale alpha of .36.

An alternative personality approach was therefore sought that would provide a useful predictor of deterrence from travelling due to the threat of terrorism. Barnett & Breakwell (2001) stated that personality characteristics such as sensation seeking have been useful in studies looking at voluntary risk-taking and risk perception. The sensation seeking personality trait (Zuckerman, 1979a; 1994) has indeed frequently been found to be a significant predictor of a wide range of risky behaviours. Although only two instances were found where the relationship between travel and sensation seeking was investigated, which are reviewed below, the variety of behaviours and preferences that had been found to be associated with sensation seeking suggested that it may be a useful predictor in this research. The inclusion of sensation seeking also means that this research can investigate a new situation for the application of this trait.

### **5.1. Definition of Sensation Seeking**

Sensation seeking has been associated with a wide range of risk taking behaviours in various domains. The definition of sensation seeking reflects this range, and is:

“A trait defined by the seeking of varied, novel, complex and *intense* sensations and experiences, and the willingness to take physical, social, *legal and financial* risks for the sake of such experience.” (Zuckerman, 1994, p 27, author’s emphasis).

For the purposes of this thesis the focus of this chapter will be restricted to physical risk taking. This is likely to be the main type of risk concerning a traveller to a country affected by terrorism, for whom the principle threat is that they will be killed or injured in a terrorist attack or taken hostage and suffer physical harm at the hands of the hostage-takers. It can be seen from this definition that it is not assumed that sensation seekers choose particular behaviours because of the risk, but rather despite of it. This is consistent with the conceptualisation of risky decision making discussed

in Chapter 3, where it was suggested that these decisions are the result of a balance being made between the costs and benefits of a behaviour. It would be anticipated that a person high in sensation seeking would perceive greater benefits and fewer costs for a behaviour where there is a degree of physical risk than would a person low in sensation seeking.

## **5.2. Development of the Sensation Seeking Scale**

Zuckerman (1994) describes the development of the sensation seeking scale. The author began to investigate the possibility of this personality trait in the late 1960's when he observed that there appeared to be a particular type of person volunteering to participate in sensory deprivation experiments that were being run. The concept of sensation seeking has been developed over the ensuing years, and the scale for assessing the trait has been developed into the currently most widely used form, the Sensation Seeking Scale Form V (SSS-V). This scale has four factors, representing four different aspects of sensation seeking, each assessed by ten forced-choice items (Zuckerman, Eysenck & Eysenck, 1978). 'Thrill and Adventure Seeking' (TAS) is physical risk taking in activities such as mountaineering and scuba diving. 'Experience Seeking' (ES) is obtaining arousal through the mind and senses, and is associated with a non-conforming lifestyle and behaviours such as spontaneous unplanned travel. 'Disinhibition' (DIS) is sensation seeking by what may be seen as less socially acceptable behaviours such as drug taking, drinking, partying, gambling and casual sex. 'Boredom Susceptibility' (BS) is the aversion to repetitive experience, routine work, dull, boring people and constancy.

The SSS-V has been found to be highly reliable and is still widely used in sensation seeking research. Zuckerman, Eysenck and Eysenck (1978) conducted a cross-cultural reliability analysis using participants from England and America. The results of this analysis are presented below in Table 1, and show that the Total SS, TAS, ES and DIS scales have good reliability, and that the reliability of the BS subscale is reasonable although not as high as the other sub-scales. The analysis also shows that the reliabilities are broadly similar across gender and nationality. In addition to the internal validity, a test of the discriminant validity of the four subscales of the SSS-V was conducted. This indicated that the cross scale correlations were not too high, mostly between .2 and .4.

**Table 1**

Scale	English		American	
	Male	Female	Male	Female
TAS	.81	.82	.77	.77
ES	.65	.67	.61	.61
DIS	.78	.77	.74	.76
BS	.65	.59	.57	.56
<b>Total SS</b>	.83	.86	.84	.85

Note: From Zuckerman, Eysenck & Eysenck (1978)

**Table 1: Scale reliabilities for Sensation Seeking Scale Form V.**

Despite the reliability of the SSS-V, a number of issues with the scale have been raised in the literature. Arnett (1994) developed an alternative measure of sensation seeking that was designed to overcome these objections to the SSS-V. The first issue was the forced choice format used by Zuckerman (1979a, 1994), that is objected to because the choices may not reflect participants' actual responses. The items in the SSS-V contain two statements, and the respondent is asked to choose the option that best reflects their feelings about the behaviour in question. However, for some of the items it is possible that a person could agree, or disagree, with both statements. For example, the choices for item 21 are 'I prefer the surface of the water to the depths' and 'I would like to go scuba diving', which are not necessarily mutually exclusive. These types of question also do not allow respondents to indicate degrees of agreement or disagreement with the options. The second objection raised by Arnett was that some items ask about participating in physically strenuous activity. Older people, who would otherwise be sensation seeking, may be aware of the fact that they are no longer physically able to undertake certain activities, such as climbing a mountain. This may mean that the decrease in sensation seeking with age found in a number of studies (e.g. Zuckerman, Eysenck & Eysenck, 1978) could to some extent be an effect of these types of question, rather than a reflection of a real change.

The third objection raised by Arnett (1994) is that in places the concepts and language used in the SSS-V are dated. The original scale refers to 'swingers', 'queers', 'far out groups like artists and hippies' and the 'jet set'. Zuckerman (1996),

in acknowledgement of this issue, proposed some amendments to the language, giving definitions for 'swinger' and 'jet set', changing 'queer' for 'gay or lesbian', and changing 'hippies' to 'punks'. However, it is far from clear that these changes have substantially modernised the scale. Behaviours and attitudes that may have been indicative of sensation seeking in the 1960's are not necessarily so in the twenty-first century, and a number of items could still be affected by a social desirability bias.

The final criticism of the SSS-V given by Arnett (1994) is that it contains items that are the same as the behaviours that it is frequently used to investigate, such as drinking, drug taking and sexual behaviour. A similar point could also be made about a number of the TAS items referring to particular sports. This has the effect of confounding the scale with what is being measured, and possibly distorting the findings.

Tests of the alternative scale proposed by Arnett (1994) (Arnett Inventory of Sensation Seeking – AISS) indicated that it might be a better predictor than the SSS-V of the anti-social behaviours associated with sensation seeking (Arnett, 1994). However, Zarevski, Marusic, Zolotic, Bunjevac and Vukosav (1998) found the SSS-V to be a stronger predictor than the AISS of participation in high and low risk sports. Although both scales successfully differentiated high and low risk athletes, the TAS and ES sub-scales of the SSS Form V were the only significant predictors. Haynes, Miles and Clements (2000) used confirmatory factor analyses to compare the SSS-V and the AISS. The two questionnaires were completed by a total of 822 undergraduate students for the purpose of this comparison. The results showed that the SSS-V, and the four sub-scales, provided a better fit than the AISS to their data, although they also note the limitations of the SSS-V. Similarly, Ferrando & Chico (2001), using a sample of 448 Spanish students, investigated the factor structures of the SSS-V and the AISS using factor analysis, and then considered the relationship between the constructs for each scale using structural equation modelling. It was found that the SSS-V had a clearer factor structure and the scales were more reliable than were found for the AISS.

These findings indicate that despite the limitations of the SSS-V, it still provides a more reliable measure of sensation seeking than the alternative scale. Zuckerman (1984) developed the SSS Form VI, which assesses the TAS and DIS sub-scales of sensation seeking in terms of actual past experience and future intentions in a non-forced choice format. However, this does not include the ES

scale, which it seems would be likely, together with the TAS scale, to be one of the components of sensation seeking most related to risky travel decisions. It also seems that the SSS-V is still the most popular and well-established measure. This chapter will therefore focus on research using the Zuckerman (1979a, 1994) SSS-V as it contains all the sensation seeking sub-scales and therefore reflects the entire construct of sensation seeking.

### **5.3. Sensation seeking and travel**

There has been relatively little research that has examined the relationship between sensation seeking and travel behaviour. However, it seems reasonable that individual differences in sensation seeking should be an influential factor in the decision of where to go on holiday and what type of holiday is desired. Not everyone requires the same things from a holiday, and there are clear differences in the physical risks, sensory experiences and degree of conventionality between, for example, a package holiday to an established holiday resort and a holiday trekking in the rainforests of South America. It is therefore possible that a factor that is associated with adventure travel and the physical risks that may accompany it would also associate with attitude to travelling to a country experiencing terrorism, which also entails a degree of physical risk.

Zuckerman (1979b) reports a study that investigated the relationship between sensation seeking and risk taking responses in a hypothetical travel scenario. A distinction is made between the trait of sensation seeking, which is the individual's general sensation seeking orientation, and state sensation seeking which is their immediate orientation at a given time. The participants were categorised as high or low trait sensation seekers. They were then assessed for their levels of state anxiety and state sensation seeking, in response to the hypothetical situation of travelling to Europe, USA, Asia, Antarctica and the moon. It was found that high trait sensation seekers reported lower anxiety than low trait sensation seekers for the destinations evaluated as high risk, being Asia, Antarctica and the moon, but that there was no significant difference in anxiety for the lower risk destinations. The high trait sensation seekers were higher in state sensation seeking for all of the hypothetical destinations.

The results of Zuckerman's (1979b) study implies that people who are high trait sensation seekers would be more likely than low trait sensation seekers to visit countries that are risky. In this study the high trait sensation seekers reported less anxiety and a more positive orientation in terms of state sensation seeking in response to the hypothetical risky situations. If this effect is carried into real-world situations, it would be predicted that high trait sensation seekers would be more likely than low trait sensation seekers to visit a country affected by terrorism, as they would experience less anxiety over the risks and remain in a sensation seeking state. However, as this study is based on hypothetical situations some caution is necessary as behaviour in a real life situation could differ from that expected from these results.

Gilchrist, Povey, Dickinson and Povey (1995) provided support for Zuckerman's (1979b) findings based on actual adventure travel behaviour. Adventure travel is a behaviour that would be consistent with the definition of sensation seeking, as it is likely to involve physical risk and to provide novel sensory experiences. The nature of sensation seeking is that it is a disposition that is demonstrated through active behaviour (Jackson & Maraun, 1996). Therefore, the use of a group who had participated in adventure travel meant that this study was of people who actually demonstrated sensation-seeking behaviours. As would be predicted, the adventure travellers reported significantly higher levels of sensation seeking as measured on the TAS, ES and Total SS scores than did the non-adventure travelling control group.

The definition of sensation seeking includes the need for 'varied, novel, complex and intense sensations and experiences' (Zuckerman, 1994, p27). It seems likely that these requirements will be met to a greater degree by travel to destinations that may be perceived as being unusual or risky. Examples of such destinations may be places that are culturally very different or where there is minimal tourism, meaning that there is not the infrastructure usually associated with tourist destinations. Although there are only two studies that have investigated the association between sensation seeking and travel, they suggest that this is indeed the case.

The finding of Gilchrist et al. (1995) seems to be particularly relevant to the question of visiting a country affected by terrorism. An adventure traveller may risk physical harm from extreme environments, wildlife or inappropriate reactions in unfamiliar circumstances. A traveller to a country at risk from terrorism faces the

risk of physical harm from involvement in an act of terrorism, which is the result of the actions of other people. Although in the case of terrorism the source of the hazard is clearly another human being, whereas the risks for an adventure traveller may come from the environment, they share the characteristics of uncertainty, and the risk that the traveller might experience physical harm. As indicated by the findings of Zuckerman (1979b) high sensation seekers probably perceive these hazards as less risky than do the low sensation seekers. This means that in terms of the influence of sensation seeking, it is likely that people high in sensation seeking will be more willing to undertake these risky types of travel, as they are generally more adventurous and do not perceive the same level of risk. Therefore, these studies give support to the hypothesis that sensation seeking may be a predictor of being prepared to visit a country that is perceived as being at risk from terrorism.

#### **5.4. High Risk Sports and Sensation Seeking**

Participation in high-risk sports or leisure activities and travelling to a country perceived as threatened by terrorism seem to share certain characteristics. Notably, there is an element of choice whether or not to perform the behaviour and as with adventure travel, the acceptance of physical risk. The findings that there is a relationship between physical risk taking in sport and sensation seeking therefore supports the potential relationship between sensation seeking and tourism to countries where there is a perceived terrorist threat.

Numerous studies have been conducted to investigate the association between sensation seeking and participation in a wide variety of sports and other physically risky activities. These have frequently found that those who participate have higher scores on the sensation seeking scale, and particularly the TAS and ES sub-scales, than do non-participants. The risk faced by a tourist from terrorism is of death or serious injury, and therefore the studies reviewed below address high-risk sports where the risk is similarly serious, and will focus on the findings related to the Total sensation seeking scale (Total SS) and the TAS and ES sub-scales.

There is a substantial quantity of research that has indicated that sensation seeking is a useful predictor of participation of various high-risk sports and leisure activities. It has also been identified as a useful predictor of interest in high-risk sports among non-participants. Shoham, Rose & Kahle (1998) gave the TAS scale to

a group of male and female Israelis who did not actively participate in any risky sports. TAS score was significantly related to liking for risky sports, and the perception that these sports had the potential to satisfy curiosity, adventure and thrill needs. This suggests that there are people who although assessed as sensation seekers do not demonstrate it in their behaviour. This may be due to lack of opportunity or other pressures that prevent participation, and it suggests that sensation seeking may be a predictor of a positive attitude towards a particular behaviour.

Horvath and Zuckerman (1993), employing a sample of U.S. undergraduates, found that sensation seeking was a predictor of participation in risky sports, and of lower perceived risk for those sports. Schrader and Wann (1999), using a similar sample, also found an association between sensation seeking and participation in risky sports. They further identified that a higher proportion of males than females participated in high-risk sports. These studies show that sensation seeking is a useful predictor of actual participation in risky recreational activities. They also suggest that there are gender differences in sensation seeking that are consistent with those reported in Chapter 4 regarding risk perception.

Rather than using sensation seeking as a predictor, a number of studies have looked at the differences in sensation seeking between groups of risk takers in various activities and non-risk takers. In an unpublished study reported by Zuckerman (1983), a group of risk takers consisting of firefighters, riot-squad police, racecar drivers, parachutists and snowmobile drivers were compared to a non-risk taking control group (Kusyszyn, Steinberg and Elliot, 1974). The risk takers scored more highly than the control group on the General and TAS scales. It is not clear whether there were any differences in sensation seeking between vocational and leisure risk takers. At about the same time Hymbaugh and Garrett (1974), reporting just total sensation seeking, found that a group of 21 male and female skydivers scored statistically significantly higher on overall sensation seeking than a non-skydiving control group, also of 21 people matched for age, gender, socio-economic status and occupation. The sample size of the risk takers used by Kusyszyn et al. is not known and the sample used by Hymbaugh and Garrett was fairly small. However, these studies were among the first to provide evidence to indicate that participants in high-risk sports have a higher level of sensation seeking than do non-participants.



Heyman and Rose (1979) also found similar results in relation to taking part in scuba diving. The 45 participants were male and female students newly enrolled in a scuba diving course. Compared to male non-scuba divers from the same university, the male scuba divers were somewhat more sensation seeking, but this was a non-significant trend. The difference in sensation seeking between the female university norm group and the female scuba divers was statistically significant, with the divers reporting a higher level of sensation seeking. This again supports the idea that participants in high-risk sports are more sensation seeking than are non-participants.

At the end of the course the participants in the Heyman and Rose (1979) study were able to undertake their first dive in open water, meaning that it is not in a confined environment such as a swimming pool. Using performance on this dive as a dependent variable, it was found that sensation seekers had longer dive times, but to shallower depths than non-sensation seekers. It may be expected that sensation seekers would prefer the greater risk of diving deeper. However, it is suggested that this counterintuitive finding may be due to the sensation seekers' need to pursue new experiences, making it preferable to spend longer exploring at shallower depth than to go deeper and experience less. This interpretation received some support from Rowland, Franken and Harrison (1986) who found, particularly for males, correlations between sensation seeking and the number and duration of past sporting activities, both high and low risk. There was also a negative correlation with the duration of current activities and a positive correlation with the number of new activities the participants would like to try in future. The results were not as clear for females, but these findings do appear to support the interpretation that sensation seekers have a need for novelty and variety, rather than risk seeking for the sake of it, proposed by Zuckerman (1979a, 1994).

As noted above, Arnett (1994) argued that in a number of studies the SSS items were confounded with the behaviours being studied. This may apply to the findings of Heyman and Rose (1979), as scuba diving is an item on the SSS-V. However, consistent results were also found in a study in which the behaviour does not appear in the SSS. Campbell, Tyrrell and Zingaro (1993) found that a group of male and female canoe and kayak paddlers scored statistically significantly higher than the published norms on the TAS scale, and the difference in ES scores approached statistical significance. The correlation between the level of difficulty of the most difficult river the paddlers would like to attempt and TAS was found to

approach significance. TAS was also negatively correlated with the anxiety felt by the paddlers at the time of 'put in' to the river. In a median split based on anxiety level, the low anxiety group was found to have a significantly higher TAS score than the high anxiety group. This study suggests that there are relationships between TAS, anxiety and anticipated behaviour, and that these follow intuitive prediction. Individuals who are more 'thrill and adventure seeking' are more likely to want to experience harder, and hence more risky, challenges and also tend to experience less anxiety in those risky situations.

In line with the other risky sports considered, skiers have been found to be higher on the Total SS and TAS scales than do non-skiers (Connolly, 1981; Bouter, Knipschild, Feij and Volovics, 1988). Ski instructors also score higher on the Total SS, TAS and ES scales than do non-skiers (Calhoon, 1988), or other skiers (Connolly, 1981). Similar findings have also been identified for mountaineering (Cronin, 1991; Fowler, von Knorring and Oreland, 1980).

The above studies have compared risky sport participants to non-participants, but similar patterns of findings emerge when participants in high risk and low risk sports are compared. This indicates that sensation seeking does not just distinguish people who are active in any activity from those who are not, but is associated with the risk of the activity in question. Examples of studies that have compared high and low risk sport participants are Wagner and Houlihan (1994) comparing hang-glider pilots and golfers, Canton and Mayor (1994) comparing participants in tennis, karate, and parasailing, and Robinson (1985) comparing mountaineers, soccer and rugby players. A number of other studies have also identified a higher level of sensation seeking in mountaineers when compared to participants in other less risky activities (Breivik, 1996; Freixanet, 1991; Rossi & Cereatti, 1993). Slinger and Rudestam (1997) and Jack & Ronan (1998) compared a variety of different sports and recreational activities representing different levels of risk and found high-risk sport participants to be higher in some or all of Total SS, TAS and ES compared to low-risk sport participants. Where the results of all the sub-scales are reported, the findings are generally consistent, especially with regard to the TAS scale.

One apparently inconsistent finding was reported by Straub (1982), who did not find any statistically significant difference in TAS in the comparison of hang-glider pilots and automobile racers, to a low risk group of intercollegiate bowlers, using the .01 criteria of significance. However, the Total SS and ES scores were

significantly higher for the high-risk sport participants than the low risk participants. A possible explanation for the anomalous finding regarding the TAS sub-scale is age differences between the groups. The average age of the bowlers was approximately 11 – 12 years less than the other groups. TAS has been found to decline over time past the age of 20 more than have the other sub-scales (Ball, Farnill & Wangeman, 1984). The younger bowlers, whose average age was 19 years would be expected to still be reporting higher levels of TAS due to their age, whereas reported levels of TAS may have declined for the other groups despite their continued participation in risky activities.

The findings from the above studies are consistent in identifying higher scores on the Total SS and TAS scales, with some studies also identifying differences in the ES scale. Despite the sometimes small sample sizes, the results of these studies seem to indicate a real difference in sensation seeking between high risk sport participants and non-participants. The studies have been carried out in various countries, such as the U.S.A., Britain, Canada, Israel and Norway, have used male and female participants, and some have obtained participants and control groups from sources other than university students, suggesting good generalisability of the association.

### **5.5. High risk occupations and sensation seeking**

The evidence reviewed above has shown that there is a reasonably reliable association between sensation seeking and participation in high-risk sports and adventure travel, especially on the Total SS, TAS and ES scales. However, these are not the only activities where individuals put themselves at risk of physical harm. Various occupations such as the armed forces, police and fire brigade, amongst others, involve an element of physical risk. Although not identical in nature to the choice to take up a risky sport, the acceptance of risk in employment is also generally subject to the choice of the individual. Therefore, considering the association between sensation seeking and high-risk employment may also be useful in developing an understanding of how sensation seeking might relate to travel to a country perceived as threatened by terrorism. As in the previous section the main focus will be on the TAS and ES scales.

There is evidence that having a high-risk occupation is associated with higher levels of sensation seeking. Zuckerman (1983) reports an unpublished study by Bacon (1974) that looked at sensation seeking among a group of volunteer salvage divers. The divers were higher in sensation seeking than were a group of college students matched for age and socio-economic status, on the General, TAS, DIS and BS scales. Also studying divers, Biersner and LaRocco (1983) gave 30 male US Navy divers a variety of personality questionnaires, including the sensation seeking scale. The divers were higher than the published norms on the TAS scale, but significantly lower than the norms on the ES and DIS scales. This pattern of results is perhaps not surprising, as professional diving does undoubtedly contain an element of physical risk. However, experience seeking and disinhibition could be seen as being more non-conformist expressions of sensation seeking, which is not a quality that is well suited to the discipline of military service. However, this finding regarding the TAS scale does not seem to be consistent among other types of employment.

Zaleski (1984) conducted a comparison of sensation seeking among 180 men who had high-risk occupations, were high-risk sportsmen or were non-risk taking controls. The professional group contained fire fighters, mountain rescuers and mine rescuers. The sportsmen came from a variety of sports, but were treated as a single group. The sportsmen were significantly higher than the other groups on the TAS scale, but there was no significant difference between the professionals and the control group. This may be due to the nature of the risks faced by the professional groups in this study. These professionals are going into highly dangerous situations, frequently to rescue people who are in peril. Whilst commercial diving has intrinsic dangers they are perhaps not as immediate as those faced by the professionals in this study. TAS may therefore be a factor that influences people to choose professions such as diving, but other factors, such as altruism, may be dominant in motivating people to take up careers in the rescue services. The ES scale did not differentiate between the groups.

Freixanet (1995) looked at sensation seeking among groups who could be placed along a continuum from antisocial to prosocial risk takers. The antisocial risk takers were 77 male prisoners convicted of armed robbery. The other groups, who were also all male, were similar to those used by Zaleski (1984), being 170 prosocial risk takers who were employed in jobs such as fire fighting, traffic police, and

ambulance driving. A mixed group of 332 risk taking sports people was proposed as being between the pro- and antisocial groups. All three risk taking groups were higher than the non-risk taking control group, of 54 participants, on the TAS scale, suggesting that this predicts the propensity to take physical risks, of whatever sort. However, there was no difference between the three risk taking groups in level of TAS. This is not consistent with the findings of Zaleski (1984), and the reason for that is not clear. The sports people scored higher than the prosocial group on the ES and Total SS scales. The finding related to ES is again not consistent with that of Zaleski. It is possible that this is due to some differences between the specific groups in terms of the mix of professionals and sports people used in the studies. It can also be speculated that there may be cultural differences that contribute to the inconsistency, perhaps in terms of recruitment, as the Zaleski study was conducted in Poland and the Freixanet study was conducted in Spain.

The findings of Freixanet (1995) are broadly comparable to a similar U.S. based study by Levenson (1990), which applied a variety of measures to groups of male drug unit residents, rock climbers and 'heroes', being police officers and fire fighters decorated for bravery. These groups can be seen as covering a similar spectrum, from antisocial to prosocial risk taking, to the groups used by Freixanet. The 'Heroes' were lower than both the other groups on Total SS and ES. Rock climbers had higher TAS scores than the 'Heroes', but were not significantly different from the drug unit residents. These findings are therefore similar to those of Zaleski (1984), with the recreational risk takers exhibiting higher levels of TAS than professional risk takers.

Similar results to the findings regarding rescue workers compared to high risk sports participants was found in a study where construction workers formed the professional group (Landeweerd, Urlings, de Jong, Nijhuis & Bouter, 1990). Comparing construction workers to skiers and a control group obtained from a GP's register it was found that construction workers scored significantly lower on the TAS scale than the other two groups. This study therefore broadens the scope of the findings regarding professional risk taking as construction work is not an altruistic-type profession and it also does not have the recreational association of commercial diving.

The studies reviewed above have compared professional and non-professional risk-takers. However, Glicksohn and Bozna (2000) compared two

groups of professionals whose jobs entail a high degree of physical risk. Comparing the personality profiles of bomb-disposal experts and anti-terror operatives they found there was some evidence of differences in TAS. Anti-terror operatives scored significantly higher than published norms on the TAS scale. They also reported significantly higher levels of TAS than did the bomb-disposal experts. It is not clear why this difference should occur, although it is possible that the participants perceive different levels of control over the risks they take, which might account for the differences in TAS. There were no significant differences between the groups on the other sensation seeking scales, although both groups were significantly lower than published norms on the ES and BS scales. As with the U.S. Navy divers studied by Biersner and LaRocco (1983), this may be related to the military environment of these people, meaning that non-conformist styles of sensation seeking would be unlikely to be tolerated.

The findings of these studies of professional risk takers suggest some groups show some heightened sensation seeking. However, the results are not as clear and consistent as for high-risk sport participants. Volunteer salvage divers (Bacon, 1974) and US Navy divers (Biersner & La Rocco, 1983) were found to score higher than published norms on the TAS scale. It was also found that there are differences in TAS between professions that would both be considered as risky (Glicksohn and Bozna, 2000). Both of the groups studied by Glicksohn and Bozna could be considered to represent altruistic professions, meaning that certain jobs of this type may attract higher-level sensation seekers. However, when compared to high-risk sport participants, professionals generally score lower on the TAS scale (e.g. Zaleski, 1984). It also seems that ES is not generally associated with having a high-risk occupation.

If sensation-seeking propensity is a factor in an individual's choice of employment and recreation, then it seems that there may be some difference in the aspect of sensation seeking involved, with TAS being more clearly associated with recreational risks. Aside from the studies reported by Freixanet (1995) and Glicksohn and Bozna (2000) there is little evidence that actually suggests that risk takers in the altruistic professions are higher than the general population in TAS or ES. The evidence also indicates that these professionals are not as thrill and adventure seeking as are recreational risk takers. The findings regarding the relationship

between altruistic risk taking and ES suggest that experience seeking is also not a motivational factor in choosing this type of profession.

A similar pattern was also observed with the construction workers studied by Landeweerd et al. (1990), suggesting that sensation seeking is not a factor in choosing that profession. Commercial diving, whether as a volunteer salvage diver or as a Navy diver was the one profession studied where there was a clear association with TAS. It seems possible that this could be because people who become commercial divers have learnt to scuba dive as a recreational activity, and then decided to turn their skills into a job. Even if this is not the case, diving is an activity that has been shown at a recreational level to be associated with sensation seeking, and maybe this is implicated in the choice to undertake both commercial and recreational diving.

The findings regarding professional risk taking also suggest that it is necessary to separate out the types of risk being taken. In a number of the studies reported above, the professional risk takers include people from a variety of professions. Some of these professions are extensions of recreational activities, such as mountain rescue teams, whilst others clearly are not, such as fire fighters. Further research would be required to verify the relative levels of sensation seeking between these groups. However, it is possible that such grouping is methodologically flawed as the basis for the grouping, being a professional risk taker, may not reflect a useful distinction.

Making the assumption that as a personality trait, sensation seeking is a relatively stable characteristic of an individual, it seems that it may be a factor in some career choices and not others. The definition of sensation seeking indicates that high sensation seekers want novel and varied experience, and are prepared to accept risks to obtain the perceived benefits. Therefore, the risk of a profession alone is not enough to make it appeal to a high sensation seeker, which probably accounts for the varied findings. It also seems likely that there are factors aside from the relative excitement, novelty or risk of a profession that motivate people towards particular types of work. The previous discussion suggests that considering the literature regarding the relationship between sensation seeking and employment is useful for obtaining a clearer picture of the relationship between sensation seeking and risky behaviours.

## 5.6. Chapter Summary

Past research has found the SSS-V (Zuckerman, 1979a, 1994) to be a reliable measure, which can differentiate between participants and non-participants in a variety of behaviours from committing offences to climbing mountains. The research evidence reviewed above indicated that participants in a variety of risky recreational activities scored highly on the TAS scale, and also to some extent on the ES scale. This suggests that the willingness to accept risks to obtain a desired experience is a factor that allows people to undertake these types of activity. This therefore suggests that sensation seeking may be useful as a factor that could distinguish between people who are deterred from visiting countries perceived as being threatened by terrorism and those who are not. An individual who is highly thrill and adventure seeking, and also possibly experience seeking, would seem to be more likely than a person without those characteristics to accept the risk of terrorism at a destination they wanted to visit.

The initial findings related to high-risk employment are not so clear, but after considering the issues around that research these too are consistent with the conclusion that sensation seeking can be a motivating factor in some risky behaviours. It seems that certain recreational and professional activities offer experiences that appeal to sensation seekers, and these are frequently associated with a degree of risk. However, it is evident from the research reviewed in this chapter that it is necessary to be clear about both the possible benefits of an activity and the potential risks. The findings from the studies of actual and hypothetical travel behaviour support there being an association between sensation seeking and adventurous travel. This suggests that some people perceive benefits of certain types of travel that are considered to be worth the acceptance of some risk. It therefore needs to be determined whether the risk of terrorism is perceived as being different from the other types of risk faced by travellers, and that would be accepted by high sensation seekers.

Whilst the SSS-V (Zuckerman, 1979a) has been widely used, it contains many items that do not seem culturally relevant in contemporary British society. The problems with this scale, indicated by Arnett (1994), are relevant and could influence findings if this scale was to be used in the current research without further consideration. However, the AISS, whilst overcoming some of the problems of the



SSS Form V, is not an ideal instrument for this research as it is not as reliable and is not as relevant to the types of risks that are the focus of this thesis. However, before using the SSS-V in the following studies, preliminary research is needed to establish the reliability and validity of the SSS Form V, and any indicated amendments made.

### **6.1. Origins and development of the present research: The context pre 9/11**

The research reported in this thesis has developed from a plan that was devised in the summer of 2000. A literature review revealed that there was surprisingly little existing research that looked at the consequences of terrorism among the general population. The main focus of the literature regarding the consequences of terrorism was on the clinical symptoms suffered by victims of terrorist attacks, or those witnesses who were nearby. The relative lack of research into the wider social consequences seemed somewhat anomalous, considering the component of the definition of terrorism that it aims to instil fear into the general population, and thereby change people's behaviour. It was therefore decided that an examination of the social psychological consequences of terrorism would be a suitable topic for this doctoral research.

To produce a manageable piece of research it was necessary to select an aspect of behaviour where it would be possible to assess the consequences of a terrorist incident. This meant that it had to be a behaviour that is usually performed voluntarily, or at least has an element of choice, so that the effects of terrorism would be observable. The literature search again indicated that whilst there was some evidence that terrorism had a negative effect on travel, there was minimal research that had considered the effect from a psychological perspective. It was also apparent that the psychological research that did exist was based upon participants' responses to terrorism as a general concept.

The non-specific use of the concept of terrorism indicated a major issue that needed to be considered. The word 'terrorism' encompasses a wide variety of actions. An act of terrorism might include bombing, shooting, kidnapping, barricade siege, or hijacking. The targets of terrorism may be specific people, as in the assassination of an individual, random, as in the bombing of a market place, some point in between as in the siege of an embassy, or even symbolic if targeted against an empty building. It could also target property, such as the blowing up of an aircraft after all hostages have been released (Wilson, 2000). In view of this, there may be individual differences in the way people conceptualise terrorism, meaning that the

results of studies asking whether terrorism, as a general concept, affects behaviour cannot be clearly interpreted. It was therefore intended to conduct a series of studies to identify what are the key factors differentiating types of terrorism, develop an objective behavioural typology of terrorism, and to determine whether people react differently to these types. In addition to these quasi-experimental studies it was intended to follow up the impact of at least one actual act of terrorism, to establish the extent and duration of psychological reactions, particularly in relation to willingness to travel to the affected destination.

A search of quality newspaper archives, such as the Guardian or the Times, and chronologies of terrorism such as Mickolus (1982) revealed that terrorism was a very common phenomenon. Whilst the acts varied in nature and scale, it seemed a realistic prospect that at some point during the three years of this research there would be one or more acts of terrorism at potential tourist destinations that could be studied. The scale of action was anticipated as something similar to the attacks against tourists in Egypt during the mid-1990s, or the attacks in Spanish beach resorts conducted by ETA in the mid-1980s. Whilst these types of incident are notable in their own right and were thought to be likely to have some impact on potential travellers, they were expected to have a relatively limited effect in terms of both magnitude and duration. This aspect of the research programme would therefore only have formed a component of the overall thesis.

During the first year, much of the work was done towards developing the typology of terrorist events. However, the events of 11<sup>th</sup> September 2001 led to a sudden revision of the research plan as the nature and scale of this event meant that it was highly likely to influence any related research conducted in the period after it. The decision was taken that the immediate requirement was to assess people's attitude towards travelling, starting as soon as possible, to obtain an indication of the immediate effects of this incident. A questionnaire was constructed on 12<sup>th</sup> September 2001 and verbal ethical approval obtained from the chair of the ethics committee at the University of Kent. The first data were gathered on 13<sup>th</sup> September 2001. It was then decided that the focus of the research would have to change so that the whole thesis related to reactions to this and any subsequent events, and studies were developed to investigate individual differences in reaction. It is recognised that this change leaves unresolved the issues of the use of the term terrorism as a catchall

for numerous different actions, but this seemed to be a lower priority than investigating the consequences of such a significant event.

## **6.2. The consequences of 11<sup>th</sup> September 2001**

Prior to 9/11 the highest numbers of casualties from single acts of terrorism was associated with incidents such as the bombing of the PanAm aircraft over Lockerbie, or the bombing of the U.S. embassies in Kenya and Tanzania. These types of attack involved casualties numbering in the hundreds, whereas 9/11 caused casualties numbering in the thousands. This means that 9/11 is likely to be particularly salient as an example of an act of terrorism, and may therefore have a proportionately larger impact on public attitudes and behaviour. This may mean that any variations in responses relating to smaller scale incidents in the months following would not be identifiable. From a research perspective this has both positive and negative consequences.

The purpose of this research originally was, and still is, to provide generalisable evidence regarding the consequences of terrorism. The magnitude of 9/11 and the manner in which the attacks were conducted may mean that it has had a qualitatively different effect on people from that of smaller, more traditional attacks. If this is the case, then research into the effects of this incident would only be generalisable to other incidents of this type. This could be seen as a limitation of the utility of this research, as at the present time the scale of 9/11 is thankfully unique. However, there is no guarantee that this situation will continue, and experts in the field of terrorism studies believe that there could be future large-scale attacks (Hoffman, 2003). The potential for al-Qaeda to launch such further attacks still exists; and even smaller subsequent attacks such as those in Bali and Kenya in 2002 ‘... demonstrates the ability of even one significant, new terrorist incident to instantly reignite worldwide fears and concern.’ (Hoffman, 2003, p.13). This indicates that even if 9/11 did have a qualitatively different impact from earlier acts of terrorism, then future attacks are likely to be influenced by the legacy of 9/11, whatever their scale. As such, the findings of the present research have the potential to be applicable to future acts of terrorism.

The alternative scenario is that 9/11 does not have consequences that are qualitatively different from previous acts of terrorism. Many of the features of this

event are common to the basic definition of terrorism and to previous terrorist attacks. Aircraft have been hijacked and have also been blown up. Buildings have been bombed, causing widespread damage and large numbers of casualties. The principle differences therefore seem to be in the scale of the attacks of 9/11, the highly co-ordinated nature of the hijackings and probably in the symbolism of the targets chosen. It is unclear whether these factors alter the impact of the attacks on the public, and this is a question that can only be answered with a programme of research investigating the consequences of future terrorist acts. Whether or not the nature of the impact of 9/11 is different from earlier acts of terrorism, it is likely that it has had larger and more long-lasting effects. The magnitude of the damage done, the level of media coverage and subsequent acts of terrorism all serve to cause and maintain a high degree of salience for the original attacks. This means that it is possible that the results of this research will highlight effects that may not have been identified as a result of a smaller attack.

### **6.3. Research Outline**

The objective likelihood of being a direct victim of an act of terrorism is very low, with 5431 casualties world wide from terrorism in 2001 and 2738 in 2002 (U.S. Department of State, 2002). Yet research has been described in previous chapters that identified a number of social psychological and behavioural consequences of terrorism across the general population. These effects include emotional reactions such as feeling concern and anxiety, changes in attitude towards security and government capability, and changes in behaviour to avoid places perceived as risky. It was also shown that terrorism is associated with a decline in travel, and that this not only affects the country directly targeted, but can also impact on other destinations in the region. Much of this research is based on the analysis of statistical trends, and therefore does not inform on the underlying psychological mechanisms that are associated with the changed behaviour. The little existing research that has attempted to specifically identify the psychological impact of terrorism in relation to travel has not assessed the real-time consequences of acts of terrorism. The first component of the present research addresses both of these issues by assessing people's attitude to travel in the period immediately following 9/11, and following those attitudes over time. This attitude is characterised as being 'deterrence' from

travelling due to the threat of terrorism. The details of this study are described in Chapter 7.

Previous research has identified that there is a decline in travel to destinations targeted by terrorists and also indicates that there are individual differences in the impact of terrorism. Visitor numbers very rarely drop to zero, meaning that there are some people for whom terrorism does not act as a deterrent from travel. The previous chapters discussed various psychological processes that might contribute to this difference. The second stage of the research reported in Chapters 8 to 11 of this thesis develops a model integrating these factors as predictors of the intention to travel.

As described in Chapter 3, The Theory of Planned Behaviour (Ajzen, 1991) provides a comprehensive model of the relationship between attitudes and behaviour, with the immediate precursor to behaviour being behavioural intention. Behavioural intention is in turn predicted by attitudes, subjective norm and Perceived Behavioural Control (PBC). This model has been applied in many different behavioural domains, and has repeatedly demonstrated its practical utility. It is therefore used in the present research as a central framework for the development of the model of intention to travel in light of the threat of terrorism.

It was also noted in Chapter 3 that other factors have from time to time been added to the Theory of Planned Behaviour to improve the level of prediction. In line with this, it is anticipated that the psychological factors of risk perception and personality may also be associated with intention to travel when a threat of terrorism is perceived. It is possible that an individual's personality and the way that they perceive risks could influence their intention to travel when there is a threat of terrorism, both directly and/or through their attitudes. These factors are therefore included in this research as potential predictors of intention to travel.

It was previously argued that Prospect Theory (Kahneman & Tversky, 1979), and the associated heuristics, provides the best account for observed risk behaviour. The discussion of the three heuristics; availability, representativeness, and anchoring and adjustment indicated that whilst they may all have some impact on peoples' judgements of the risk of terrorism, that availability was the most relevant. An individual relying upon the availability heuristic assesses the likelihood of a risk by the ease with which similar examples are brought to mind, which does not imply

such high reliance upon numerical and probability estimates as is the case with the other two heuristics.

In Chapter 5 it was argued that the Sensation Seeking personality trait was the aspect of personality most relevant to the present research. Whilst meta-theories of personality such as the 'Big Five' (Norman, 1963) provide accounts of the whole personality, it seems likely that a more specifically relevant personality approach would be more useful. Previous research had identified that sensation seeking was a useful trait to consider in relation to voluntary risk taking and risk perception (Barnett & Breakwell, 2001). This trait may therefore also be useful as a predictor of intention to travel in light of the terrorist threat. The research reported in this thesis therefore brings together the theoretical approaches proposed by the Theory of Planned Behaviour, Prospect Theory and Sensation Seeking into a single model.

The research reviewed in the theoretical chapters identified a number of factors in addition to risk, attitude and personality that have previously been shown to be associated with travel decisions. These are the background variables of previous travel experience, gender, and age. However, it also seems likely that other factors, such as marital status, number of children and education level may influence travel decisions, particularly at a time of heightened risk. The present research brings together these various constructs into a single model.

The ultimate aim of the research reported in the following chapters is to predict the intention to travel from indirect measures of attitude, subjective norm, and perceived behavioural control, together with risk perception and sensation seeking personality. The roles of previous travel experience, travel behaviour since 9/11, and the various demographic variables as predictors of the psychological variables are also explored. The studies described in Chapters 8 to 10 report the development of a preliminary model, on which the final model developed in Chapter 11 is based. The preliminary model identifies the roles of sensation seeking, attitude to international travel and risk perception, together with the demographic variables of age, gender and travel experience as predictors of deterrence from travelling. This model therefore provides evidence regarding factors associated with the responses reported in Chapter 7. This is then developed further into the main model predicting intention to travel, as described above. The basic anticipated relationships between the variables included in Chapter 11 are shown in Figure 3. The model is tested using

Figure 3.

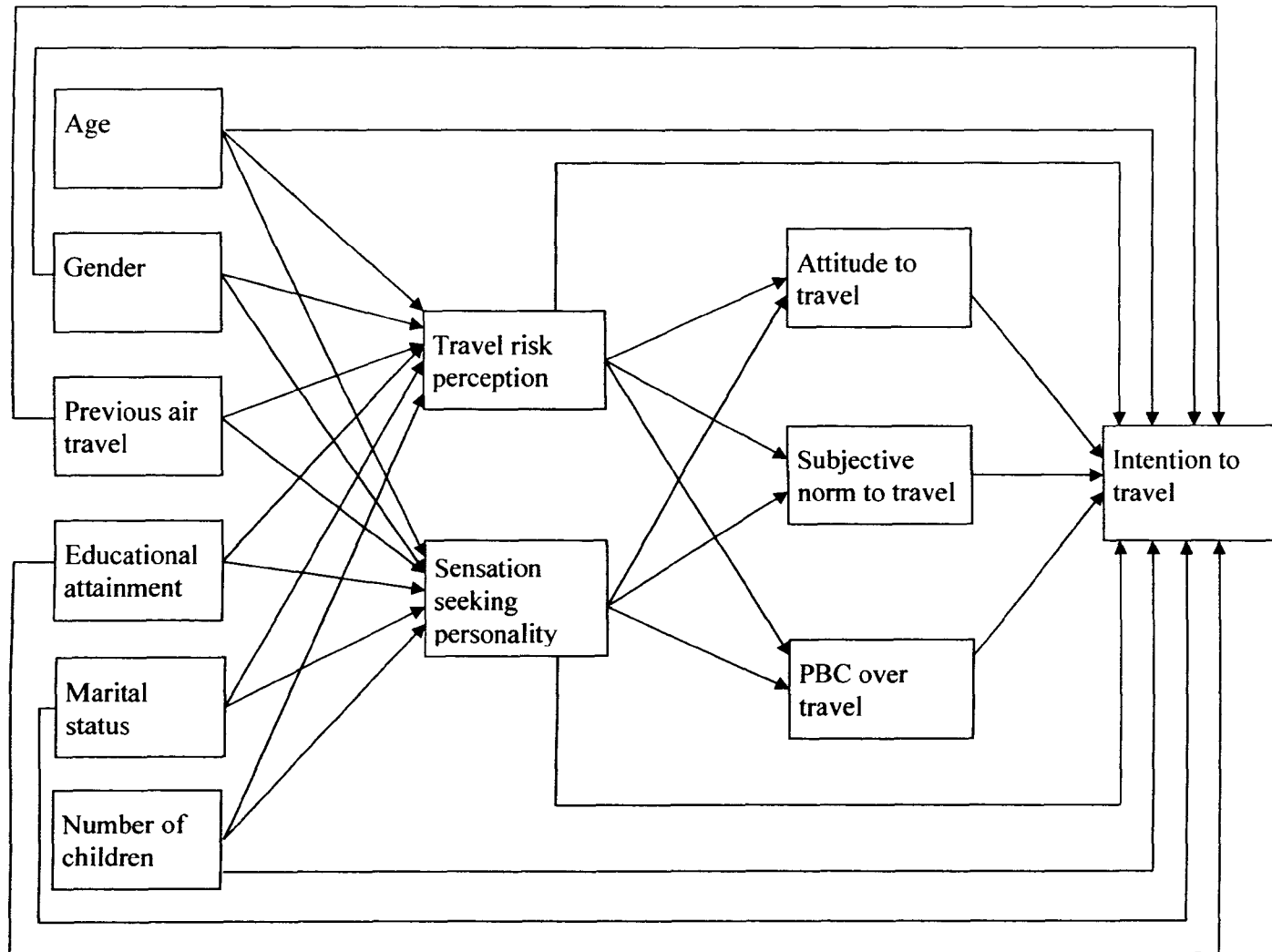


Figure 3: Graphical representation of the potential inter-relationships between the psychological variables, experience variables, demographic variables and intention to travel by air.



multiple regression-based path-analysis. It is anticipated that the analysis will reveal mediation processes between some of these variables. For the sake of clarity the potential pathways between the demographic variables and the attitude, subjective norm and perceived behavioural control variables are not shown in this diagram, but they will be included in the testing of the model.

#### **6.4. Ethical Issues**

As noted above, the data collection for the studies reported in Chapter 7 commenced on 13<sup>th</sup> September 2001. Whilst research around the topic of terrorism, and other acts of violence, always has the potential to distress certain individuals, the close temporal proximity of this research to the events of 9/11 meant that this study needed to be considered carefully. Verbal ethical approval was obtained, as already indicated, to enable the research to start as immediately as possible. No written confirmation was received.

There was no deception involved in any of the studies reported in this thesis. Potential participants, whether approached in public places, recruited to a laboratory within the university or received a questionnaire through their letterbox were invited, either verbally or in a letter, to participate in a study that was investigating the impact of terrorism on peoples' travel decisions. They were then given a written briefing, an example of which is shown in Appendix A, which reiterated the subject of the study and giving them the opportunity to withdraw at any time. None of the participants chose to withdraw from any of this research. On completing the various studies, all participants were offered an opportunity to ask questions or discuss issues related to the research, either in person, by telephone or e-mail as appropriate. They were also supplied a debriefing sheet, which contained contact numbers, such as the helplines that were put in place in the aftermath of 9/11 and NHS direct.

Whilst the data collection immediately after 9/11 had the potential to cause distress, it was not considered that the nature of the later studies based on student populations required further ethical approval. None of the questionnaires asked participants to provide particularly sensitive or private information and the subject matter of terrorism was prominent in the media throughout the period of this research. It was therefore not raising issues that were likely to be otherwise outside of the public consciousness. The same debriefing, containing various contact

numbers for participants' use in the case of distress, were used for all of the studies. In line with the ethical procedures in place at the time, formal ethical approval for subsequent studies was not necessary. Written ethical approval for the final study reported in Chapter 11 was obtained, as the participants were a sample from the wider population, who were unlikely to be as well-informed regarding psychological research as the student participants in the earlier studies. The letter of approval is shown in Appendix L.

No individually identifying information was requested, so participants' responses were anonymous, and they were assured of confidentiality. Due to the nature of the studies, the lack of deception and the participants forming a general adult sample rather than any particularly vulnerable group, it was decided that it was not necessary to obtain signed written consent.

## **6.5. Methodological Issues**

The specific methodology employed for the construction of questionnaires and for data collection for this thesis is described in the relevant chapters. The purpose of this section is to consider the implications of some aspects of the studies that are relevant to the overall research programme. In the studies reported in chapters 7 to 10 students have formed at least part of the sample of participants. It is an undeniable fact that for research conducted in a university environment the most readily available source of participants is the body of students. However, the use of such participants raises questions regarding the generalisability of the findings to the wider population.

The average age of a random student sample is likely to be younger than that of a random sample of the general population, even accounting for mature students. Drawing from the previous literature, it would be anticipated that if there were group differences between students and the general population that the students should be less deterred from travelling, as being younger they should be more risk accepting and have a higher level of sensation seeking. This would mean that the extent of deterrence from travel identified in the student-based studies, if anything would be underestimated. A similar case can be made with respect to the development of the preliminary model described in Chapters 8 to 10. Again, if there were relevant differences between students and non-students, it would be expected that a wider

spread of ages would be likely to have a greater range of responses on all the scales. Therefore if a significant relationship is found for students it would be anticipated that the effect would actually be greater in a general population sample, which is explored in the study reported in Chapter 11.

Other characteristics of a sample of students that may differentiate them from the average population are their level of education and likely socio-economic status. University students represent the higher levels of educational attainment in the population, and are frequently from families with relatively high socio-economic status. In the current climate of widening access to higher education it is possible that students are now less different from the general population in terms of these factors than would have been the case in the past. However, students from families of higher socio-economic status would be expected to be more likely than other groups of people of their age to have travelled. It is also noted that there were more females than males in the sample of students, reflecting the gender composition of the undergraduate psychology courses from which they were recruited. However, gender is a factor in all the main analyses in this research, so any differences due to this factor will be identified.

Another issue to be considered is the choice of data collection method. A questionnaire-based methodology was adopted for this research to allow the responses of relatively large numbers of people to be collected in a short period of time. This was particularly important for the studies reported in Chapter 7, which assessed changes over time in deterrence from travelling. In developing the preliminary model reported in Chapters 8 to 10, and the model of intention to travel reported in Chapter 11, questionnaires provided the most viable way of assessing deterrence from travel, personality traits, attitude and risk perception at the same point in time. However, questionnaires do have the limitation that participants' responses are restricted by the options that are made available to them. Hence they may not fully represent the responses of the individuals concerned. However, they do allow for an overview of various characteristics of people to be obtained, and consideration of the reliability and validity in the development of scales should ensure that they are a reasonable representation of people's underlying characteristics.

Throughout the research reported in Chapters 7 to 10, the dependent variable is attitude to travelling 'today' in view of the terrorist threat they perceive. This

attitude can be characterised as the extent of deterrence from travelling that they experience. This was used in the research conducted in the immediate aftermath of 9/11, as the purpose was to identify whether there was a psychological impact of such an event, which had not been investigated in previous studies. The preliminary model detailed in Chapters 8 to 10 serves to identify the relationships between a number of other psychological variables and the attitude of deterrence. In Chapter 11 this model is developed to identify the predictors of intention to travel, to develop a model in line with the Theory of Planned Behaviour (Ajzen, 1991). It is recognised that a full test of this model would entail the prediction of actual behaviour. However, according to the Theory of Planned Behaviour intention is the strongest predictor of behaviour. Therefore the model developed in Chapter 11 can be argued to give a reasonable indication of actual behaviour.

The final methodological issue to be addressed is the statistical techniques used in this thesis. The main analyses throughout are conducted using traditional statistical techniques such as multiple regression and ANOVA. However, a number of the questionnaires were designed and tested using analytic techniques associated with Facet Theory (See Canter, 1985; Shye, Elizur & Hoffman, 1994). The use of the two approaches within one programme of research leads to a certain amount of conflict due to the different philosophies upon which these approaches are based.

Much data analysis in psychology uses what can be seen as traditional statistical techniques such as multiple regression or ANOVA. These types of analysis employ the Null Hypothesis Significance Test, usually with a probability of  $p < .05$ , to assess an analysis. As noted by Cohen (1994) this test actually tells us 'given that  $H_0$  is true, what is the probability of these (or more extreme) data?', rather than the preferable 'given these data, what is the probability that  $H_0$  is true?'. In view of this flaw in statistical reasoning related to p-values, Cohen recommends the use of effect sizes as more valid method for assessing data. Whilst these limitations of quantitative data analysis are recognised, it is notable that these techniques are still widely used in psychological research. The main studies in this thesis employ multiple regression techniques and path analysis, which allow for the sizes of the relationships to be observed, as well as the associated p-value. In the one ANOVA based study the effect sizes are reported. These analyses provide evidence regarding patterns of deterrence over time, and of factors that are associated with level of deterrence and the intention to travel.

The Facet Theory approach to research emphasises the importance of the content of research, and further entails the formalisation and structuring of research (Shye, Elizur & Hoffman, 1994). The analyses associated with Facet Theory allow for the identification of 'structural lawfulness in empirical data' (Shye et al, 1994, p3). It therefore has some similarity in application to Factor Analysis, although based on different reasoning and procedure. A particular strength of the Facet Theory approach is the rigour that is required in formally setting out a study and designing research measures. This methodology, through the use of a mapping sentence, is employed in the development of the original questionnaire (Terrorist Threat to Travellers) for this research. Smallest Space Analysis (SSA) is also used to identify the structural properties of this questionnaire and others that were developed from pre-existing scales.

Researchers employing the Facet Theory approach generally just use associated analyses to examine their data, which would be the methodology most consistent with the philosophy underlying Facet Theory. However, there is precedent for the use of both facet and quantitative analyses in the same study. Examples of this can be seen in the following cases where Smallest Space Analysis has been used in conjunction with correlation (Canter & Fritzon, 1998), discriminant function analysis (Poreh & Shye, 1998) and regression analysis (Bond & Chi, 1997). This past practice and the aim of this research to identify the predictive utility of a number of variables are the rationale behind the mixed methodology employed in this thesis.

## CHAPTER 7: THE RELATIONSHIP BETWEEN TERRORISM AND ATTITUDE TO TRAVEL - CHANGE OVER TIME AND GENERALISATION.

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Previous research such as Bar-On (1996) and Enders and Sandler (1991) has demonstrated an association between terrorism and reduced tourist numbers, based on the retrospective analysis of tourism statistics. This has identified changes over time in the deterrent effects of terrorism on tourism and suggested that there may be some generalisation of deterrence to other destinations. Such research shows the fluctuations in tourist numbers, which can be tracked in relation to acts of terrorism. However, it does not provide evidence regarding how people feel about travelling in the days following a terrorist incident.

People who have already booked travel may feel compelled to continue with their arrangements despite feeling that they would not currently book travel to that destination, meaning that behaviour may not be a reliable measure of reactions to terrorism. Similarly, previous research fails to demonstrate that the observed gradual recovery of tourism over the longer term is due to changes in deterrence from travel, as the techniques used rely entirely on statistical analysis of behavioural data and do not employ the responses of potential travellers. Huddy, Khatib & Capelos (2002) and Kuzma (2000) provided evidence that people's concern regarding terrorism declined over time after 9/11 and the Oklahoma City bombing respectively, suggesting that psychological factors may underlie the observed pattern of travel behaviour after a terrorist incident. However, research is needed to specifically demonstrate that this is the case.

In a departure from the previous research Sönmez & Graefe (1998a) investigated the impact of terrorism on various travel decisions based on participants' responses rather than an analysis of tourism statistics. However, they employed terrorism as a general concept, rather than considering the impact of a specific incident. As terrorism encompasses a wide range of different behaviours, it is not clear that people respond to different types of terrorism in the same way. Therefore research that treats terrorism as a homogeneous behaviour fails to identify potential differences in the impact of various types of terrorism. This issue can be overcome in two ways, firstly a particular type of terrorism could be specified in the study

briefing, to which the participant is asked to respond. Secondly, the research materials can refer to real events, to activate people's' responses to the current real-world threat. The present research employed the second approach, and assessed participants' attitude to travel in light of any perceived terrorist threat in the year following the terrorist attacks of 11<sup>th</sup> September 2001. Therefore it provides evidence regarding responses to a particular type of terrorist incident, against which future research can compare other types of terrorism to provide a more accurate understanding of the effects the various types of terrorism. However, as argued in Chapter 6 these findings are not specific just to this individual attack, but provide evidence that would be useful in understanding future attacks with similar characteristics or that are influenced by memories of this event.

The first study employs the Terrorist Threat to Travellers Questionnaire (3TQ: See Appendix B), which assesses the deterrence from travelling due to the perceived threat of terrorism. This investigates people's attitude, in terms of their affective and cognitive responses to the idea of travelling, in 'real time' to various destinations after 9/11. The responses represent two different time frames. One considers the two-week period immediately after 9/11, referred to as the short-term analysis, with the data collected on a daily basis in order to identify whether there were any short-term changes in attitude to travel. The other identifies the pattern of responses over a period of months rather than days, with the data collected monthly for six months, and then again after one year, referred to as the long-term analysis. In this study the independent variables are time of data collection and type of travel, and the dependent variable is responses to the 3TQ. It is predicted that people will become more positive towards travelling over time. However, as this is an exploratory study it is not possible to predict whether changes will be observed in the short term or in the longer term. Previous research into the impact of terrorism on travel either does not allow for the role of demographic variables such as age and gender to be identified (e.g. Enders & Sandler, 1991) or has not found them to be significant predictors (Sönmez & Graefe, 1998a). Due to the limited amount of research in this area, these variables are also included in this study.

The second study, using the questionnaire shown in Appendix C, reports preliminary research investigating the change in perceived risk of travelling to a variety of destinations associated with two different terrorist acts. The independent variable is time, being either before or after an attack and the dependent variable is

risk perceived for the various destinations. Huddy et al. (2002) and Kuzma (2000) both observed a decrease in concern about terrorism over time, suggesting that there was an initial increase. It is therefore predicted that there will be an increase in the risk perceived for travel to the destinations targeted after a terrorist event. It is not possible to predict the extent to which other countries may be affected, but this study provides further evidence regarding the generalisation of deterrence due to terrorism between destinations.

### **Study 1 – Deterrence from travelling post 9/11: Changes over time and generalisation.**

The purpose of this study was to investigate whether and if so when, participants' self-reported attitude, consisting of fear and anticipated behaviour, regarding travel underwent any change in the period following 9/11. The generalisation of fear and anticipated unwillingness to travel to countries beyond the U.S.A. and to various types of transport was also investigated. The study considers two different time scales. The first addresses the 16 days immediately following 9/11, starting on 13<sup>th</sup> September 2001. The second time scale studies a longer period, commencing with six monthly data collections followed by a final data collection in October 2002. As the purpose of this study was to investigate the extent to which people feel deterred from travelling, so considering attitude rather than actual behaviour, the different reasons for which people travel, such as for business, visiting family or for a holiday, was not taken into consideration. However, this issue is addressed later in this thesis in Study 10.

#### **1.A. Method**

##### *Participants*

In the short-term analysis data were collected daily from a mean of 18 people per day for 16 days giving a total of 288 participants, who were a convenience sample obtained in various locations around South East England. Different people participated each day. The age and gender distribution of the participants is shown in the first column of Table 2 below. This data was then amalgamated in the second part of this study to form Time 1 in the long-term analysis. Participation was



**Table 2.**

<b>Age</b>	<b>Gender</b>	<b>T1</b>	<b>T2</b>	<b>T3</b>	<b>T4</b>	<b>T5</b>	<b>T6</b>	<b>T7</b>
		(%)	(%)	(%)	(%)	(%)	(%)	(%)
<b>Under 20</b>	<b>M</b>	13 (4.5)	11 (9.4)	5 (7.1)	2 (5.1)	4 (8.3)	3 (4.8)	10 (6.3)
	<b>F</b>	37 (12.9)	47 (40.2)	23 (32.9)	8 (20.5)	23 (47.9)	3 (4.8)	96 (60.4)
<b>20 - 29</b>	<b>M</b>	38 (13.3)	8 (6.8)	4 (5.7)	3 (8.0)	4 (8.3)	17 (27.4)	11 (6.9)
	<b>F</b>	68 (23.8)	37 (31.6)	30 (42.9)	24 (61.5)	14 (29.2)	36 (58.1)	27 (17.0)
<b>30 - 39</b>	<b>M</b>	46 (16.1)	2 (1.7)	1 (1.4)	0 (0)	0 (0)	0 (0)	1 (0.6)
	<b>F</b>	17 (5.9)	9 (7.7)	3 (4.3)	0 (0)	3 (6.3)	0 (0)	9 (5.7)
<b>40 - 49</b>	<b>M</b>	18 (6.3)	0 (0)	0 (0)	0 (0)	0 (0)	1 (1.6)	0 (0)
	<b>F</b>	17 (5.9)	3 (2.6)	4 (5.7)	2 (5.1)	0 (0)	0 (0)	4 (2.5)
<b>50 - 59</b>	<b>M</b>	11 (3.8)	0 (0)	0 (0)	0 (0)	0 (0)	2 (3.2)	0 (0)
	<b>F</b>	4 (1.4)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (0.6)
<b>60 - 69</b>	<b>M</b>	4 (1.4)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	<b>F</b>	6 (2.1)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
<b>70 +</b>	<b>M</b>	2 (0.1)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	<b>F</b>	5 (1.7)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)

**Table 2: Composition of sample at the different data collection times, by age and gender.**

voluntary, and no incentives were offered. The participants had a variety of occupations, including students, but it is not claimed that they form a representative sample of the wider population.

In the analysis for the long-term study, there were a total of 785 participants, including those at Time 1. The data collected for Times 2 to 7 were from a convenience sample of students from a British university, with different people participating at each time. The participant age and gender profiles by data collection time are shown in Table 2. Four participants did not record their age and gender and are therefore not shown in the table. The participants at Times 4, 5 and 6 all participated voluntarily. At Times 2 and 3 the participants were taking part in other research and received partial course credit for their participation. The participants at Time 7 were the students who participated in the research reported in Chapters 8 to 10 of this thesis, who also received partial course credit.

### *Design*

The short-term analysis had a 2 X 16 X (4) mixed factorial design. The between participants' independent variables are time of participation, being days 1 to 16 and gender. The within participants' independent variable has four levels and is the type of travel, being travel to or within the USA (U.S. Travel), air travel (Flying), travel by other forms of transport (Other Transport) and physical presence as a tourist in destinations outside the USA (Non-U.S. Travel). The dependent variable is the mean scale score for the 3TQ.

The long-term analysis had a 2 X 7 X (4) mixed factorial ANOVA design. The between participants' independent variables were time of participation, being Times 1 to 7 and gender. The within participants' independent variable was the same as in the first part of the study. The dependent variable was again the mean scale score for the 3TQ.

### *Materials*

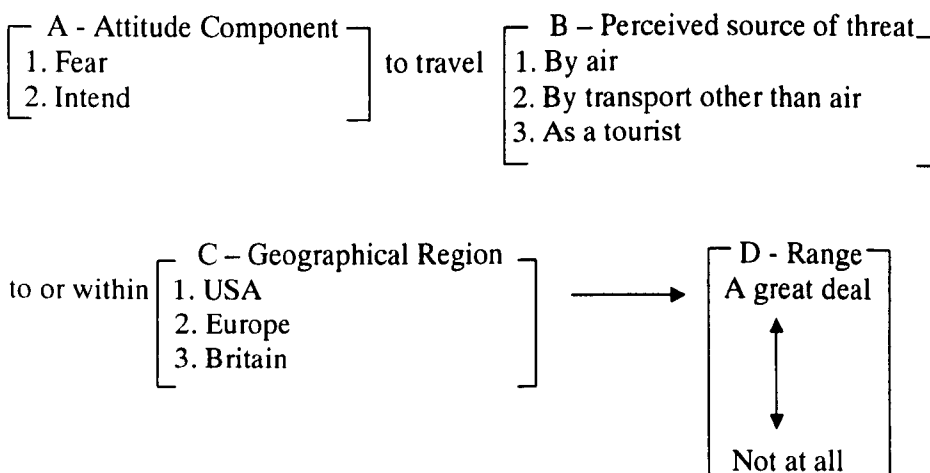
Appendix B contains the Terrorist Threat to Travellers Questionnaire (3TQ). This questionnaire was created on 12<sup>th</sup> September 2001 to provide a measure of the extent of deterrence from travelling perceived in the aftermath of 9/11. The 3TQ was designed to assess both the affective and cognitive components of attitude to travel, and to identify whether deterrence was specific to the U.S.A. or generalised to other

regions. It also assessed whether people were deterred from flying due to the direct role of aircraft in 9/11, and if so whether this deterrence also extended to other transportation.

The items were generated from a mapping sentence that is shown in Figure 4. A mapping sentence is defined as ‘a verbal statement of the domain and of the range of a mapping including connectives between facets as in ordinary language’ (Shye, 1978, p.413). It is an aspect of the Facet Theory approach to research, which specifies explicitly what is to be included in the research or research tool, in the present case a questionnaire, and the expected relationships between the components. The components of the mapping sentence are known as facets, and the constituents of the facets are known as elements. In the present mapping sentence, age and

**Figure 4.**

The extent to which person (x) would



**Figure 4: Mapping sentence showing the facets and elements used to create the Terrorist Threat to Travellers Questionnaire.**

sensation seeking are both examples of facets, and the elements of those facets are older and younger, and low and high respectively. Factors such as age and gender are called background facets, whereas those such as sensation seeking and attitude are called domain facets. This mapping sentence therefore sets out the components that are to be included in this questionnaire and the way in which they are going to be combined. This is based on the creation of ‘structuples’, by taking one element from each and every domain facet, giving as many different profiles of participant, in

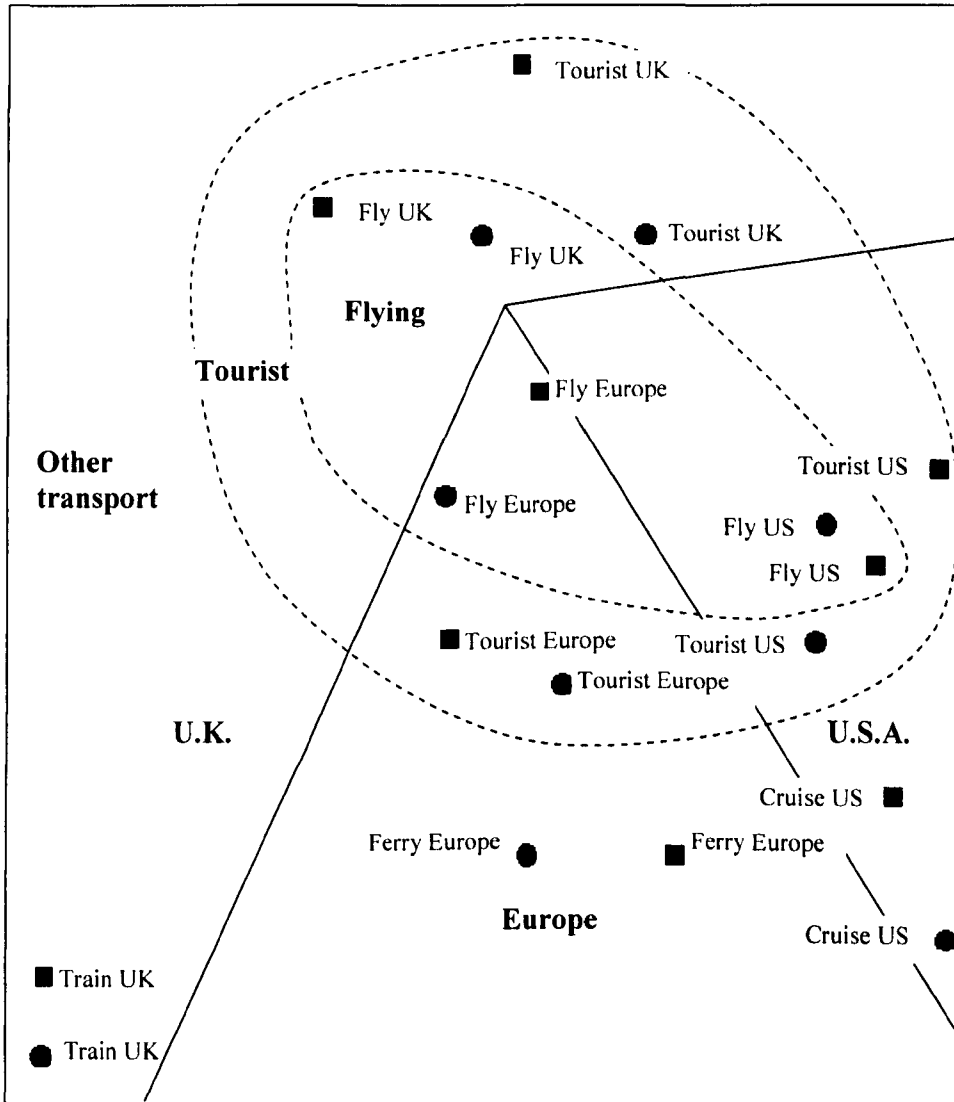
terms of these facets, as there are unique and exhaustive combinations of elements (Donald, 1995). The range facet represents the range of deterrence from travelling that could be reported by the participants (Donald, 1995).

Domain Facet A is titled 'Attitude component' which is intended to identify whether it is the cognitive or affective component of attitude that influences potential travellers' reactions. Domain Facet B is titled 'Perceived source of threat', and contains three elements representing different aspects of travelling that people may perceive as sources of risk. An individual considering where to travel may identify the risk coming from the means of getting to a destination, being either by air or other means, or from actually being present at a location. For example a person may perceive flying to any destination as the source of risk, but it may be that the perceived risk comes from being in a location, such as New York, that they associate with being targeted by terrorists. Domain Facet C, titled 'Geographical region' allows for the identification of whether the regions of the U.S.A, Europe and the U.K. are perceived differently by potential travellers. Combining the three domain facets of attitude component, perceived source of threat and geographical region produces 18 structuples. These are represented by the 18 items on the questionnaire, and the 7-point response scale strongly agree to strongly disagree assessed the range facet.

A series of analyses were conducted to test the structure and reliability of the 3TQ. Preliminary analyses were conducted on the first data set collected in the period immediately after 9/11 to investigate whether participants' responses to the 3TQ reflected the cognitive and affective components of attitude to travel as separate factors or as a unitary construct. Two sub-scales, each containing nine items were created, one consisting of the items relating to fear and the other the items relating to anticipated behaviour. The correlation between the sub-scales was very high ( $r = .94$ ,  $p < .001$ ) suggesting that the 3TQ may not be identifying affect and cognition as separate components of attitude. To investigate this further the data were subjected to a Smallest Space Analysis (SSA) (Guttman, 1968). The plot produced by this analysis is shown in Figure 5.

SSA plots variables as points in multidimensional geometric space so that the shorter the distance between them on the plot, the closer the empirical relationship (Brown & Barnett, 2000). The 'goodness of fit' of the data is assessed by the

Figure 5.



Note: 2 dimensional representation of 3 dimensional solution (Vectors 1 X 3). Coefficient of alienation = 0.13.

Key: ■ - Anticipated behaviour

● - Fear

— Regions of plot distinguishing different geographical regions of travel

- - - - Regions of plot distinguishing different types of travel

Figure 5: Smallest Space Analysis showing regions representing travel type and geographical region facets.



coefficient of alienation. A coefficient of alienation of 0.15 has been suggested as representing an adequate level of fit (Brown, 1985), although others have indicated that a coefficient of less than 0.2 is sufficient (Donald, 1994). The number of dimensions required depends upon the complexity of the data, but frequently two or three dimensions are needed (Brown & Barnett, 2000). Each plot is a two-dimensional representation of two vectors from this space. To interpret the plots the points, which in the studies in this thesis represent questionnaire items, are labelled and then scrutinising to identify whether they reveal regions supporting the proposed facets or whether other interpretations are indicated.

The SSA shown in Figure 5 was conducted to test the empirical validity of the suggested structure of the 3TQ by showing whether the facets proposed in the mapping sentence in Figure 4 are reflected as discrete regions on the SSA plot (Brown, 1985). The plot was produced using the Pearson Correlation Coefficient, in 100 iterations. The coefficient of alienation for this analysis is 0.13, which indicates a good level of fit (Brown, 1985; Donald, 1994). This plot is a two-dimensional representation, using vectors one and three, of a three-dimensional solution. This plot was selected as these vectors provide a spatial arrangement of the points that can be partitioned using the recognised, or prototypical, facet roles and is therefore more readily interpretable (Borg & Shye, 1995; Shye, Elizur & Hoffman, 1994). Figure 5 can be divided into distinct regions representing the elements of the geographical facet of the destination (as a polarising facet) and the travel type facet (as a modulating facet). In each of these regions of the plot the points representing anticipated behaviour and fear are consistently found together. This suggests that this facet may partition in a third dimension, although fear and anticipated behaviour are highly associated. This is consistent with the high correlation identified between fear and anticipated behaviour, and suggests that the 3TQ is measuring a unitary attitude construct rather than the separate components of cognition and affect. The data for fear and anticipated behaviour are therefore amalgamated in the following analyses, and the resulting measures are referred to as 'deterrence'. However, this SSA does provide support for the geographical region of the destination and the travel type facets

Reliability analyses were conducted after the Time 1 data collection. This tested the reliability of the whole 3TQ scale and four sub-scales. These were created to represent the four different types of travel described above: travel to and within

the U.S.A. (U.S. travel), air travel (flying), travel by other forms of transport (other transport), and being a tourist in destinations outside the USA (non-U.S. travel). The reliability of the total scale and the sub-scales was calculated using Cronbach's Alpha. All the scales were found to be highly reliable: total scale ( $\alpha = .95$ ) U.S. travel ( $\alpha = .95$ ), flying ( $\alpha = .90$ ), other transport ( $\alpha = .84$ ), non-U.S. travel ( $\alpha = .88$ ). The reliability of the scales was not improved by the removal of any of the items.

### *Procedure*

In the short-term analysis data were collected daily from 13<sup>th</sup> September until 28<sup>th</sup> September 2001, to measure any daily change in attitude to travelling. Participants were approached in various locations and invited to complete a short questionnaire that asked about their attitude to travelling 'today'. Those who were willing were then given a briefing to read, followed by the 3TQ. The participants completed the 3TQ individually, and were finally thanked and debriefed.

Turning now to the procedure for the long-term analysis, the procedure for the administration of the 3TQ at Times 4, 5 and 6 was the same as described for the short-term analysis (Time 1). The participants at Time 2 completed the questionnaire in quiet laboratory conditions, in association with other questionnaires related to the events of 11<sup>th</sup> September 2001. The participants at Time 3 completed the 3TQ after participating in unrelated research, which was also conducted in laboratory conditions. At Time 7 the participants completed this questionnaire in laboratory conditions, together with the battery of questionnaires used in Chapters 8 to 11 of this thesis.

## **1.B. Results**

### **1.B.1. Preliminary analyses**

The tests of reliability of the 3TQ, and the identification that it was assessing the unitary construct of attitude, characterised as deterrence from travelling due to the perceived threat of terrorism, provided assurance that the measure used in this study had a satisfactory degree of reliability. However, before conducting the main analyses it was necessary to conduct some further preliminary analyses regarding the characteristics of the participants.

The data for the short-term analysis consisted of responses from both students and non-students. These data were therefore analysed to identify whether there were any statistically significant differences between these groups. An independent samples t-test showed that there was no statistically significant difference between students ( $M = 5.26, S.D. = 1.15$ ) and non-students ( $M = 5.24, S.D. = 1.35$ ) over the total 3TQ ( $t(282) = 0.13, p = .90$ ). The data for students and non-students were therefore amalgamated and analysed together in this study, and students were used as the participants in the long-term analysis.

The data from the short-term analysis were also analysed to identify whether there were any age and gender differences. An independent samples t-test showed that women were significantly more deterred from travelling post 9/11 than were men, ( $t(285) = 3.77, p < .001$ ). Gender is therefore included as an independent variable in the following analyses.

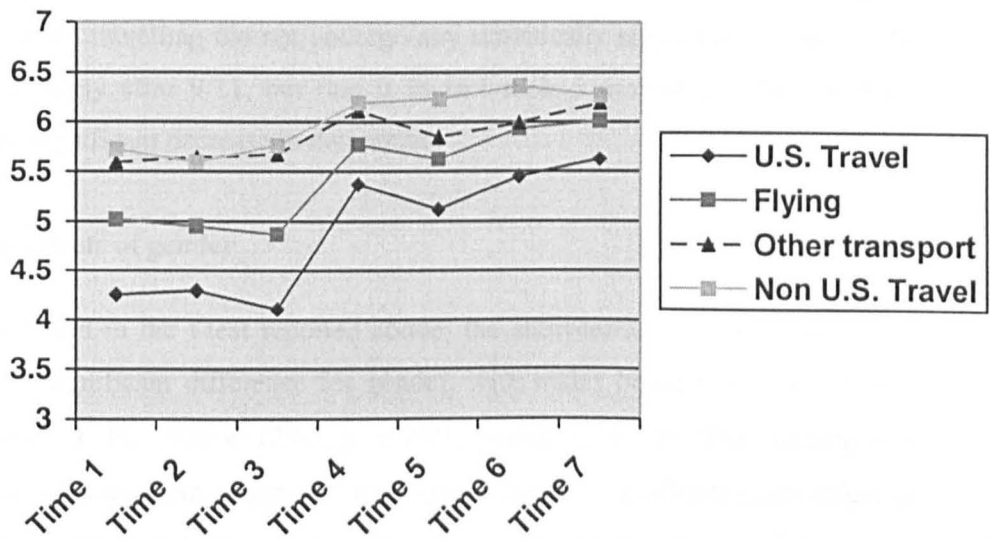
Due to the relatively small numbers of participants in the age groups over 30, a shortened scale of ages was created. The data were split into three age groups: under 20 ( $M = 5.10, S.D. = 1.09$ ), 20 – 29 ( $M = 5.26, S.D. = 1.16$ ) and 30+ ( $M = 5.30, S.D. = 1.37$ ). A one-way ANOVA was conducted that showed that there was no significant difference in deterrence from travelling post 9/11 between these age groups,  $F(2, 285) = 0.47, p = .62, \text{partial } \eta^2 = .003$ . Age is therefore not included in the following analyses.

Figure 6 shows the pattern of deterrence from travelling by data collection time and type of travel, and the means and standard deviations for this analysis, by gender are shown in Table 3 (see Appendix D). A high score on the 3TQ represents less deterrence from travelling. It can therefore be seen that in general the degree of deterrence appears to decrease over the course of the long-term analysis, and that the highest levels of deterrence at all data collection times is for U.S. travel and flying.

Two separate 3-way ANOVAs were conducted, the first for the short-term analysis and the second for the long-term analysis. The variables in both analyses were time of data collection (Time), type of travel, being the four sub-scales created above (Travel Type) and gender. Each of the main effects and interaction effects are considered in turn, with the short-term analysis presented first followed by the long-term analysis.



Figure 6.



Note: High score indicates less deterrence from travelling

Figure 6: Interaction between time and type of travel on deterrence from travelling, for the long-term analysis

### 1.B.2. The effects over time

In both the short-term and long-term analyses Mauchly's test of sphericity was significant, indicating that sphericity could not be assumed. Therefore both the unadjusted and the Greenhouse-Geisser corrected statistics are reported for the within participants' effects.

Considering the short-term analysis, there were no significant differences over time,  $F(15, 255) = 0.71, p = .78, \text{partial } \eta^2 = .04$ , indicating that there was no change in participants' reported deterrence from travelling post 9/11 over the 16 day period studied. However, the results of the long-term analysis showed that there was a significant main effect of time,  $F(6, 763) = 10.33, p < .001, \text{partial } \eta^2 = .08$ . Post-hoc comparisons were conducted using the Bonferroni approach to test pairwise differences among the means (see Figure 3). This showed that the first overall significant decline in deterrence occurred at Time 6, being 5 months after the attacks in the U.S.A., and that it then remained at a similar level at Time 7, one year after the attacks. The mean at Time 6 was significantly higher, indicating a reduction in

deterrence, at  $p < .05$  than the means at Times 1, 2 and 3. There was no significant difference between the means at Times 6 and 7. These findings reveal that people's deterrence from travelling did not undergo any statistically significant change in the days immediately after 9/11, but that it in fact took 5 months for there to be a statistically significant decrease in deterrence.

### **1.B.3. The effects of gender**

As found in the t-test reported above, the short-term analysis revealed that there was a significant difference for gender, with males being less deterred than were females,  $F(1, 255) = 12.63, p < .001$ , partial  $\eta^2 = .05$ . This finding was repeated in the long-term analysis, which again found a significant main effect of gender. As in the short-term analysis this reflected the greater degree of deterrence reported by the female participants,  $F(1, 763) = 18.92, p < .001$ , partial  $\eta^2 = .02$ . It therefore seems to be a stable effect that women are more deterred from travelling due to the threat of terrorism than are men.

### **1.B.4. Interaction effects between Time and gender**

In the short-term analysis the interaction between time and gender was not significant,  $F(15, 255) = 0.71, p = .77$ , partial  $\eta^2 = .04$ . This was also found to be the case in the long-term analysis,  $F(6, 763) = 0.98, p = .44$ , partial  $\eta^2 = .01$ . This suggests that the observed difference in deterrence between men and women does not change over time, either in the short or long-term.

### **1.B.5. Type of Travel**

The ANOVA indicated that there was a significant main effect of type of travel for the short-term analysis, adjusted  $F(2.17, 553.24) = 167.25, p < .001$ , partial  $\eta^2 = .40$ . Follow up paired sample t-tests were conducted using a Bonferroni adjustment, which required a p-value of less than .017 to indicate a significant difference. The greatest deterrence was reported for U.S. travel, which was significantly greater than that for flying  $t(287) = -13.60, p < .001$ , which in turn was significantly greater than for other transport,  $t(287) = -10.72, p < .001$ . The

difference between the deterrence for non-U.S. travel and the deterrence from other transport was approaching significance,  $t(287) = -2.37, p = .018$ .

The long-term analysis also showed that there was a significant main effect for type of travel, adjusted  $F(2.09, 1594.31) = 151.00, p < .001$ , partial  $\eta^2 = .17$ . This was further analysed with paired sample t-tests, which required a p-value of less than .017 to achieve significance using a Bonferroni correction. The analysis revealed the same pattern of deterrence as for the short-term analysis. Most deterrence was reported for U.S. travel, which was significantly greater than for flying,  $t(778) = -21.97, p < .001$ . Significantly more deterrence was reported for flying than other transport,  $t(778) = -15.00, p < .001$ . Participants reported least deterrence from non-U.S. travel, which was significantly less than the deterrence for other transport,  $t(778) = -5.26, p < .001$ . These findings indicate a consistent pattern across both time frames, suggesting that the relative impact of a terrorist attack between different regions and different types of transport remains broadly consistent over time. However, interaction analyses are necessary to test whether the different types of travel change at different rates over time.

**Table 4.**

	<b>U.S.A.</b>	<b>Flying</b>	<b>Other transport</b>
<b>Flying</b>	.87**		
<b>Other transport</b>	.80**	.77**	
<b>Non U.S. travel</b>	.64**	.79**	.71**

Note: \*\* indicates correlation significant beyond  $p < .001$

**Table 4: Pearson correlations for the long-term data between the four types of travel.**

Further scrutiny of the relationship between the sub-scales was conducted on the data from the long-term analysis. Pearson correlations were calculated between the four sub-scales, shown in Table 4, which indicate that whilst the degree of deterrence reported for the different types of travel is different they are highly and significantly correlated, suggesting that factors that affect one type of travel also affect the others.

### 1.B.6. Interaction effects with type of travel

In the short-term analysis there was a significant interaction between type of travel and gender, adjusted  $F(2.17, 553.24) = 7.19, p < .01$ , partial  $\eta^2 = .03$ . Scrutiny of Figure 7 indicates that the interaction is due to the difference in deterrence between men and women being greater for travel to and within the U.S.A. and flying than it is for travel by other forms of transport or to destinations outside the U.S.A.

Figure 7.

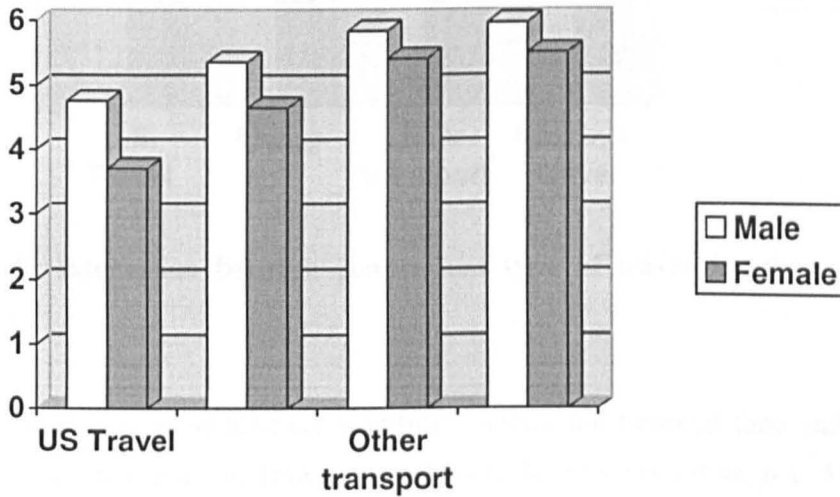


Figure 7: Interaction between gender and type of travel for the short-term analysis

The same interaction between type of travel and gender was identified in the long-term analysis, adjusted  $F(2.09, 1594.31) = 15.06, p < .001$ , partial  $\eta^2 = .02$ . For the long-term analysis this interaction was followed up statistically with one-way ANOVA analyses to confirm the source of the interaction. For males, there was a significant difference between the types of travel,  $F(1.99, 438.82) = 100.03, p < .001$ , partial  $\eta^2 = .31$ . There was also a significant difference between the types of travel for women,  $F(2.05, 1136.29) = 456.09, p < .001$ , partial  $\eta^2 = .45$ . The interaction is shown graphically in Figure 8. The difference in magnitude of effect sizes suggests that the interaction is due to the differences between the genders for the different types of travel. Although males are less deterred than females for all

types of travel, as can be seen in Figure 8 the greatest difference is for U.S. travel, with smaller differences for the other transport and non-U.S. travel.

Figure 8.

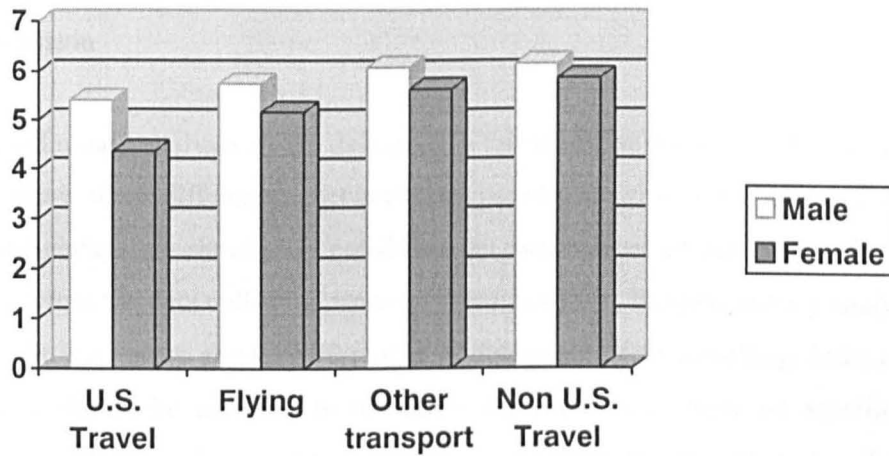


Figure 8: Interaction between gender and type of travel for the long-term analysis

There was no statistically significant interaction between time and type of travel for the short-term analysis, adjusted  $F(32.54, 553.24) = 0.96, p = .54$ , partial  $\eta^2 = .05$ . However, this interaction was statistically significant for the long-term analysis (see Figure 3), adjusted  $F(12.54, 1594.31) = 5.64, p < .001$ , partial  $\eta^2 = .04$ . To identify the source of this interaction, simple effects analyses were conducted with one-way ANOVAs to follow up the effects of time on each separate type of travel. A Bonferroni correction was applied to control the familywise error rate, which required a p-value of less than .013 for the test to be statistically significant. These analyses showed a significant effect of time for each of the types of travel; U.S. travel  $F(6, 772) = 15.95, p < .001$ , partial  $\eta^2 = .11$ , flying  $F(6, 772) = 14.26, p < .001$ , partial  $\eta^2 = .10$ , other transport  $F(6, 772) = 6.65, p < .001$ , partial  $\eta^2 = .05$ , non-U.S. travel  $F(6, 772) = 9.43, p < .001$ , partial  $\eta^2 = .07$ . The effect sizes for the factor of time were largest for U.S. travel and flying, indicating that these variables experienced the greatest change over time. The next greatest change over time, as measured by the effect size, was for non-U.S. travel, with the least change over time being for other transport.

The three-way interaction between type of travel, time and gender was not statistically significant for either the short-term analysis,  $F(32.54, 553.24) = 0.66, p = .93$ , partial  $\eta^2 = .04$ , or the long-term analysis,  $F(12.54, 1594.31) = 0.72, p = .74$ , partial  $\eta^2 = .01$ .

### **1.C. Discussion**

Preliminary analyses of the data used in this study were conducted to identify whether there were differences between the participant groups in terms of age, gender and occupation status. It is noted that the distributions of age and gender are not equal across the data collection times of these analyses. The preliminary analyses showed that there were gender differences in deterrence from travelling, indicating that gender should be included in the main analyses. There were no significant differences between students and non-students, or between the age categories. These variables were therefore not included in the subsequent analyses, and the unequal distribution of ages should not be of concern. The purpose of this study was simply to identify whether people experienced deterrence from travelling due to the threat of terrorism, and to provide some evidence regarding the pattern of any such deterrence. The individual differences associated with this deterrence will be addressed in the subsequent chapters.

The results of these analyses show that there was no change in the level of deterrence in the period studied immediately following the attacks of 11<sup>th</sup> September 2001, either for the total scale or for any of the sub-scales. It should be noted that as this study started 48 hours after the attacks it was not possible to identify if people had a higher level of deterrence in that period, while the potential shock of the news of the event was at its greatest. However, given that no change was identified in the sixteen day period studied it seems unlikely that the day immediately following the event would have seen a greatly different impact.

Considering the long-term analysis, a statistically significant change in deterrence from travelling over time was identified. This was due to the difference between the responses at Time 6 (February 2002) and those at Times 1 to 3 (September to November 2001). Although in this analysis there was a change over time, there was no interaction between time and gender, indicating that the rate of decline in deterrence was the same for both males and females. The long-term

analysis has unequal sample sizes at the different times of this study, but the increased risk of Type I errors is controlled by using an unweighted means approach, as recommended by Tabachnick and Fidell (1996). Also, the Greenhouse-Geisser statistic was reported, giving adjusted degrees of freedom, when homogeneity of variance could not be assumed.

In terms of the generalisation of deterrence from travelling, the results were the same for both the short-term and long-term analyses. Participants reported substantially more deterrence for U.S. travel than for non-U.S. travel, which represented travel to Europe or within Britain. There was also greater deterrence from flying than for travel by other forms of transport. These findings suggest that the deterrent effect of terrorism is greatest for the destination targeted, and in a case such as 9/11 where a particular form of transport was directly involved that deterrence may also be focussed on that type of transport.

The level of deterrence was not as high for non-U.S. travel and other transport as it was for U.S. travel and flying, suggesting that the consequences for places not directly affected is not as great as for the actual target. However, there is evidence that there is some generalisation of effect to destinations outside that targeted. The high level of correlation between the four types of travel suggests that factors affecting one type of travel also affect the others. For example if media coverage has the effect of increasing the salience of terrorism, then fluctuations in extent or nature of reporting of related issues may be a factor that would impact on deterrence from travelling generally, and not just to targeted destinations. These findings therefore suggest that there is some generalisation.

The short-term analysis did not show any interaction between time and type of travel, which would be anticipated, as there was no main effect of time. However, the long term-analysis did reveal this interaction to be statistically significant. Differences in deterrence over time were revealed for all four types of travel. Examination of the effect sizes for the individual ANOVAs suggests that the interaction is due to the differences in the amount of change in deterrence over time shown by the four types of travel. U.S. travel and flying have the highest effect sizes, suggesting that deterrence has decreased the most for these sub-scales, followed by non-U.S. travel then travel by other transport.

A significant main effect of gender was identified in both the short-term and long-term analyses, with women being more deterred from travelling post 9/11 than

were men. There was also an interaction effect between gender and type of travel in both analyses. Over both time frames there was a greater difference in deterrence between men and women for travel to the U.S.A. than for any of the other sub-scales. The second greatest difference was for flying, followed by other forms of transport and travel outside the U.S.A. These findings are contrary to those of Sönmez & Graefe (1998a) who did not find that gender made a significant contribution to their model of travel decision-making. However, consistent with their findings, no significant effect was identified for age.

## **Study 2 – The impact of terrorism on the perceived risk of travel.**

During the summer of 2001 responses to the questionnaire shown in Appendix C were collected to provide a baseline level of perceived risk for 24 countries for use in future research. Further data were collected in the summer of 2002, providing two snapshots collected at the same time of year of the risk perceived for the various countries pre and post 9/11. This questionnaire was not utilised in the period immediately following 9/11 as the 3TQ was created specifically to assess people's attitude to travelling, rather than just their perception of risk due to the threat of terrorism. The 3TQ therefore provides more detailed information regarding people's reaction to the perceived threat of terrorism. Whilst it would have been possible to have participants complete both questionnaires it was a deliberate decision to just use the one immediately after 9/11 so that it was quick to complete, and hence less off-putting to potential participants.

The comparison between the data collected in the summers of 2001 and 2002 is reported in the first part of this study and provides a view of the change in risk perception over a period of approximately one year. This questionnaire was also included together with the questionnaires that provide the data for the studies reported in Chapters 8 to 10. Part way through this data collection, terrorists attacked a nightclub in Bali killing approximately 200 people, many of whom were tourists. This gave the opportunity to investigate the immediate impact of a terrorist attack on perceptions of risk, and also provided evidence regarding whether the new terrorist incident just affected the destination targeted or whether it also reinforced the residual deterrence from travelling to the U.S.A. caused by 9/11. The second part of



this study therefore reports the levels of risk perception before and after the Bali bomb.

## **2.A. Method**

### *Participants.*

The participants in the first part of this study were 109 students from a British University, 58 at Time 1, which was in the summer of 2001 prior to the terrorist attacks on the U.S.A., and 51 at Time 2, which was in the summer of 2002. No demographic data were recorded. The participants were approached in various locations around the university campus, and formed a convenience sample. They did not receive any incentive for their participation.

In the second part of this study the participants were 160 students, from the same university, who participated in the study that also provided data for the analyses reported in Chapters 8 to 10. There were 112 responses before the Bali bombing and 48 after. These respondents received partial course credit for their participation in this research.

### *Materials.*

The questionnaire used in this study is shown in Appendix C, and asks respondents to assess how risky they perceive a number of countries as being due to the threat of terrorism. The countries included in the questionnaire were obtained from a scrutiny of historical newspaper reports of terrorism. The sources were the Guardian newspaper on-line archive and the compendium of reports of world-wide terrorism compiled by Mickolus, Sandler, Murdoch and Fleming (1989).

### *Design.*

Both parts of this study have between participants' MANOVA designs, each with one independent variable having two levels, being time of completion, which is either pre or post an act of terrorism. In both analyses comparisons were conducted for each of the 24 countries listed on the questionnaire.

### *Procedure.*

Prospective participants for the first part of this study were approached and asked if they would be prepared to complete a short questionnaire asking them to assess the risk of visiting a number of countries due to the threat of terrorism. Those who agreed were handed the questionnaire for completion in the presence of the researcher. Once they had completed and returned the questionnaire they were thanked and verbally debriefed regarding the purpose of the research. The participants in the second part of this study were recruited via the Research Participation Scheme, which is a system through which undergraduate students agree to participate in research as a course requirement. Participants came to a quiet laboratory where they were verbally briefed regarding the nature and subject matter of the research. Those who agreed to participate were supplied with a written briefing and a battery of questionnaires, including the one for this study. Once they had completed the questionnaires the participants were offered the opportunity to ask any questions and a written debriefing explaining the purpose of the research was provided.

### **2.B. Results**

A single MANOVA was conducted including all 24 countries to compare the risk perceived pre and post 9/11. The overall multivariate analysis was statistically significant,  $F(24, 76) = 4.52, p < .001$ , partial  $\eta^2 = .59$ . The results of the univariate analyses, together with the means and standard deviations are shown in Table 5, which is presented in Appendix E. A higher mean score indicates a greater level of risk perceived due to the threat of terrorism, so a positive change means that the risk is perceived as greater post 9/11. The change in mean score for each country is represented graphically in Figure 9. This figure shows which countries are perceived as more risky and which as less. The changes that are statistically significant beyond  $p < .05$  are marked with an asterisk.

The U.S.A. ( $F(1, 99) = 6.05, p < .05$ ) was the only country to show a statistically significant increase in perceived risk from terrorism. This level shifted from somewhat below to somewhat above moderate risk. The partial eta squared value for the U.S.A. statistic indicates that this is a moderate sized effect. Israel is the

Figure 9.

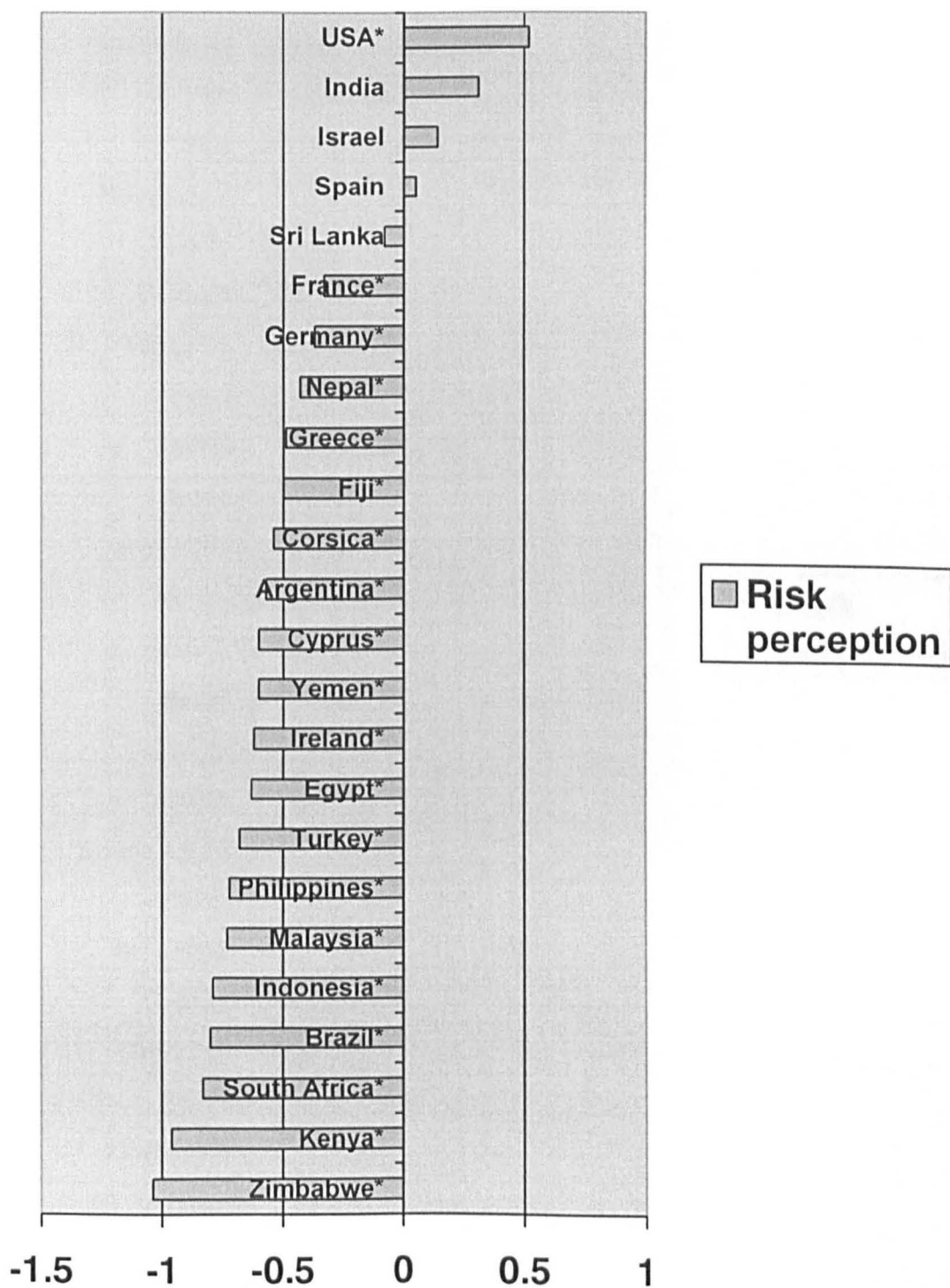


Figure 9: Change in mean risk perception pre and post 9/11

Figure 10.

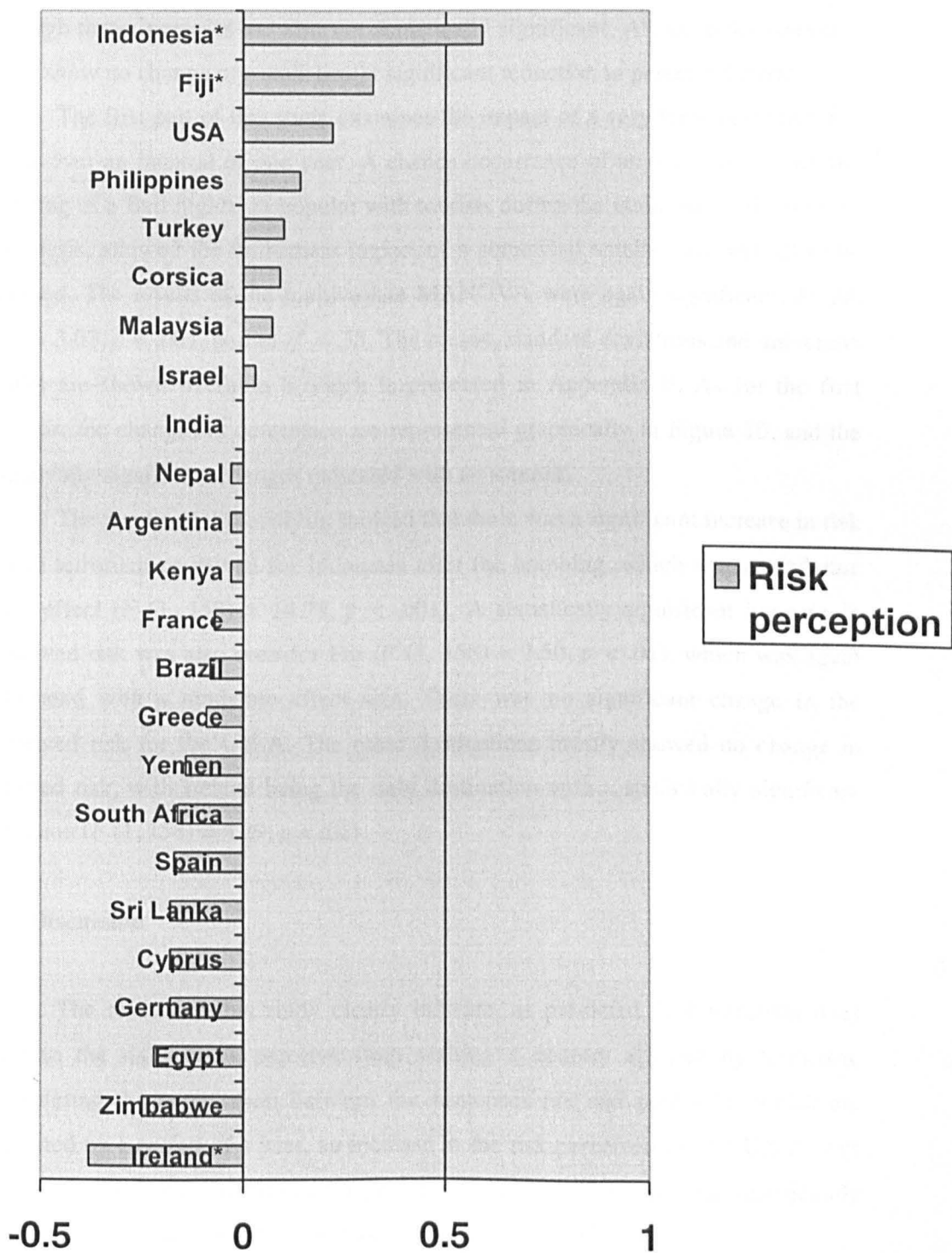


Figure 10: Change in mean risk perception pre and post Bali

only country that is perceived as being high risk at both Time 1 and Time 2. There is a slight increase in risk between the two times, but this is not statistically significant. Spain and India are the other countries that show any increase in perceived threat, although these increases are also not statistically significant. All the other countries either show no change or a statistically significant reduction in perceived threat.

The first part of this study examines the impact of a very large-scale terrorist attack over an interval of one year. A chance occurrence of an act of terrorism, the bombing of a Bali nightclub popular with tourists during the main data collection for this thesis, allowed the immediate impact of a somewhat smaller terrorist act to be assessed. The results of the multivariate MANOVA were again significant,  $F(24, 135) = 3.03, p < .001$ , partial  $\eta^2 = .35$ . The means, standard deviations and univariate results are shown in Table 6 which is presented in Appendix F. As for the first analysis, the changes in deterrence are represented graphically in Figure 10, and the statistically significant changes indicated with an asterisk.

The results of this analysis showed that there was a significant increase in risk due to terrorism perceived for Indonesia after the bombing, which was a moderate sized effect ( $F(1, 158) = 14.79, p < .001$ ). A statistically significant increase in perceived risk was also seen for Fiji ( $F(1, 158) = 7.50, p < .01$ ), which was again associated with a moderate effect size. There was no significant change in the perceived risk for the U.S.A. The other destinations mostly showed no change in reported risk, with Ireland being the only destination with a statistically significant reduction ( $F(1, 158) = 4.29, p < .05$ ).

## **2.C. Discussion**

The results of this study clearly indicate, as predicted, that terrorism does increase the risk people perceive from visiting a country affected by terrorism. Considering the comparison between the responses pre and post 9/11, which are separated by a period of a year, an increase in the risk perceived for the U.S.A. was identified. Similarly, the ratings for perceived risk for Indonesia were significantly higher after the Bali nightclub bombing than they had been before.

It appears that in these two cases of terrorism the increase in perceived risk is largely focussed upon the targeted destinations. None of the other destinations showed a statistically significant increase in perceived risk after 9/11, indeed many

of them were seen as significantly less risky. After the bombing in Bali, Fiji was the only other country that was rated as being significantly more risky than before the attack. There is no obvious explanation for this change, as Fiji has not suffered any terrorism or civil unrest since the leadership coup in June 2000. One possibility is that people do not have clear knowledge of relative world geography until certain regions are brought to their attention and therefore base judgements such as those requested in this study on imprecise knowledge or assumption. These findings therefore suggest that terrorism in one country does not necessarily increase the perceived risk from travelling to other countries. This may be because the increased salience and perceived risk of the targeted country may make other destinations seem less risky. However, if terrorists continue to be successful in attacking various countries it is possible that a point will be reached where travel to all foreign countries is seen as being risky due to the unpredictability of where terrorists may target next.

This study has enabled comparison pre and post two terrorist attacks to be made, as baseline data were available for the periods before both 9/11 and the Bali bombing. It therefore provides support for the findings reported in Study 1, where no baseline data using the 3TQ were available, by demonstrating that terrorism was associated with an increase in the perceived risk of targeted countries. The present results also demonstrate that terrorist incidents of a smaller magnitude than was witnessed on 9/11 can also have a significant impact on perception of risk.

It was suggested in the introduction to this chapter that the Bali bombing might have reinforced the perception of the U.S.A. as a risky destination, as the attack was also carried out by Al-Qaeda, and may have refreshed memories of 9/11, again increasing the perceived risk. The findings do not support this, as the Bali bombing was not associated with a statistically significant increase in the risk perceived for the U.S.A. However, this is also a factor where there may be a cumulative impact of ongoing terrorism, which is an area where further research is required.

## **Chapter Summary**

Previous researchers (Bar-On, 1996; Enders & Sandler, 1991) have claimed that terrorism leads to a decline in tourism to targeted destinations, based on the

analysis of tourism statistics. It has also been identified that there is some generalisation of deterrence from terrorism in one country to other destinations not the direct targets of the terrorists (Enders, Sandler and Parise, 1992; Richter & Waugh, 1986). The present studies support these findings using a self-report methodology, which suggests that the decrease in tourism reported by the previous studies is likely to be due, at least to some extent, to the negative attitudes towards travelling held by potential travellers.

Enders and Sandler (1991) found that the decline in tourism started about three months after the terrorist act, which as Pizam and Smith (2000) argued could be due to people continuing with pre-arranged travel but not making new bookings. The current findings support this interpretation, as deterrence experienced by participants was highest in the first five months after the attacks after which it started to decline. It seems likely that people would be less inclined to book foreign travel at the time when their fear of the terrorist threat is at its highest and they feel most deterred from travelling. Enders et al. (1992) also provided evidence that the deterrent effects of a terrorist incident may be generalised to destinations beyond that targeted by the terrorists. Again, these studies provide some support for this finding, based upon self-reported attitude to travel, with some generalisation of deterrence to geographical regions outside that targeted by the terrorists. However, this research also investigated whether deterrence is limited to destinations or whether other aspects of travel, such as form of transport, and found that deterrence was generalised to air travel and to a lesser extent to travel by other forms of transport.

Study 1 identified gender differences in deterrence from travelling post 9/11. This is an aspect that is not included in the research based on tourist statistics. However, this finding is contrary to that reported by Sönmez and Graefe (1998a) who found that gender was not a significant predictor of various travel decisions. Sönmez and Graefe assessed the extent that various factors, including gender, influenced people's decisions whether to travel domestically or internationally, how much information they searched for about their destination and their concern for safety in evaluating a destination. It may be that this difference is due to the methodology used in this study, which obtained responses over time in reference to a real terrorist attack, making it more salient and therefore revealing gender differences. Whilst the participants in this study were not being asked to actually travel, the present research provides a more realistic picture of the deterrent effect of

terrorism as real travel decisions are made in the light of previous acts of terrorism, and the current terrorist threat that is perceived. These findings are consistent with previous literature relating to various aspects of risk taking behaviour that suggests that males generally either perceive less risk in a given situation than do females (Boverie, Scheuffele and Raymond, 1995; Finucane, Slovic, Mertz, Flynn and Satterfield, 2000).

The conclusions reached for study 1 are based on data that has been gathered since 9/11. It is therefore not known how participants would have responded to the specific measure used prior to that date. However, the findings of Study 2 suggest that there was an increase in perceived risk of travelling to the U.S.A. post 9/11. This conclusion is further supported by the finding that the bombing of a Bali nightclub was associated with an immediate increase in risk perception, despite this being a smaller scale incident. The reduction in deterrence over time that has been identified also suggests that the terrorist attacks were associated with an earlier increase. Having started collecting data so quickly after the attacks, these studies have the advantage of providing an indication of people's deterrence from travelling early in the post-attack period for comparison purposes. Whilst there are more females in the samples used, and they were more deterred from travelling than were the male participants, there was no interaction between time of data collection and gender. This therefore indicates that although males are objectively less deterred from travelling, their level of deterrence declines in a similar fashion to that of females. By following responses to an actual event in real time, these studies have identified changes in deterrence from travelling as they occur, rather than relying on a retrospective analysis of data.



## **CHAPTER 8: THE PERSONALITY TRAIT OF SENSATION SEEKING AS A PREDICTOR OF DETERRENCE FROM TRAVEL DUE TO THE THREAT OF TERRORISM.**

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It was argued in Chapter 5 that sensation seeking is a likely predictor of attitude to travelling, which throughout this thesis is characterised as deterrence from travelling due to the perceived threat of terrorism. The purpose of this chapter is to test whether this is the case, by looking individually at the predictive utility of the total sensation seeking scale and each of the sub-scales. The analyses will also identify whether sensation seeking adds any variance over that predicted by the socialisation variables of gender, age and travel experience.

It was shown in Chapter 5 that there is frequently a relationship identified between a high score on the Sensation Seeking Scale (Zuckerman, 1979a; 1994) and participation in physically risky activities. These studies have mostly considered activities such as high-risk sports and occupations, and there has been very little research looking specifically at the relationship between sensation seeking and tourism. However, Gilchrist, Povey, Dickinson and Povey (1995) found that people undertaking 'adventure travel' scored higher on the total sensation seeking scale and the thrill and adventure seeking and experience seeking sub-scales than did regular travellers. Tourism inherently carries risks that are not present in most people's day to day activity. These hazards may come from a variety of sources including the environment, interactions with people or from the activity of travelling. The threat of terrorism is another risk factor that a tourist needs to consider when choosing their destination. If terrorism is perceived as a threat, but the tourist chooses to go to that destination regardless, it implies that the traveller is prepared to accept that increased risk of physical harm. Such willingness to travel in this situation therefore has some similarities to participating in other high-risk activities. Based on the findings of Gilchrist et al. (1995) and the acceptance of physical risk in terms of leisure activities commonly associated with sensation seeking, it is argued that sensation seeking might be a useful predictor of the attitude of being deterred from travelling due to the threat of terrorism.

It is clear from the findings reported in Chapter 7 that some people were deterred from travelling in the period after 9/11, whereas others were not. The

purpose of this section is to establish whether there is a simple relationship between sensation seeking and deterrence from travelling following 9/11. The first study reported in this chapter reports the revision of the Zuckerman (1994) sensation seeking scale (SSS-V) to provide a reliable scale for use in this research. The analysis reported in the second study addresses the basic prediction of deterrence from travelling due to the perceived threat of terrorism, as measured by the 3TQ from the personality trait of sensation seeking. The variance contributed by the socialisation variables of age, gender and travel experience will be controlled for, and the relationship between these variables and sensation seeking will be examined. These variables will then be integrated into a more complex model with the other psychological variables in Chapter 10.

### **Study 3 - Testing and revising the Sensation Seeking Scale**

The original SSS-V consists of 40 forced-choice items, with 10 items relating to each of the Thrill and Adventure Seeking (TAS), Experience Seeking (ES), Boredom Susceptibility (BS) and Disinhibition (DIS) sub-scales. The forced-choice format does not provide any indication of the extent to which participants agree or disagree with the items, and it also assumes that participants' responses are adequately reflected in the choice available (Fife-Schaw, 2000). This study provides a detailed reliability analysis of the components of the SSS-V to provide a useful scale for assessing sensation seeking among U.K. participants. Arnett (1994) also made a number of other criticisms of the SSS-V. These are that some of the concepts and language used in the scale are dated, that the reduction in sensation seeking with age that has been identified may be due to the strenuous nature of some of the activities included, and that the inclusion in the questionnaire of behaviours that are the subject of the enquiry leads to a confound.

#### **3.A. Method**

##### *Participants*

The participants were 142 undergraduate students from a British university who completed the questionnaire at the end of a lecture in return for partial course credit. No demographic data were collected for this study.

### *Materials*

The components of the 40 forced-choice items in the SSS-V were separated to create a questionnaire containing 80 items, measured using a 7-point Likert-type scale. The original SSS-V is shown in Appendix G and the version used to test the reliability of the components with the scale split into 80 items is shown in Appendix H.

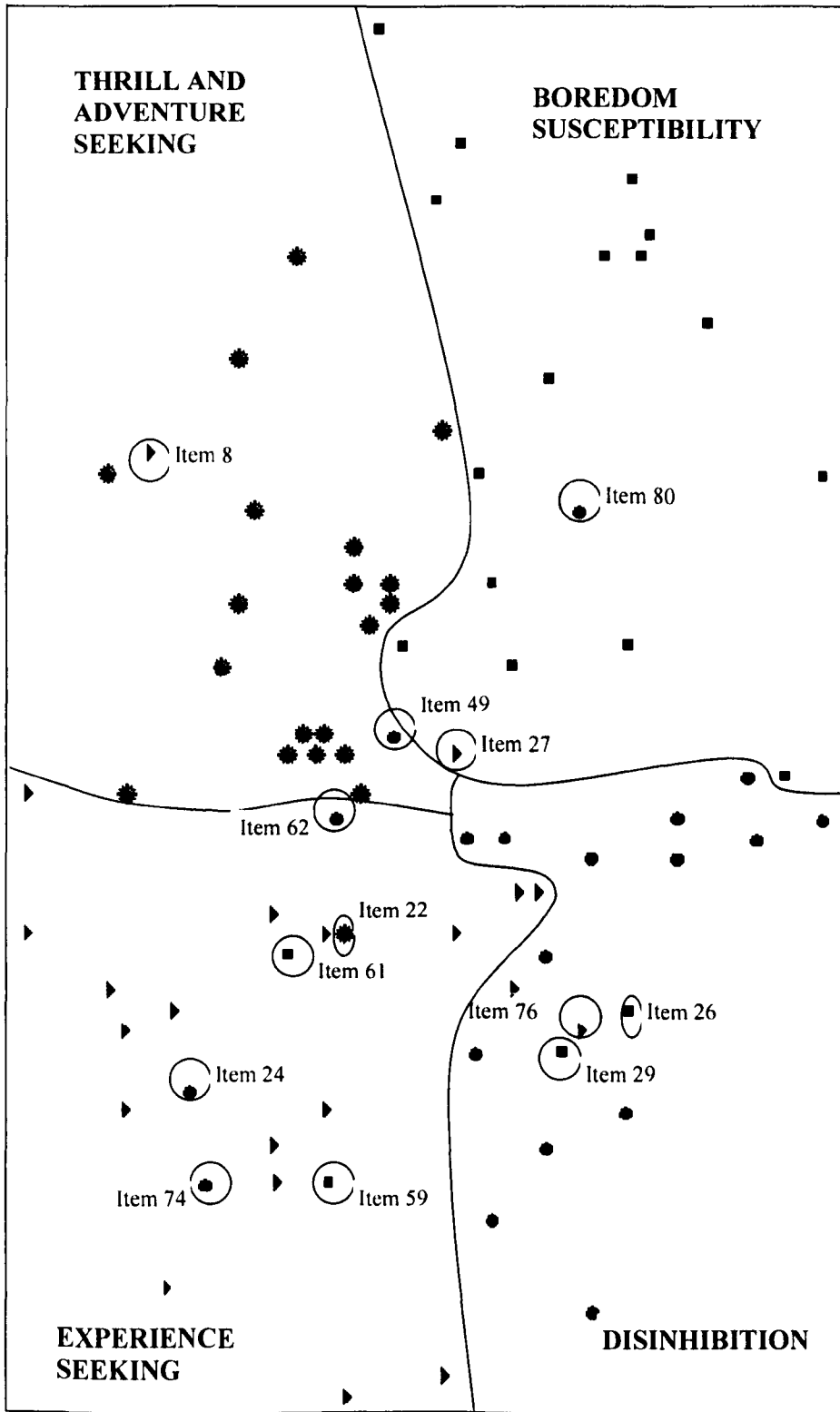
### *Procedure*

Participants were approached at the end of a lecture, whilst still in class and asked if they would be willing to complete the questionnaire. Those who agreed were given a questionnaire, which they completed in the classroom in the presence of the researcher. It seemed likely that some participants would not know the meaning of a few of the terms used in the questionnaire, so they were advised that the researcher could clarify any terms of which they were unsure. Completed questionnaires were returned to the researcher and the participants were thanked and debriefed as to the purpose of the study.

### **3.B. Reliability analysis**

The reliability of the SSS-V items was examined using a combination of analyses, to identify whether any items should be removed from the scale. Initially a Smallest Space Analysis (SSA) was conducted to examine whether the four subscales of the SSS-V occupied distinct regions in geometric space. The operation of SSA was described in the previous chapter in relation to the identification of facets that had previously been proposed in a mapping sentence. This type of use is therefore a test of whether *a priori* theorised relationships are supported empirically. SSA can also be used without a previous mapping sentence as a post hoc investigation of the structure of an existing questionnaire (Dancer, 1985). In the description of the SSA reported in Chapter 7 it was noted that the plot was partitioned using two of the recognised patterns, consisting of polarizing and modulating facets. In that plot the division lines were regular. However, it is not always necessary for the lines indicating the regional partitions to be straight. Borg &

Figure 11.



(2 - dimensional representation of 4 - dimensional solution (Vectors 1 X 3). Coefficient of alienation = 0.21)

Key: ● - Thrill and Adventure Seeking                      ■ - Boredom Susceptibility  
 ▶ - Experience Seeking    ● - Disinhibition

**Figure 11: SSA plot showing the four SSS-V sub-scales**

Shye (1995) indicate that it is allowable to have irregular partition lines that reduce the error of classifying points into their relevant regions.

The SSA, shown in Figure 11, was produced using the Pearson Correlation Coefficient, in 20 iterations. It is a two-dimensional representation, using vectors one and three, of a four-dimensional solution. The choice of vectors is based upon the interpretability of the plot in relation to the four sub-scales of the sensation seeking scale, which is consistent with examples used by both Borg & Shye (1995) and Dancer (1985). The coefficient of alienation for this analysis is 0.21, which indicates an adequate level of fit (Donald, 1994). The plot shows four identifiable regions, broadly showing a polar structure, which represent the four sub-scales, and most of the items fall within the correct region of the plot. The incorrectly located items are indicated by a ring around the point and are labelled with the item number as on the questionnaire shown in Appendix G. The location of the incorrectly placed items suggests that these items are more highly correlated with the scale of the region in which they occur than with their original scale. Following the SSA the scale alphas were calculated for each sub-scale, and the correlations of the scale items with their own and the three other sub-scales were calculated to test the discriminant validity. The frequency of responses for each item was also examined to identify whether or not the items reflected a range of responses and therefore differentiated between participants.

The Thrill and Adventure Seeking scale (TAS) was found to be very reliable, with a scale alpha of .91, which was not improved by the removal of any of the items. The item/scale correlations for the TAS scale indicated that it also had good discriminant validity, as all the items were more strongly associated with the rest of the TAS scale than with the three other sub-scales. All the TAS items were also representative of a range of responses. Although one of the TAS items was found to be out of region on the SSA plot, none of the other analyses indicated that this item

was a problem and it was therefore retained in the scale, meaning that no items were deleted from the TAS scale.

The Experience Seeking scale (ES) was found to have good reliability,  $\alpha = .79$ , although this was improved to  $\alpha = .80$  by the removal of four items. Item 8 ('I like some of the earthy body smells') was identified as being most highly correlated with the TAS scale, and was in the TAS region of the SSA plot rather than with the other ES items. Item 27 ('I prefer "down to earth" kinds of people as friends') was more highly correlated with the Boredom Susceptibility (BS) scale and the TAS scale than with the ES scale. It too was in the incorrect region of the SSA plot, being located in the BS region. Item 41 ('I often find beauty in the "clashing" colours and irregular forms of modern painting') was more strongly associated with the TAS scale than with the ES scale, although it was located in the correct region of the SSA plot. Item 51 ('The essence of good art is in its clarity, symmetry of form and harmony of colours') was also most highly correlated with the TAS scale rather than with the ES scale, but in the correct region of the SSA plot. None of the correlations of these four items with any of the sub-scales were high, the strongest being .198, which further suggests that they were not particularly useful measures of sensation seeking, and they were therefore removed from the scale. Item 43 ('I would like to meet some persons who are homosexual') was located in the correct region of the SSA plot but provided limited differentiation of responses, was only marginally more strongly correlated with the ES scale than the DIS and TAS scales and had low correlations with all the sub-scales. Similar issues related to Item 53 ('I stay away from anyone I suspect of being queer'), except it related somewhat more strongly to the ES scale than to the other sub-scales. It was likely that these two items were not reliable because of social changes since the creation of this scale in the 1960s. Participants may either have genuinely only held positive views towards homosexuals, or expressed positive views for reasons of social desirability. Items 43 and 53 were therefore deleted from the scale. Item 76 ('I would like to try some of the new drugs that produce hallucinations') was in the DIS region of the SSA, rather than in the ES region. The distribution of scores was also found to be somewhat skewed, suggesting that it was of limited usefulness in differentiating responses, and it was therefore deleted. The revised scale contains 13 items and has a scale reliability of  $\alpha = .79$ .

The Disinhibition scale (DIS) was also found to have good reliability, with a scale alpha of .83. The reliability analysis indicated that item 62 ('I like to date people who share my values') should be deleted, which raised the scale alpha to .84. This item was also in the wrong region on the SSA plot, being located in the ES region. Items 24 ('I enjoy the company of real "swingers"') and 74 ('I dislike "swingers"') were also in the ES region of the SSA plot, rather than in the DIS region. These items were correlated with at least one of the other sub-scales at a level similar to that for the DIS scale, suggesting that they had low discriminant validity. Item 49 ('I am not interested in experience for its own sake') appeared in the TAS region of the SSA plot, and item 80 ('I like to date people who are physically exciting') appeared in the BS region of the SSA. Both of these items were found to correlate more highly with other sub-scales than with the DIS scale. These 5 items were removed from the SSS-V, leaving 15 items representing the construct of disinhibition in the revised scale, which has a scale reliability of .84.

The Boredom Susceptibility scale also had a good level of reliability, alpha = .72, which was improved to .74 once Items 14 ('I can't stand watching a movie that I have seen before'), 59 ('I prefer friends who are reliable and predictable') and 61 ('The worst social sin is to be rude') were deleted. Items 59 and 61 were also located in the ES region of the SSA plot, rather than in the BS region. Items 6 ('I dislike people who have fun at the expense of hurting the feelings of others'), 10 ('I prefer the comfortable familiarity of everyday friends') and 50 ('There are some movies I enjoy seeing a second or even a third time') were also deleted from this sub-scale, as they did not differentiate substantially between people's responses. The final scale reliability for the revised BS scale consisting of 14 items was alpha = .73.

The data relating to the items left in the questionnaire after the reliability analysis were subjected to a second SSA, presented in Figure 12, where it can be seen that the regions relating to the four sub-scales partition more clearly. As was the case with the previous SSA plots, this plot was created using the Pearson Correlation Coefficient, and it was produced in 16 iterations. The plot is the two-dimensional representation of vectors 1 and 3 from the three dimensional solution, and has a coefficient of alienation of 0.23. These vectors were used as they provide the most interpretable solution, as noted previously in accordance with Borg & Shye (1995) and Dancer (1985). The plot again partitions into a broadly polar structure of four regions, with irregular partition lines, one representing each of the sensation seeking

Figure 12.



(2 – dimensional representation of 3 - dimensional solution (Vectors 1 X 3). Coefficient of alienation = 0.23)

Key: ★ - Thrill and Adventure Seeking    ■ - Boredom Susceptibility  
▶ - Experience Seeking                    ● - Disinhibition

Figure 12: SSA Plot showing the relationship of items on the revised 62 – item SSS Scale



sub-scales. There is only one item that is not in the correct region, which is item 10 ('I dislike people who do or say things just to shock or upset others') of the shortened 62-item questionnaire. The scale alpha for the BS scale remained at .73 after deleting this item, which was therefore removed from the scale. The revised SSS-V, containing 61 items was used to assess levels of participants' sensation seeking trait in the following study. This revised scale will be referred to throughout as the 'revised SSS', and is shown in Appendix I.

It was previously noted that Arnett (1994) had highlighted a number of problems with the SSS-V. The analysis conducted in this section has addressed a number of these issues. The format of the questionnaire has been changed to a Likert-type scale, and 19 of the items have been removed, as they were unreliable. The remaining items therefore allow participants to report the extent to which they agree or disagree with the individual items. The issues regarding the physical nature of the items possibly being responsible for the age related decline in sensation seeking and the confound between items on the questionnaire and activities actually undertaken by participants can however be dealt with at the stages of implementation and analysis. Arnett (1994) also noted the dated language used in the original questionnaire. That this is indeed the case is supported by the fact that it was principally these items that were found to be unreliable and were hence deleted. The revised scale does not refer to 'swingers', hallucinogenic drugs, or homosexuality. These findings suggest that even if these subjects reflected sensation-seeking orientation in the 1960's they no longer do so. There are a few items remaining in the scale that had previously been identified as being dated, such as reference to 'far out groups such as artists and hippies'. However, it seems likely that whilst this may have appeared dated at some point, the circularity of fashion trends means that it is currently of some relevance to these participants. This highlights the importance of monitoring measures that contain concepts of cultural and temporal specificity, to ensure that in a given time and place they are of relevance to the participants.

## **Study 4 - Sensation seeking as a predictor of deterrence from travelling due to the perceived threat of terrorism.**

As noted above, there has been very little research that has looked at the association between sensation seeking and travel decisions. However, it seems reasonable to anticipate that a construct that has been found to predict participation in a variety of physically risky or adventurous activities would also predict deterrence from travelling when there is a perceived risk from terrorism. The purpose of this study was to identify whether sensation seeking, or any of its components as measured by the sub-scales of the revised sensation seeking scale were useful predictors of deterrence from travelling due to the perceived threat of terrorism in the period after 9/11. Based on the findings of Gilchrist et al. (1995) it is predicted that TAS, ES and total revised SSS will be the strongest predictors. The socialisation variables of age and gender, and travel experience, assessed in terms of the number of flights taken prior to 9/11 are included in the analyses to control for the variance they contribute. Travel experience prior to 9/11 is used as a measure of travel experience as this is a figure that is not affected by that act of terrorism, and therefore provides a baseline measure of experience.

### **4.A. Method**

#### *Participants*

The participants in this study were 160 psychology students at a British University. The sample consisted of 22 males and 138 females. The age distribution of the participants was, 10 (6.3%) male and 96 (60%) female under 20 years of age, 11 (6.9%) male and 27 (16.9%) female between 20 and 29, 1 (0.6%) male, 9 (5.6%) female and 1 person who did not record their gender between 30 and 39, 4 (2.5%) females between 40 and 49, and 1 (0.6%) female between 50 and 59. The participants received partial course credit in return for their participation.

#### *Materials*

Preliminary questions asking for age, gender and details of air travel experience prior to 9/11 were presented. The revised 61-item sensation seeking scale resulting from the analyses described in Study 1 of this chapter, shown in Appendix

I, was used to assess sensation seeking. The 3TQ, shown in Appendix B assessed deterrence from travelling due to the threat of terrorism. Age and gender details were requested on the information sheet read by participants at the start of the study. Travel experience in terms of the number of flights in the two years prior to 9/11 was requested from the participants before they started completing the questionnaires used in the research for this thesis.

### *Design*

This study consists of two hierarchical multiple regression analyses. In the first analysis the predictor variable in the first stage was the total revised SSS, with gender, age and number of flights pre 9/11 entered at the second stage. The criterion variable was degree of deterrence from travelling, measured by the 3TQ. The second analysis was the same as the first, but the total revised SSS was replaced with the four revised sensation-seeking sub-scales.

### *Procedure*

The participants were recruited via e-mail to all psychology undergraduates and through the Department of Psychology Research Participation Scheme website, where students can obtain details of studies that they can participate in to obtain course credits. These participants came to an allocated room where they were verbally briefed as to the purpose of the study. They were then given a battery of questionnaires for completion, including those used in this study, and a written briefing and debriefing. Once the questionnaires were completed the participants were thanked for their assistance and any questions answered.

## **4.B. Results**

The mean scores for the 3TQ, revised SSS total, each of the sub-scales from the revised SSS, and number of flights pre 9/11 were calculated and the descriptive statistics are shown in Table 7. Age is classified using intervals of 10 years, providing a 7-point scale, and gender is a dichotomous variable. These variables can therefore be entered directly into the regression analysis, as only variables with more than two categories, which do not represent an increase in the measured item, require dummy coding (Allison, 1999; Tabachnick & Fidell, 1996). A score above 4 on the

3TQ represents not being deterred from travelling post 9/11, and a score above 4 on the various sensation-seeking scales indicates sensation-seeking responses.

**Table 7.**

	Mean	Standard Deviation
3TQ (N = 159)	5.98	0.81
Revised SSS Total (N = 159)	4.20	0.57
Revised TAS (N = 159)	4.61	1.03
Revised ES (N = 159)	4.34	0.82
Revised BS (N = 159)	3.62	0.72
Revised DIS (N = 159)	4.03	0.81
Flights pre 9/11 (N = 159)	3.64	3.48

**Table 7: Mean and standard deviation for 3TQ, revised SSS total, revised subscales and number of flights pre 9/11.**

The first regression analysis was conducted to investigate the utility of the total revised SSS score as a predictor of deterrence from travel due to the perceived threat of terrorism as measured by the 3TQ. A hierarchical regression was used, with age, gender and flights pre 9/11 entered in the first stage of the model to control for these variables. The bivariate correlations, semi-partial correlations and betas for both stages of the model are shown in Table 8. The bivariate correlations indicate that high reported sensation seeking, more travel experience and being younger are associated with being less deterred from travelling due to the perceived threat of terrorism. There is no statistically significant association between gender and deterrence.

The first stage, which includes age, gender and travel experience as predictors accounts for over 11% of the variance ( $r = .34$ ,  $R^2 = 0.118$ ), and is statistically significant,  $F(3, 155) = 6.90$ ,  $p < .001$ . The second model, which also includes the revised SSS, showed that this variable provided a statistically significant improvement in prediction of 3TQ score over and above that made by the socialisation variables,  $R^2$  change = .150,  $F$  change (1, 154) = 31.65,  $p < .001$ . The second stage therefore accounted for nearly 27% of the variance ( $R^2 = 0.268$ ),  $F(4,$

154) = 14.11,  $p < .001$ . In this model the statistically significant predictors were revised total SSS, which accounted for 15.05% of unique variance, age, which accounted for 2.34% and number of flights pre 9/11, which contributed 7.02% of unique variance.

**Table 8.**

	<b>Correlation</b>	<b>Semi-partial correlation</b>	<b>Beta</b>	<b><i>p</i></b>
<b>Stage 1</b>				
<b>Age</b>	-.16*	-.16	-.16	.037
<b>Gender</b>	-.13	-.15	-.15	.053
<b>Flights pre 9/11</b>	.27*	.27	.27	.001
<b>Stage 2</b>				
<b>Age</b>	-.16*	-.15	-.15	.028
<b>Gender</b>	-.13	-.06	-.06	.373
<b>Flights pre 9/11</b>	.27*	.27	.27	.000
<b>SSS Total</b>	.41*	.39	.40	.000

Note: \* indicates correlation significant at  $p < .05$

**Table 8: Bivariate, semi-partial correlations and betas between 3TQ score and revised SSS total, age, gender and flights pre 9/11.**

The purpose of the second regression analysis was to identify the relative contributions of the four individual sub-scales of the revised SSS. It can be seen from the bivariate correlations shown in Table 9 that of the sensation seeking variables in this analysis only the TAS and ES sub-scales were significantly associated with 3TQ score. This indicates that higher levels of thrill and adventure seeking and experience seeking are independently associated with being less deterred from travelling due to the perceived threat of terrorism. The zero-order relationships for age, gender and travel experience are the same as reported in the previous analysis.

**Table 9.**

	<b>Correlation</b>	<b>Semi-partial correlation</b>	<b>Beta</b>	<b><i>p</i></b>
<b>Stage 1</b>				
<b>Age</b>	-.16*	-.16	-.16	.037
<b>Gender</b>	-.13	-.15	-.14	.053
<b>Flights pre 9/11</b>	.27*	.27	.27	.001
<b>Stage 2</b>				
<b>Age</b>	-.16*	-.16	-.16	.026
<b>Gender</b>	-.13	-.07	-.07	.307
<b>Flights pre 9/11</b>	.27*	.23	.23	.001
<b>TAS</b>	.46*	.33	.35	.000
<b>ES</b>	.30*	.19	.22	.005
<b>BS</b>	.08	.04	.05	.539
<b>DIS</b>	.08	-.05	-.06	.454

Note: \* indicates correlation significant at  $p < .05$

**Table 9: Bivariate, semi-partial correlations and betas between 3TQ score and SSS sub-scales, age, gender and number of flights pre 9/11.**

The first stage of this model, containing the socialisation variables accounted for 11.8% of the variance in 3TQ score ( $r = .34$ ,  $R^2 = 0.118$ ), and was statistically significant  $F(3, 155) = 6.90$ ,  $p < .001$ . Scrutiny of the betas indicates that age and number of flights both contribute significant amounts of unique variance. The second stage of this analysis showed that including the four separate sub-scales accounted for an extra 20.6% of the variance ( $R^2$  change = 0.206), which was a statistically significant increase,  $F$  change (4, 151) = 11.48,  $p < .001$ . The overall model accounted for a total of 32.3% of the variance in 3TQ ( $R^2 = 0.323$ ,  $F(7, 151) = 10.32$ ,  $p < .001$ ). In this model the statistically significant contributions of unique variance were made by TAS, which accounted for 10.76%, ES which accounted for 3.57%, age which accounted for 2.28% and number of flights which accounted for 5.11%.

#### 4.C. Discussion

The results of this study showed that the model using the four revised SSS sub-scales together with age, gender and number of flights pre 9/11 provided a better level of prediction of 3TQ score than the model including just the total revised SSS scale. The number of flights taken prior to 9/11 and age were the socialisation variables that were the statistically significant predictors in the model, but the greatest proportion of variance was contributed by the TAS scale, over and above that contributed by the socialisation variables. These significant relationships showed that high scores on the TAS and ES sub-scales and more travel experience were associated with being less deterred from travelling due to the threat of terrorism. However, there was a negative relationship with age, meaning that younger people were less likely to be deterred from travelling due to the threat of terrorism than were older people.

The TAS sub-scale has previously been found to predict participation in various physically risky leisure activities, such as mountaineering (Cronin, 1991) and parachuting (Hymbaugh and Garrett, 1974). These findings are perhaps unsurprising as the TAS scale specifically assesses people's liking for risky activities. Gilchrist, Povey, Dickinson and Povey (1995) found that people undertaking adventure travel scored higher on TAS and ES than did people undertaking non-adventure travel. This suggests that TAS may also be a useful predictor of travel behaviour where there is an increased level of risk. The present study supports this interpretation by demonstrating that level of TAS predicts deterrence from travelling in a situation where people are considering the physical risk they face due to the threat of terrorism. This therefore suggests that a propensity to accept one type of physical risk can indicate a propensity to accept other types.

The finding that the sensation seeking personality trait is a useful predictor of deterrence from travelling due to the perceived threat of terrorism contradicts the findings of Sönmez and Graefe (1998a). These authors found that a scale based on the concept of tourist personality types (Plog, 1974), which characterises individuals as psychocentric (risk averse) or allocentric (risk taking), did not significantly predict various aspects of the travel decision, including concern for security. These findings suggest that sensation seeking is more useful as a predictor, which may indicate that in this situation the element of risk is of greater salience than is the case in routine

travel attitudes or behaviours. However, it is possible that these contradictory findings occur because this study is following a major terrorist incident and there is an ongoing threat of terrorism.

This study took place one year after 9/11, and the findings of Study 1, reported in Chapter 7 show that deterrence from travelling has declined over this period. However, Study 2 in Chapter 7 suggests that the U.S.A. was still considered to be more risky at this time than before 9/11. The difference between the findings of this study and those of Sönmez and Graefe (1998a) suggest that sensation seeking is a more relevant concept to this issue than is travel personality type (Plog, 1974). However, it may also indicate that reference to actual terrorism in the briefing for the 3TQ, rather than the abstract concept of terrorism, was of greater relevance to the participants, and therefore led to the identification of differences in response depending on personality type.

## **Chapter Summary**

This chapter described the tests that were conducted to establish the reliability of the SSS-V (Zuckerman, 1994). The format of the questionnaire was changed to a Likert-type scale, rather than the original forced choice format. The analysis of this data showed that 18 of the items were unreliable, which were deleted from the scale. Further analyses were carried out that indicated the need to remove one further unreliable item. In the final study the revised SSS total scale, sub-scales, age, gender and number of flights pre 9/11 were entered in regression models as predictors of deterrence from travelling due to terrorism, as assessed by the 3TQ. The revised SSS was a useful predictor of deterrence, particularly the TAS and ES sub-scales that assess the acceptance of physical risk and the desire for new experiences. The number of flights pre 9/11 and age were also significant predictors of deterrence. The TAS and ES sub-scales will therefore be the only elements of the revised SSS included in the integrated model of deterrence from travelling described in Chapter 10.



## **CHAPTER 9: THE SOCIAL COGNITIVE FACTORS OF ATTITUDE TO INTERNATIONAL TRAVEL AND RISK PERCEPTION AS PREDICTORS OF DETERRENCE FROM TRAVELLING DUE TO THE PERCEIVED THREAT OF TERRORISM.**

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In the previous chapter it was demonstrated that the personality trait of sensation seeking, most specifically in relation to the sub-scales of Thrill and Adventure Seeking and Experience Seeking, is a useful predictor of deterrence from travel due to the threat of terrorism. This was argued to indicate a role for differences in personality that had not been identified in earlier research examining the impact of terrorism on the tourist industry (Sönmez & Graefe, 1998a). In addition to personality factors it seems likely that people's cognitions would also influence the extent to which terrorism deters them from travelling. As such, this chapter reports the results of a series of studies investigating whether, when considered separately, the social cognitive factors of attitude and risk perception are useful predictors of deterrence from travelling due to the perceived threat of terrorism.

### **Attitude to International Travel**

Sönmez & Graefe (1998a) found that attitude to international travel was a significant predictor of the decision whether to travel nationally or internationally, the extent of information search regarding potential destinations and concern for safety in travel decisions. Participants with a positive attitude to international travel were more likely to travel internationally, carried out a more extensive information search and were less concerned with security issues. Following from the findings of Sönmez & Graefe, it is intended to identify whether attitude to international travel in general is associated with the extent of deterrence from travelling.

As noted in Chapter 3, attitude can be characterised as 'a psychological tendency that is expressed by evaluating a particular entity with some degree of favor or disfavor' (Eagly & Chaiken, 1993, p.1). Furthermore, it was argued that attitudes could be revealed through evaluative responses in one of the three domains or classes of attitude, being cognitive, affective or behavioural. A positive attitude would therefore be reflected in positive cognitive evaluations, positive emotions and

positive behaviour. Hence observation of any one or more of these domains could provide evidence of the overall attitude.

According to theories such as cognitive dissonance theory (Festinger, 1957) it would be anticipated that there will be consistency between general attitude to international travel and extent of deterrence from travelling due to the threat of terrorism. However, Ajzen (2001) argues that people may hold inconsistent attitudes. The expectancy-value model of attitudes (Fishbein & Ajzen, 1975) suggests that current attitudes are based on the beliefs and evaluations that are accessible at the time, and that this accessibility is based upon belief importance, and the recency and frequency of activation. It can be seen that this view resembles that of Prospect Theory (Kahneman & Tversky, 1979) and the availability heuristic Tversky & Kahneman (1974), regarding the factors that influence the risk perceived for a given hazard. This suggests that whilst individuals may perceive an increased risk due to the threat of terrorism in the period following a terrorist incident, a positive attitude to international travel, particularly if that positive attitude is readily accessible, may act to reduce the negative impact of the increased salience of terrorism at such a time. Study 5 examines the role of attitude to international travel and the background factors of age, gender and travel experience as predictors of deterrence from travelling due to the threat of terrorism

#### **Study 5 – Attitude to international travel as a predictor of deterrence from travelling due to the perceived threat of terrorism.**

This study investigates whether attitude to international travel, assessed by the Attitude to International Travel Questionnaire, gender, age and travel experience, are useful predictors of deterrence from travelling due to the perceived threat of terrorism, assessed by the 3TQ. It is predicted that attitude to international travel will be a significant predictor of deterrence from travelling due to the threat of terrorism. As in study 4 reported in Chapter 8, the socialisation variables of gender, age and number of flights pre 9/11 variables will be included in this analysis to identify whether they predict any variance beyond that accounted for by the attitude variable.

## 5.A. Method

### *Participants*

The participants in this study were 160 psychology students at a British University. The sample consisted of 22 males and 138 females. The age distribution of the participants was, 10 (6.3%) male and 96 (60%) female under 20 years of age, 11 (6.9%) male and 27 (16.9%) female between 20 and 29, 1 (0.6%) male, 9 (5.6%) female and 1 person who did not record their gender between 30 and 39, 4 (2.5%) females between 40 and 49, and 1 (0.6%) female between 50 and 59. The participants received partial course credit in return for their participation.

### *Materials*

It has been discussed previously that travel is a behaviour that has a range of hazards associated with it, and that these reflect differing degrees of risk (Watson, 1996). It has also been argued that there may be individual differences in the degree of risk perceived for any given hazard. This questionnaire is designed to reflect this range of perceived risk by assessing attitudes that are representative of different degrees of danger or negative experience that could be associated with travel. This concept is clarified by referring to the following examples. Travel experiences may not match the expectations of the traveller, which would be expected to be perceived as a less severe type of risk, which although a hazard of travel does not pose a danger to life or limb. Attitudes reported that relate to that travel situation would therefore be expected to reflect this, through items such as finding it not enjoyable, a negative experience, or not exciting. At an intermediate level, a traveller may face hazards that they do perceive as carrying some threat. A possible example of this type of hazard is being in a market where traders are aggressively harassing tourists to go into their shops and to buy their goods. In this situation some people would probably report feeling stressed or agitated. At the risky end of the spectrum of hazards, travellers could find themselves in a situation, such as being caught in a terrorist attack or the victim of a violent crime, where they may be expected to report feeling threatened or unsafe.

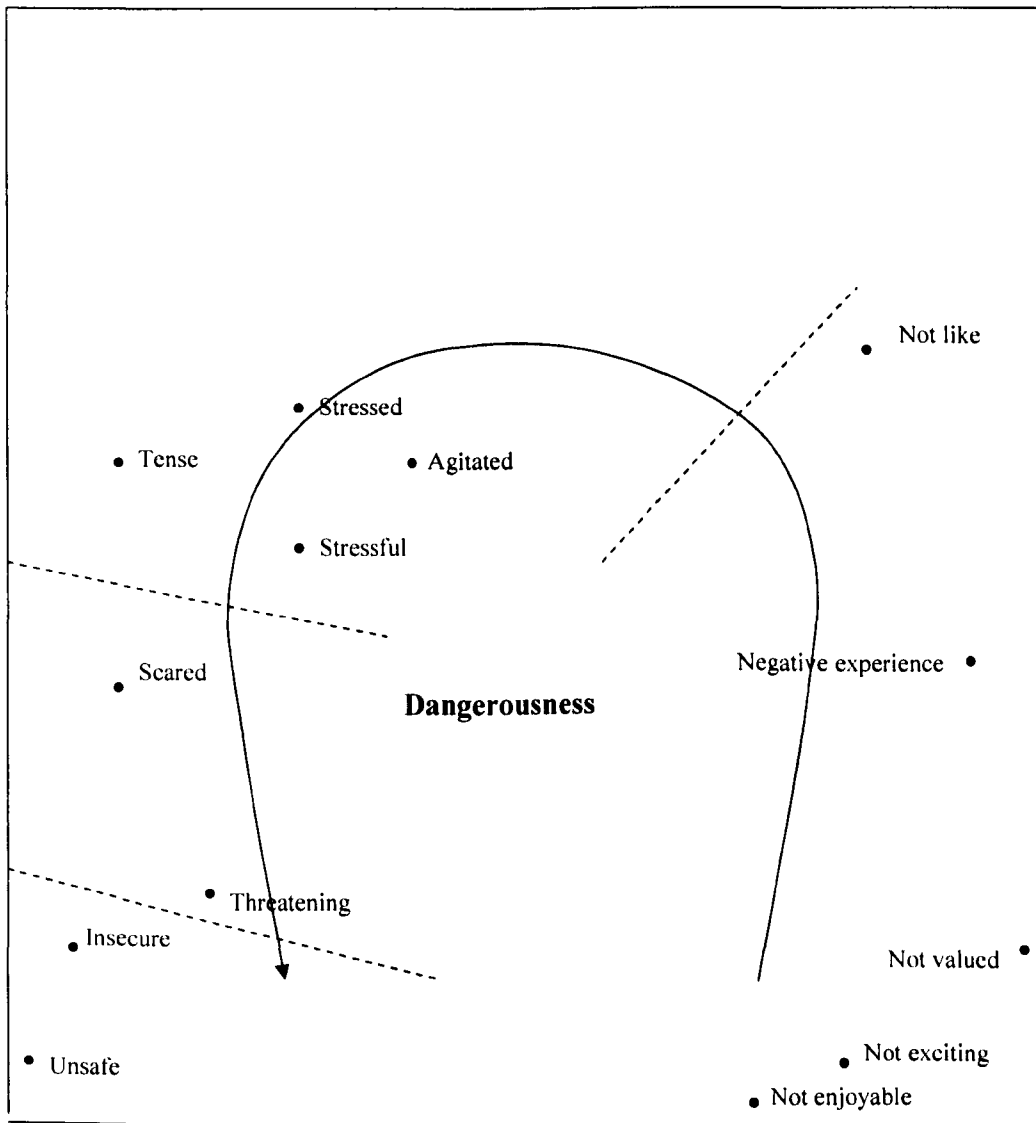
The Attitude to International Travel Questionnaire (AIT), shown in Appendix J was used in this study. The items for this questionnaire were chosen to reflect the range of potential dangerousness discussed above, and were drawn from

examples of the questions used by Sönmez & Graefe (1998a) in the attitude questionnaire they employed in their analysis of the impact of terrorism on tourism. Supplementary items were created to provide a more complete reflection of the degree of danger potentially associated with travel hazards, based on other examples of items commonly included in attitude questionnaires. The questions were designed to assess both the cognitive and affective components of attitude. The success of these questions is assessed using a SSA, which is shown in Figure 13. This SSA plot shows the 2-dimensional solution, which was created using the Pearson Correlation Coefficient in 16 iterations. It can be seen that these items form an inverted horseshoe pattern, moving from right to left, which represents a scaling of attitudes associated with different degrees of travel dangerousness. The dashed lines indicate increases in the dangerousness of the situation, but the plot is not partitioned into regions as this represents a continuum of dangerousness. Responses in the first segment to the right of the plot, such as having a negative experience, or not finding a destination exciting are likely to be made to a place that is not meeting expectations but is low in dangerousness. The responses in the second segment, such as feeling tense or agitated are more likely to occur in a situation where there is some sense of discomfort, and is at a more serious level than simply disliking a destination. The third segment contains the items of feeling the destination as threatening and being scared. These seem to reflect a further increase in the danger perceived, as these responses are likely to be experienced in a situation where there is a real threat to the well-being of the individual.

The final segment, which contains the judgements that a destination is unsafe or the traveller would feel insecure, represents the highest level of perceived danger. These are judgements that would be more likely to be made in a situation where there was an imminent threat of harm. However, the gap in the lower centre of the plot suggests that there is a range of dangerousness that is not covered by this questionnaire. This is the area that marks the transition from mere dislike of a destination to the perception of an actual hazard. For the purposes of this research this was not considered to be a serious problem as the items did reflect a range of responses that should reveal whether participants respond differently to the levels of dangerousness. Some items were reversed on the questionnaire to provide both positively and negatively phrased questions. The total AIT was subjected to reliability analysis, which showed that the scale was highly reliable, with a scale

alpha of .91. The analysis indicated that the reliability of the scale would not be improved by the removal of any of the items.

**Figure 13.**



Note: 2-dimensional solution, coefficient of alienation = 0.14

**Figure 13: Ordering of items from Attitude to International Travel Questionnaire reflecting attitudes to increased perception of danger.**

The 3TQ, shown in Appendix B assessed deterrence from travelling due to the threat of terrorism. Age and gender details were requested on the information

sheet read by participants at the start of the study. Travel experience in terms of the number of flights in the two years prior to 9/11 was requested from the participants before they started completing the questionnaires used in the research for this thesis.

### *Design*

This study uses a hierarchical regression analysis in which gender, age and number of flights pre 9/11 are the predictors in the first stage of the model, and AIT is entered at the second stage. The criterion variable is deterrence from travelling due to the perceived threat of terrorism, as assessed by 3TQ score.

### *Procedure*

The participants were recruited via e-mail to all psychology undergraduates and through the Department of Psychology Research Participation Scheme website, where students can obtain details of studies that they can participate in to obtain course credits. These participants came to an allocated room where they were verbally briefed as to the purpose of the study. They were then given a battery of questionnaires for completion, including the Attitude to International Travel Questionnaire, and a written briefing and debriefing. Once the questionnaires were completed the participants were thanked for their assistance and any questions answered.

## **5.B. Results**

The responses to AIT items 1, 5, 7, 9, 11 and 12 were reverse coded, so that a high value represents a positive attitude to international travel. The AIT scale includes items reflecting both the cognitive and affective components of attitude. The relationship between these aspects of attitude to international travel was examined. Items 1, 3, 5, 7, 9, and 11 assessed the cognitive component, as they are evaluative in nature. Items 2, 4, 6, 8, 10, 12, and 13 assess emotionally based reactions to international travel and therefore assess the affective component of attitude. The two components were highly and statistically significantly correlated,  $N = 197, r = .75, p < .001$ . A paired sample t-test revealed that the cognitively based attitude ( $M = 5.66, S.D. = 0.82$ ) was significantly more positive than the affectively based attitude ( $M = 5.24, S.D. = 1.11$ ),  $t(196) = 7.90, p < .001$ . Although these analyses suggest that

there are some differences between the cognitive and affective components the strong correlation between them indicates that they can be included together as a single scale in the following analyses.

The mean scores for the 3TQ, AIT and number of flights pre 9/11 are shown in Table 10. It can be seen that overall the participants had a positive attitude towards international travel. Age is classified using intervals of 10 years, providing a 7-point scale, and gender is a dichotomous variable.

**Table 10.**

	Mean	Standard Deviation
3TQ (N = 195)	5.98	0.81
AIT (N = 195)	5.36	0.93
Flights pre 9/11 (N = 195)	3.64	3.48

**Table 10: Mean and standard deviation for 3TQ, AIT and number of flights pre 9/11.**

A hierarchical regression analysis was conducted to identify whether attitude to international travel is a significant predictor of deterrence from travel due to the perceived threat of terrorism, controlling for the effects of age, gender and number of flights pre 9/11. The socialisation variables were entered in the first stage of the analysis and accounted for 11.8% of the variance in 3TQ score ( $R^2 = 0.118$ ), which was significant,  $F(3, 155) = 6.90, p < .001$ . Adding attitude to international travel to the model accounted for a further 38.5% of the variance ( $R^2 \text{ change} = 0.385$ ), which was a significant increase,  $F \text{ change}(1, 154) = 119.20, p < .001$ . This overall model therefore accounted for 50.3% of the variance in deterrence from travelling due to the threat of terrorism ( $R^2 = 0.503, F(4, 154) = 38.92, p < .001$ ).

The bivariate and semi-partial correlations and the betas for the relationships between these variables are shown in Table 11. Considering first the bivariate correlations, it can be seen that age, number of flights pre 9/11 and attitude to international travel all correlate significantly with 3TQ score. In the complete model, the highest proportion of unique variance is contributed by attitude to international travel (42.3%), followed by age and gender, which contribute a very similar proportion (1.4% each). The number of flights pre 9/11 does not contribute any

unique variance in this model. A positive attitude to international travel, being younger and being male are associated with being less deterred from travelling due to the threat of terrorism.

**Table 11.**

	<b>Correlation</b>	<b>Semi-partial correlation</b>	<b>Beta</b>	<b><i>p</i></b>
<b>Stage 1</b>				
<b>Age</b>	-.16*	-.16	-.16	.037
<b>Gender</b>	-.13	-.15	-.15	.053
<b>Flights pre 9/11</b>	.27*	.27	.27	.001
<b>Stage 2</b>				
<b>Age</b>	-.16*	-.12	-.12	.036
<b>Gender</b>	-.13	-.12	-.12	.038
<b>Flights pre 9/11</b>	.27*	.08	.08	.180
<b>AIT</b>	.69*	.62	.65	.000

Note: \* indicates correlation significant at  $p < .05$

**Table 11: Bivariate, semi-partial correlations and betas between 3TQ score and AIT, age, gender and flights pre 9/11, for the complete model.**

### 5.C. Discussion

The sub-scales of the AIT representing the cognitive and affective components of attitude were highly correlated, with responses to the cognitive items being more positive than to the affective items. This is consistent with the conceptualisation of cognition and affect as being components of attitude (e.g. Eagley & Chaiken, 1993; M.J. Rosenberg & Hovland, 1960) and with the findings of previous research (e.g. Breckler, 1984). The strong correlation may suggest that they are measuring the same construct, and the main analysis therefore used the total AIT scale, combining the cognitive and affective components.

This study confirmed that a positive attitude to international travel, being male and being younger were associated with being less deterred from travelling due to the perceived threat of terrorism. After controlling for the socialisation variables, attitude to international travel accounted for 38.5% of the variance in deterrence from



travelling due to the threat of terrorism. The whole model accounted for over 50% of the variance. These findings are somewhat different to those reported in Chapter 8. In this model, the number of flights has ceased to contribute any significant unique variance, and gender became a significant predictor.

These findings suggest that people's general attitude to international travel is related to the extent to which they are deterred from travelling due to the perceived threat from terrorism. A positive attitude to international travel was associated with less deterrence. This is consistent with the argument made above relating to cognitive dissonance theory (Festinger, 1957) that people are likely to have reasonably consistent attitudes. The findings also support those of Sönmez & Graefe (1998a) who found that attitude to international travel was a useful predictor in all three stages of the travel decision process. These were the decision whether to travel nationally or internationally, the extent of information search regarding potential destinations and concern for safety in travel decisions. The stage of their model most relevant to the present study is concern for safety, which was negatively associated with attitude to international travel. This suggests that people most concerned about safety had least positive attitudes, which is in line with the present findings. Sönmez & Graefe also found that there was no relationship between either age or gender and attitude to international. The present study differs by finding that both of these variables contributed a significant amount of unique variance.

### **Risk Perception**

It was argued in Chapter 2 that terrorists seek to achieve their goals by creating fear in the population beyond the direct victims of an attack. By these means they put pressure on the targeted government to concede to their demands, to remove the fear from the population, which may be having damaging financial, political and social consequences. In the case of tourism, terrorism could deter people from travelling in a number of ways. They may be deterred from visiting a particular destination because of terrorism at that location. Similarly, as indicated by the findings reported in Chapter 7, they may be deterred from flying because of the potential for a terrorist attack against an aircraft. Another possible source of deterrence is the threat of terrorism at home, which may make people reluctant to

gather in public places such as train stations or airports, and also lead them to stay near their homes, as has been seen in the fear of crime literature (e.g. Hale, 1996).

An important factor in people's decisions regarding whether terrorism deters them from travelling is likely to be the degree of risk to their well being that they perceive from terrorism. Whilst the actual risk of being involved in a terrorist incident could be quantified, most people would not have access to the relevant data to enable them to make that calculation. As argued in Chapter 3, in this situation people are likely to use cognitive short cuts such as the availability heuristic (Tversky & Kahneman, 1974). This suggests that the frequency of a hazard is estimated based on the ease with which it is brought to mind for the given situation. If people do utilise the availability heuristic in their travel decisions it would be expected that dramatic hazards, such as terrorism, that receive much media coverage would be perceived as high risk, whereas less publicised hazards would be perceived as lower risk, even if they are objectively more common.

Watson (1996) identified 26 potential travel hazards, which were classified into different types of risk. These were used to create a questionnaire to assess the perceived risk of the various hazards, and whether or not they deterred people from travelling. In the first study in this section the data are interpreted using Smallest Space Analysis (SSA) to identify the structure of the perceived risk for these items. The deterrent effects associated with these categories are then investigated using Chi-square analyses. The second study reported in this section is a multiple regression analyses to investigate whether the risk perceived for the different types of hazard identified in the second section is a useful predictor of deterrence from travelling as measured by the 3TQ.

### **Study 6 – The structure of travel risk perception, and the relationship between perceived risk and anticipated deterrence.**

The research reported in this thesis has indicated that people do perceive terrorism as a threat and that it can deter people from travelling. It has also found that the degree of deterrence reported is associated with the individual factors of sensation seeking trait and attitude to international travel. However, whilst at times terrorism is particularly salient and may therefore be a prominent factor in people's travel decisions there are many other potential hazards that may influence that

decision. It is therefore beneficial to consider the hazard posed by terrorism in the context of the other travel hazards to provide evidence regarding any inter-relationship. Terrorism may be a unique deterrent from travelling that is commonly perceived as such a high risk that it affects people who are not deterred by other travel hazards. The alternative effect could be that terrorism is just another travel hazard that affects people who are generally cautious travellers who are easily deterred by any hazard. The purpose of this study is to identify how the risk perceived from terrorism relates to other travel hazards, and how this relates to anticipated deterrence from travelling. The hazards previously identified by Watson (1996) were used to create a questionnaire and the responses analysed with SSA to investigate the structure of perceptions of those hazards. Further analyses were then conducted to examine which types of hazard were reported as being deterrents from travelling.

## **6.A. Method**

The participants in this study were 160 psychology students at a British University. The sample consisted of 22 males and 138 females. The age distribution of the participants was, 10 (6.3%) male and 96 (60%) female under 20 years of age, 11 (6.9%) male and 27 (16.9%) female between 20 and 29, 1 (0.6%) male, 9 (5.6%) female and 1 person who did not record their gender between 30 and 39, 4 (2.5%) females between 40 and 49, and 1 (0.6%) female between 50 and 59. The participants received partial course credit in return for their participation.

### *Materials*

The travel hazards questionnaire shown in Appendix K was used in this study. The questions are in two parts, the first asks how risky 26 different travel hazards are considered as being to a potential traveller. The second part of each question asks whether that hazard would deter the respondent from travelling. The hazards used are those identified by Watson (1996).

### *Design*

This study employs SSA to identify the structure of the hazards listed on the questionnaire, followed by chi-square analyses to identify which types of hazard have a deterrent effect on travel.

### *Procedure*

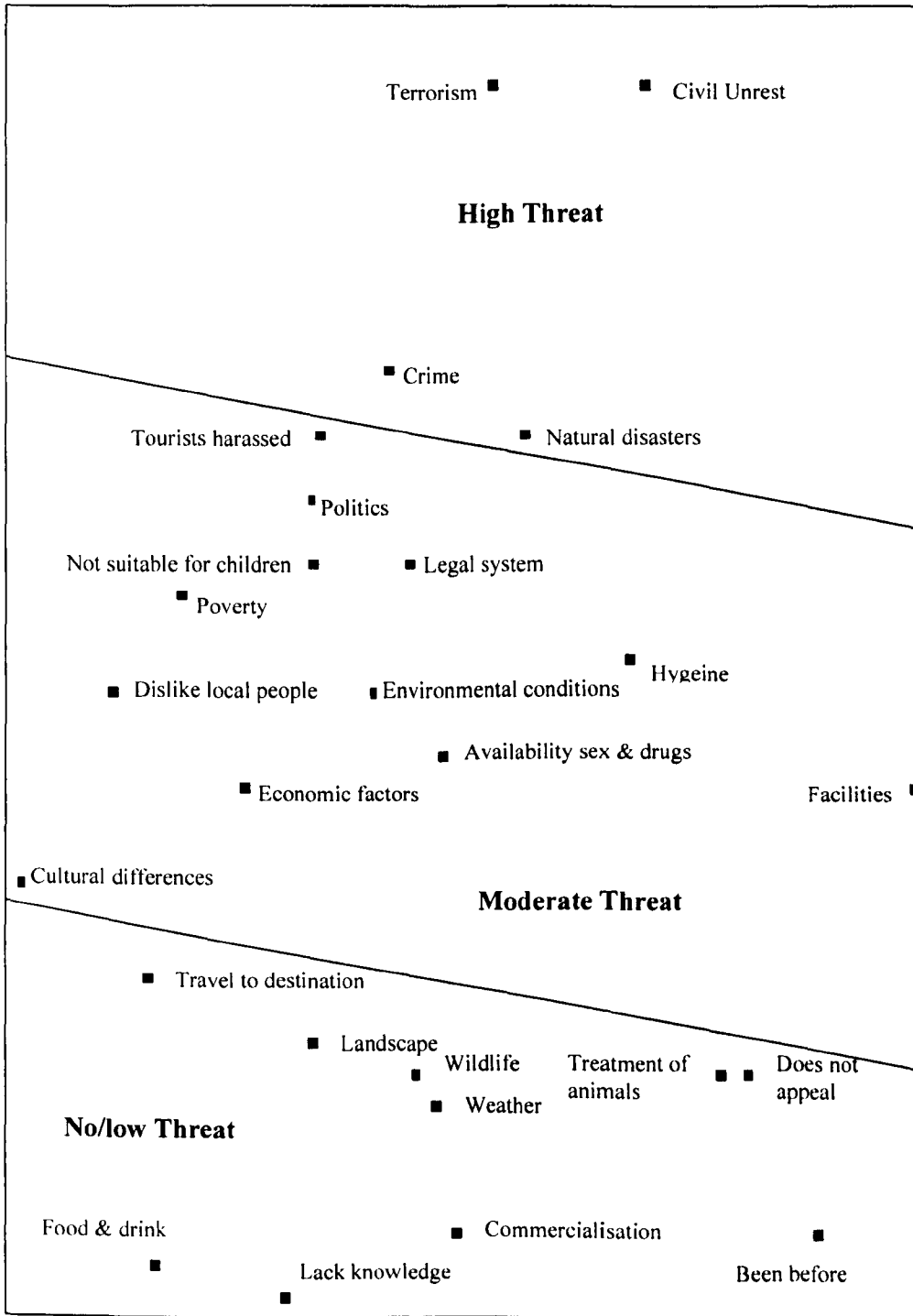
The participants were recruited via e-mail to all psychology undergraduates and through the Department of Psychology Research Participation Scheme website, where students can obtain details of studies that they can participate in to obtain course credits. These participants came to an allocated room where they were verbally briefed as to the purpose of the study. They were then given a battery of questionnaires for completion, including the one used in this study, and a written briefing and debriefing. Once the questionnaires were completed the participants were thanked for their assistance and any questions answered.

## **6.B. Results**

The items in the travel hazards questionnaire each contain two parts, the first asking how risky the hazard is perceived as being and the second part asking whether it would act as a deterrent. The first part of each response was reverse coded so that a high score reflected an assessment that the hazard was a low risk. This is consistent with the direction of coding for the questionnaires used elsewhere in this thesis where a high score indicates a positive, non-deterred or sensation-seeking response. The second part of each item was a dichotomous response that was coded so that 1 indicated that they would be deterred and 2 that they would not.

The responses to the first parts of each item were entered into a SSA, shown in Figure 14. The plot was produced using the Pearson Correlation Coefficient, in 16 iterations. As was the case with the previous SSAs that have required a 3-dimensional solution, the vectors presented are those offering the most interpretable solution, in line with previous work (e.g. Borg & Shye, 1995; Dancer, 1985). This plot is a two-dimensional representation, using vectors one and two, of a three-

**Figure 14.**



Note: 2-dimensional representation of 3-dimensional solution (vectors 1 X 2), coefficient of alienation = .21

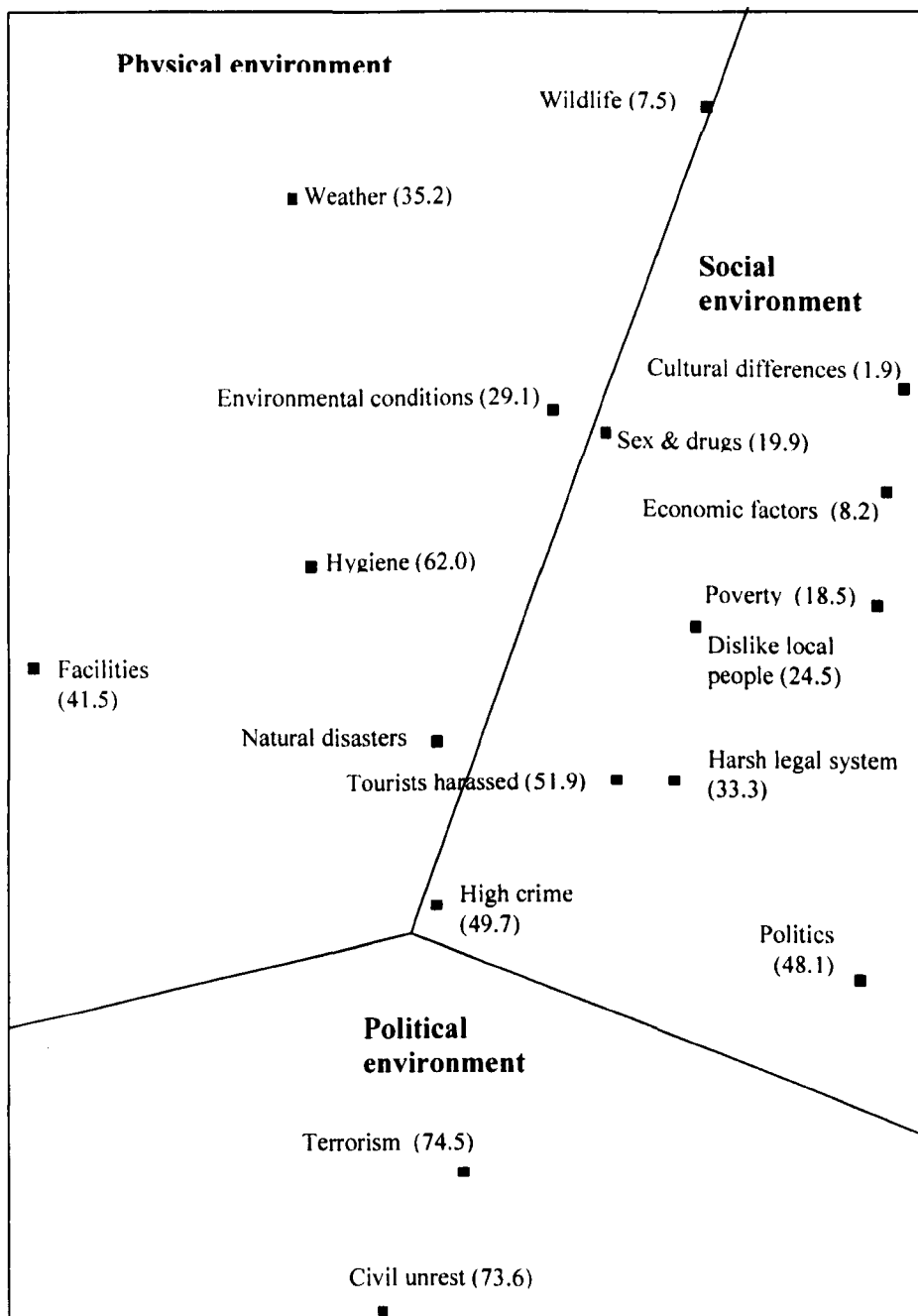
**Figure 14: SSA showing regions representing different degrees of threat.**

dimensional solution. The coefficient of alienation for this analysis is 0.21, indicating a good level of fit. The plot shows that these travel hazards are located in regions consistent with an axial facet (Shye, Elizur & Hoffman, 1994). There are three quantitative regions, which seem to represent increasing levels of potential harm from bottom to top of the plot. The lowest region contains items that do not really pose a threat to a traveller, but may be considered as an inconvenience. Most of these items were therefore deleted as the focus of this study is on risk factors. The items relating to wildlife found at the destination and the weather were retained for further analysis, as it seems possible that these could pose a threat to individual well being. The 'destination not being suitable for children' item was also removed, as although it appeared in the moderate threat region it is a factor that is more likely to make a destination awkward or less enjoyable, rather than actually posing a threat.

Having removed the non-risk items a second SSA was produced to look at the structure of the remaining 17 items, shown in Figure 15. This was also created using the Pearson Correlation Coefficient, and required 59 iterations. The SSA shown in Figure 9.3 was conducted as an exploratory analysis, and it was therefore scrutinised to identify the facet structure, and a polar structure was found (Levy, 1985). The plot is a two-dimensional representation of vectors 1 and 2 of a three-dimensional solution, which were again chosen as they provided the most interpretable solution, and the coefficient of alienation is 0.15. The polar facet, which divides the plot into three wedge-shaped regions starting from a common point, represents different types of hazard that form qualitative divisions. The region located in the top left portion of the plot contains items that relate to the physical environment, both natural and manmade. The region located in the top right of the plot includes items that relate to the social environment. This includes aspects of interpersonal relations, such as tourists being harassed by locals and also more distal issues such as the availability of sex and drugs that are part of the sociocultural milieu.

The region at the bottom of the plot contains factors that are part of the political environment, specifically aspects that represent dissent to the present political system. The division between the political and social hazards is consistent with the classification of crime and violence proposed by Pizam (1999) that separates economic and social motives from political motives. The two hazards in the political

**Figure 15.**



Note: 2-dimensional representation of 3-dimensional solution (vectors 1 X 2), coefficient of alienation = .15  
 Figure in brackets gives percentage of people deterred from travelling.

**Figure 15. SSA showing radex structure of hazard facets.**

hazards region are terrorism and civil unrest, which indicates that there are qualitative similarities in the perception of these hazards. This is probably because of

the association that both of these hazards have with areas of political instability, which is unlikely to enhance the image of a destination to tourists or make it seem a particularly good choice for a restful holiday. The partitioning of the regions on this SSA suggests that there are qualitative distinctions between the hazard types. This therefore suggests that people may perceive these groups differently in terms of the threat posed, and furthermore, there may be individual differences in the types of hazard that deter different people from travelling.

The SSA shows three types of hazard that differ in terms of their source. The figure in brackets next to each hazard is the percentage of people for whom it would be a deterrent. It can be seen that in general, the items in the political hazards region have a greater proportion of people reporting that they would be deterred from travelling than do either of the other regions. Considered overall, the frequency of deterrence for political environment hazards was 83.0%, social environment hazards 17.6%, and physical environment hazards 40.9%. Further analyses were conducted using chi-square, shown in Table 12, to identify whether there were significant associations between the perceived risk for individual items and the deterrence reported, and also whether deterrence was associated with the perceived risk of the hazard types revealed by the SSA. The magnitude of the association is assessed using Phi, for which small, medium and large effect sizes are represented by values of 0.1, 0.3, and 0.5 respectively (Green, Salkind & Akey, 1997). It can be seen that perception of risk was significantly associated with anticipated deterrence from travelling for all the individual hazards and the different types of hazard, and that the effect sizes were all moderate to large.

Considering the issue of whether there are differences in the impact of terrorism compared to travel hazards, there is some evidence that terrorism is not perceived in the same way as other travel hazards. It is noted that only 17.2% of the participants who perceive terrorism as being a risk report that it would not deter them from travelling. The proportion of people regarding political hazards in general as a hazard, but reporting that they would not be deterred from travelling was even lower, at 10.7%. There appears to be some degree of consistency between the three types of hazard, suggesting that a person who perceives one type as a risk is likely to perceive the others as a risk. The correlation between political and social hazards (N = 197) was  $r = .435, p < .001$ , political and natural hazards (N = 197) was  $r = .345, p < .001$ , and social and natural hazards (N = 197) was  $r = .618, p < .001$ . Similar correlations



were also identified for anticipated deterrence from travelling, political and social hazards (N = 195) was  $r = .408, p < .001$ , political and natural hazards (N = 195) was  $r = .355, p < .001$ , and social and natural hazards (N = 196) was  $r = .513, p < .001$ .

**Table 12.**

<b>Hazards</b>	<b>Chi-square (d.f. = 1)</b>	<b><i>p</i></b>	<b>Phi</b>	<b>% perceiving hazard but not deterred</b>
<b>Facilities</b>	22.71	.000	.38	32.7
<b>Civil unrest*</b>	31.22	.000	.47	18.2
<b>High crime rate</b>	17.57	.000	.33	40.3
<b>Political regime</b>	29.71	.000	.43	29.7
<b>Dislike local people</b>	33.12	.000	.46	10.1
<b>Weather</b>	46.23	.000	.54	20.1
<b>Hygiene</b>	13.33	.000	.29	28.5
<b>Cultural differences*</b>	9.55	.002	.31	15.1
<b>Environmental conditions</b>	28.38	.000	.42	30.4
<b>Wildlife*</b>	12.05	.001	.30	33.3
<b>Economic factors*</b>	10.92	.001	.29	25.8
<b>Tourists harassed</b>	17.09	.000	.33	32.9
<b>Terrorism*</b>	32.96	.000	.48	17.2
<b>Poverty of local people</b>	7.77	.005	.22	35.7
<b>Harsh legal system</b>	31.26	.000	.44	34.6
<b>Natural disasters</b>	20.52	.000	.36	39.6
<b>Sex &amp; drugs available</b>	15.15	.000	.31	41.7
<b>Political environment*</b>	28.19	.000	.45	10.7
<b>Social environment</b>	25.05	.000	.40	17.0
<b>Physical environment</b>	21.88	.000	.37	23.3

Note: \* indicates that there was an expected cell count of less than 5, and that the value for the continuity correction is reported, rather than the chi-square.

**Table 12. Chi-square statistics and magnitude of association for risk perception of individual hazards and the hazard sub-scales.**

## 6.C. Discussion

There are numerous hazards that could pose a threat to travellers, and some may be more salient than others in a given travel decision. This study provides some background analyses, investigating the structure of travel risks and the relationship between perceived risk and deterrence. Smallest Space Analysis (SSA) was used to analyse responses to the travel hazards questionnaire shown in Appendix K. The questionnaire was based on issues raised by participants in a previous study (Watson, 1996) as things that would put people off of travelling. The SSA shown in Figure 14 partitioned into three regions reflecting low, medium and high levels of threat.

Most of the items in the low threat region of the SSA were removed from further analyses, as they are better characterised as inconveniences, rather than threats to well being. The wildlife and weather items were retained in the follow up analyses as both have the capacity to cause serious harm. The item relating to the destination not being suitable for children was removed from the analyses, as although it was located in the middle region it also seems to be an inconvenience rather than a threat to the well being of a traveller. A second SSA, shown in Figure 15 was conducted on the 17 remaining hazard items.

A polarising facet with three elements was identified, which represent hazards in different environments, indicating a qualitative distinction between various types of hazard. The physical environment region contains items related to the physical surroundings in a destination country, whether natural or manmade. The social environment region contains items relating to the social infrastructure of the destination. The items in this region represent the features of a destination that seem likely to make it appear very alien to a visitor and may make them feel uncomfortable, such as cultural differences, tourists being harassed and poverty. The last region contains items related to the political environment, specifically in terms of political and social unrest. The two items in this region, terrorism and civil unrest, are both symptoms associated with political discontent and breakdown. The politics item is not included in this region, as the political regime of a destination is of greater relevance to the social infrastructure of a country rather than to outward signs of political dysfunction.

Whilst it makes intuitive sense that the degree of risk perceived for a given hazard should be related to the extent to which it deters people from travelling it is

necessary to test this empirically. Follow-up analyses showed that there was an association between perceived risk and deterrence for all items and types of hazard. People who assessed a hazard as high risk were more likely to report that they would be deterred from travelling, whereas those rating a hazard as low risk were more likely not to be deterred. However, as can be seen in Table 11, for many of the items there were substantial proportions of people who rated the hazard as being high risk but still reported being prepared to travel to a destination where that hazard may occur.

Compared to most of the other hazards, the percentage of people perceiving terrorism specifically, and the political hazards in general, as risky but reporting that it would not deter them from travelling was low. This suggests that terrorism is a hazard that if perceived as such, is unlikely to be processed as something that can be disregarded. It therefore seems that for most people, if they recognise terrorism as a hazard, then they report that it would deter them from travelling. There is some consistency in the risks perceived for the three categories of hazard, with moderate correlations between the hazard types. This therefore suggests that people who are deterred by one type of hazard are likely to be deterred by one of the other types. However, the level of these correlations does suggest that there is variability in this, meaning that some people who would not be deterred from travelling by social hazards may well be by political hazards. These findings, together with the regional divisions in the SSA shown in Figure 9.3. suggest that there are some qualitative differences between the types of hazard, that may have different effects on potential travellers.

#### **Study 7 – Risk perception of the three types of hazard as a predictor of deterrence from travelling due to the perceived threat of terrorism.**

The previous study identified the empirical structure of the hazards associated with travelling presented in the travel hazards questionnaire. It was also confirmed that the level of risk perceived for individual hazards and the types of hazard was associated with the extent to which participants reported that they would be deterred from travelling. The general concept of terrorism was among those assessed and it was found that people reported that they did perceive terrorism to be a risk and that it would deter them from travelling. However, the travel hazards questionnaire only

asked about responses to the hazards as abstract concepts. The purpose of this study is to extend these findings to deterrence from travelling in the period after a real terrorist attack, thus providing greater ecological validity. The analyses in the previous section identified terrorism as being in the same political hazard type region as civil unrest, which also showed a high proportion of people perceiving it as a deterrent. It is predicted that assessed risk for the political hazards will be a predictor of deterrence from travelling after 9/11, as assessed by the 3TQ. The predictive utility of the physical environment and social environment distinctions are also investigated. As in the analyses for sensation seeking and attitude to international travel, the socialisation factors of gender, age and previous travel experience will be included in the analysis. Hierarchical multiple regression is used to identify the relative contributions made by the elements of the type of hazard, and whether the socialisation variables contribute any unique variance over and above that of perceived risk.

## **7.A. Method**

### *Participants*

The participants in this study were 160 psychology students at a British University. The sample consisted of 22 males and 138 females. The age distribution of the participants was, 10 (6.3%) male and 96 (60%) female under 20 years of age, 11 (6.9%) male and 27 (16.9%) female between 20 and 29, 1 (0.6%) male, 9 (5.6%) female and 1 person who did not record their gender between 30 and 39, 4 (2.5%) females between 40 and 49, and 1 (0.6%) female between 50 and 59. The participants received partial course credit in return for their participation.

### *Materials*

The 3TQ shown in Appendix B and the travel hazards questionnaire shown in Appendix K were used in this study. Sub-scales were created to represent each of the three types of hazard identified in the SSA reported in the previous section. Reliability analyses showed that the scales all had acceptable levels of reliability, political hazards  $\alpha = 0.67$ , social hazards  $\alpha = 0.83$ , physical hazards  $\alpha = 0.73$ . None of the scales were improved by the deletion of any of the items.

Age and gender details were requested on the information sheet read by participants at the start of the study. Travel experience in terms of the number of flights in the two years prior to 9/11 was requested from the participants before they started completing the questionnaires used in the research for this thesis.

### *Design*

This study employed a hierarchical multiple regression analysis. The predictor variables in the first stage of the model were the socialisation variables of age, gender and number of flights pre 9/11. The three types of hazard identified in the previous section were entered in the second stage of the model. The criterion variable was the score on the 3TQ.

### *Procedure*

The participants were recruited via e-mail to all psychology undergraduates and through the Department of Psychology Research Participation Scheme website, where students can obtain details of studies that they can participate in to obtain course credits. These participants came to an allocated room where they were verbally briefed as to the purpose of the study. They were then given a battery of questionnaires for completion, including the one used in this study, and a written briefing and debriefing. Once the questionnaires were completed the participants were thanked for their assistance and any questions answered.

## **7.B. Results**

The mean score for each sub scale and for the 3TQ are shown in Table 13, where a low score indicates greater assessed risk. It can be seen that the greatest risk is perceived for the hazards in the political environment, followed by physical environment and finally the social environment.

**Table 13.**

	Mean	Standard deviation
<b>3TQ (N = 195)</b>	5.98	0.81
<b>Political environment (N = 197)</b>	2.19	0.74
<b>Social environment (N = 197)</b>	3.32	0.56
<b>Physical environment (N = 197)</b>	2.99	0.50
<b>Flights pre 9/11 (N = 195)</b>	3.64	3.48

**Table 13: Means and standard deviations for 3TQ, travel hazard and degree of threat sub-scales.**

The bivariate and semi-partial correlations, and the beta coefficients for the three sub-scales are shown in Table 14. It can be seen that all the variables, with the exception of gender are significantly associated with deterrence from travelling due to the threat of terrorism. The first stage of the multiple regression model, including just the socialisation factors as predictor variables, accounted for 11.8% of the variance ( $R^2 = 0.118$ ),  $F(3, 155) = 6.90, p < .001$ . In the second stage of the model the three different travel hazard type scales, being political, social and physical hazards, were added as predictor variables. The complete model accounted for over 19% ( $r = .44, R^2 = 0.192$ ) of the variance in 3TQ score, which was statistically significant ( $F(6, 152) = 6.01, p < .001$ ) and the increase in variance ( $R^2 \text{ Change} = 0.074$ ) predicted was statistically significant,  $F \text{ Change}(3, 152) = 4.64, p < .01$ . In this complete model political hazards (2.3%) and physical hazards (3.8%) continue to contribute statistically significant unique variance, as do age (2.5%) and previous travel experience (5.3%).

In Study 6 the region representing hazards in the political environment was most strongly associated with responses that it would deter people from travelling. The items it contains were also those with the highest percentages of respondents reporting that these hazards would be deterrents from travel. It was therefore expected that the political hazards sub-scale would be the strongest predictor of 3TQ score, but the physical hazards sub-scale was the strongest psychological predictor in the above regression model. Further analyses were therefore carried out to identify why the physical hazards sub-scale was a stronger predictor than was the political hazards sub-scale.

**Table 14.**

	<b>Bivariate</b>	<b>Semi-partial</b>	<b>Beta</b>	<b><i>p</i></b>
<b>Stage 1</b>				
<b>Age</b>	-.16*	-.16	-.16	.037
<b>Gender</b>	-.13	-.15	-.15	.053
<b>Previous travel experience</b>	.27*	.27	.27	.001
<b>Stage 2</b>				
<b>Age</b>	-.16*	-.16	-.16	.033
<b>Gender</b>	-.13	-.12	-.12	.112
<b>Previous travel experience</b>	.27*	.23	.24	.002
<b>Political hazards</b>	.216*	.15	.17	.040
<b>Social hazards</b>	.138*	-.09	-.11	.246
<b>Physical hazards</b>	.269*	.20	.25	.008

Note: \* indicates significant at  $p < .05$ .

**Table 14: Bivariate and semi-partial correlations, and beta coefficients for hierarchical multiple regression analysis predicting 3TQ score from assessed risk for three hazard types, gender, age and previous travel experience.**

The travel hazards questionnaire asks specifically about the risk perceived for the various hazards when travelling abroad, whereas the total 3TQ scale assesses deterrence in relation to travel in the U.K, Europe and the U.S.A. A revised total for the 3TQ (revised 3TQ) was calculated that omitted items relating to U.K. travel. This provided a criterion variable that was more directly relevant to the predictor variables in this analysis. The bivariate correlations between the individual items, divided by hazard type sub-scale, and both the total and revised 3TQ are shown in Table 15.

Scrutiny of these correlations reveals that whilst terrorism and civil unrest were both reported as deterring people from travelling, as shown in Study 6, they are differentiated in terms of their relationship with both the total and revised 3TQ scores. Terrorism is significantly associated with both versions of the 3TQ, whereas civil unrest is not. The other hazards significantly associated with both total and

revised 3TQ scores were environment, wildlife, natural disasters, high crime, and tourists harassed.

**Table 15.**

	<b>Total 3TQ</b>	<b>Revised 3TQ</b>
<b>Political hazards</b>		
<b>Civil Unrest</b>	.041	.057
<b>Terrorism</b>	.335*	.350*
<b>Physical hazards</b>		
<b>Facilities</b>	.114	.140
<b>Weather</b>	.074	.059
<b>Hygiene</b>	.127	.144
<b>Environment</b>	.268*	.267*
<b>Wildlife</b>	.191*	.197*
<b>Natural disasters</b>	.261*	.251*
<b>Social hazards</b>		
<b>High crime</b>	.238*	.240*
<b>Politics</b>	-.086	-.073
<b>Dislike locals</b>	.130	.154
<b>Cultural differences</b>	.085	.079
<b>Economic factors</b>	.071	.069
<b>Tourists harassed</b>	.186*	.202*
<b>Poverty</b>	.094	.108
<b>Harsh legal system</b>	.129	.139
<b>Sex and drugs</b>	.070	.055

Note: \* indicates correlation significant at  $p < .05$

**Table 15. Bivariate correlations between travel hazards and the total and revised 3TQ scores (N = 160).**

The correlations reported above show that there are some differences between the associations of the individual hazards with the two 3TQ scores. A second hierarchical regression analysis was conducted with the revised 3TQ score as the criterion variable. This will identify whether using the measure with a greater



correspondence to the travel hazards questionnaire affects the pattern of associations. The bivariate and semi-partial correlations and the betas for this analysis are shown in Table 16.

As in the previous regression analyses, the socialisation variables were entered in the first stage of the model. This accounted for 11.8% of the variance in revised 3TQ score ( $R^2 = 0.118$ ), which was statistically significant,  $F(3, 155) = 6.90$ ,  $p < .001$ . When the political, social and physical hazards scales were added in the second stage of the model the amount of variance predicted increased to 19.5%, which was statistically significant ( $R^2 = 0.195$ ),  $F(6, 152) = 6.12$ ,  $p < .001$ . The increase in variance predicted ( $R^2 \text{ Change} = 0.077$ ) was also statistically significant,  $F \text{ Change}(3, 152) = 4.83$ ,  $p < .01$ . In this model the variables contributing statistically significant unique variance were political hazards, physical hazards, age and previous travel experience.

**Table 16.**

	<b>Bivariate</b>	<b>Semi-partial</b>	<b>Beta</b>	<b><i>p</i></b>
<b>Stage 1</b>				
<b>Age</b>	-.16*	-.16	-.16	.037
<b>Gender</b>	-.12	-.14	-.14	.066
<b>Previous travel experience</b>	.28*	.27	.27	.000
<b>Stage 2</b>				
<b>Age</b>	-.16*	-.16	-.16	.033
<b>Gender</b>	-.12	-.11	-.12	.127
<b>Previous travel experience</b>	.28*	.23	.24	.002
<b>Political hazards</b>	.24*	.17	.18	.022
<b>Social hazards</b>	.15*	-.08	-.10	.293
<b>Physical hazards</b>	.27*	.18	.23	.013

Note: \* indicates significant at  $p < .05$

**Table 16: Bivariate and semi-partial correlations and betas for Stages 1 and 2 of the hierarchical regression with predictor variables of hazard type, age, gender and previous travel experience and criterion variable of revised 3TQ.**

Comparing the models with total 3TQ score and revised 3TQ score as criterion variables it can be seen that the overall variance accounted for is similar, and the same predictor variables are useful in the model. However, looking at the beta values and semi-partial correlations it can be seen that the difference between the political and physical hazards scales is less in the model including the revised 3TQ score.

### **7.C. Discussion**

This study developed the findings reported in Study 6 by testing the utility of the hazard type sub-scales, as predictors of deterrence from travelling due to the perceived threat of terrorism. The first regression analysis, which is similar in design to those for sensation seeking and attitude to international travel, showed that the three types of hazard accounted for an extra 7.4% of the variance in deterrence from travelling as assessed by the 3TQ, over and above that contributed by the socialisation variables. The overall model accounted for over 19% of the variance. Political hazards, physical hazards age and travel experience were the variables in this model that contributed significant unique variance.

Based upon the responses to the abstract concept of terrorism reported in Study 6, it was predicted that the perceived risk for the political hazards sub-scale would be a significant predictor of deterrence from travelling after a specific terrorist incident. The findings of this study broadly supported this prediction, as the risk assessed for political hazards was a significant predictor of 3TQ score.

In Study 6 it was seen that of the three regions identified in the SSA the political environment region, which includes the hazards of terrorism and civil unrest, had the strongest association with responses that it would deter people from travelling. The percentages of people reporting being deterred by terrorism and civil unrest were 74.5% and 73.6% respectively. These were the highest percentages for any of the hazards investigated. It was therefore anticipated that the risk perceived for hazards in the political environment would be the strongest predictor of deterrence from travelling due to the perceived threat of terrorism. However, this was not the case, and risk perceived for the hazards in the physical environment was the strongest of the three.

Further analyses were conducted to identify the reason for the observed relationships. The 3TQ scale asks people to indicate their current attitude towards travelling in the U.K, Europe and the U.S.A, in view of any perceived terrorist threat. The travel hazards questionnaire specifically asks people to assess the risk the hazards pose when travelling abroad. In view of this discrepancy, a revised 3TQ total was calculated omitting the items relating to travel in the U.K, to improve the correspondence between the scales.

The bivariate correlations between the various hazards and the two 3TQ scores were calculated. This indicated that there were some differences in the associations with the travel hazards between the two versions of the 3TQ. However, although the risk perceived from terrorism was moderately associated with both the total 3TQ and the revised 3TQ, the risk perceived from civil unrest, which is the other item in the political hazards sub-scale, was not related to either of these variables. This accounts for why the relationship between the political hazard sub-scale and the total 3TQ score was not as strong as anticipated. This suggests that although terrorism and civil unrest are located in the same region of the SSA reported in Study 6, they are differentiated in terms of the threat they are perceived as posing to a potential traveller. It seems likely that this is due to the different natures of these acts. Terrorism may be perceived as a behaviour that is targeted against tourists, based on memories of terrorist acts such as those of ETA in Spain where tourist hotels have been targeted or in Egypt where tourists have been victimised in various different terrorist acts. Civil unrest may be perceived as actions that are more internal to the country, and in which tourists would only be likely to become involved by accident, rather than being the specific targets.

A second regression analysis was calculated, with the revised 3TQ score as the criterion variable. This revealed a pattern very similar to that of the regression using the total 3TQ score. The overall level of prediction did not improve markedly by omitting the U.K. travel items from the 3TQ, but it did lead to the amount of unique variance being contributed by the political and physical hazards sub-scales being more equal.

It is not clear why the physical hazards sub-scale is a significant predictor of 3TQ score, which is related to deterrence from travelling due to the threat of terrorism. The items responsible for the association are poor environmental conditions, wildlife found at the destination and the area being prone to natural

disasters. A possible explanation for the relationship is that these may be factors that are perceived as having the potential for widespread and serious harm, similar to the threat that may be perceived from terrorism. The association may also be due to there being people who are easily deterred from travelling, and particularly people who are deterred by the hazards that fall within the physical hazards type. However, the current data does not allow any firm conclusions to be reached regarding this question.

The issue of correspondence between the 3TQ and the sensation seeking and attitude to international travel scales did not arise, as these measures do not have a specific regional focus, and are not directly related to travel. It appears that in the present study, whilst the exclusion of travel within the U.K. from the 3TQ leads to some increase in the predictive utility of the political hazards sub-scale, it does not alter the general pattern of the results. This indicates that the political and physical travel hazards sub-scales can justifiably be included in the final model of factors influencing deterrence from travelling due to the perceived threat of terrorism to be developed in Chapter 10.

## **Chapter Summary**

The purpose of this chapter was to identify the social cognitive psychological variables that may play a role in the prediction of deterrence from travelling due to the perceived threat from terrorism. Questionnaires were used to assess the psychological constructs of attitude to international travel and risk perception to identify the aspects of these constructs that are useful predictors when considered individually. It was found that the Attitude to International Travel scale, and the political and physical hazards sub-scales were all useful predictors. Age, gender and previous travel experience were also identified as significant predictors over and above these social cognitive factors. Having identified the specific aspects of risk perception that are useful in predicting deterrence from travel, and confirmed that attitude to international travel is a useful predictor, these variables are included in the integrated model developed in the following chapter.

## **CHAPTER 10: A MODEL OF THE PREDICTORS OF DETERRENCE FROM TRAVELLING DUE TO THE THREAT OF TERRORISM.**

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Previous research, such as that of Enders and Sandler (1991), has shown that terrorism is associated with a behavioural change, leading to reduced tourist numbers. Developing from this largely economic analysis, the studies reported in Chapter 7 demonstrated that an act of terrorism could also have psychological consequences, in terms of changes in attitude and risk perception. Chapters 8 and 9 reported findings supporting individual relationships for sensation seeking, attitude to international travel and risk perception for different types of travel hazard with deterrence from travelling due to the threat of terrorism. However, they did not address the inter-relationship of these factors that are likely to have a role in determining the deterrence experienced by an individual. The purpose of this chapter is therefore to develop a model bringing together the psychological and demographic factors considered in the previous chapters, predicting attitude to travelling, referred to as deterrence, in light of the threat from terrorism.

Based on the previous analyses the psychological variables included in this model are Thrill and Adventure Seeking (TAS), Experience Seeking (ES), attitude to international travel, risk perception of political hazards and risk perception of physical hazards. The socialisation factors of age, gender and travel experience are again included, as these variables have been shown to contribute to the prediction of deterrence from travelling in the previous analyses. Whilst the literature and the studies reported in the previous chapters indicate some potential relationships between the variables in this model, no specific predictions are made as it is not possible to hypothesise how useful the variables may be as predictors when considered together.

The first study reported in this chapter employs multiple regression based path analysis, to develop the model of deterrence from travelling due to the threat of terrorism. This therefore brings together the findings of Chapters 8 and 9 into a single model. It was noted in Chapter 3 that there is not always a high level of association between attitudes and behaviour. However, a way of improving the relationship between attitudes and behaviour is by increasing the degree of similarity between the attitude and behaviour in question (Ajzen & Fishbein, 1977; Fishbein &

Ajzen, 1975). The final section of this chapter briefly considers the relationship between deterrence from travelling due to the threat of terrorism and actual travel behaviour in the year following 9/11, being a specific attitude that should have a reasonable level of association with the behaviour in question.

## **Study 8 - A model of deterrence from travelling due to the threat of terrorism.**

### **8.A. Method**

#### *Participants*

The participants in this study were 160 psychology students at a British University. The sample consisted of 22 males and 138 females. The age distribution of the participants was, 10 (6.3%) male and 96 (60%) female under 20 years of age, 11 (6.9%) male and 27 (16.9%) female between 20 and 29, 1 (0.6%) male, 9 (5.6%) female and 1 person who did not record their gender between 30 and 39, 4 (2.5%) females between 40 and 49, and 1 (0.6%) female between 50 and 59. The participants received partial course credit in return for their participation.

#### *Materials*

The 3TQ shown in Appendix B provides the main dependent variable, and the questionnaires shown in Appendices I (Revised Sensation Seeking Scale), J (Attitude to International Travel) and K (Travel hazards questionnaire) assess the psychological independent variables. Age and gender details were requested on the information sheet read by participants at the start of the study. Travel experience in terms of the number of flights in the two years prior to 9/11 was requested from the participants before they started completing the questionnaires used in the research for this thesis.

#### *Design*

A path analysis is conducted using a series of multiple regression analyses. The proposed model of deterrence from travelling due to the threat of terrorism that is tested in this analysis is shown in Figure 16. This figure shows that the demographic variables of age, gender and travel experience are hypothesised as forming the first stage of the model. The second stage of the model contains the

Figure 16.

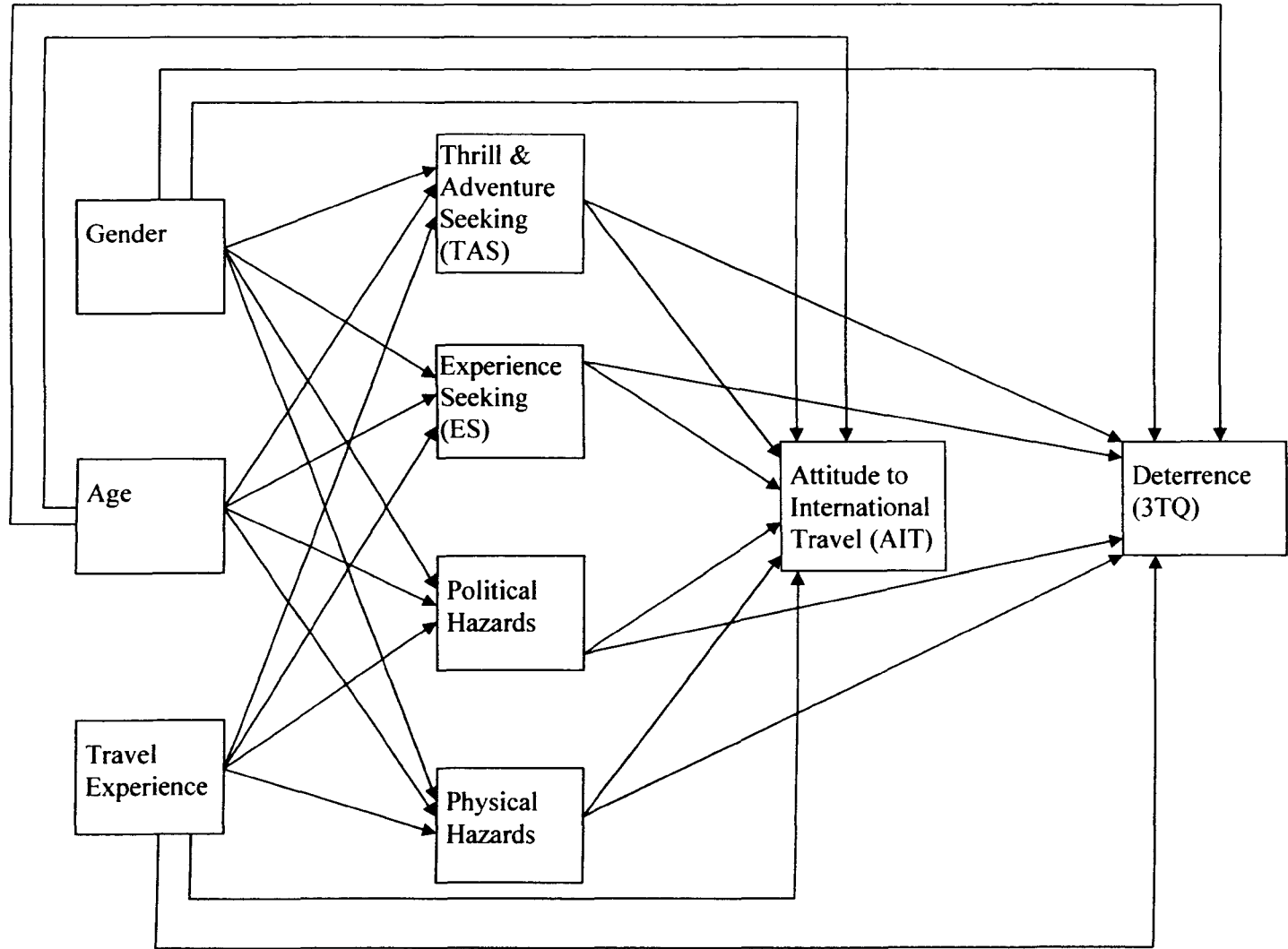


Figure 16: Proposed model of deterrence from travelling due to the threat of terrorism.

personality variables of TAS and ES, and the risk perceived for political and physical travel hazards. It is anticipated that these variables represent fundamental aspects of the individual that are reasonably consistent over time, and that could have a role in the formation of attitudes. It is argued that factors such as sensation seeking personality and perception of risk are relatively stable characteristics of an individual that are likely to be formed fairly early during life, and that these in turn influence how experiences are interpreted. Therefore an individual who sees travel hazards as risky and is not much of a sensation seeker would be expected to form a more negative attitude to international travel than would someone who is sensation seeking and does not see hazards as posing a risk to their well being. Attitude to international travel (AIT) therefore forms the third stage of the model, and it is anticipated that this will be the immediate predictor of deterrence from travelling due to the threat of terrorism.

### *Procedure*

The participants were recruited via e-mail to all psychology undergraduates and through the Department of Psychology Research Participation Scheme website, where students can obtain details of studies that they can participate in to obtain course credits. These participants came to an allocated room where they were verbally briefed as to the purpose of the study. They were then given a battery of questionnaires for completion, including the one used in this study, and a written briefing and debriefing. Once the questionnaires were completed the participants were thanked for their assistance and any questions answered.

## **8.B. Results**

### **8.B.1. Preliminary Analyses**

A number of preliminary analyses were conducted on the data to verify that the predictor variables were not too highly correlated with each other. The correlations are shown in Table 17, where it can be seen that although some of the variables are significantly correlated, there remains the potential for them all to



contribute a substantial proportion of unique variance. They are therefore all retained in the following analyses.

**Table 17.**

	Age	Gender	Travel Exp.	TAS	ES	AIT	Political Hazard
<b>Gender</b>	-.07						
<b>Travel Exp</b>	-.05	.03					
<b>TAS</b>	-.10	-.16*	.05				
<b>ES</b>	.17	-.09	.07	.28*			
<b>AIT</b>	-.06	-.03	.28*	.47*	.39*		
<b>Political Hazard</b>	-.02	.03	.10	.07	.19*	.20*	
<b>Physical hazard</b>	.01	-.07	.15	.16*	.18*	.33*	.30*

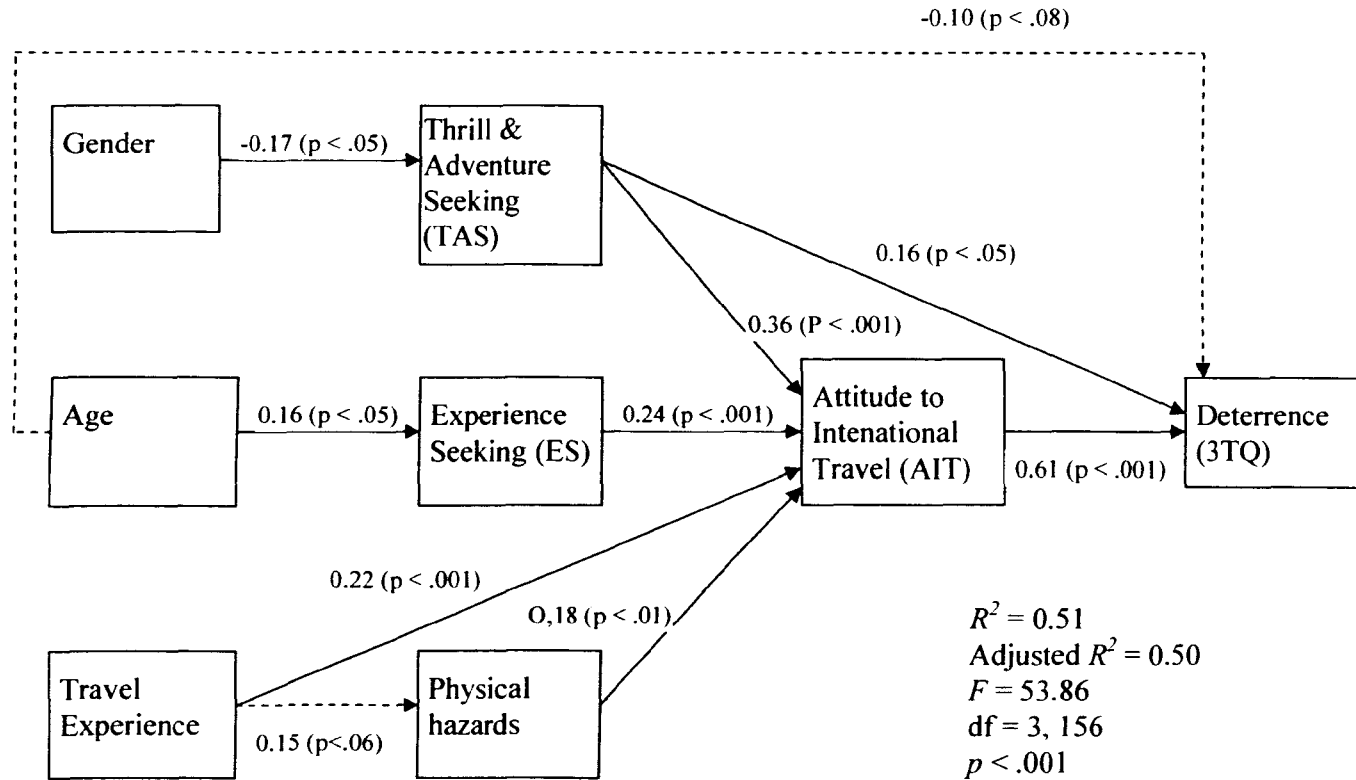
Note: \* indicates significant beyond  $p < .05$

**Table 17: Pearson correlations between the predictor variables included in the model of deterrence from travelling due to the threat terrorism for the student sample (N = 160).**

### **8.B.2: Development of the model of deterrence from travelling due to the threat of terrorism.**

The means and standard deviations for the variables included in this model were presented and discussed in the previous chapters, and are therefore not repeated here. A series of iterative regression analyses were conducted for this path analysis. In the first stage of the analysis all variables were entered as predictors of deterrence and the significant predictors noted. The significant predictors were then entered in turn as dependent variables in further regression analyses, with the variables from theoretically prior levels of the model as predictor variables. The details of the individual analyses are not reported, but the overall path diagram showing the statistically significant pathways is shown in Figure 17, together with the regression

Figure 17.



Note: Dashed lines indicated associations that are only marginally significant.

**Figure 17: Model of factors predicting deterrence from travelling due to the perceived threat of terrorism.**

results for the overall model, which indicates that the proportion of the variance accounted for is large, at over 50%.

### **8.C. Discussion**

The analyses reported in this study have allowed a model to be developed of the factors that predict the attitude of deterrence from travelling due to the threat of terrorism. The main, direct predictor of deterrence was attitude to international travel. The direction of the relationship was as would be predicted, with those reporting a more positive attitude to international travel in general being less likely to be deterred from travelling when there is threat from terrorism. Thrill and adventure seeking also had a significant direct relationship with deterrence from travelling. This was also as expected, with those who are more thrill and adventure seeking being less deterred from travelling by terrorism. The only other variable with any direct relationship was age, and this was marginally significant, with younger people being less deterred than those who are older. This model accounted for a high proportion of the variance in the attitude of being deterred from travelling, suggesting that these variables are particularly useful predictors.

Thrill and adventure seeking, experience seeking, risk perceived from hazards in the physical environment and travel experience were all found to be related to deterrence through their relationship with attitude to international travel. These relationships were also all in the direction that would be anticipated. As well as the direct relationship between travel experience and attitude to international travel there was also a marginally significant mediated relationship through the risk perceived for hazards in the physical environment. There were also indirect relationships between age and deterrence and gender and deterrence. Older participants were found to be more experience seeking than were the younger ones, so experience seeking and attitude to international travel were mediators in the relationship with deterrence. Males were found to be more thrill and adventure seeking than were females, and the relationship with deterrence was mediated through thrill and adventure seeking and attitude to international travel.

## **Study 9: The relationship between reported deterrence from travelling due to the threat of terrorism and travel behaviour.**

The purpose of the previous analyses is to identify the psychological factors that are associated with being deterred from travelling due to the perceived threat of terrorism. As such, the score on the Terrorist Threat to Travellers Questionnaire has been the dependent variable in the previous analyses. The present study provides some validation of the utility of assessing deterrence from travel and identifying factors that predict such deterrence. Correlation analysis is used to identify the relationship between reported deterrence and actual travel behaviour.

### **9.A. Method**

The participants in this study were 160 psychology students at a British University. The sample consisted of 22 males and 138 females. The age distribution of the participants was, 10 (6.3%) male and 96 (60%) female under 20 years of age, 11 (6.9%) male and 27 (16.9%) female between 20 and 29, 1 (0.6%) male, 9 (5.6%) female and 1 person who did not record their gender between 30 and 39, 4 (2.5%) females between 40 and 49, and 1 (0.6%) female between 50 and 59. The participants received partial course credit in return for their participation.

#### *Materials*

As reported previously, participants completed a record of their air travel in the two years before 9/11, prior to completing the questionnaires that have been employed in the various studies reported in this thesis. At the same time they were also asked to provide details of their air travel in the period of approximately a year between 9/11 and the time of data collection. The 3TQ, shown in Appendix B, is also used in this study.

#### *Design*

This study employs a correlational design, in which the variables are quantity of air travel in the year after 9/11 and deterrence from travelling due to the threat of terrorism, as assessed by the 3TQ.

## *Procedure*

The participants were recruited via e-mail to all psychology undergraduates and through the Department of Psychology Research Participation Scheme website, where students can obtain details of studies that they can participate in to obtain course credits. These participants came to an allocated room where they were verbally briefed as to the purpose of the study. They were then given a battery of questionnaires for completion, including the one used in this study, and a written briefing and debriefing. Once the questionnaires were completed the participants were thanked for their assistance and any questions answered.

## **9.B. Results**

The correlation between number of international flights undertaken in the period between 11<sup>th</sup> September 2001 and October 2002, when this study was conducted, and 3TQ score was  $r = .271, p < .001$ . As noted previously, the 3TQ contains items relating to travel within the U.K. as well as to the U.S.A. and Europe. A second correlation was therefore conducted between the number of international flights and the revised 3TQ total, with the U.K. travel items removed. There was no change in the correlation, which remained at  $r = .276, p < .001$ . These analyses suggest that there is some relationship between participants reported level of deterrence of travelling due to the perceived threat of terrorism and the amount of travel they have undertaken in the period since 9/11.

## **9.C. Discussion**

This study showed that there was a significant relationship between the amount of air travel undertaken in the year following 9/11 and reported deterrence from travelling due to the threat of terrorism. This suggests that in this context there is some consistency between attitude and behaviour. In relation to the present body of research, this suggests that the findings regarding the extent of reported deterrence are likely to be some indicator of actual behaviour. However, it is noted that this study can only provide somewhat tentative evidence, as the behaviour assessed had already occurred prior to the completion of the attitude measure. It therefore means that although some relationship is indicated, further data would be needed in which

the measure of attitude was taken first, and then the behavioural measure taken at a later date. This does not form part of the present research as the focus of this thesis is on the prediction of the deterrence from travelling rather than the actual behaviour.

### **Chapter summary**

In Chapters 7 and 8 the TAS and ES sub-scales of the revised sensation seeking scale, attitude to international travel and the perceived risk of political and physical travel hazards were found to be predictors of deterrence from travelling due to the perceived threat of terrorism. However, these chapters only considered the individual relationships with deterrence, and could not provide any information regarding the inter-relationship of these psychological variables. The previous chapters also identified the relationships between the socialisation variables of age, gender and travel experience with deterrence from travelling. The purpose of this chapter was to bring together these variables into a single model of the factors that influence the extent to which people are deterred from travelling due to the threat they perceive from terrorism.

A path analysis was conducted to identify the relationships between these variables, and the statistically significant relationships are shown in Figure 17. As predicted in the proposed model shown in Figure 16, attitude to international travel is the direct predictor of deterrence from travelling due to the threat of terrorism. This variable predicts the greatest amount of variance. Attitude to international travel is in turn predicted by thrill and adventure seeking, experience seeking, risk perceived from hazards in the physical environment and travel experience. It is noted that neither of the risk perception variables is directly related to deterrence, and that the risk perceived from political hazards, includes terrorism, is not related to any of the other variables and is therefore excluded from the model. This will be considered further in chapter 12. The demographic variables are all retained in the model, but are mostly related to deterrence from travelling through the other psychological variables. However, there is a marginally significant association between age and deterrence.

The second study reported in this chapter provided a brief consideration of whether reported deterrence from travelling was related to actual travel behaviour. A significant relationship between 3TQ score and travel behaviour in the year after

9/11 was identified. It was noted that it would be preferable from a methodological point of view to assess attitude and then relate it to future behaviour, but this data does provide some indication that this model has the potential to be useful in the prediction of actual travel behaviour. The following chapter extends the model developed in this chapter to provide a clearer focus on attitudes and to relate these to behavioural intentions.

## **CHAPTER 11: THE ROLE OF TRAVEL MOTIVE AND THE DEVELOPMENT OF A MODEL OF THE FACTORS PREDICTING INTENTION TO UNDERTAKE AIR TRAVEL.**

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The principal purpose of the present chapter is to develop a model of the factors that predict the intention to travel by air. However, prior to developing this model a series of analyses are reported that consider whether the factors predicting travel intention differ according to the reason why people travel and the region to which that travel is intended.

As noted previously, the Theory of Planned Behaviour (TPB, Ajzen, 1988, 1991) proposes that the intention to perform a behaviour is predicted by three main factors. These are individual attitudes, normative beliefs regarding what 'significant others' would feel about the behaviour in question, and perceptions of control over the individual's ability to control whether or not they perform the behaviour. It has also been noted that past behaviour can be a useful predictor of future behaviour. This model is used as the basis for the studies reported in this chapter.

The 3TQ employed in the previous chapters was designed to assess attitudes to various types of travel to three different locations. It is evident from the findings reported in Chapter 7 that people were most deterred from travelling to the USA, and that air travel was the form of transport for which most deterrence was experienced. The focus of the research reported in this chapter is therefore on air travel, and the distinction between the three regions, the U.S.A, Europe and the U.K, is continued in the new questionnaires.

### **Study 10 – The role of motivation for travel**

The purpose of this study is to investigate the relevance of the reason why people travel to their travel decisions. It has previously been argued that business travellers may be affected by terrorism in a similar way to pleasure tourists (Pizam and Mansfeld, 1996), as companies may not want to send their staff into situations that are potentially dangerous. However, it is also possible that there are constraints relevant to certain types of travel that mean that the choice of whether or not to undertake a particular journey is limited. For example a business traveller may be



required to take a particular journey, or an individual may need to urgently visit a family member. Such issues are not relevant to holiday travel, although once booked and paid for people may be reluctant to change their plans and lose their holiday. It is not known exactly how different reasons for travel are ordered in terms of choice. However, it seems reasonable to suggest that the order could run from business, with the least choice, through visiting family, visiting friends, to going on holiday, with the greatest choice.

The purpose of this study is to investigate whether there are differences in attitude, subjective norm and perceived behavioural control in relation to travel, according to the reason for past travel. It is anticipated that business travellers would perceive less control over their travel behaviour than would travellers in the other groups. This would be because the requirement for them to travel would be likely to come from an external source, and their own self-efficacy with regard to the travel decision would be expected to be minimal. However, attitudes and subjective norms would not be predicted to differ across the types of travel.

Participants were asked to provide details of when, where and for what reason they travelled by air in the period between 11<sup>th</sup> September 2001 and July 2004. Four reasons for travel were distinguished, being holiday, business, visiting family and visiting friends. These categories, together with a group containing those who had not flown in that period, form one independent variable for inclusion in an Analysis of Variance. Gender is also included as an independent variable to identify whether men and women respond differently in relation to the different reasons for travel. The dependent variables in this part of the study are attitude to air travel, subjective norm and perceived behavioural control over air travel, which is split to consider internal and external control factors separately.

## **10. A. Method**

### *Participants*

The participants in this study were 102 members of the general public from a moderate sized town in the South East of England. Four hundred questionnaire packs were distributed, meaning that there is a 25.5% response rate by pack. The sample consisted of 33 males and 69 females, and the mean age of the sample was 40 years. Considering each reason for travel separately, since 9/11, 72.5% of the participants

had undertaken air travel for holiday purposes, 17% for business purposes, 19% to visit family, 6% to visit friends, and 20% had not travelled by air.

### *Design*

This study consists of 4 analyses, each using a 5 X 2 between participants ANOVA design. The independent variables for each analysis are reason for previous travel and gender. Previous travel experience, which considers air travel undertaken since 9/11 was categorised to reflect the different reasons for which travel was undertaken, being business travel, visiting family, visiting friends, holiday, and not travelling. Individuals were categorised into one of these levels, according to the most constrained type of travel they had undertaken since 9/11, as this would be the travel type most likely to affect attitudes and perceptions of control. Travel within this timescale was used as it reflects the participants' most recent pattern of travel behaviour. The dependent variables are attitude to air travel, normative beliefs and both internal and external perceived behavioural control over air travel. Gender is included as an independent variable as there may be gender differences in the effects of the different motivations for travel.

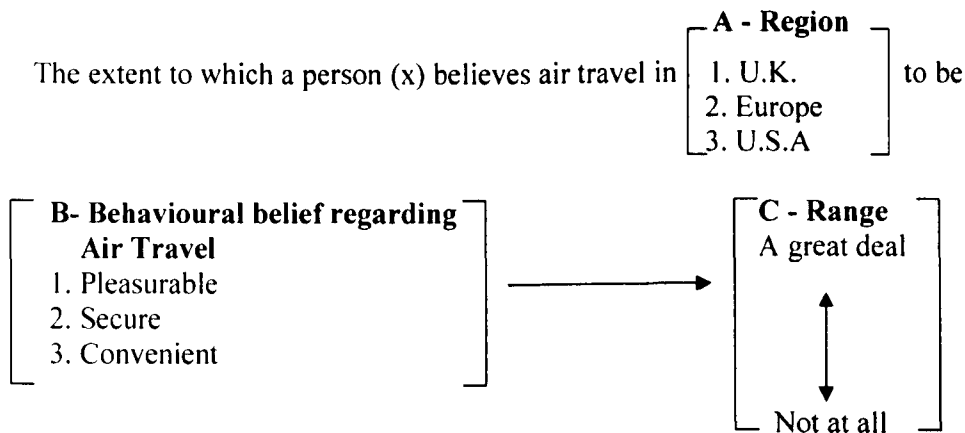
### *Materials*

The materials used in this study were the questionnaires shown in Appendices M to O. These respectively assess attitude to air travel (Attitude), normative beliefs regarding air travel (Subjective Norm), and other things that may affect our decision to travel by air (Perceived Behavioural Control).

The attitude questionnaire was designed to assess a variety of behavioural beliefs in relation to travelling to the three regions of the U.S.A, Europe and the U.K, as in the studies reported in the previous chapters. The structure of the questionnaire is shown in the mapping sentence in Figure 18, which contains two facets. The first facet was geographical region and the second was behavioural beliefs regarding air travel. Three elements containing beliefs relating to the pleasure, security and convenience of flying were proposed, and two examples of beliefs for each structure were included on the questionnaire. The structure of this questionnaire was examined using Smallest Space Analysis (SSA). The analysis was conducted using the Pearson Correlation Coefficient, and the 2-dimensional plot provided an interpretable solution, which is therefore shown in Figure 19. This plot has a coefficient of

alienation of 0.12 indicating a good level of fit, and was produced in 39 iterations. It can be seen that the plot shows a polar structure (Levy, 1985) with three regions, which represent the proposed different aspects of beliefs regarding air travel.

**Figure 18.**

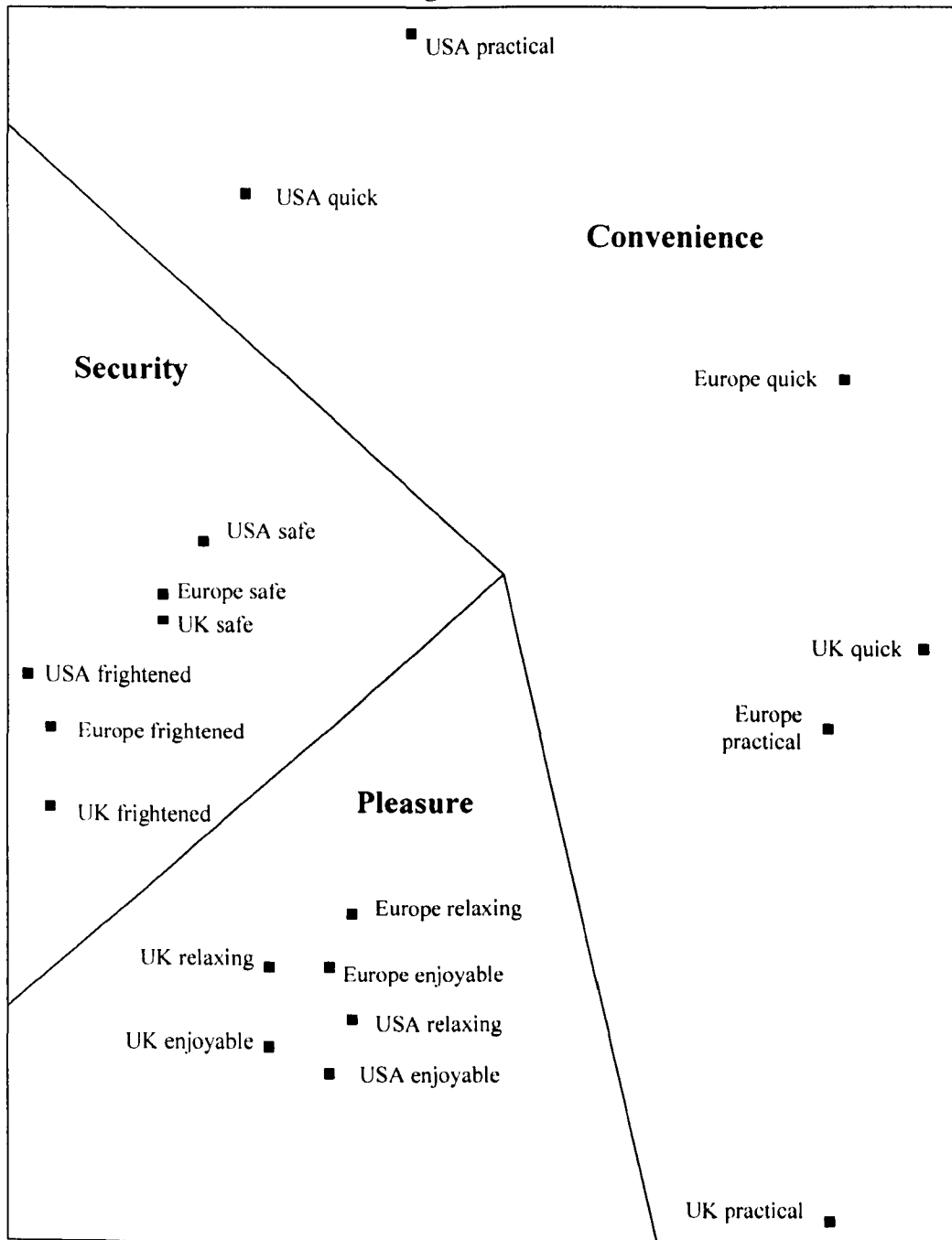


**Figure 18: Mapping sentence showing the facets and elements used to create the attitude to air travel questionnaire.**

It is noted that the proposed 'region' facet, containing the three different geographical locations does not form distinct regions on this plot, and nor does it if the three dimensional solution for this SSA is examined. This therefore suggests that in this instance peoples' attitudes are to air travel in general, and are not differentiated according to potential destination. Hence, a single facet, representing the three aspects of air travel, may be a useful basis for any future development of this questionnaire.

Cronbach's Alpha was used to test the reliability of the attitude to air travel and questionnaire, which had an overall scale alpha of 0.86, indicating that this scale has a good level of reliability. However, the analysis indicated that the reliability would be improved by the removal of all the items in the 'convenience' region of the SSA plot. Removing these variables (items 3, 5, 8, 10, 12, and 16) increased the scale reliability to 0.92. Therefore just the variables representing security and pleasure related beliefs are included in the following analysis.

**Figure 19.**



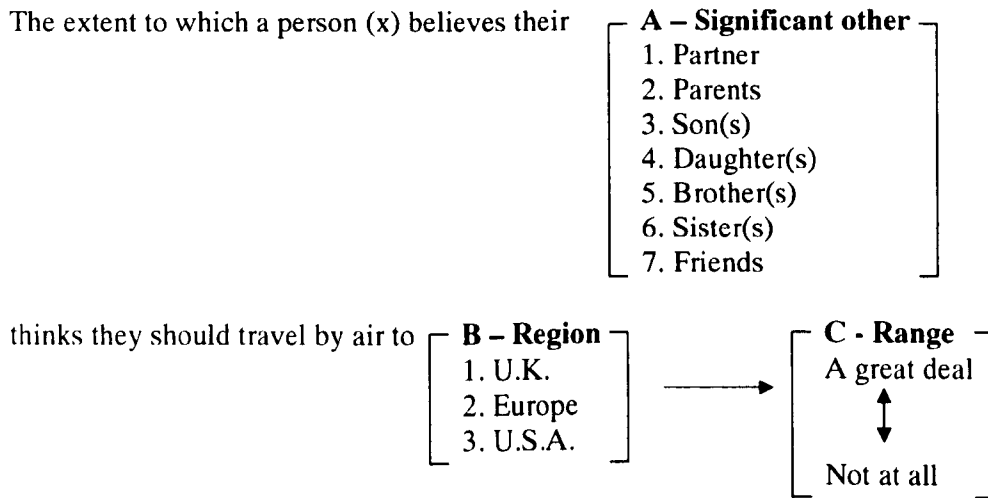
Note: 2-dimensional representation of 2-dimensional solution, coefficient of alienation = .12

**Figure 19: SSA showing the relationship between the items and the three regional divisions in the attitude to air travel questionnaire.**

The questionnaire assessing the influence of the subjective norm in air travel decisions was created using a mapping sentence. The three different geographical

regions were included, together with a variety of people whose opinions may be important to an individual. The mapping sentence is shown in Figure 20.

**Figure 20.**



**Figure 20: Mapping sentence showing the facets and elements used to create the subjective norm in relation to air travel questionnaire.**

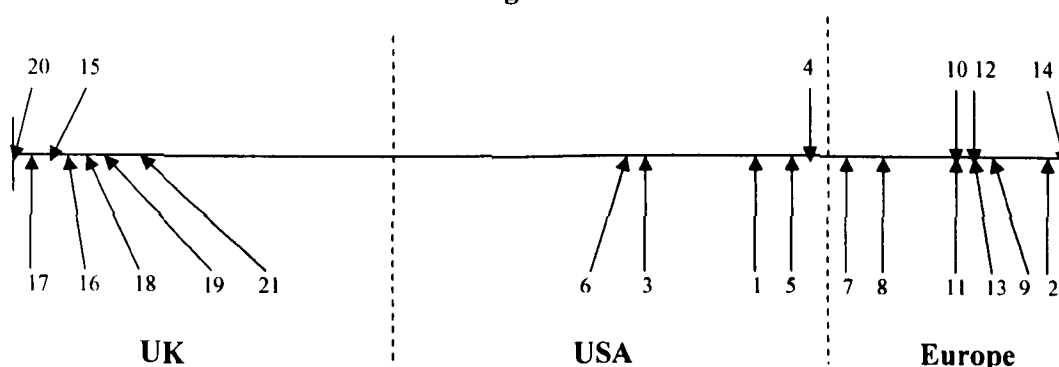
The responses to this questionnaire were analysed using SSA to verify whether the proposed structure was reflected empirically. The analysis was conducted using the Pearson Correlation Coefficient. The one-dimensional solution provided an interpretable plot and was produced in 17 iterations. The coefficient of alienation was 0.17, indicating a good fit, and the plot is shown in Figure 21.

It can be seen that the plot, which is represented on a single line, can be divided into three regions representing an axial facet (Shye, Elizur & Hoffman, 1994). The region at the far left of the plot contains all the normative beliefs regarding air travel within the UK. The middle region contains all the normative beliefs regarding air travel to the USA and the region to the far right contains those normative beliefs relating to air travel to Europe. One item, being that related to beliefs regarding the parents' opinion of air travel to the USA, is located in the wrong region. It should be noted that this SSA was produced using a small sub-sample of 13 participants, who were the only ones to have significant others in all of the categories included in this questionnaire.

The partitioning of this plot indicates that participants believe that those who are important to them would differentiate between travel to the USA, Europe and UK

in terms of the extent to which they would want them to travel by air. The ordering of these regions seems to reflect an increase in the perceived desirability of using air travel, moving across the plot from left to right. Participants may believe that those important to them would prefer them not to fly within the UK, as there are viable alternatives such as train, bus and car readily available. Whilst it is not easy to travel to the USA by means other than by air, it seems that people believe that those important to them would want them to do this less than they would want them to travel by air to a European destination. It is possible that this is reflective, at least to some extent, of the concern caused by the threat of terrorism that could be associated with travel to the USA.

**Figure 21.**



Note: 1-dimensional solution. Coefficient of alienation 0.17.

Key to numbering (which uses the item numbers from the questionnaire shown in Appendix Q):

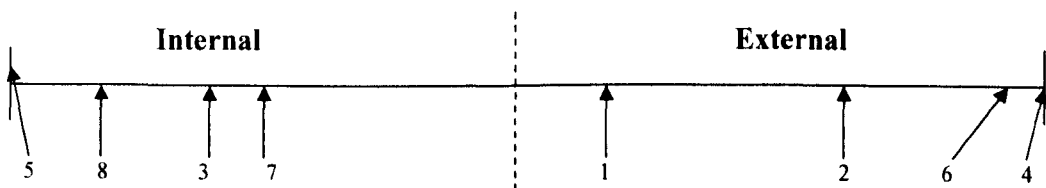
1 – Partner USA	8 – Partner Europe	15 – Partner UK
2 – Parents USA	9 – Parents Europe	16 – Parents UK
3 – Son(s) USA	10 – Son(s) Europe	17 – Son(s) UK
4 – Daughter(s) USA	11 – Daughter(s) Europe	18 – Daughter(s) UK
5 – Brother(s) USA	12 – Brother(s) Europe	19 – Brother(s) UK
6 – Sister(s) USA	13 – Sister(s) Europe	20 – Sister(s) UK
7 – Friends USA	14 – Friends Europe	21 – Friends UK

**Figure 21: One-dimensional SSA showing the relationship between the items from the subjective norm regarding air travel questionnaire.**

Cronbach's alpha was used to test the reliability of the subjective norm questionnaire. This analysis showed that the reliability was good with an alpha of .94, which was not improved by the removal of any of the items.

The Perceived Behavioural Control questionnaire was created based upon a similar questionnaire used in research into attendance at Breast Screening clinic (Steadman, Rutter & Field, Personal communication). The items in this questionnaire reflect the two aspects of behavioural control discussed in Chapter 3, being external factors and internal factors. The purpose of the questionnaire is to assess the degree of control over air travel behaviour perceived by the participants. It contains questions regarding issues such as the difficulty of access to the airport and inconvenient flight timetables as external factors, and items indicating self-efficacy in relation to flying as internal factors.

**Figure 22.**



Note: 1-Dimensional solution. Coefficient of alienation 0.21

Key to numbering (which uses the item numbers from the questionnaire shown in Appendix R):

- |                                      |   |
|--------------------------------------|---|
| 1 – Difficult getting to the airport | 5 – Confident I could travel by air       |
| 2 – Air travel is expensive          | 6 – Flight cancelled                      |
| 3 – Up to me whether I travel by air | 7 – My decision to travel by air          |
| 4 – Flight at inconvenient time      | 8 – I can control whether I travel by air |

**Figure 22: One-dimensional SSA showing the relationship and partitioning of the variables from the Perceived Behavioural Control over air travel questionnaire.**

A mapping sentence was not employed in the development of this questionnaire, but a Smallest Space Analysis was conducted using the Pearson Correlation Coefficient to identify whether the two factors are identifiable as separate

regions. The one-dimensional plot provided an interpretable solution in 12 iterations, with a coefficient of alienation of 0.21, and is shown in Figure 22. It can be seen from this plot that an axial facet (Shye, Elizur & Hoffman, 1994) differentiates the two components representing the internal and external control factors.

Reliability analysis of the perceived behavioural control over air travel questionnaire was conducted. The Cronbach's alpha for the whole scale was only 0.52, which indicates that the reliability is not particularly good. Considering the internal and external control factors individually showed that the internal control sub-scale was more reliable, with an alpha of 0.77, which was improved to .85 by the removal of item 5 ('I am confident that I could travel by air'). The three remaining variables are therefore used to create the mean internal control variable used in the following analysis. The external control sub-scale only had an alpha of 0.50, and this was not improved by the removal of any of the variables. Therefore, whilst this aspect is considered in the following analyses the findings have to be treated cautiously due to the limited reliability of this scale.

### *Procedure*

Questionnaires were distributed to potential participants by delivering envelopes containing the questionnaires to 400 houses in selected areas of a moderate sized town in the South East of England. The area chosen for this study was a modern housing estate containing predominantly privately owned properties, ranging in size from small flats to 5-bedroom houses. Envelopes were distributed evenly between small (flats and 1-bedroom houses), medium (2 – 3 bedroom houses) and large (4 or more - bedroom houses) properties. This type of area was chosen as it seemed likely that the residents would be potential members of the travelling public. Each envelope contained a letter inviting participation, two questionnaires to enable more than one member of the household to respond if they wished and two prize draw entry forms to be returned with the completed questionnaire. Reply-paid envelopes were also enclosed for the return of the questionnaires. The questionnaires consisted of an information sheet, the measures used in this study, together with other measures for use in other research, and a written debriefing.



## 10.B. Results

### *Attitude to air travel*

The data were analysed using 2-way ANOVA to identify whether there were group differences in attitude to air travel according to the travel motive classification described above. The means and standard deviations for each group, reported by gender are shown in Table 18. It can be seen that the cell sizes are unequal in this analysis, and that there are no males in the visiting friends category. Whilst this does to some extent reduce the power of this analysis, ANOVA is sufficiently robust to allow for such inequalities. In this analysis a high score represents a more positive attitude to air travel, and it can be seen that all of the mean scores are higher than the mid-point of 4, indicating a generally positive attitude to flying.

**Table 18.**

<b>Travel category</b>	<b>Gender</b>	<b>N</b>	<b>Mean</b>	<b>Standard Deviation</b>
No travel	Male	7	4.41	.91
	Female	13	4.59	1.96
Business	Male	10	4.99	1.05
	Female	7	5.50	0.54
Family	Male	7	5.23	1.35
	Female	9	4.76	1.06
Friends	Male	0	-	-
	Female	4	5.17	1.14
Holiday	Male	9	5.19	0.64
	Female	36	4.84	0.90

**Table 18: Means and standard deviations for attitude to air travel questionnaire, by travel motive.**

Neither of the main effects, nor the interaction effect were statistically significant: for gender  $F(1, 93) = 0.01, p = .91, \text{partial } \eta^2 = .00$ , for travel category  $F(4, 93) = 1.10, p = .36, \text{partial } \eta^2 = .05$ , the interaction between gender and travel

category  $F(3, 93) = 0.74, p = .53, \text{partial } \eta^2 = .02$ . It can also be seen that the effect sizes are small, with gender accounting for less than .1% of the variance in attitude, and travel category and the interaction term accounting individually for only 5% and 2% respectively.

#### *Subjective Norm*

These data were analysed using a 2-way ANOVA. The means and standard deviations for this analysis are shown in Table 19. In this analysis, the higher the score the more it is believed that the ‘significant others’ would want the individual to travel by air to the various regions. It can be seen that whilst all the mean scores indicate that the participants think their ‘significant others’ would want them to travel by air, that the group who had not travelled previously are generally less positive than are the other groups.

**Table 19.**

<b>Travel category</b>	<b>Gender</b>	<b>N</b>	<b>Mean</b>	<b>Standard Deviation</b>
No travel	Male	6	4.82	1.78
	Female	12	4.71	1.51
Business	Male	9	5.25	0.97
	Female	7	5.65	0.87
Family	Male	7	5.17	1.01
	Female	9	5.05	1.23
Friends	Male	0	-	-
	Female	4	4.56	0.73
Holiday	Male	9	5.62	0.60
	Female	36	5.20	1.07

**Table 19: Means and standard deviations for subjective norm regarding air travel questionnaire, by travel motive.**

Neither of the main effects or the interaction effect were statistically significant in this analysis: travel category  $F(4, 89) = 1.32, p = .27, \text{partial } \eta^2 = .06$ , gender  $F(1, 89) = 0.06, p = .82, \text{partial } \eta^2 = .001$ , interaction between travel category and gender  $F(3, 89) = 0.45, p = .72, \text{partial } \eta^2 = .02$ . It can also be seen

from these analyses that the effect sizes associated with all of these calculations are small.

*Internal Perceived Behavioural Control*

The data were again analysed using a 2-way ANOVA. The means and standard deviations for this analysis are shown in Table 20. In this analysis a high score indicates a greater level of internal perceived behavioural control (PBC). It can be seen that all the means indicate that the participants feel that they have control over their travel behaviour based on internal factors.

**Table 20.**

<b>Travel category</b>	<b>Gender</b>	<b>N</b>	<b>Mean</b>	<b>Standard Deviation</b>
No travel	Male	7	5.38	1.86
	Female	13	6.49	0.68
Business	Male	10	6.27	0.98
	Female	7	5.38	1.54
Family	Male	7	4.90	1.86
	Female	9	6.22	1.05
Friends	Male	0	-	-
	Female	4	6.08	0.63
Holiday	Male	9	6.37	0.45
	Female	36	6.20	1.07

**Table 20: Means and standard deviations for internal perceived behavioural control sub-scale, by travel motive.**

Neither of the main effects were statistically significant: gender  $F(1, 93) = 1.68, p = .20, \text{partial } \eta^2 = .02$ , travel category  $F(4, 93) = 1.13, p = .35, \text{partial } \eta^2 = .05$ . The interaction between gender and travel category was statistically significant,  $F(3, 93) = 3.66, p < .05, \text{partial } \eta^2 = .11$ . This size of this interaction effect is still fairly small, accounting for 11% of the variance in internal PBC. Scrutiny of the graph shown in Figure 23 shows that the source of the interaction is the pattern of perceived control in the no travel, business travel and visiting family categories.

Males generally perceive that they have somewhat less internal control over their travel behaviour than do females, except in the business travel category where they report more control than do females. It should be noted that considering each type of travel separately, none of the gender differences are statistically significant using independent samples t-tests, which with a Bonferroni correction would require a p-value of less than .01.

Figure 23.

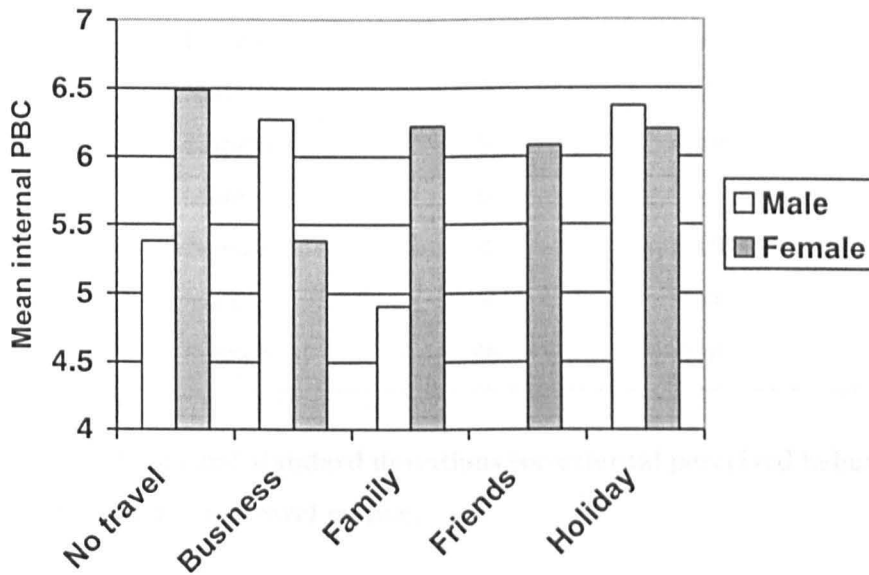


Figure 23: Plot of mean internal perceived behavioural control over air travel scores, showing the interaction between category of travel and gender.

#### *External Perceived Behavioural Control*

This analysis was again carried out using a 2-way ANOVA. The means and standard deviations are shown in Table 21. It can be seen from the mean scores that although these again reflect positive perceptions of control, this is less positive than was the case for internal perceived behavioural control.

Neither of the main effects nor the interaction effect were statistically significant: gender  $F(1, 93) = 0.10, p = .75, \text{partial } \eta^2 = .00$ , travel category  $F(4, 93) = 0.93, p = .45, \text{partial } \eta^2 = .04$ , interaction  $F(3, 93) = 0.18, p = .91, \text{partial } \eta^2 = .01$ .

It can be seen that as well as being non-significant these are very small effects, the largest being travel category which accounts for 4% of the variance in external PBC.

**Table 21.**

<b>Travel category</b>	<b>Gender</b>	<b>N</b>	<b>Mean</b>	<b>Standard Deviation</b>
No travel	Male	7	4.37	1.13
	Female	13	4.44	1.50
Business	Male	10	4.78	1.00
	Female	7	4.93	0.79
Family	Male	7	4.39	1.55
	Female	9	4.19	1.07
Friends	Male	0	-	-
	Female	4	5.19	0.31
Holiday	Male	9	4.41	1.17
	Female	36	4.64	1.04

**Table 21: Means and standard deviations for external perceived behavioural control sub-scale, by travel motive.**

### **10.C. Discussion**

The purpose of this study was to investigate whether there was any evidence of differences in attitude, subjective norm and perceived behavioural control between people who had travelled for differing reasons in the period since 9/11. These analyses therefore provide some preliminary evidence relevant to the issue of the role of motivation for travel in the travel decision process. For the most part, this study has not found any evidence to indicate that there are attitude, normative and control belief differences between people who have travelled for reasons of business, visiting family or friends, on holiday, or not travelling by air. In the four ANOVAs none of the main effects of gender of travel category were statistically significant, and the effect sizes were all very small. It was argued previously that business travellers would be expected to report less perceived control over their travel behaviour than would participants in the other travel categories. This was not found in the present study, where there were no differences between the different travel categories.

The only statistically significant result was identified in the analysis of internal perceived behavioural control for the interaction between gender and travel category. Scrutiny of the data indicated that this was due to males reporting less control than females in the no travel and visiting family categories, but more control than females in the business travel category. It is possible that this reflects socialisation differences between the genders in the work situation where men have traditionally had, and to a large extent still retain, higher status employment. Males asked to travel for business purposes may feel confident enough in their employment status that they feel they could refuse to travel if they wanted to without jeopardising their position. This would mean that they would still feel they had control over this behaviour. Such feelings of control may not be so easy for women to obtain, as they may feel that they will lose the status they have obtained if they refuse to travel, which may lead them to feel they have less control over this behaviour.

It was noted that the scores on the external behavioural control scale reflected lower perceptions of control than were seen on the internal behavioural control scale. This is perhaps not surprising as air travel is a behaviour that is to a large extent under the volitional control of the individual, but that when this control is reduced it is frequently due to external factors such as flight times, transport difficulties or cancellations. However, the results of the external perceived behavioural control questionnaire need to be interpreted with caution, as the reliability of this scale was low.

Whilst this study only provides a limited consideration of the possible role of motivation in the travel decision process, it does not indicate strong differences in the effect of having travelled for different reasons upon the various beliefs. The following study develops these findings by identifying and comparing the factors predicting intention to travel for each reason to each region individually.

### **Study 11 – Predicting the intention to travel**

In the previous chapters evidence was presented that suggests that a terrorist attack does indeed have a psychological impact on people, in terms of their attitude towards travel. In Chapter 7 it was seen that deterrence from travelling due to the threat of terrorism appeared to increase in the period immediately after the terrorist attacks of 9/11, and that this then decreased over time. This finding therefore

supports previous research, which has found an association between acts of terrorism and reduced tourist numbers (Enders & Sandler, 1991), by providing evidence that there is also a psychological change. Subsequent chapters have then identified a number of variables that are useful predictors of deterrence from travelling, and a model of these variables was developed in Chapter 10. The purpose of the analyses that are reported in this chapter is to develop from these previous findings, to identify factors predicting the intention travel, specifically by air.

The Theory of Planned Behaviour (Ajzen, 1988, 1991) places behavioural intention as the immediate predictor of behaviour. The development of this research to included intention to travel therefore provides a stronger link to likely actual behaviour. The Theory of Planned Behaviour has been widely used as the theoretical basis for the study of behaviours and behavioural intentions. This theory is therefore used to provide a framework for the present study. A key concept of this theory is that of specificity of measurement, meaning that if a particular intention is being assessed, then the attitude, subjective norm and perceived behavioural control measures need to be at the same level of specificity. Therefore in this study predicting the intention to travel by air the attitude measures used in the previous study, which considered wider aspects of travel would not be suitable. New scales assessing these variables in relation to flying were therefore created and are included as possible predictors of intention. The Sensation Seeking sub-scales and the different types of travel hazard are again included in this model, together with a number of demographic variables. This makes it possible to identify whether the factors predicting deterrence from travelling are also associated with the intention to undertake air travel in the future.

It is generally anticipated that intention to travel will be predicted by attitude, subjective norm and perceived behavioural control. However, in the first stage of this study a series of 12 multiple regression analyses are conducted to identify factors predicting the intention to travel to each region for each purpose. These analyses form the basis for the development of the overall model. Previous research, such as the meta-analysis conducted by Armitage and Conner (2001) has identified the subjective norm component of the Theory of Planned Behaviour as the element with the weakest association with intention. It is therefore expected that this may be a less useful predictor in these analysis than attitude or perceived behavioural control. Based upon the findings reported in Chapter 10, it is further predicted that aspects of

sensation seeking and travel risk perception will be associated with intention to travel.

## **11.A. Method**

### *Participants*

The participants in this study were the 102 participants described in Study 10. They were all members of the general public from a moderate sized town in the South East of England. Four hundred questionnaire packs were distributed, meaning that there is a 25.5% response rate by pack. The sample consisted of 33 males and 69 females, and the mean age of the sample was 40 years. The data from one male participant was excluded from these analyses as his travel experience and travel intention was excessively high due to the nature of his work and was therefore an outlier.

A booster sample of a further 14 participants was obtained to provide a sufficient sample size for the calculation of this model, giving a total of 116. These participants were people attending a summer school course at a university in the South East of England, some of who were attending the course out of interest and some of who were full time students attending for extra credit. Research participation was required for these people, who obtained partial course credit. There were 2 males and 12 females in this group and the mean age was 27 years. Whilst this group are younger and have fewer children than the main sample they are similar in terms of the other demographic factors such as travel experience and level of education.

The overall mean age of the participants was 38.28 years. There were 35 males (30.2%) and 81 females (69.8%). Considering marital status, 28 (24.1%) were single, 56 were married (48.3%), 18 were living with a partner (15.5%), 9 were divorced or separated (7.8%), and 5 were widowed (4.3%). In terms of the highest level of education attained, 9 had no education (7.8%), 4 had CSEs (3.4%), 25 had GCSEs (21.6%), 17 had A' levels (14.7%), 17 had a diploma (14.7%), 33 (28.4%) had an undergraduate degree, and 10 (8.6%) had a post graduate degree.

### *Design*

This study commences with a series of 12 multiple regression analyses to identify the pattern of predictors of the intention undertake travel for reasons of



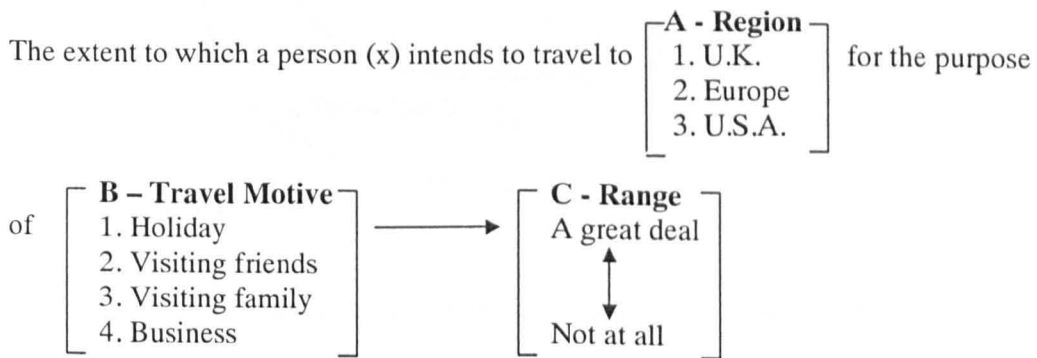
holiday, visiting friends, visiting family and business to the USA, Europe and within the UK. The intentions where a statistically significant regression is identified are then followed up with *multiple regression-based path analyses* to develop models of the specific intentions to travel by air. The hypothesised relationships between the variables included in these analyses are shown in the diagram in Figure 3, which was reported in Chapter 6 as the overall framework for the research in this thesis.

*Materials*

This study used the attitude to air travel questionnaire (Appendix M), the subjective norm questionnaire (Appendix N), and the perceived behavioural control over air travel questionnaire (Appendix O), that were described and tested in Study 10. It also uses a newly created questionnaire to assess travel intention (Appendix P). The revised Sensation Seeking Scale Form V (revised SSS-V) and the travel hazards questionnaire, previously described and tested in Studies 3 and 6 respectively, were also used in this study.

The travel intention questionnaire was created using the mapping sentence shown in Figure 24. This questionnaire again reflects the three regions for potential travel used in the previous questionnaires, together with the different motivations for travel.

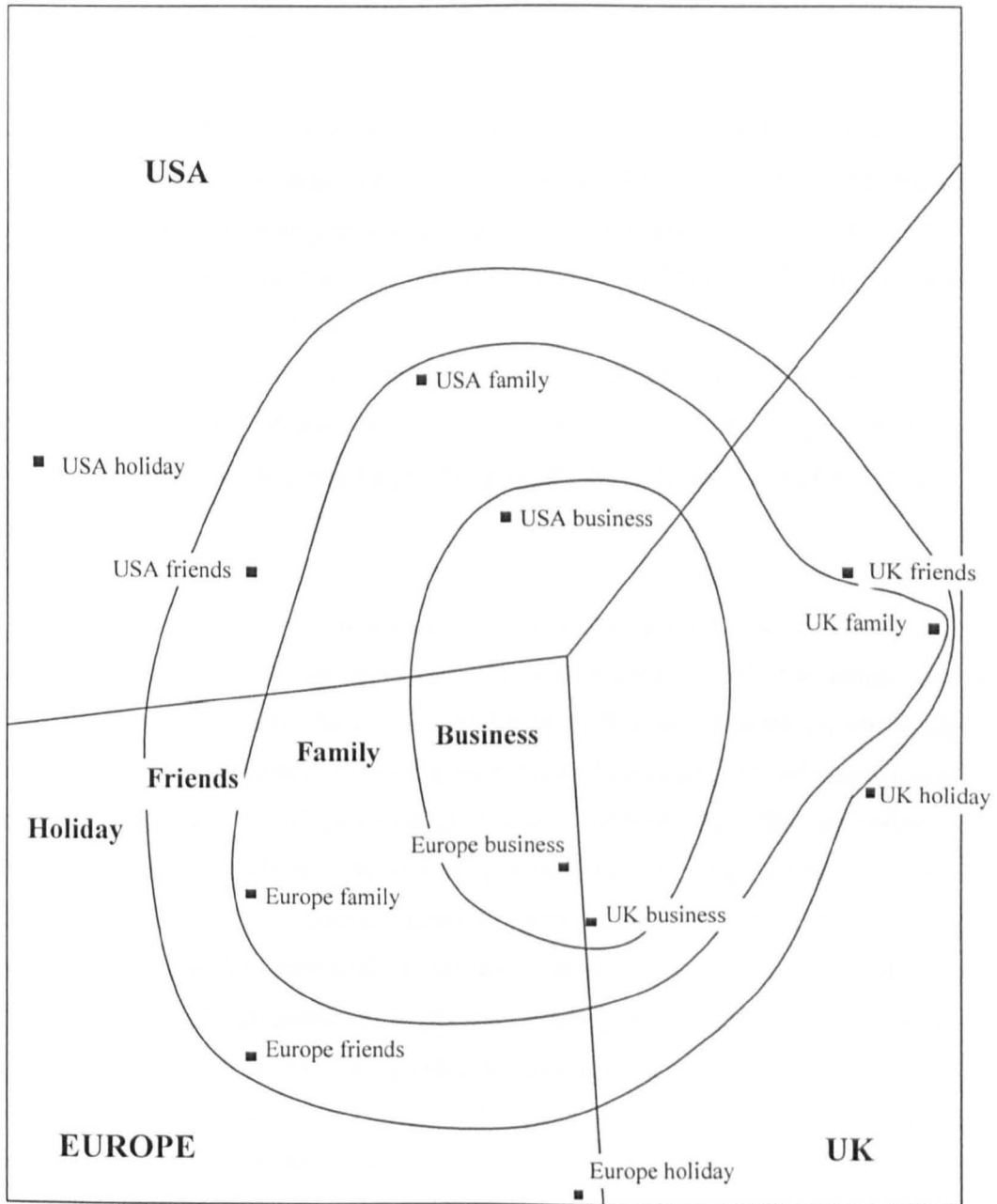
**Figure 24.**



**Figure 24: Mapping sentence showing the facets and elements used to create the air travel intention questionnaire.**

The structure of the air travel intention questionnaire was also investigated using SSA to identify whether the proposed facets were reflected empirically. The

Figure 25.



Note: 2-dimensional representation of 3-dimensional solution (vectors 1 X 3), coefficient of alienation = .09

Figure 25: SSA showing the facet structure of the intention to travel questionnaire.

analysis was conducted using the Pearson Correlation Coefficient. Vectors 1 and 3 from the 3-dimensional solution produced the most readily interpretable plot, in

which the regions partitioned into a radex structure (Levy, 1985). This analysis was conducted in 62 iterations and had a coefficient of alienation of 0.09. The plot for this analysis is shown in Figure 25.

It can be seen that the proposed facets of geographical region and travel motive are identifiable in this plot. Geographical region is identified by an axial facet, and travel motive identified by a radial facet. The order of the travel motive facet is consistent with that previously suggested for the degree of choice associated with the different reasons for travel, increasing from business travel with the least choice, through visiting family, then friends, and finally holiday. This analysis suggests that these facets are useful in the conceptualisation of travel intention.

The reliability of the air travel intention questionnaire was tested using Cronbach's alpha, which showed a good degree of reliability with an alpha of .82.

### *Procedure*

Questionnaires were distributed to potential participants by delivering envelopes containing the questionnaires to 400 houses in selected areas of a moderate sized town in the South East of England. The area chosen for this study was a modern housing estate containing predominantly privately owned properties of varying sizes. This type of area was chosen as it seemed likely that the residents would be potential members of the travelling public. Each envelope contained a letter inviting participation, two questionnaires to enable more than one member of the household to respond if they wished and two prize draw entry forms to be returned with the completed questionnaire. Reply-paid envelopes were also enclosed for the return of the questionnaires. The questionnaires consisted of an information sheet, the measures used in this study and a written debriefing. The same questionnaire packs were distributed to the participants in the booster sample, who being a mixed group of students and non-students were also likely to be members of the travelling public.

## **11.B. Results**

### *Data preparation.*

New variables were created for inclusion in the following regression analyses. The relevant items from the attitude and subjective norm scales were taken

to create subscales, so that the degree of specificity between the intention and its predictors is consistent, as required by the Theory of Planned Behaviour (Ajzen, 1988, 1991). For example, for the analyses of the different types of travel to the USA just the items relating to the USA from the attitude and subjective norm measures are included. The attitude to air travel variables excluded the items in the 'convenience' region of the SSA plot reported in Study 10, which were shown to be unreliable. These variables therefore represent the overall attitude to air travel to the different destinations, based upon consideration of beliefs regarding the pleasure and security of flying. A sub-scale was created to represent internal aspects of perceived behavioural control, as was used in the previous study. The external perceived behavioural control variable was excluded from this analysis due to its low reliability.

Variables were created for each of the sub-scales of the travel hazards questionnaire as identified in Study 7, being political hazards, social hazards and physical hazards. Similarly, variables were created for each of the sensation seeking sub-scales, which are Thrill and Adventure Seeking, Experience Seeking, Boredom Susceptibility and Disinhibition. The marital status variable was dummy coded to create 4 dummy variables, as marital status does not have any intrinsic order. Although education level is a nominal variable the levels do reflect increasing educational attainment, and this variable was therefore not dummy coded.

The independent variables included in the following analyses predicting intention to travel by air in the next 6 months were:

- Attitude to air travel (Attitude, sub-scales for each region)
- Normative beliefs regarding air travel (Subjective Norm, sub-scales for each region )
- Internal Perceived Behavioural Control (Internal PBC)
- Risk perceived for political hazards (Political hazards)
- Risk perceived for social hazards (Social hazards)
- Risk perceived for physical hazards (Physical hazards)
- Thrill and Adventure Seeking (TAS)
- Experience Seeking (ES)
- Boredom Susceptibility (BS)
- Disinhibition (DIS)

- Age
- Gender
- Marital status (dummy coded)
- Number of children
- Number of flights taken between 1/1/2000 and 11/9/2001 (Travel experience)
- Highest level of education achieved (Education)

The number of flights taken prior to 9/11 was used in this analysis as this is more reflective of the participants' travel behaviour before any impact of 9/11. Whilst it would be anticipated that people who had more travel experience before 9/11 would probably be more likely to travel after 9/11, the baseline level of travel experience was considered to be a more suitable predictor in this analysis. Other demographic factors such as marital status and number of children are included as these types of factor may be influential in determining peoples' intention to travel. However, the inclusion of these variables is exploratory in nature. It is also noted that a number of participants (between 9 and 11) have missing data for the subjective norm variables, which therefore reduces the data sets in the analyses where subjective norm is included.

### *Main Analysis*

The first part of this study investigates the predictors of each of the 12 different intentions assessed in the questionnaire shown in Appendix S. In these analyses, all of the potential predictor variables are entered into a series of multiple regression analyses to identify whether the relationships between the variables are similar.

The means and standard deviations for the variables included in the following analyses are shown by destination in Tables 22 (USA), 23 (Europe) and 24 (UK). The results of the individual regression analyses are reported in Table 25, and the models with statistically significant results are highlighted. The statistically significant results are then examined further using path analysis to identify the variables that are useful predictors of the different travel intentions. No further analyses are carried out on the non-significant models.

Considering holiday travel to the USA, the only statistically significant predictors were travel experience prior to 9/11 (Bivariate  $r = -.33$ , semi-partial  $r = -.21$ , beta =  $-.24$ ,  $p = .022$ ) and attitude to travel to the USA (Bivariate  $r = -.26$ , semi-partial  $r = -.19$ , beta =  $-.24$ ,  $p = .037$ ). These relationships indicate that a higher intention to travel to the USA for a holiday in the next 6 months is associated with greater previous travel experience and a more positive attitude to flying to the USA.

**Table 22.**

	<b>Mean</b>	<b>SD</b>	<b>N</b>
Age	38.28	12.65	104
No. children	1.32	1.47	104
Travel Exp.	1.94	2.12	104
Political Haz	3.99	.86	104
Social Haz	2.67	.67	104
Physical Haz	2.90	.70	104
TAS	3.90	1.14	104
ES	3.98	.97	104
DIS	3.66	.94	104
BS	3.60	.62	104
Attitude USA	4.43	1.30	104
SN USA	5.38	1.55	104
Internal PBC	6.03	1.12	104
Intention holiday	5.01	2.31	104
Intention friends	6.09	1.79	104
Intention family	6.43	1.34	104
Intention business	6.18	1.65	104

**Table 22: Means and standard deviations for variables included in regression analyses predicting intention to travel to the USA.**

In the case of business travel to the USA the statistically significant predictors of intention were travel experience prior to 9/11 (Bivariate  $r = -.40$ , semi-partial  $r = -.28$ , beta =  $-.31$ ,  $p = .002$ ) and risk perceived for political hazards (Bivariate  $r = .33$ , semi-partial  $r = .29$ , beta =  $.39$ ,  $p = .001$ ). These relationships

indicate that a higher intention to travel to the USA for business in the next 6 months is associated with greater previous travel experience and perceiving hazards that may face travellers in the political domain, being civil unrest and terrorism, as low risk.

The last intention for which there was a statistically significant regression analysis was for air travel to Europe for holiday purposes. When all the variables were entered the only statistically significant predictor was subjective norm for travelling to Europe (Bivariate  $r = -.42$ , semi-partial  $r = -.35$ , beta =  $-.43$ ,  $p = .000$ ). This relationship indicates that a higher intention to travel to Europe for a holiday in the next 6 months is associated with the perception that those important to the individual think they should fly to Europe.

**Table 23.**

	<b>Mean</b>	<b>SD</b>	<b>N</b>
<b>Age</b>	37.92	12.72	109
<b>No. children</b>	1.28	1.45	109
<b>Travel Exp.</b>	1.90	2.09	109
<b>Political Haz</b>	4.00	.85	109
<b>Social Haz</b>	2.69	.67	109
<b>Physical Haz</b>	2.90	.68	109
<b>TAS</b>	3.92	1.14	109
<b>ES</b>	3.97	.96	109
<b>DIS</b>	3.65	.93	109
<b>BS</b>	3.61	.62	109
<b>Attitude Europe</b>	5.06	1.16	109
<b>SN Europe</b>	5.55	1.19	109
<b>Internal PBC</b>	6.04	1.11	109
<b>Intention holiday</b>	3.76	2.46	109
<b>Intention friends</b>	5.39	2.13	109
<b>Intention family</b>	5.78	2.06	109
<b>Intention business</b>	5.95	1.75	109

**Table 23: Means and standard deviations for variables included in regression analyses predicting intention to travel to Europe.**

The above analyses have identified that the independent variables included in the models only provided any useful predictors in the specific cases of holiday air travel to the USA, business air travel to the USA and holiday air travel to Europe. In these three cases the statistically significant predictors are somewhat different. Travel experience is a predictor of both holiday and business travel to the USA. The other predictor of business travel to the USA is the risk perceived for political hazards, whereas for holiday travel to the USA the other predictor is attitude to air travel to the USA. In the case of holiday air travel to Europe the only significant predictor is subjective norm regarding air travel to Europe.

**Table 24.**

	<b>Mean</b>	<b>SD</b>	<b>N</b>
<b>Age</b>	38.40	12.79	107
<b>No. children</b>	1.30	1.45	107
<b>Travel Exp.</b>	1.92	2.10	107
<b>Political Haz</b>	3.99	.86	107
<b>Social Haz</b>	2.68	.67	107
<b>Physical Haz</b>	2.91	.69	107
<b>TAS</b>	3.90	1.14	107
<b>ES</b>	3.98	.96	107
<b>DIS</b>	3.66	.94	107
<b>BS</b>	3.61	.63	107
<b>Attitude UK</b>	5.22	1.10	107
<b>SN UK</b>	4.38	1.67	107
<b>Internal PBC</b>	6.05	1.12	107
<b>Intention holiday</b>	5.83	1.80	107
<b>Intention friends</b>	6.19	1.51	107
<b>Intention family</b>	6.13	1.64	107
<b>Intention business</b>	6.20	1.62	107

**Table 24: Means and standard deviations for variables included in regression analyses predicting intention to travel by air within the UK.**



In addition to the previous analyses looking at the individual air travel intentions it was also the intention of this study to conduct a path analysis to test the relationships between the different levels of variables shown in Figure 3. In view of the above findings that the predictors of intention are not consistent across the different types of travel and regions it is not possible to conduct an overall path analysis. Three separate path analyses are therefore carried out for the three regression models where statistically significant results were identified in the above analyses.

**Table 25.**

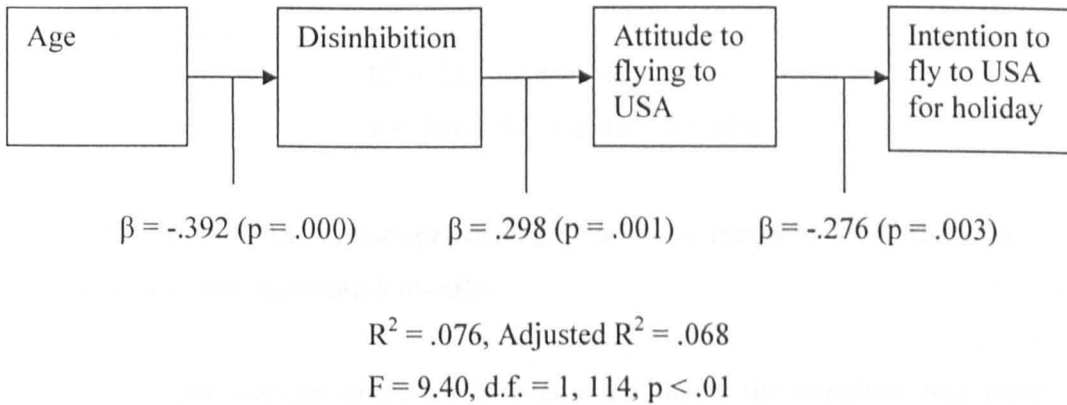
	<b>r</b>	<b>R<sup>2</sup></b>	<b>df</b>	<b>F</b>	<b>p</b>
USA holiday	.556	.309	19, 84	1.98	.018
USA friends	.489	.239	19, 84	1.39	.154
USA family	.406	.165	19, 84	0.88	.614
USA business	.593	.351	19, 84	2.39	.003
Europe holiday	.537	.288	19, 89	1.90	.024
Europe friends	.479	.229	19, 89	1.39	.151
Europe family	.455	.207	19, 88	1.21	.267
Europe business	.498	.248	19, 89	1.54	.090
UK holiday	.419	.176	19, 87	0.98	.496
UK friends	.469	.220	19, 87	1.29	.208
UK family	.402	.162	19, 87	0.88	.604
UK business	.492	.242	19, 87	1.47	.119

**Table 25: Results of multiple regression analyses predicting intention to travel by air to the USA, Europe and the UK, for the purposes of holiday, visiting friends, visiting family or business.**

For each of the three travel intentions a series of iterative regression analysis were conducted to identify the statistically significant pathways. The final model of the intention to travel by air to the USA for holiday purposes is shown in Figure 26. The model accounts for only 6.8% of the variance in intention, but this is a statistically significant proportion. It can be seen that in the process of this analysis travel experience ceased to be a statistically significant predictor, leaving attitude to

flying to the USA as the only direct predictor of this intention. As shown in the path diagram, there are indirect associations with age and disinhibition, which is the personality trait associated with hedonistic behaviours. The directions of these relationships are such that intending to travel to the USA for a holiday is predicted by being younger, being high in disinhibition and having a positive attitude to air travel to the USA.

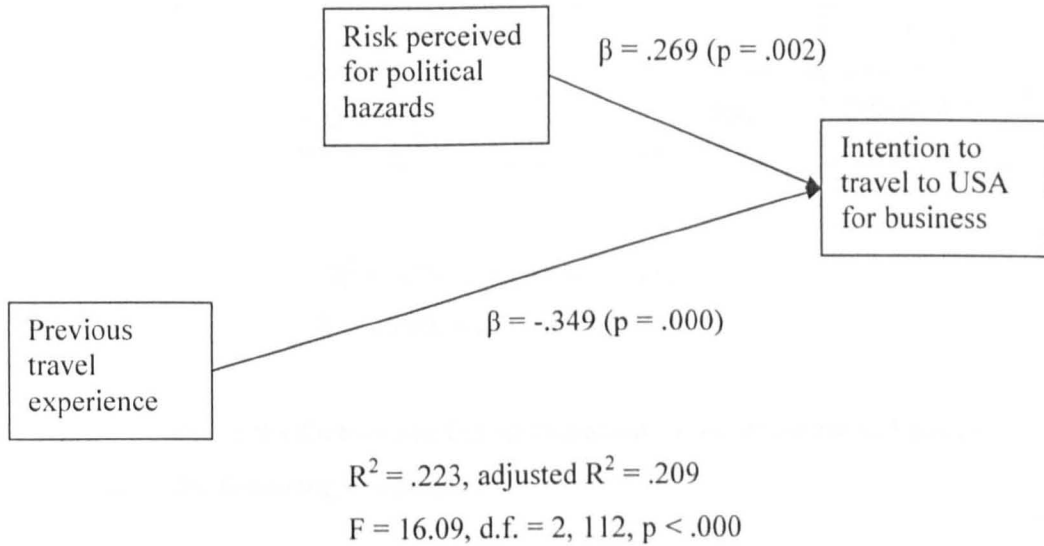
**Figure 26.**



**Figure 26: Model of the factors predicting intention to travel by air to the USA for a holiday in the following 6 months.**

The path diagram for the intention to travel to the USA for business is shown in Figure 27. In this analysis it can be seen that there are just two direct predictors of intention, being the risk perceived for political hazards and travel experience prior to 9/11. The model accounts for 22.3% of the variance in intention. The directions of these relationships are such that a positive intention is predicted by more previous travel experience and the perception that hazards in the political domain, being terrorism and civil unrest, are a low risk.

**Figure 27.**

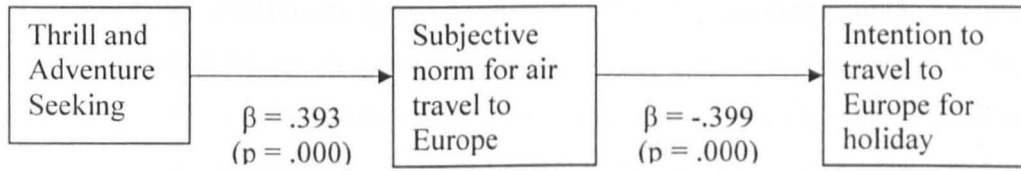


**Figure 27: Model of the factors predicting intention to travel by air to the USA for business in the following 6 months.**

The path diagram presented in Figure 28 shows the variables that were significant predictors of the intention to travel by air to Europe for a holiday. This model accounts for nearly 16% of the variance in intention. The only direct predictor of intention is subjective norm, which in turn is predicted by the thrill and adventure seeking personality trait. A positive intention to travel to Europe on holiday is therefore predicted by a positive subjective norm towards air travel to Europe and a high level of thrill and adventure seeking.

Having identified that the contribution of the factors from the Theory of Planned Behaviour was not consistent across these models and had not played the role predicted in the prediction of intention, further analyses were conducted to compare the scores on attitude and subjective norm across the three regions. Mauchley's test showed that sphericity could not be assumed in the following analyses, so the Greenhouse-Geisser corrected statistic is reported for the following ANOVAs.

Figure 28.



$$R^2 = .159, \text{ adjusted } R^2 = .152$$

$$F = 20.49, \text{ d.f. } 1, 108, p < .001$$

**Figure 28: Model of the factors predicting intention to travel by air to Europe for holiday in the following 6 months.**

A within participants ANOVA showed that there was a statistically significant difference between the attitudes to travelling to the USA, Europe and within the UK,  $F(1.57, 178.82) = 52.96, p < .001$ . Follow up t-tests, which applying a Bonferroni correction required a p-value of less than 0.017 to be considered statistically significant, showed that the differences between all three attitudes were significant. The most positive attitude was held to air travel within the UK ( $M = 5.14, S.D. = 1.16$ ). This was significantly more positive than attitude to air travel to Europe ( $M = 4.98, S.D. = 1.22$ ),  $t(114) = -2.93, p < .01$ . Attitudes to air travel to the USA ( $M = 4.34, S.D. = 1.32$ ) were in turn significantly less positive than were attitudes to flying to Europe,  $t(114) = -7.15, p < .001$ .

The ANOVA assessing the responses to the subjective norm questionnaire also showed that there was a statistically significant difference between the subjective norms for air travel to the USA, Europe and the UK,  $F(1.74, 177.31) = 28.31, p < .001$ . In this case the significant differences were between the means for the USA ( $M = 5.41, S.D. = 1.51$ ) and UK ( $M = 4.35, S.D. = 1.64$ ),  $t(102) = 5.38, p < .001$ , and for Europe ( $M = 5.49, S.D. = 1.24$ ),  $t(105) = 7.22, p < .001$ . These findings indicate that the most positive subjective norm is held towards air travel to Europe, which is slightly more positive than that for air travel to the USA. The least positive subjective norm is held towards air travel within the UK.

## 11.C. Discussion

The purpose of this study was to develop a model of the factors predicting the intention to travel by air in the 6 months following from the completion of the questionnaire. The model developed in the previous chapter had identified a number of factors that were predictive of attitude towards travelling in view of the terrorist threat, referred to as deterrence. The model in this chapter therefore develops upon that by employing the framework indicated by the Theory of Planned Behaviour (TPB, Ajzen, 1988, 1991), which shows how attitudes are anticipated to relate to actual behaviour, through behavioural intention. In the present model the focus was concentrated upon air travel, as the studies reported in Chapter 7 of this thesis indicated that this was an aspect of travel from which people were deterred and could be perceived as a terrorist target regardless of the destination of a flight. It is also an aspect of travel which is likely to be of relevance to a greater number of people than travelling just to the USA, which was the aspect of travel from which people were highly deterred.

The 3TQ used in the studies reported in Chapters 7 to 10 was developed specifically to assess reactions to a terrorist attack in 'real time', and therefore measures deterrence from travelling by various means at the present time. As the present study sought to predict air travel intention it was necessary to create a new measure of attitude, and also questionnaires to assess subjective norm and perceived behavioural control. These variables were included in the analyses, together with the sensation seeking subscales and the subscales measuring risk perceived for the three different types of travel hazard. A variety of demographic variables were also included. The preliminary model diagram is shown in Figure 3, which shows all the potential pathways in the proposed model.

The first stage of the research reported in this chapter was to identify the factors predicting each of the specific air travel intentions from the questionnaire shown in Appendix S. Attitude and subjective norm variables were created that just reflected those factors in relation to the individual regions, thereby retaining the notion of assessing the attitude, normative and intention components of the TPB at the same level of specificity. The intention to travel to each region (US, Europe and UK) for each reason (holiday, visiting friends, visiting family, and business) was in turn included as a dependent variable in a multiple regression analysis. The different

intentions were found to be predicted by different factors and for most of the specific intentions there were not any statistically significant predictors.

The three intentions where statistically significant predictors were identified in the hierarchical regression analyses were holiday travel to the USA, business travel to the USA and holiday travel to Europe. The significant predictors of holiday travel to the USA were travel experience and attitude to air travel to the USA, whereas for business travel to the USA the significant predictors were risk perception for political hazards and travel experience. For holiday air travel to Europe the only significant predictor was subjective norm regarding air travel to Europe.

A path analysis was conducted for each of the intentions where a significant regression had been found. In the model of holiday travel to the USA the direct predictor of intention was attitude to air travel to the USA, which was predicted by disinhibition, which in turn was predicted by age. Attitude can therefore be seen as the key predictor in this model, as the other two variables only influence intention indirectly through attitude. Whilst only containing three predictor variables, this model is consistent with the relationships predicted. It was suggested previously that holiday travel was the type of trip where the traveller had the greatest amount of choice, and that this intention is predicted by attitude is in line with this argument. People who intend to travel to the USA for a holiday are likely to have a positive attitude to such travel. However, it should be noted that whilst statistically significant the proportion of variance predicted was only 7.6%. It is also noted that in this model, past travel behaviour ceased to be a useful predictor of intention, as it had been in the hierarchical regression. This suggests that this particular intention is driven more by psychological processes than by simple habit, which further supports the notion of choice in relation to this intention.

The relationship between disinhibition and attitude to air travel to the USA is in the direction anticipated. Disinhibition assesses the more hedonistic aspects of sensation seeking such as partying, drinking and taking drugs, which does not seem to have an obvious connection to attitude to air travel. However, it also contains a concept of being part of the 'jet set' and doing things that are socially risky, and it is possible that it is in this way that the disinhibition variables have predicted attitude to air travel to the USA. The people who reported being likely to form the intention to travel to the USA for a holiday also reported enjoying the 'high life', in the form of

disinhibition. The association between this behaviour and age is therefore as expected, with younger people being higher in disinhibition.

In the model of the intention to travel to the USA for business purposes there were just two direct predictors, with no mediated relationships. The risk perceived for political hazards and travel experience factors accounted for a total of 22.3% of the variance. The finding that past behaviour is a predictor of behavioural intention is consistent with previous research studying other behaviours, such as exercise (Abraham and Sheeran, 2004; Norman, Conner and Bell, 2000) and driving behaviour (Conner, Smith & McMillan, 2003). In the present case, past travel behaviour is the strongest predictor of intention, and therefore suggests that if a person has travelled to the USA for business in the past they are likely to do so again. This seems a reasonable finding as a job that has required such a trip once is likely to again, and even if they change employer it is quite possible that they will have a broadly similar role. This is contrary to the finding for holiday travel to the USA, where attitude was the main predictor of intention. In this case attitude does not have a significant role, which seems to reflect the notion that business travellers are required to make their journeys regardless of their attitudes. However, it should perhaps be considered that an individual with a very negative attitude to air travel would be unlikely to take a job where such travel was required of them.

The only psychological factor predicting intention to travel to the USA for business was the risk perceived from political hazards. These hazards are terrorism and civil unrest, and the relationship indicates that those who see them as being low risk to their own well being are more likely to form this intention. There are two possible reasons for this finding. The first is that because these people have travelled before and have not been involved in a terrorist incident they come to perceive political hazards as a low risk. Whilst this may to some extent account for these findings, it seems unlikely to be the whole case as travel experience only had a direct association with intention and was not identified as a predictor of the risk perceived for political hazards. It therefore suggests that the people who are intending to travel to the USA for business already perceive these types of hazard as low risk, and hence it may be that such people are more likely to take jobs where this type of travel is required.

In the final path analysis model, the direct predictor of the intention to fly to Europe for a holiday was subjective norm, which in turn was predicted by the thrill

and adventure seeking personality trait. This model shows some similarity to that for holiday travel to the USA, as the intention is predicted by a component of the TPB model, which is in turn predicted by an aspect of sensation seeking. However, the intention to fly to Europe for a holiday is predicted by considerations of what the participants think other people would want them to do, rather than by their own attitudes. This therefore suggests that what other people think of their travel behaviour is more important to these people than it is to those intending to travel to the USA for a holiday.

It is possible that there is some influence in these findings of the perceived security of the USA versus that of Europe. Making the assumption that family and friends generally want their loved ones to be safe, it may be that the people intending to travel to Europe perceive Europe as a safer destination, and hence believe that the people close to them would want them to travel there. It is also noted that higher levels of the thrill and adventure seeking personality trait are associated with a high positive subjective norm towards air travel to Europe. This aspect of sensation seeking assesses the interest in performing physically risk activities such as skiing, parachuting and mountaineering. These are generally socially acceptable forms of sensation seeking, and it may be that this result reflects the fact that such activities are generally approved of, and that people frequently travel to Europe to undertake these types of activity. It seems reasonable to suggest that the differences in the predictors of intention to undertake holiday travel to the USA and to Europe may reflect differences in the perceptions of those destinations, possibly in terms of security. However, it is also likely that other factors, such as the duration and costs of travel and differences in the ease of access due to factors such as visa requirements for the USA, will impact upon people's travel intentions.

The above discussion has identified and accounted for a number of factors that have predicted the three travel intentions. However, it is also necessary to briefly consider why no statistically significant predictors were identified of the other travel intentions. A likely reason for the intention to travel by air in the UK, and to some extent to Europe is that flying is only one of a number of options. For many such journeys people will choose to travel by road or rail, which may impact upon intentions, attitudes, perceived behavioural control and subjective norms. Another factor that may have influenced the findings is that relatively few people are likely to have friends or family living abroad, compared to the numbers who would travel for



holiday. However, it may be that different factors, not included in this study, are important in these cases. It would be necessary to obtain targeted samples of people with friends and relatives living abroad to explore this issue further.

The studies reported in this chapter have addressed the stages of the Theory of Planned Behaviour as far as the intention to travel by air, but did not go on to predict actual travel behaviour. Whilst this is a limitation of this research, the TPB model does indicate that the best predictor of actual behaviour is intention. These findings would therefore be anticipated to be useful in terms of predicting travel behaviour as well as intention.

It had been intended to include a variable in these analyses that examined whether having delayed or cancelled a flight after 9/11 was associated with the other variables in the model, but insufficient numbers of participants to whom this applied meant that this was not a viable analysis. In the few cases reported in the present study, the instances were all ones where the flight was already booked. In only one case of cancellation was this due to the individual deciding not to travel. In one case the flight to New York was cancelled completely by the airline, in another the flight to the USA was cancelled and the person chose to fly to Italy instead, and in the final case the trip was delayed as the original flight was cancelled but the individual took a later flight once the airlines were running again.

Whilst limited in number, these examples suggest that it is rare once people have booked a trip for them to cancel voluntarily, and that such cancellations are quite likely to be brought about by flight restrictions. However, this is an aspect that could be followed up in further research, although it is subject to difficulties of definition and assessment. It is not clear at what point people would consider that they delayed a holiday booking due to terrorism. The most effective time to undertake such research would be in the aftermath of an act of terrorism, and then obtain measures of psychological responses and travel intentions and behaviours in 'real time'.

The data for this study were collected at a time when there did not seem to be an acute sense of threat from terrorists in the UK, although it was only 4 months after the Madrid bombings, which may have served to reawaken people's fear of terrorism. However, terrorism is at the present time still an issue that is of concern to many people, with coverage of 'the war on terrorism' frequently present in the media, and a key topic of the US presidential election campaigns. This study

therefore took place in a social situation where it is likely that the general salience of terrorism is higher than would have been the case before 9/11. The briefing for the study did mention that the research was studying the impact of terrorism, but terrorism was not the specific focus of the TPB questionnaires. It is therefore likely that these findings are reflective of the participants' generalised attitudes, subjective norms and PBC, in which terrorism forms a part but is not the sole issue.

Previous research has shown that acts of terrorism are associated with a decline in tourism to the countries targeted (Bar-On, 1996; Enders & Sandler, 1991; Pizam, 1999). Many of these studies are based on the analysis of tourism statistics, and it is evident that whilst the number of tourists declines it rarely ceases completely. This indicates that terrorism deters some people from travelling, but that other people are not put off. Such variations in behaviour suggest that there may be individual differences between those who are and those who are not deterred from travelling by terrorism. The first purpose of this thesis was to identify whether people reported psychological effects, specifically feeling deterred from travelling, in the period following an act of terrorism. If people actually felt deterred this would suggest that there are psychological processes underlying the observed decline in travel, rather than it being due to external factors. The next stage of the research was to investigate a number of factors that may be associated with any observed deterrence. The factors of risk perception, sensation seeking personality and general attitude orientation to travel, together with demographic variables were considered, as these seemed likely to relate to the extent of deterrence experienced. These factors were brought together into a model of deterrence from travelling. Finally, three models of the intention to travel by air in the next 6 months were developed, using three different travel intentions, based upon the Theory of Planned Behaviour (Ajzen, 1988, 1991). Other analyses conducted throughout the thesis considered issues such as the development and modification of questionnaires, the association between extent of deterrence experienced and actual travel behaviour, and the role of the reason for travel in the extent to which travel may be affected by terrorism.

### **12.1. Travel Deterrence**

The earlier research that has identified an association between terrorism and a reduction in tourism is based on the analysis of tourism statistics. Therefore, it cannot inform on the psychological mechanisms that determine this reduction. The first part of the present research investigated the attitudinal reaction to terrorism in the form of deterrence from travelling in the aftermath of specific terrorist attacks. The pattern of

deterrence from travelling was followed over time, and the generalisation of such deterrence to destinations beyond that directly targeted was investigated.

The first question addressed by this research was whether people actually experience a feeling of being deterred from travelling in the period following a terrorist attack. The results reported in Chapter 7 were principally based on the Terrorist Threat to Travellers Questionnaire (3TQ). The 3TQ assessed attitude to travelling due to the current perceived threat from terrorism. This showed that in the 16-day period immediately after 9/11 approximately half of the participants reported being deterred from travelling to the U.S.A, and around one quarter were deterred from travelling by air.

These figures indicate that a substantial proportion of the participants were deterred from travelling after that event. Although there was not a measure of peoples' willingness to travel prior to 9/11 based on the same questionnaire, it seems reasonable to suggest that this is a higher level of deterrence for both travel to the U.S.A. and flying than would have been observed prior to 9/11. Some support for this proposition was provided by the finding that the level of terrorist risk perceived for the U.S.A. was statistically significantly higher in the summer of 2002 than it had been in the summer of 2001. This research therefore provides evidence that the previously observed declines in tourist numbers to destinations targeted by terrorists are due, at least in part, to a psychological process in the form of deterrence. That this attitudinal reaction was reflected in behaviour is supported by travel statistics provided by the British Airports Authority, who reported a drop of 12% in passenger numbers through Britain's airports in October 2001 compared to the same time the previous year (The Guardian, 12<sup>th</sup> November 2001).

Enders and Sandler (1991) reported that the observed decline in tourist arrivals after an act of terrorism did not commence until three months after the events they studied. Sönmez (1998) argued that the observed delays in the onset of the reduction in tourism may be due to people continuing with existing bookings, but not making new bookings after terrorists had struck. Because the 3TQ assessed people's attitudes, and was used on an ongoing basis in the months after 9/11, this research provides some further evidence regarding this issue. There was a high level of deterrence from travelling, particularly to the USA and by air, reported from the start of the data collection using the 3TQ. This indicates that people do experience deterrence immediately after an act of terrorism, and that there is not some delayed

onset to being deterred. However, the deterrence experienced immediately after an act of terrorism would be anticipated to affect future travel bookings, supporting the interpretation of Sönmez (1998).

In the present research, the first statistically significant decline in deterrence from travelling was identified in February 2002, some five months after the attacks of 9/11. There was then no further decline in deterrence identified between February and October 2002. The previous research based on the tourism statistics indicated that a period of between six months and two years might elapse before tourism returns to pre-terrorism levels (Enders & Sandler, 1991; Pizam & Smith, 2000). It can therefore be seen that the present findings are broadly consistent with previous studies, and adds to them by demonstrating that there is some psychological effect that runs along side the observed behaviour.

The first part of the present research has focussed on assessing attitudes towards travelling in the light of terrorism, rather than assessing actual behaviour. It therefore does not inform on the extent to which attitudes towards travelling are reflected in travel behaviour. However, a validity check was conducted by examining the correlation between the level of deterrence from travelling reported and the number of flights taken since 9/11. There was a significant association between these variables, which showed that people who were more deterred had taken fewer flights, as would be anticipated. Whilst this analysis is not ideal, as the measure of flying behaviour was assessed retrospectively at the time the deterrence data was collected, it does provide some supporting evidence that identifying the extent of deterrence from travelling could be a useful and valid predictor of travel behaviour. Further research is needed to establish the utility of the 3TQ as a predictor of actual travel.

In addition to the duration of the deterrence, this research also considered the extent to which deterrence from travelling was experienced for countries outside the USA. It was found that the greatest deterrence was reported for travel to the USA, followed by flying, then travel by other forms of transport and finally travel outside the USA. However, although there were differences between the types of travel in the extent of deterrence, it is noted that the changes over time for the four sub-scales were highly correlated, suggesting that there was some generalisation of deterrence. It was also found that the magnitude of the decrease in deterrence over time was greatest for travel to and within the USA and for flying.

This research therefore again provides some support for previous studies such as Enders, Sandler and Parise (1992) who found that the deterrent effect of terrorism in one country is generalised to other countries in that region. Although this phase of the present research did not consider specific countries, it seems that factors that influence people's feelings towards travelling to the affected destination are also influential in relation to other regions and types of travel. This research also extended previous findings by showing that generalisation of deterrence was not just restricted to other geographical regions, but could also impact on the means by which travellers reach their destinations. This result was found in an instance where planes had been a key part of the terrorist act, and further research would be needed to identify whether deterrence is generalised to types of transport when it has not played such a high profile role in an attack.

These findings, combined with those of previous studies, indicate that terrorism does deter people from travelling to the destination targeted by terrorists, and that this is the place from which people are most deterred. However, it seems that other destinations and types of transport can also be affected. The deterrence remains at its highest level for around six months before it starts to decline, and the present research found that this level was still maintained one year after the terrorist act.

It is possible that the scale of the attacks of 9/11 have led to a greater magnitude and duration of deterrence than would have been observed for a smaller act of terrorism. However, the similarity in the pattern of results for this research and the studies that have traced the number of tourist arrivals in relation to terrorism suggests that the duration of the deterrent effect is not unrepresentative. Further research, using the same measures, is required to determine the validity of these findings in relation to the duration of the observed effect.

It was noted in Chapter 6 that the scale of 9/11 might mean that in addition to any effects of that attack, which would possibly be quantitatively different from those resulting from smaller attacks, there could also be qualitative differences. The similarity noted above between the current findings and those of previous research suggests that this may not be the case in relation to previous events. Regarding the generalisability of these findings to future acts of terrorism, again there is evidence to suggest that the impact of 9/11 may be qualitatively similar to other acts of terrorism occurring since that time. The risk perceived from terrorism increased significantly

after the Bali bombing compared to the period before. Hence the observed effect was similar to that of 9/11. Furthermore the effects of the Bali bombing may be cumulative to those of 9/11, because the scale of 9/11 may have been such that it will influence the interpretation of future acts of terrorism for some time into the future. Indeed it has been argued by experts on terrorism (e.g. Hoffman, 2003) that the form of terrorism has changed with the rise of al-Qaeda, in which case it is necessary to develop an understanding of its impact. It is concluded that the findings in this thesis related to the terrorism of 9/11 are likely to be reasonably representative of other acts of terrorism, and that the present research provides a useful basis for developing the understanding of the social psychological effects of terrorism in relation to travel.

Whilst this research develops the understanding of the consequences of terrorism, and can provide a framework for future research, it is noted that these findings may be to some extent culturally bounded. The USA is culturally quite similar to Britain, and is somewhere that is a popular destination for British tourists. Bali is also a popular holiday destination, and it is also of note that many of the victims of the Bali bombing were Australian, who may also be seen as culturally similar to people in Britain. Whilst both Americans and Australians are outgroup members in terms of nationality to a British citizen, there are other characteristics on which they could be classified as ingroup members. Hence, they could be perceived as having some shared social identities with people in Britain, such as having the same language, similar social and economic structures and values. They are also from countries that had deployed troops in response to 9/11. It is therefore likely that these acts of terrorism will have had a particularly strong impact on the British public. This may either be because they feel that the similarity of Britain and the USA makes Britain a likely target, or because they might be considering visiting a destination that they perceive as a potential target. However, it is not clear what the impact would be on the British public of an event that happened somewhere either culturally dissimilar or in a destination that they would be unlikely to be visiting. For example it is uncertain whether an attack of the scale of 9/11 would have had the same impact on British people if it had occurred in China or Africa. It may therefore be that any generalisability of these findings is restricted to terrorism occurring in destinations of salience to a particular population. This is an issue that requires further investigation.

### *Gender differences in deterrence*

Preliminary analyses of responses to the 3TQ showed that there were no differences in responses across age or between student and non-student participants. However, these analyses did indicate that there were gender differences, so gender was also included as a factor in the analysis of responses to the 3TQ, together with time and type of travel. It was identified that overall females were more deterred from travelling due to terrorism than were males, and the difference in deterrence was greater for travel to and within the U.S.A. and for flying than for travel by other forms of transport and to destinations outside the U.S.A. However, there was no difference in the rate of change in deterrence over time between males and females. It therefore seems that women are more deterred from travelling than are men due to the threat of terrorism, and although their reaction is stronger to the most salient types of travel, there are not significant gender differences in the effect of time.

This raises the question of why females should be more deterred from travelling due to the threat of terrorism than are males. One possible explanation, which was proposed by Finucane, Slovic, Mertz, Flynn and Satterfield (2000) in relation to women's perceptions of a variety of risks, is that women have less power and control in much of society. Women hence perceive a variety of hazards as more risky than do men because they are less likely to have control over the events themselves, or over the agencies involved in managing those risks. This sociopolitical explanation could be applied to the present example, where security agencies and large travel companies are still predominantly run by men, leading women to feel relatively powerless and therefore more deterred from entering this potentially hazardous situation. Female socialisation, as being less adventurous than males and to take less risks may also account for the observed differences, as may underlying biological gender differences. It is not possible to assess from the present research which, if any, of these explanations are involved in the observed gender differences, and this is an issue that could be explored in future research.

### *A model of deterrence from travelling due to the threat of terrorism*

Having established that there were psychological consequences of terrorism in relation to travel, data were collected to identify factors that may be related to this, in order to determine what differentiates those who continue to travel after a terrorist attack from those who do not. Sönmez and Graefe (1998a) had identified that attitude



to international travel and risk perception were useful predictors of three stages of the travel decision process, being the extent of information search, the decision to travel internationally or domestically, and concern for issues of security. However, the measure of personality employed by these researchers was not found to be a useful predictor. The concepts used by Sönmez and Graefe were incorporated in the present research, but with somewhat different measures being employed. The predictors included in the present research were attitude to international travel, risk perceived for travel hazards and sensation seeking personality. Preliminary analyses were conducted to identify the components of these factors that were potentially useful predictors of deterrence from travelling.

A preliminary model, shown in Figure 16, was produced showing the potential associations between the variables to be included in the overall analysis. A path analysis, shown in Figure 17 was conducted, which confirmed the proposed ordering of the variables in the model, with general orientation to international travel being the immediate predictor of deterrence from travel due to the threat of terrorism. The thrill and adventure seeking personality trait, which assesses desire to participate in physically risk activities such as parachuting and scuba diving, was also identified as having a direct association with deterrence, as well as an indirect association through attitude to international travel. In turn, thrill and adventure seeking was predicted by gender, with males being higher in this trait than females, which is consistent with previous research such as that of Schrader and Wann (1999).

Experience seeking personality was also a predictor of attitude to international travel, and was hence indirectly associated with deterrence from travelling. This trait measures the propensity to seek out new sensations and experiences such as adventure travel and new foods. In turn this was predicted by age, with older people reporting higher levels of experience seeking than their younger counterparts. Age also showed a direct association with deterrence from travelling that was approaching statistical significance. The final pathway in the analysis was the association between the risk perceived for physical hazards and attitude to international travel. This measure assessed the risk perceived from hazards such as the weather, the environment, wildlife and natural disasters. People who perceived these things as a low risk to them were more likely to have a positive attitude to international travel. There was an association between this factor and

travel experience that was approaching statistical significance. However, there was a direct association between travel experience and attitude to international travel.

In summary, the results of the first stage of this research show that people do experience deterrence from travelling due to the threat of terrorism. In the present case, this deterrence did not reduce significantly until five months after 9/11. The greatest deterrence was reported for travel to the U.S.A., followed by air travel, then travel by other forms of transport and finally non-U.S. travel. Also considering the correlations between the four types of travel, and the risk assessed for the various countries due to terrorism, these findings suggest that there is some limited generalisation of deterrence. However, the main focus is on the country targeted and the form of transport involved in the attack. The model of deterrence from travelling identified the relationships between a number of variables that are useful in predicting the extent of deterrence experienced. The variables with either direct or indirect associations are attitude to international travel, thrill and adventure seeking, experience seeking, the risk perceived for physical hazards, gender, age and travel experience.

## **12.2. Motivation for travel and travel intention**

The first part of the research in this thesis, reviewed in the previous section, addressed the issue of the psychological experience of deterrence from travelling due to the threat of terrorism. To develop these findings a further study was conducted to investigate the factors predicting the intention to undertake air travel in the future. By studying behavioural intention it was intended to provide findings that were of greater direct relevance to likely behaviours. Air travel was selected as the focus of this study based upon the analyses of deterrence, which identified flying as a type of travel from which a substantial proportion of people were deterred and that was likely to be relevant to a greater number of people than focussing just on travel to the USA. The theoretical basis for this study was provided by the Theory of Planned Behaviour (Ajzen, 1988, 1991), and hence measures of subjective norm and perceived behavioural control were included as predictors of intention, in addition to attitude. Measures of sensation seeking personality and risk perception for various travel hazards were again included in these analyses, as in the model of deterrence from travelling. This allows for a comparison to be made between the factors

predicting deterrence from travelling and those predicting intention to travel. A wider variety of demographic variables were also included to obtain a more comprehensive model of the factors predicting intention to travel.

As discussed in Study 11, data were collected regarding whether people had delayed or cancelled air travel in the period after 9/11, with the intention of including this as a factor in the model of travel intention. The small number of people to whom this applied meant that this factor could not be included. However, an additional factor that it was necessary to consider in relation to travel intentions was the reasons for which people travel by air, as this could impact upon the degree of choice that they have in whether or not they continue with their travel plans after there has been a terrorist attack.

Four different reasons for travelling were distinguished that were suggested as increasing in the amount of choice over travelling from business travel with the least, through visiting family, visiting friends, to holiday travel with the greatest choice. This proposed scale is exploratory, and it should be recognised that the imperative to travel in any given situation may vary, and hence so might the extent of choice. However, it provides a reasonable starting point for this research. Participants recorded how many flights they had undertaken in the period since 9/11 and the reason for those flights. They were classified into one of five categories according to the type of travel with the least degree of choice they had undertaken, with the fifth category being those who had not flown in that period. This classification was based on the premise that as past behaviour is a strong predictor of future behaviour, past behaviour may also impact on factors such as attitude and perceptions of control. If this is the case, then the type of travel undertaken with the least choice would be expected to be the most influential.

Analysis of variance failed to identify any differences in the main effect of reason for travel on attitude to air travel, subjective norm regarding air travel, and perceived behavioural control regarding internal and external considerations. This therefore suggests that the reason for which past travel was undertaken does not impact upon these psychological factors. The only statistically significant effect identified was an interaction between gender and reason for travel in relation to internal perceived behavioural control. This revealed that whilst women reported a greater feeling of internal control over their travel behaviour for most of the travel reasons, men reported greater internal control in the case of business travel. It was

suggested that this may be due to differential status in the work environment between males and females, with men feeling more able to control whether or not they travel by air for business purposes. This is an interesting finding that could indicate underlying power relationships, with men having greater power in the workplace, but women having greater control, specifically in relation to travel, in decisions regarding holidays and visits to family or friends. This is an area where further research would be necessary to investigate these possibilities.

The final study reported in this thesis moved on to consider whether there were differences in the factors predicting intention to travel by air depending upon the reason for travel and the region to which the travel was intended. A series of multiple regression analyses were conducted for each of the 12 different travel intentions included in the travel intention questionnaire. These found that statistically significant predictors of intention were only identified in the cases of travel to the USA for business and for holiday, and to Europe for holiday purposes. It was suggested that the lack of significant predictors in relation to the other intentions to Europe and the USA and for all air travel intention within the UK may be due to there being insufficient numbers of participants to whom this type of travel applied. Also, in the case of travel to Europe and within the UK, people may not necessarily choose to travel by air as they can use road or rail transport instead. A further factor that could influence people's intentions to travel by air, which again applies mainly to the UK and Europe, is the availability of low cost air travel. This, and indeed other factors not included in these analyses, may be more important predictors of air travel behaviour than any of the attitude, personality or risk perception variables.

The regression analyses showed that different predictor variables were significant as immediate predictors of the intention to travel to the USA for holiday or for business and the intention to travel to Europe for a holiday. Three separate path analyses were therefore conducted, based upon the proposed model shown in Figure 3. This preliminary model showed the anticipated ordering of the variables from demographic factors, through personality and risk assessment variables, to attitudinal variables to travel intention. The path analyses supported the general ordering of the proposed model, but only small, quite restricted pathways were found to be useful predictors of intention, meaning that a substantial number of the proposed predictors were not included in the final models.

The path analysis for the intention to travel to the USA for a holiday in the next 6 months identified a single path that ran from age, through the disinhibition personality trait to attitude to air travel to the USA, which was the only direct predictor of this intention. In the case of business travel to the USA, attitude was not a significant predictor, which supports the idea that business travellers have less choice in their travel decisions and that they have to travel regardless of their attitudes. This intention was found to have two direct predictors, risk perceived for travel hazards in the political domain such as terrorism and civil unrest, and past travel experience, and no indirect relationships with any other variables. The intention to travel to Europe for a holiday also had a single path of predictors, which started with the thrill and adventure seeking personality trait, through subjective norm to intention to travel.

It can therefore be seen that many of the variables that were suggested as being possible predictors of travel intention are not included in any of these models. Most notable are the findings that perceived behavioural control and the experience seeking personality trait were not significant predictors of any of the intentions. However, the results of these analyses do highlight the necessity to consider specific behavioural intentions, as the factors predicting them have been found to vary. The impact of this finding on the rest of this thesis is discussed in the following section.

### **12.3. Evaluation of the research**

The overarching question behind all of the research reported in this thesis was ‘what are the psychological factors that differentiate people who stop travelling when there has been a terrorist attack and those who continue to travel regardless?’ A series of steps have been reported that contribute to providing an answer to this question.

#### *Deterrence from travelling*

The first phase of the research set out to identify in ‘real time’ whether people reported feeling deterred from travelling by a terrorist act. Previous research had identified behavioural changes, but had not looked at the psychological aspect, and this research identified evidence of a psychological impact as people reported high levels of deterrence from travelling after 9/11, and also perceived increased risk from

terrorism for countries that were targets of terrorism. Some relatively weak evidence of generalisation of deterrence to other regions that were not the direct targets of terrorism was also identified. Previous studies have found a notable decline in travellers visiting destinations close to targeted countries. The findings of the present research are broadly consistent with this, particularly as this study only considered wide regional effects rather than those relating to specific countries. It is therefore concluded that the first part of the research was successful in achieving the stated aim.

The second aim of this research was to develop a model of the factors differentiating those who reported being deterred from travelling by terrorism from those who were not. This was achieved using path analysis, and a number of useful predictors identified. As noted above, Sönmez & Graefe (1998a) had identified that attitude to international travel was a useful predictor of stages in travel decision-making, together with the risk perceived for travelling. Attitude to international travel was therefore included in the model of deterrence from travelling and was found to be the direct predictor of deterrence. This is consistent with expectations, as it would be anticipated that the extent to which an individual is generally positively or negatively oriented regarding travel would be associated with the extent to which they are deterred by terrorism. Whilst seemingly obvious, it could have been the case that terrorism has such a strong deterrent effect that it influences peoples' attitudes regardless of their baseline attitude to travelling. However, it is considered that general attitude to travelling is a useful predictor of whether someone will be deterred from travelling by terrorism.

Again following from the work of Sönmez & Graefe (1998a), and based upon theoretical considerations it was anticipated that risk perception would be influential in determining whether an individual was deterred from travelling by terrorism. Prospect Theory (Tversky & Kahneman, 1974) and the associated heuristics, especially the availability heuristic, were suggested as providing a useful theoretical basis for the relationship between risk perception and deterrence from travelling. The degree of consistency between the findings reported in this thesis and the expectations of Prospect Theory are discussed in the following section. However, the preliminary multiple regression analyses and the path analysis for the model of deterrence from travelling indicate that the risk perceived for particular types of hazards associated with travel can be useful in the prediction of deterrence.

It was noted that terrorism is a risk that people perceive in the context of various other travel hazards that they may encounter, and therefore might not be the only risk that is influential in determining the extent to which a person is deterred from travelling by terrorism. In the preliminary analyses it was found that hazards in both the political and physical domains were associated with extent of deterrence reported. However, in the path analysis it was found that the only useful predictor was the risk perceived for physical hazards, which operated on deterrence through its association with general attitude to international travel. The types of hazards included in this heading are things such as the facilities available, standards of hygiene, wildlife and the environmental conditions. These findings therefore indicate that people who evaluate such things as being a low risk to them are likely to have a more positive attitude to international travel, and hence be less deterred from travelling. This research has therefore identified the particular aspect of travel risk perception that is relevant to the issue of deterrence from travelling due to the threat of terrorism, and also demonstrates that risk perception is a useful construct to consider in this context.

Sönmez & Graefe (1998a) had included the Plog (1974) traveller personality type construct in their study and found that it was not a useful predictor of the three stages of the travel decision process that they considered. It was considered that personality factors were likely to influence the extent of deterrence from travelling due to terrorism, as personality seems likely to be involved in the way experiences are interpreted and determining the sorts of behaviour enjoyed. It was argued that the sensation seeking personality trait, and the sub-traits of thrill and adventure seeking, experience seeking, disinhibition and boredom susceptibility were likely to predict deterrence from travelling (Zuckerman, 1979, 1994). A number of criticisms (Arnett, 1994) had been levelled at the standard form of the sensation seeking scale, and hence a revised form was created and tested for use in this research. The thrill and adventure seeking and experience seeking subscales were both identified as predictors of attitude to international travel, and thrill and adventure seeking also had a direct association with deterrence. Thrill and adventure seeking is the aspect of sensation seeking related to performing physically risky sports and activities, and experience seeking is related to wanting new sensations and experiences, often characterised as an 'alternative' lifestyle. The associations observed in the present research are therefore consistent with expectation, as travelling somewhere where

there is a threat of terrorism entails accepting the possibility of physical harm, however remote. It was also expected that experience seeking would be a useful predictor in this model, as it is relevant to experiences such as travelling. It therefore seems that sensation seeking, and particularly the sub-scales of thrill and adventure seeking and experience seeking are useful as predictors of deterrence from travelling due to the threat of terrorism.

#### *Motivation for travel and travel intention*

Having developed a model of the factors associated with deterrence from travelling due to the threat of terrorism, it was intended to extend this model based upon the framework of the Theory of Planned Behaviour (Ajzen, 1988, 1991) to encompass the intention to travel. This therefore provides a link between attitudes and behaviour, as intention is identified in the theory of planned behaviour as the immediate predictor of behaviour. Because the intention to travel in the future is likely to be based upon a raft of different attitudes and beliefs it was desirable to use measures that did not just investigate the effects of terrorism, but to recognise that the findings are in relation to the present context of an ongoing terrorist threat.

The 3TQ questionnaire used in the research discussed above was designed to assess deterrence from travelling due to the threat of terrorism in the period following the attacks of 9/11. It was intended as a measure of attitude, containing items relating to cognitive and affective aspects of deterrence. The principle aim of this measure was to assess attitudes towards travelling to different regions, and to identify whether there were differences in attitude according to whether the individual was considering the means of getting there or the actual experience of being in a location. Therefore, the 3TQ only accessed limited behavioural beliefs, but across a range of travel types, and with a specific focus on terrorism. A new questionnaire was therefore created that investigated attitude to air travel, without specific mention of the threat of terrorism.

The measure of attitude used in the prediction of intention to travel included items that reflected a range of behavioural beliefs, which were identified as reflecting the concepts of security, pleasure and convenience. The security items asked about feeling of fear and safety associated with air travel, whereas those relating to pleasure assessed issues such as comfort and relaxation. Reliability analysis showed that the items in the convenience category were not reliable, suggesting that attitudes



to air travel are not based upon factors such as its speed or practicality. These items were therefore not included in the analyses. It can be seen that although this attitude scale considers a wider range of beliefs than were reflected in the 3TQ, the issue of fear and security concerns are included.

In this part of the research, travel intentions were differentiated according to the reason for which the travel would be undertaken, being for purposes of business, visiting family, visiting friends or for holiday. It had been intended to produce an overall model of predictors of the intention to travel, but the preliminary regression analyses indicated that this would not be a sound procedure as the predictors of the various intentions were all different. New variables assessing attitude to air travel, subjective norm regarding air travel and internal perceived behavioural control were included in these analyses, together with the sensation seeking and risk perception variables that were used in the model of deterrence from travelling.

Path analyses were conducted for three individual travel intentions. Whilst the measure of attitude used in these analyses was different to that in the model of deterrence from travelling, it was anticipated that the relationship between this variable and the predictor variables of sensation seeking and risk perception would be similar, as shown in Figure 3. However, the three path analyses showed quite different paths of predictors, as discussed in the previous section. These findings still show that the constructs of sensation seeking personality and risk perception are useful predictors when considering travel intentions, but the specific aspects are somewhat different to those predicting deterrence from travelling. Possible reasons for the different findings between the types of intention were discussed in the previous chapter. In relation to the difference between the models for deterrence from travelling and travel intention it is necessary to consider a number of factors.

The first issue is the different measures of attitude used in the two stages of the research. The 3TQ asked for peoples' attitude to travelling 'today', and could therefore be conceptualised as a 'state' measure of attitude. It is therefore subject to the changes in attitude that could be brought about by current events, news sources or even conversations with family or friends, as it was intended to be. The attitude measure used in the prediction of intention to travel was designed to take a broader assessment of beliefs regarding air travel, although it did contain items related to feelings of fear and safety. It is therefore focussed on the single type of travel, and is also more likely to access more long term beliefs regarding air travel. So whilst

ratings of safety may be influenced by current events, it is likely that assessments of comfort and practicality are less likely to be affected. These differences could contribute to the differences in the variables found to be useful predictors.

It is also possible that the differences between the model of deterrence and the models of intention are due to the samples used, the level of analysis or the times at which the data were collected. The data used for developing the model of deterrence from travelling were collected about 5 months after 9/11, whereas the data for the model of intention were gathered over two years later. It is therefore possible that these findings reflect a dynamic network of psychological variables that influence travel decisions, and that events such as 9/11 can bring certain aspects to the fore, which then recede over time. The findings that across the models of the three different intentions thrill and adventure seeking, attitude, age and travel experience are all predictors, as they were in the model of deterrence, may provide some support for this contention. However, from the present data this can be no more than a suggestion that would need more data to investigate further. Similarly, further data would be needed to establish whether the somewhat different findings are due to the data sets used or actual differences associated with predicting attitudes versus predicting intentions.

In view of the issues just discussed, the question remains of how useful this research has been and how well it met the original objectives. The research has shown that people are deterred from travelling by terrorism, and has identified that they are most deterred from the targeted destination, and in the case of 9/11 from flying. It has also successfully identified a number of predictors of deterrence from travelling, both psychological and demographic. In relation to the intention to travel the necessity for considering specific intentions according to destination and reason for travel was identified, as the predictors vary for the different intentions. Also, a number of useful predictors were identified for the individual travel intention.

The findings regarding the intention to travel by air suggest that attitude is not necessarily a significant predictor of intention in certain cases. However, it was found to be a predictor of the intention to travel to the USA for a holiday. Whilst the measure of attitude used in these analyses contained a wider range of behavioural beliefs than the 3TQ used to measure deterrence it does include items related to the security and fear of air travel. This therefore suggests that at least in relation to travel to the USA for a holiday, peoples' responses to the threat of terrorism may play a

part. Concerns regarding terrorism are also reflected in the predictors of the intention to travel to the USA for business in the finding that the risk perceived for political hazards was a significant predictor. These findings are therefore consistent with the first part of this thesis by identifying that the risk of terrorism seems to be particularly pertinent in relation to travelling to the USA, even if this is not specifically manifested through attitude. It therefore seems that the deterrence from travelling experienced by an individual is likely to be a factor in peoples' travel decisions, but that depending upon the circumstances of the travel, such as its destination and purpose, that other considerations are likely to be dominant.

This research has successfully identified a number of variables that are useful predictors of deterrence from travelling and/or the intention to travel by air in certain circumstances. It also provides an indication of some of the specific instances when particular variables are useful predictors of the intention to travel by air. It therefore provides evidence regarding the types of people who are likely to travel, or indeed to desist from travelling, at a time when there is an ongoing threat of terrorism. Furthermore, the measures used in relation to the intention to travel could also be used should the time come that terrorism is a less significant threat than it is currently. Such ongoing work would allow the impact of the present situation to be understood more fully.

#### **12.4. Risk perception, Prospect Theory and decision-making**

It was suggested in Chapter 3 that the travel decision process requires a balancing of the potential risks and benefits of travel for the various possible destinations. Prospect Theory (Kahneman & Tversky, 1979) proposes that when making risky decisions, people over-weight losses, and hence a significant cost may outweigh many benefits. This means that in their decision making, people give greater importance to a potential loss than its actual probability merits. In relation to the decision of whether to travel to a destination targeted by terrorists, the likelihood of an individual being caught in a terrorist act is very low, but because it is a negative event, people are likely to give it disproportionate weight in their decision process.

Tversky & Kahneman (1974) propose that people rely on mental heuristics, specifically the availability heuristic, to simplify the process of risk assessment when making decisions. This heuristic can account for the observed over-weighting of

potential losses. Reliance on the availability heuristic means that the probability of a risk is judged by the ease with which that risk is brought to mind. For example, if terrorism is readily brought to mind as a hazard at a given destination, then its frequency and hence the risk it poses is likely to be overestimated in relation to the objective risk. The recency and salience of a hazard influences its availability, so in the case of terrorism a large attack or a recent attack is likely to be more salient than a smaller or historical attack. It was therefore anticipated that the deterrent effects of 9/11 would decline over time, as the salience of the attacks declined. This effect was identified, and the ongoing media attention on terrorism and the War on Terrorism have probably served to maintain this salience over a longer period than may otherwise have been the case.

Comparing the rates of tourism and victimisation by terrorists provides evidence of this over-weighting. Although not relating to the same year as the present research, some indication of the disproportionate scale of this reaction can be obtained by looking at the tourism and terrorism figures for 1998. In that year, U.K. residents made 32,306,000 visits abroad for purposes of leisure tourism alone (Office for National Statistics, 2002). The total number of casualties from all acts of international terrorism was 6694, of which 5379 were in Africa (U.S. Department of State, 2003). A substantial proportion of these casualties in Africa were due to the bombings of the U.S. Embassies in Kenya and Tanzania, the majority of whom were local people. The victims of the terrorist attacks reported by the U.S. Department of State come from around the world, and although the exact number of Britons involved is not identified in these figures the actual number is likely to be a small percentage of those who travel abroad. Even after a terrorist attack of the scale of 9/11, this still represents a very low objective likelihood of a British citizen being a victim of terrorism. Despite this, the level of reported deterrence from travelling in the period after 9/11 by the participants in the present research is very high. Further evidence for the disproportionate impact of terrorism on people's attitudes is provided by the finding in the present research that 74.5% of the participants reported that terrorism would deter them from travelling. It can therefore be seen that, whilst not directly testing the use of the availability heuristic, the present research provides evidence that supports the case that people do rely on this heuristic in making real-world decisions.

## 12.5. Terrorism in the context of other travel hazards

The findings of the study reported by Watson (1996) indicate that terrorism is not a hazard that influences people's perceptions of the risk associated with a destination in isolation. In order to assess the relative importance of terrorism in comparison to other threats, in the present research participants rated the risk they perceived for 26 different travel hazards, including terrorism, and indicated whether each hazard would deter them from travelling. Based on Smallest Space Analysis, it was suggested that there were three types of travel hazard perceived, which were political hazards, social hazards such as disliking the local people and the availability of sex and drugs, and physical hazards, such as natural disasters and wildlife at the destination.

The political hazards type consisted of terrorism and civil unrest, and the highest proportion of participants rated these as hazards that would deter them from travelling. Furthermore, considering the people who rated these hazards as risky, a lower percentage reported being undeterred than was seen for all the other types of travel hazard, except disliking the local people. It therefore seems that if an individual sees terrorism or civil unrest as a risk, they are particularly likely to be deterred by it, whereas with other hazards people may recognise it as risky, but not be deterred by it. This therefore suggests that although the risks associated with terrorism influence people's decisions in the context of other travel considerations, it could be a dominant factor. However, the risk perceived for political hazards was only identified as a significant predictor in the model of the intention to travel to the USA for business purposes. This therefore indicates that whilst the risk perceived from terrorism can be a useful predictor, it is not always so, and that it can be subsumed by other considerations.

## 12.6. Methodological Issues

### *Generalisability*

The analyses in the first part of this thesis relating to deterrence from travelling were based on samples of psychology students from a British university. As such, they were mostly under 30 years of age and consisted of a majority of

females. However, in the days immediately following 9/11 data were collected from a mixed sample of students and non-students, and no difference was identified between these groups. This therefore indicated that in relation to this measure students were not notably different from non-students. However, it can also not be claimed that the profile of a group of students is representative of that of the general population. Therefore, the model of deterrence from travelling is necessarily considered to be exploratory in nature and would need to be tested on a more representative sample.

The models of intention to travel were based upon data gathered from a non-student sample. Whilst they are not a fully randomised sample they represent a wider age range and a more equal gender mix than the first student sample. Therefore whilst it cannot be claimed that they are a fully representative sample, it can be argued that they are more likely than a student sample to represent the wider population. The questionnaires were also distributed in locations where the houses were largely privately owned, and hence the residents were likely to be working and therefore potential air travellers for a variety of purposes.

### *Facet Theory*

The principles of Facet Theory were used throughout this thesis for the development and testing of questionnaires. Facet Theory provides a clearly structured method for designing, analysing and developing research. Through the clear definition, using a mapping sentence, of the components to be included in a questionnaire it provides a thorough method for the development and testing of reliable questionnaires. This was found to be the case in this research, where the reliability analyses conducted on the scales developed using this methodology all showed the scales to be highly reliable. The methods recommended by Facet Theory also allow for cumulative research. Because the components of a research project based on the principles of facet theory are clearly defined, this enables future research to develop from this in an organised and systematic manner. This in turn makes it possible to draw comparisons between the findings of the developing research effort. The present research therefore provides a clearly structured basis for the continuing investigation of the impact of terrorism, both on travel and on other social behaviours.

### *Measurement issues*

The 3TQ was used as the main measure of deterrence from travelling used throughout the research reported in this thesis. As noted in Chapter 7, this was constructed on 12<sup>th</sup> September 2001, and first used on 13<sup>th</sup> September. It was intended to assess both the affective and cognitive components of attitude to travel at the immediate time to provide an indication of how deterred people felt from travelling specifically at the time asked. It was not viable to run a pilot study of this questionnaire, as it was of primary importance to gather the data in the days immediately after the attack. It is therefore acknowledged that there are some flaws in the design that would be rectified in retrospect. The main issue regarding this questionnaire is that more differentiated geographic regions could have been included in the questionnaire to provide a more finely grained picture of the generalisation of deterrence from travelling. Whilst some indication of generalisation was identified, the findings regarding this were not clear, and it is possible that a more detailed questionnaire would have been able to assess this more effectively. However, despite this issue, the scale was found to be highly reliable and was shown to be a valid measure distinguishing between the students and risk taking groups of divers.

The Attitude to International Travel Questionnaire was also developed for use in this research. This was based on items that had previously been used in similar questionnaires. Analysis of the data using SSA showed that although the constructs used do form an empirically identifiable scale of dangerousness, there were some gaps which with further testing could be filled with the appropriate variables. However, despite this issue, the questionnaire was found to be a reliable measure, and was able to identify differences in attitude, and was therefore used in the present analysis in its current form.

The standard version of the Sensation Seeking Scale Form V was tested and revised for use in the U.K. with a contemporary population. The original forced-choice format was split into individual items assessed using a Likert-type scale. This showed that 19 of these items were unreliable, and although for some of the original items both components were deleted, this was not the case for all of them. This therefore indicates that the original format may not be the most suitable way to assess this construct. Many of the items that were deleted were dated in tone, such as referring to 'swingers', or had problems regarding social acceptability. It was also

uncertain whether a number of other items were actually an indication of sensation-seeking in the present time where the normative attitudes seem likely to have changed from the 1960s when the original scale was devised, for example meeting people who are homosexual or not liking 'swingers'. This research suggests that the original form of the sensation seeking scale is not applicable to contemporary British society without amendment.

The travel hazards questionnaire assessed the risk perceived for various travel hazards and the extent to which they act as a deterrent from travelling. The hazards were originally obtained through interviews conducted by Watson (1996). They were produced by the interviewees in response to semi-structured interviews, and therefore have a good level of ecological validity. The classifications identified by the partitioning of the SSAs suggest that there is some consistency in the perceptions of the risk of the various types of hazard. The analysis of this questionnaire has provided evidence regarding the context in which the hazard of terrorism is perceived, and also identified that it is likely to be a factor among the hazards considered by a potential traveller.

The attitude and subjective norm to air travel questionnaires and the intention to travel by air were created based upon mapping sentences. The subjective norm questionnaire was found to be highly reliable. However, the convenience items included in the attitude measure were not reliable and were excluded from the analyses. As discussed above, this indicates that such concerns do not form part of peoples' attitudes to air travel. These questionnaires were designed so that it was possible to investigate the relationships between the factors at different levels of specificity, and this was used in the development of the models of intention to travel. The only measure assessing a component of the theory of planned behaviour not designed using a mapping sentence was the measure of perceived behavioural control. This was based upon variables used in previous research adapted to reflect the travel situation. Whilst the internal control variables were found to be reliable, the external control variables were not. This aspect was therefore excluded from the analyses, and just internal perceived behavioural control utilised. It is possible that the control factors regarding external issues, which included difficulty of getting to the airport and the possibility of flights being cancelled, are just accepted as things that may happen, but do not impact upon individuals' experiences of control over travel behaviour.



## 12.7. Implications

The research reported in this thesis provides a progression from previous research that has considered the impact of terrorism on tourism. It provides the first study of people's reported reactions over time in response to an actual act of terrorism, and that associates various factors with this deterrence and also the ongoing intention to travel. As such it allows for some tentative suggestions to be made regarding the application of this research for both social policy and the commercial sector. However, more research is needed among different populations, to more comprehensively establish the generalisability of these findings before any firm recommendations can be made.

In Chapter 2 it was argued that the ultimate aim of terrorism is to influence a government or other authority, and that this is achieved through the impact that it has on the wider population. This means that terrorists are more likely to achieve their goals if their acts cause people in the population at large to change their behaviour, particularly if such changes have a damaging effect on social structures or the economy. This means that a potential approach to deterring terrorism is by limiting the negative impact of these acts on members of the public. If terrorism fails to have the desired impact it may become less attractive as an option, and could lead groups who would otherwise have used terrorism to choose another method to make their point. Whilst this may not be effective for groups whose intention is destruction for its own sake it may be a useful approach with other terrorist groups.

The present research has shown that terrorism was associated with deterrence from travelling, and also to certain travel intentions. It is likely that this deterrence is in turn associated with the amount of air travel taken in the period after 9/11. This is supported by the finding of a relationship between deterrence and travel undertaken in the period after 9/11, and also the decline in passenger traffic through British airports reported by the British Airports Authority in late 2001. Whilst the nature of the data collection for the study considering the relationship between deterrence and travel means that it is only a tentative relationship, it seems likely that when people experience deterrence from travelling due to terrorism that they undertake less travel. However, the findings of the final study do indicate that issues such as the reason for which travel is undertaken may influence actual behaviour, and also that the factors predicting such intentions are different. However, it seems that some travel is likely

to be prevented by terrorism, and such changed behaviour would affect the income of travel companies and allied businesses and in turn the economic situation of a country due to reduced tax revenue and potential unemployment.

To reduce the impact of terrorism it is desirable to persuade people to continue with their normal behaviours, provided these are not unsafe. For example, if a country is experiencing ongoing terrorism that is targeted against tourists it may be sensible for tourists to avoid that particular destination, but travel to other destinations could be encouraged. It may also be beneficial to provide accurate and clear information regarding the risks posed by terrorism. This may encourage people to make their decisions based on accurate information, rather than relying so greatly on the mechanism of the availability heuristic, and hence being subject to the errors that this entails.

A campaign of persuasion is likely to be most effective if it is targeted at the right section of the population. The present research indicates a number of individual difference factors that may provide a key to targeting different types of travel to the right markets, thereby minimising the impact of terrorist events when they occur. For example, certain more adventurous types of holiday may appeal to people who are generally risk accepting, and activating their sensation seeking tendencies may encourage them to travel more than they would do otherwise. Hence travel companies and related organisations may benefit from including 'adventure' travel in their holiday portfolios. Conversely, for people who are strongly deterred from travelling, and are less risk accepting generally the variables included in this research would indicate that a range of holidays emphasising issues such as familiarity, safety and their minimal risk would be useful. Targeted marketing based on the psychological factors identified in this research could mean that the most suitable messages reach the particular target audiences, at a time when the travel industry is particularly vulnerable to further declines in tourism.

## **12.8. Further Research**

The present research has provided a development in the existing knowledge of the impact of terrorism on people's travel decisions. However, it has also drawn attention to a number of areas for future research. Firstly, it would be beneficial to extend this study to a randomised sample from the general population, and also to

obtain data from people who are known travellers to destinations that are identified as being risky. This would allow for greater generalisability of the findings and for more certain recommendations to be made regarding how to counter the negative impact of terrorism on the general population. It would also be useful to extend the findings to include actual travel behaviour, as well as deterrence from travelling and travel intentions, to identify the extent of the association between attitudes and behaviour.

It would also be useful to extend the present research to include cross-cultural samples. It was noted previously that the impact of an act of terrorism may not be so great if it occurs in a country that is not particularly salient to people, for example if it is not a common holiday destination or is culturally dissimilar. Following the reactions in various countries to a single act of terrorism may further the understanding of the extent of the impact of terrorism.

It is evident that there is still very little empirical research that has addressed the impact of terrorism on behaviours other than travel. Travel behaviour has the advantage that there are readily available statistics regarding the quantitative impact of terrorism, and it is also a behaviour that is particularly vulnerable to the influence of terrorist action. However, other behaviours such as social interactions, civic roles and other consumer behaviours could be affected, particularly within countries that are actually targeted. For example, a successful terrorist attack in this country may lead to a decline in people's belief that the government can protect them, which in turn may lead to further lack of interest and involvement of the public in the democratic process. It would therefore be useful to broaden the scope of the behaviours studied.

The present research has identified a number of psychological and socialisation factors that predict deterrence from travelling due to the threat of terrorism and also the intention to travel by air. Whilst these models provide accounts for some of the variance of the variance in deterrence and intention, further research is needed to identify what other factors are associated with these factors. Follow-on research could also investigate in greater depth the inter-relationships between the factors included in this model. For example the relationship between attitudes and risk assessment, both of which appear to be influenced by the salience of the relevant object at the time of forming an attitude or assessing a risk. The role

of the availability heuristic in the travel decision process could also be investigated specifically.

A further aspect of research that would be beneficial for those working in the area of terrorism research would be an empirically based system of defining terrorist acts. This would enable the consequences of events that are clearly defined and distinguished to be identified and compared. Such a framework would promote the development of a clearly structured and more readily interpretable body of research related to the problem of terrorism.

Finally, it is evident that more research is needed to develop the present findings in relation to the reasons for which people travel. The research reported in this thesis provides some indication of the factors predicting intention to travel by air in certain circumstances. However, it would be useful to obtain more data from people travelling to visit family and friends to identify factors useful in predicting these types of travel. This could also allow further investigation of the issue of the extent of choice perceived in relation to the different types of travel.

## **12.9. Conclusions**

This thesis has developed a model of the factors that differentiate those who are and those who are not deterred from travelling due to a terrorist threat. It has also considered whether intentions to travel and the factors predicting those intentions differ according to the reason and destination for that travel. It integrates the three different approaches of risk perception, sensation seeking personality and attitude, and provides evidence regarding the relative importance of these factors. As such, it contributes to the understanding of the inter-relationship of these factors in predicting this behaviour, and demonstrates that these factors do work together in determining deterrence from travelling and the intention to travel.

The current research furthers the understanding of how people, who are not the direct victims, react to terrorism. This is achieved principally in relation to people's attitudes, by showing that terrorism does deter people from travelling. This develops the previous findings such as those of Enders and Sandler (1991) through a psychologically based operationalisation of deterrence. There is also some evidence provided of limited generalisation of deterrence due to a terrorist incident to destinations outside that directly targeted. However, the principle focus of the

deterrence was found to be on the countries targeted. This is therefore consistent with the previous research. The role of aircraft in the attacks of 9/11 suggests a new aspect of generalisation in which there was a relatively high level of deterrence from flying in the period post 9/11. This suggests that when considering the generalised effects of terrorism it is useful to consider the impact not just on perceptions of destinations themselves, but also on the means of travel used to get there.

This research has provided a number of new questionnaires, specifically the 3TQ, the travel hazards questionnaire, the attitude and subjective norm to air travel questionnaires and the perceived behavioural control over air travel questionnaire, which can be used in future research. The process of developing and testing these questionnaires has contributed to the understanding of the factors that may influence deterrence from travelling due to the threat of terrorism and the intention to travel in the future. In addition to the new questionnaires, the Sensation Seeking Scale was tested and revised to provide a reliable and valid measure of sensation seeking that was more suitable for a contemporary British sample of participants. Items were also combined from previous research to create the Attitude to International Travel questionnaire, which was also found to be highly reliable.

It is concluded that this research has added to the existing knowledge regarding the impact of terrorism on travel decisions. In addition to providing the various new and revised questionnaires it has supplied evidence of psychological mechanisms that are likely to be associated with the decline in tourism that has previously been observed in the aftermath of various acts of terrorism. Evidence has also been found for the role of five different psychological variables as predictors of deterrence from travelling, being attitude to international travel, thrill and adventure seeking, experience seeking, and risk perceived for political and physical hazards. The predictive utility of age, gender and travel experience was also identified. The findings related to deterrence from travelling were also extended to the prediction of intention to travel by air, and whilst there are differences in the structure and complexity of the models they share many of the same predictor variables. It can therefore be seen that the present research has provided an increased understanding of the social psychological impact of terrorism in relation to travel behaviour, together with the associated policy and commercial implications.

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## APPENDIX A

My name is Jackie Gray, and I am a PhD student at the university of Kent at Canterbury. The purpose of this study is to investigate the factors that influence people's decisions regarding international travel. The following pages contain a number of questionnaires. Please complete each one fully, and in the order in which they are presented. This should take you about 30 minutes.

You are not obliged to participate, and you are free to withdraw at any time without giving an explanation. Your responses will be anonymous and confidential.

Please provide the following information:

Age    Under 20    20 – 29    30 – 39    40 – 49    50 – 59    60 – 69    70 or over  
(Please circle)

Gender                      Male                      Female  
(Please circle)

Occupation \_\_\_\_\_

Nationality \_\_\_\_\_

Today's date \_\_\_\_\_



## APPENDIX B

### Terrorist Threat to Travellers

**In view of recent real events it is important to understand the way that ordinary people deal with terrorist threat to their travel plans. Thinking about how you would feel about actually travelling or being a tourist TODAY, please indicate below the extent to which you agree or disagree with the following statements.**

	Strongly Agree	Agree	Somewhat Agree	Neither Agree or Disagree	Somewhat Disagree	Disagree	Strongly Disagree
I would feel afraid if I was to fly to a European city today.	1	2	3	4	5	6	7
I would not be a tourist in a US city today.	1	2	3	4	5	6	7
I would feel afraid if I was to be a tourist in a European city today.	1	2	3	4	5	6	7
I would not take a domestic flight in this country today.	1	2	3	4	5	6	7
I would feel afraid if I was to take a cruise ship to the USA today.	1	2	3	4	5	6	7
I would not be a tourist in a European city today.	1	2	3	4	5	6	7
I would feel afraid if I was to take a domestic flight in this country today.	1	2	3	4	5	6	7
I would not be a tourist in London today.	1	2	3	4	5	6	7
I would not fly to another European city today.	1	2	3	4	5	6	7
I would feel afraid if I was to be a tourist in a US city today.	1	2	3	4	5	6	7
I would feel afraid if I was to get a ferry to France today.	1	2	3	4	5	6	7
I would not fly to the USA today.	1	2	3	4	5	6	7

	Strongly Agree	Agree	Somewhat Agree	Neither Agree or Disagree	Somewhat Disagree	Disagree	Strongly Disagree
I would feel afraid if I was to travel by train in this country today.	1	2	3	4	5	6	7
I would not get a ferry to France today.	1	2	3	4	5	6	7
I would feel afraid if I was to fly to the USA today.	1	2	3	4	5	6	7
I would not travel by train in this country today.	1	2	3	4	5	6	7
I would feel afraid if I was to be a tourist in London today.	1	2	3	4	5	6	7
I would not take a cruise ship to the USA today.	1	2	3	4	5	6	7

## APPENDIX C

**Please look at the following list of countries and indicate how risky you feel each country would be to visit due to the threat of terrorism**

<b>USA</b>	No risk	Low risk	Moderate risk	High risk	Very high risk
<b>Nepal</b>	No risk	Low risk	Moderate risk	High risk	Very high risk
<b>Turkey</b>	No risk	Low risk	Moderate risk	High risk	Very high risk
<b>Indonesia</b>	No risk	Low risk	Moderate risk	High risk	Very high risk
<b>Sri Lanka</b>	No risk	Low risk	Moderate risk	High risk	Very high risk
<b>India</b>	No risk	Low risk	Moderate risk	High risk	Very high risk
<b>Cyprus</b>	No risk	Low risk	Moderate risk	High risk	Very high risk
<b>Corsica</b>	No risk	Low risk	Moderate risk	High risk	Very high risk
<b>Philippines</b>	No risk	Low risk	Moderate risk	High risk	Very high risk
<b>Brazil</b>	No risk	Low risk	Moderate risk	High risk	Very high risk
<b>Yemen</b>	No risk	Low risk	Moderate risk	High risk	Very high risk
<b>Zimbabwe</b>	No risk	Low risk	Moderate risk	High risk	Very high risk
<b>France</b>	No risk	Low risk	Moderate risk	High risk	Very high risk
<b>Fiji</b>	No risk	Low risk	Moderate risk	High risk	Very high risk
<b>Greece</b>	No risk	Low risk	Moderate risk	High risk	Very high risk

<b>Egypt</b>	No risk	Low risk	Moderate risk	High risk	Very high risk
<b>South Africa</b>	No risk	Low risk	Moderate risk	High risk	Very high risk
<b>Malaysia</b>	No risk	Low risk	Moderate risk	High risk	Very high risk
<b>Argentina</b>	No risk	Low risk	Moderate risk	High risk	Very high risk
<b>Kenya</b>	No risk	Low risk	Moderate risk	High risk	Very high risk
<b>Germany</b>	No risk	Low risk	Moderate risk	High risk	Very high risk
<b>Spain</b>	No risk	Low risk	Moderate risk	High risk	Very high risk
<b>Ireland</b>	No risk	Low risk	Moderate risk	High risk	Very high risk
<b>Israel</b>	No risk	Low risk	Moderate risk	High risk	Very high risk

**APPENDIX D**

**Table 3.**

	<b>N</b>	<b>Total scale</b>	<b>USA</b>	<b>Flying</b>	<b>Other travel</b>	<b>Non U.S. travel</b>
<b>Time 1: Male (M)</b>	133	5.45	4.73	5.33	5.80	5.92
<i>(S.D.)</i>		1.22	1.78	1.37	1.08	1.13
<b>Female (M)</b>	154	4.85	3.79	4.71	5.38	5.51
<i>(S.D.)</i>		1.32	1.78	1.50	1.17	1.39
<b>Time 2: Male (M)</b>	20	5.41	4.83	5.22	5.91	5.68
<i>(S.D.)</i>		1.18	1.49	1.35	1.00	1.10
<b>Female (M)</b>	91	4.83	3.77	4.68	5.37	5.50
<i>(S.D.)</i>		1.22	1.73	1.41	1.04	1.23
<b>Time 3: Male (M)</b>	10	5.24	4.42	4.87	5.78	5.88
<i>(S.D.)</i>		1.21	1.66	1.47	1.17	0.97
<b>Female (M)</b>	60	4.97	3.80	4.88	5.55	5.64
<i>(S.D.)</i>		1.20	1.83	1.23	1.06	1.11
<b>Time 4: Male (M)</b>	5	6.58	6.57	6.57	6.57	6.60
<i>(S.D.)</i>		0.39	0.60	0.60	0.38	0.58
<b>Female (M)</b>	34	5.14	4.18	4.98	5.65	5.77
<i>(S.D.)</i>		1.15	1.76	1.42	0.79	1.13
<b>Time 5: Male (M)</b>	8	6.06	5.69	5.94	6.15	6.47
<i>(S.D.)</i>		0.89	1.51	1.07	0.94	0.49
<b>Female (M)</b>	40	5.35	4.56	5.30	5.55	5.99
<i>(S.D.)</i>		0.98	1.54	1.10	1.00	0.81

	<b>N</b>	<b>Total scale</b>	<b>USA</b>	<b>Flying</b>	<b>Other transport</b>	<b>Non U.S. travel</b>
<b>Time 6: Male (M)</b>	24	6.01	5.71	6.02	6.04	6.28
<b>(S.D.)</b>		0.61	1.09	0.77	0.70	0.64
<b>Female (M)</b>	39	5.85	5.19	5.84	5.93	6.43
<b>(S.D.)</b>		0.93	1.50	1.20	0.97	0.58
<b>Time 7: Male (M)</b>	22	6.19	5.89	6.21	6.32	6.32
<b>(S.D.)</b>		0.79	1.27	0.76	0.68	0.71
<b>Female (M)</b>	137	5.86	5.35	5.81	6.06	6.23
<b>(S.D.)</b>		0.88	1.40	0.98	0.93	0.63

**Table 3: Means and standard deviations for 3TQ scale and sub-scales.**

**APPENDIX E**

**Table 5.**

<b>Country</b>	<b>Time</b>	<b>M</b>	<b>S.D.</b>	<b>F</b>	<b>p</b>	<b>Partial Eta Squared</b>
<b>U.S.A.</b>	1	2.78	1.04	6.05	.016	0.06
	2	3.30	1.08			
<b>Nepal</b>	1	2.83	0.86	6.86	.01	0.07
	2	2.40	0.77			
<b>Turkey</b>	1	3.17	0.72	21.43	.000	0.18
	2	2.49	0.75			
<b>Indonesia</b>	1	3.30	0.86	23.62	.000	0.19
	2	2.51	0.75			
<b>Sri Lanka</b>	1	2.87	0.87	0.23	.635	0.00
	2	2.79	0.88			
<b>India</b>	1	2.80	0.68	3.18	.078	0.03
	2	3.11	1.05			
<b>Cyprus</b>	1	2.56	0.84	14.07	.000	0.12
	2	1.96	0.75			
<b>Corsica</b>	1	2.26	0.91	11.20	.001	0.10
	2	1.72	0.65			
<b>Philippines</b>	1	3.06	0.96	14.56	.000	0.13
	2	2.34	0.92			
<b>Brazil</b>	1	2.69	0.84	24.31	.000	0.20
	2	1.89	0.76			

<b>Country</b>	<b>Time</b>	<b>M</b>	<b>S.D.</b>	<b>F</b>	<b>p</b>	<b>Partial Eta Squared</b>
<b>Yemen</b>	1	3.30	0.92	9.24	.003	0.09
	2	2.70	1.04			
<b>Zimbabwe</b>	1	3.72	0.96	31.72	.000	0.24
	2	2.68	0.89			
<b>France</b>	1	1.93	0.82	4.93	.029	0.05
	2	1.60	0.65			
<b>Fiji</b>	1	2.31	0.75	12.05	.001	0.11
	2	1.81	0.71			
<b>Greece</b>	1	2.30	0.74	11.27	.001	0.10
	2	1.81	0.71			
<b>Egypt</b>	1	3.20	0.86	14.43	.000	0.13
	2	2.57	0.80			
<b>South Africa</b>	1	3.19	0.97	20.83	.000	0.17
	2	2.36	0.82			
<b>Malaysia</b>	1	2.67	0.73	26.13	.000	0.21
	2	1.94	0.70			
<b>Argentina</b>	1	2.63	0.78	11.48	.001	0.10
	2	2.06	0.89			
<b>Kenya</b>	1	3.02	0.76	39.24	.000	0.28
	2	2.06	0.76			
<b>Germany</b>	1	2.09	0.94	4.99	.028	0.05
	2	1.72	0.68			



<b>Country</b>	<b>Time</b>	<b>M</b>	<b>S.D.</b>	<b>F</b>	<b>p</b>	<b>Partial Eta Squared</b>
<b>Spain</b>	1	2.35	0.97	0.07	.796	0.00
	2	2.40	1.06			
<b>Ireland</b>	1	3.22	1.08	7.83	.006	0.07
	2	2.60	1.17			
<b>Israel</b>	1	4.09	0.83	0.72	.398	0.01
	2	4.23	0.84			

Note: d.f. for each country = (1, 99)

**Table 5: Perceived risk from terrorism, for travel to 24 countries pre and post 9/11: mean, standard deviation and MANOVA results.**

APPENDIX F

Table 6.

Country	Time	<i>M</i>	<i>S.D.</i>	<i>F</i>	<i>p</i>	<i>Partial Eta Squared</i>
U.S.A.	1	3.43	0.95	1.95	.165	0.01
	2	3.65	0.84			
Nepal	1	2.38	0.81	0.03	.862	0.00
	2	2.35	0.76			
Turkey	1	2.80	0.84	0.37	.544	0.00
	2	2.90	0.97			
Indonesia	1	2.45	0.81	14.79	.000	0.09
	2	3.04	1.05			
Sri Lanka	1	2.58	0.92	1.43	.234	0.01
	2	2.40	0.89			
India	1	2.65	0.80	0.002	.966	0.00
	2	2.65	0.84			
Cyprus	1	2.16	0.85	1.62	.205	0.01
	2	1.98	0.76			
Corsica	1	1.87	0.67	0.50	.481	0.00
	2	1.96	0.77			
Philippines	1	2.21	0.84	1.18	.278	0.01
	2	2.35	0.67			
Brazil	1	2.27	0.76	0.38	.536	0.00
	2	2.19	0.73			

<b>Country</b>	<b>Time</b>	<b><i>M</i></b>	<b><i>S.D.</i></b>	<b><i>F</i></b>	<b><i>p</i></b>	<b><i>Partial Eta Squared</i></b>
<b>Yemen</b>	<b>1</b>	2.83	0.99	0.74	.390	0.01
	<b>2</b>	2.69	0.88			
<b>Zimbabwe</b>	<b>1</b>	3.06	1.08	1.85	.176	0.01
	<b>2</b>	2.81	1.02			
<b>France</b>	<b>1</b>	2.01	0.73	0.34	.561	0.00
	<b>2</b>	1.94	0.67			
<b>Fiji</b>	<b>1</b>	1.78	0.64	7.50	.007	0.05
	<b>2</b>	2.10	0.81			
<b>Greece</b>	<b>1</b>	1.99	0.74	0.59	.443	0.00
	<b>2</b>	1.90	0.66			
<b>Egypt</b>	<b>1</b>	2.60	0.93	2.03	.156	0.01
	<b>2</b>	2.38	0.84			
<b>South Africa</b>	<b>1</b>	2.83	0.91	1.14	.287	0.01
	<b>2</b>	2.67	0.83			
<b>Malaysia</b>	<b>1</b>	2.12	0.80	0.33	.565	0.00
	<b>2</b>	2.19	0.70			
<b>Argentina</b>	<b>1</b>	2.28	0.81	0.04	.840	0.00
	<b>2</b>	2.25	0.67			
<b>Kenya</b>	<b>1</b>	2.32	0.85	0.04	.835	0.00
	<b>2</b>	2.29	0.77			
<b>Germany</b>	<b>1</b>	2.08	0.84	1.87	.128	0.01
	<b>2</b>	1.90	0.63			

<b>Country</b>	<b>Time</b>	<b><i>M</i></b>	<b><i>S.D.</i></b>	<b><i>F</i></b>	<b><i>p</i></b>	<b><i>Partial Eta Squared</i></b>
<b>Spain</b>	<b>1</b>	2.17	0.82	1.50	.222	0.01
	<b>2</b>	2.00	0.77			
<b>Ireland</b>	<b>1</b>	2.96	1.09	4.29	.040	0.03
	<b>2</b>	2.58	1.01			
<b>Israel</b>	<b>1</b>	3.72	0.99	0.03	.868	0.00
	<b>2</b>	3.75	0.79			

Note: d.f. for each country = (1, 158)

**Table 6: Perceived risk from terrorism for travel to 24 countries pre and post Bali nightclub bombing: mean, standard deviation and MANOVA results.**

## APPENDIX G

### Sensation Seeking Scale Form V

Directions: Each of the items below contains two choices A and B. Please indicate which of the choices most describes your likes or the way you feel. In some cases you may find items in which both choices describe your likes or feelings. Please choose the one which better describes your likes or feelings. In some cases you may find items in which you do not like either choice. In these cases mark the choice you dislike least. Do not leave any items blank. It is important you respond to all items with only one choice, A or B. We are interested only in your likes or feelings, not in how others feel about these things or how one is supposed to feel. There are no right or wrong answers as in other kinds of test. Be frank and give your honest appraisal of yourself.

- 1) A. I like 'wild' uninhibited parties.  
B. I prefer quiet parties with good conversation.
- 2) A. There are some movies I enjoy seeing a second or even third time.  
B. I can't stand watching a movie that I've seen before.
- 3) A. I often wish I could be a mountain climber.  
B. I can't understand people who risk their necks climbing mountains.
- 4) A. I dislike all body odours.  
B. I like some of the earthy body smells.
- 5) A. I get bored seeing the same old faces.  
B. I like the comfortable familiarity of everyday friends.
- 6) A. I like to explore a strange city or section of town by myself, even if it means getting lost.  
B. I prefer a guide when I am in a place I don't know well.
- 7) A. I dislike people who do or say things just to shock or upset others.  
B. When you can predict almost everything a person will do and say he or she must be a bore.
- 8) A. I usually don't enjoy a movie or play where I can predict what will happen in advance.  
B. I don't mind watching a movie or play where I can predict what will happen in advance.
- 9) A. I have tried marijuana or would like to.  
B. I would never smoke marijuana.
- 10) A. I would not like to try any drug which might produce strange and dangerous effects on me.  
B. I would like to try some of the drugs that produce hallucinations.
- 11) A. A sensible person avoids activities that are dangerous.  
B. I sometimes like to do things that are a little frightening.
- 12) A. I dislike "swingers" (people who are uninhibited and free about sex).  
B. I enjoy the company of real "swingers".
- 13) A. I find that stimulants make me uncomfortable.  
B. I often like to get high (drinking liquor or smoking marijuana).
- 14) A. I like to try new foods that I have never tasted before.  
B. I order the dishes with which I am familiar, so as to avoid disappointment and unpleasantness.

- 15) A. I enjoy looking at home movies or travel slides.  
B. Looking at someone's home movies or travel slides bores me tremendously.
- 16) A. I would like to take up the sport of water-skiing.  
B. I would not like to take up of water skiing.
- 17) A. I would like to try surf-board riding.  
B. I would not like to try surf-board riding.
- 18) A. I would like to take off on a trip with no pre-planned or definite routes, or timetable.  
B. When I go on a trip I like to plan my route and timetable fairly carefully.
- 19) A. I prefer the "down to earth" kinds of people as friends.  
B. I would like to make friends in some of the 'far out' groups like artists or hippies.
- 20) A. I would not like to learn to fly an aeroplane.  
B. I would like to learn to fly an airplane.
- 21) A. I prefer the surface of the water to the depths.  
B. I would like to go scuba diving.
- 22) A. I would like to meet some persons who are homosexual (men or women).  
B. I stay away from anyone I suspect of being "gay" or "lesbian".
- 23) A. I would like to try parachute jumping.  
B. I would never want to try jumping out of a plane with or without a parachute.
- 24) A. I prefer friends who are excitingly unpredictable.  
B. I prefer friends who are reliable and predictable.
- 25) A. I am not interested in experience for its own sake.  
B. I like to have new and exciting experiences and sensations even if they are a little frightening, unconventional or illegal.
- 26) A. The essence of good art is in its clarity, symmetry of form, and harmony of colours.  
B. I often find beauty in the "clashing" colours and irregular forms of modern paintings.
- 27) A. I enjoy spending time in the familiar surroundings of home.  
B. I get very restless if I have to stay around home for any length of time.
- 28) A. I like to dive off the high board.  
B. I don't like the feeling I get standing on the high board (or I don't go near it at all).
- 29) A. I like to date persons who are physically exciting.  
B. I like to date persons who share my values.
- 30) A. Heavy drinking usually ruins a party because some people get loud and boisterous.  
B. Keeping the drinks full is the key to a good party.
- 31) A. The worst social sin is to be rude.  
B. The worst social sin is to be a bore.
- 32) A. A person should have considerable sexual experience before marriage.  
B. It is better if two married persons begin their sexual experience with each other.
- 33) A. Even if I had the money, I would not care to associate with flighty rich persons in the "jet set".  
B. I could conceive of myself seeking pleasures around the world with the "jet set".
- 34) A. I like people who are sharp and witty even if they do sometimes insult others.  
B. I dislike people who have their fun at the expense of hurting the feelings of others.

- 35) A. There is altogether too much portrayal of sex in movies.  
B. I enjoy watching many of the 'sexy' scenes in movies.
- 36) A. I feel best after taking a couple of drinks.  
B. Something is wrong with people who need liquor to feel good.
- 37) A. People should dress according to some standards of taste, neatness and style.  
B. People should dress in individual ways even if the effects are sometimes strange.
- 38) A. Sailing long distances in small sailing crafts is foolhardy.  
B. I would like to sail a long distance in a small but seaworthy sailing craft.
- 39) A. I have no patience with dull or boring persons.  
B. I find something interesting in almost every person I talk to.
- 40) A. Skiing fast down a high mountain is a good way to end up on crutches.  
B. I think I would enjoy the sensation of skiing very fast down a high mountain slope.

## APPENDIX H

### 80-Item Version of SSS-V

**This questionnaire contains statements regarding a variety of behaviours and activities. Please read these statements, and for each one indicate on the scale the extent to which you agree or disagree with it.**

**Please make sure that you answer all the questions.**

	Strongly Agree	Agree	Slightly Agree	Neither Agree or Disagree	Slightly Disagree	Disagree	Strongly Disagree
1) I like 'wild' uninhibited parties.	1	2	3	4	5	6	7
2) People should dress in individual ways even if the effects are sometimes strange.	1	2	3	4	5	6	7
3) I like to have new and exciting experiences and sensations even if they are a little frightening, unconventional or illegal.	1	2	3	4	5	6	7
4) I have no patience with dull or boring persons.	1	2	3	4	5	6	7
5) I often wish I could be a mountain climber.	1	2	3	4	5	6	7
6) I dislike people who have fun at the expense of hurting the feelings of others.	1	2	3	4	5	6	7
7) I feel best after taking a couple of drinks.	1	2	3	4	5	6	7
8) I like some of the earthy body smells.	1	2	3	4	5	6	7
9) I prefer quiet parties with good conversation.	1	2	3	4	5	6	7
10) I like the comfortable familiarity of everyday friends.	1	2	3	4	5	6	7
11) I like to try new foods that I have never tasted before.	1	2	3	4	5	6	7
12) I prefer a guide when I am in a place I don't know well.	1	2	3	4	5	6	7
13) I dislike people who do or say things just to shock or upset others.	1	2	3	4	5	6	7
14) I can't stand watching a movie that I have seen before.	1	2	3	4	5	6	7
15) I can't understand people who risk their necks climbing mountains.	1	2	3	4	5	6	7
16) I don't like the feeling I get standing on the high board (or I don't go near it at all).	1	2	3	4	5	6	7
17) I have tried marijuana or would like to.	1	2	3	4	5	6	7



	Strongly Agree	Agree	Slightly Agree	Neither Agree or Disagree	Slightly Disagree	Disagree	Strongly Disagree
18) I dislike all body odours.	1	2	3	4	5	6	7
19) I usually don't enjoy a movie or play where I can predict what will happen in advance.	1	2	3	4	5	6	7
20) I get bored seeing the same old faces.	1	2	3	4	5	6	7
21) A sensible person avoids activities that are dangerous.	1	2	3	4	5	6	7
22) I prefer the surface of the water to the depths.	1	2	3	4	5	6	7
23) I would not like to learn to fly an aeroplane.	1	2	3	4	5	6	7
24) I enjoy the company of real "swingers".	1	2	3	4	5	6	7
25) I find that stimulants make me uncomfortable.	1	2	3	4	5	6	7
26) Looking at someone's home movies or travel slides bores me tremendously.	1	2	3	4	5	6	7
27) I prefer "down to earth" kinds of people as friends.	1	2	3	4	5	6	7
28) I order the dishes with which I am familiar, so as to avoid disappointment and unpleasantness.	1	2	3	4	5	6	7
29) I enjoy looking at home movies or travel slides.	1	2	3	4	5	6	7
30) A person should have considerable sexual experience before marriage.	1	2	3	4	5	6	7
31) I would like to sail a long distance in a small but seaworthy sailing craft.	1	2	3	4	5	6	7
32) I would not like to take up waterskiing.	1	2	3	4	5	6	7
33) I sometimes like to do things that are a little frightening.	1	2	3	4	5	6	7
34) I would not like to try surf-board riding.	1	2	3	4	5	6	7
35) I would like to take off on a trip with no pre-planned or definite routes, or timetable.	1	2	3	4	5	6	7
36) I would never smoke marijuana.	1	2	3	4	5	6	7
37) I could conceive of myself seeking pleasure around the world with the 'jet set'.	1	2	3	4	5	6	7
38) I would like to make friends in some of the 'far out' groups like artists or hippies.	1	2	3	4	5	6	7
39) I like to explore a strange city or section of town by myself, even if it means getting lost.	1	2	3	4	5	6	7

	Strongly Agree	Agree	Slightly Agree	Neither Agree or Disagree	Slightly Disagree	Disagree	Strongly Disagree
40) I would like to learn to fly an airplane.	1	2	3	4	5	6	7
41) I often find beauty in the “clashing” colours and irregular forms of modern painting.	1	2	3	4	5	6	7
42) I would like to try surf-board riding.	1	2	3	4	5	6	7
43) I would like to meet some persons who are homosexual (men or women).	1	2	3	4	5	6	7
44) When you can predict almost everything a person will do and say he or she must be a bore.	1	2	3	4	5	6	7
45) I would like to take up the sport of water-skiing.	1	2	3	4	5	6	7
46) I would never want to try jumping out of a plane with or without a parachute.	1	2	3	4	5	6	7
47) I prefer friends who are excitingly unpredictable.	1	2	3	4	5	6	7
48) Heavy drinking usually ruins a party because some people get loud and boisterous.	1	2	3	4	5	6	7
49) I am not interested in experience for its own sake.	1	2	3	4	5	6	7
50) There are some movies I enjoy seeing a second or even a third time.	1	2	3	4	5	6	7
51) The essence of good art is in its clarity, symmetry of form and harmony of colours.	1	2	3	4	5	6	7
52) I would like to go scuba diving.	1	2	3	4	5	6	7
53) I stay away from anyone I suspect of being “gay” or “lesbian”.	1	2	3	4	5	6	7
54) I get very restless if I have to stay around home for any length of time.	1	2	3	4	5	6	7
55) I like to dive off the high board.	1	2	3	4	5	6	7
56) I often like to get high (drinking liquor or smoking marijuana).	1	2	3	4	5	6	7
57) When I go on a trip I like to plan my route and timetable fairly carefully.	1	2	3	4	5	6	7
58) I would like to try parachute jumping.	1	2	3	4	5	6	7
59) I prefer friends who are reliable and predictable.	1	2	3	4	5	6	7
60) There is altogether too much portrayal of sex in movies.	1	2	3	4	5	6	7

	Strongly Agree	Agree	Slightly Agree	Neither Agree or Disagree	Slightly Disagree	Disagree	Strongly Disagree
61) The worst social sin is to be rude.	1	2	3	4	5	6	7
62) I like to date people who share my values.	1	2	3	4	5	6	7
63) I enjoy spending time in the familiar surroundings of home.	1	2	3	4	5	6	7
64) It is better if two married persons begin their sexual experience with each other.	1	2	3	4	5	6	7
65) Even if I had the money I would not care to associate with flighty persons like those in the 'jet set'.	1	2	3	4	5	6	7
66) Keeping the drinks full is the key to a good party.	1	2	3	4	5	6	7
67) I like people who are sharp and witty even if they do sometimes insult others.	1	2	3	4	5	6	7
68) I would not like to try any drug which might produce strange and dangerous effects on me.	1	2	3	4	5	6	7
69) I think I would enjoy the sensation of skiing very fast down a high mountain slope.	1	2	3	4	5	6	7
70) I enjoy watching many of the 'sexy' scenes in movies.	1	2	3	4	5	6	7
71) The worst social sin is to be a bore.	1	2	3	4	5	6	7
72) Something is wrong with people who need liquor to feel good.	1	2	3	4	5	6	7
73) People should dress according to some standards of taste, neatness and style.	1	2	3	4	5	6	7
74) I dislike "swingers".	1	2	3	4	5	6	7
75) Sailing long distances in small sailing crafts is foolhardy.	1	2	3	4	5	6	7
76) I would like to try some of the drugs that produce hallucinations.	1	2	3	4	5	6	7
77) I don't mind watching a movie or play where I can predict what will happen in advance.	1	2	3	4	5	6	7
78) I find something interesting in almost every person I talk with.	1	2	3	4	5	6	7
79) Skiing fast down a high mountain is a good way to end up on crutches.	1	2	3	4	5	6	7
80) I like to date people who are physically exciting	1	2	3	4	5	6	7

## APPENDIX I

### 61-Item Version of SSS-V

**This questionnaire contains statements regarding a variety of behaviours and activities. Please read these statements, and for each one indicate on the scale the extent to which you agree or disagree with it.**

**Please make sure that you answer all the questions.**

	Strongly Agree	Agree	Slightly Agree	Neither Agree or Disagree	Slightly Disagree	Disagree	Strongly Disagree
1) I like 'wild' uninhibited parties.	1	2	3	4	5	6	7
2) People should dress in individual ways even if the effects are sometimes strange.	1	2	3	4	5	6	7
3) I like to have new and exciting experiences and sensations even if they are a little frightening, unconventional or illegal.	1	2	3	4	5	6	7
4) I have no patience with dull or boring persons.	1	2	3	4	5	6	7
5) I often wish I could be a mountain climber.	1	2	3	4	5	6	7
6) I feel best after taking a couple of drinks.	1	2	3	4	5	6	7
7) I prefer quiet parties with good conversation.	1	2	3	4	5	6	7
8) I like to try new foods that I have never tasted before.	1	2	3	4	5	6	7
9) I prefer a guide when I am in a place I don't know well.	1	2	3	4	5	6	7
10) I can't understand people who risk their necks climbing mountains.	1	2	3	4	5	6	7
11) I don't like the feeling I get standing on the high board (or I don't go near it at all).	1	2	3	4	5	6	7
12) I have tried marijuana or would like to.	1	2	3	4	5	6	7
13) I dislike all body odours.	1	2	3	4	5	6	7
14) I usually don't enjoy a movie or play where I can predict what will happen in advance.	1	2	3	4	5	6	7
15) I get bored seeing the same old faces.	1	2	3	4	5	6	7
16) A sensible person avoids activities that are dangerous.	1	2	3	4	5	6	7
17) I prefer the surface of the water to the depths.	1	2	3	4	5	6	7

	Strongly Agree	Agree	Slightly Agree	Neither Agree or Disagree	Slightly Disagree	Disagree	Strongly Disagree
18) I would not like to learn to fly an aeroplane.	1	2	3	4	5	6	7
19) I find that stimulants make me uncomfortable.	1	2	3	4	5	6	7
20) Looking at someone's home movies or travel slides bores me tremendously.	1	2	3	4	5	6	7
21) I order the dishes with which I am familiar, so as to avoid disappointment and unpleasantness.	1	2	3	4	5	6	7
22) I would like to sail a long distance in a small but seaworthy sailing craft.	1	2	3	4	5	6	7
23) A person should have considerable sexual experience before marriage.	1	2	3	4	5	6	7
24) I enjoy looking at home movies or travel slides.	1	2	3	4	5	6	7
25) I would not like to take up waterskiing.	1	2	3	4	5	6	7
26) I sometimes like to do things that are a little frightening.	1	2	3	4	5	6	7
27) I would not like to try surf-board riding.	1	2	3	4	5	6	7
28) I would like to take off on a trip with no pre-planned or definite routes, or timetable.	1	2	3	4	5	6	7
29) I would never smoke marijuana.	1	2	3	4	5	6	7
30) I could conceive of myself seeking pleasure around the world with the 'jet set'.	1	2	3	4	5	6	7
31) I would like to make friends in some of the 'far out' groups like artists or hippies.	1	2	3	4	5	6	7
32) I like to explore a strange city or section of town by myself, even if it means getting lost.	1	2	3	4	5	6	7
33) I would like to learn to fly an airplane.	1	2	3	4	5	6	7
34) I would like to try surf-board riding.	1	2	3	4	5	6	7
35) When you can predict almost everything a person will do and say he or she must be a bore.	1	2	3	4	5	6	7
36) I would like to take up the sport of water-skiing.	1	2	3	4	5	6	7
37) I would never want to try jumping out of a plane with or without a parachute.	1	2	3	4	5	6	7
38) I prefer friends who are excitingly unpredictable.	1	2	3	4	5	6	7

	Strongly Agree	Agree	Slightly Agree	Neither Agree or Disagree	Slightly Disagree	Disagree	Strongly Disagree
39) Heavy drinking usually ruins a party because some people get loud and boisterous.	1	2	3	4	5	6	7
40) I would like to go scuba diving.	1	2	3	4	5	6	7
41) I get very restless if I have to stay around home for any length of time.	1	2	3	4	5	6	7
42) I like to dive off the high board.	1	2	3	4	5	6	7
43) I often like to get high (drinking liquor or smoking marijuana).	1	2	3	4	5	6	7
44) When I go on a trip I like to plan my route and timetable fairly carefully.	1	2	3	4	5	6	7
45) I would like to try parachute jumping.	1	2	3	4	5	6	7
46) There is altogether too much portrayal of sex in movies.	1	2	3	4	5	6	7
47) I enjoy spending time in the familiar surroundings of home.	1	2	3	4	5	6	7
48) It is better if two married persons begin their sexual experience with each other.	1	2	3	4	5	6	7
49) Even if I had the money I would not care to associate with flighty persons like those in the 'jet set'.	1	2	3	4	5	6	7
50) Keeping the drinks full is the key to a good party.	1	2	3	4	5	6	7
51) I like people who are sharp and witty even if they do sometimes insult others.	1	2	3	4	5	6	7
52) I would not like to try any drug which might produce strange and dangerous effects on me.	1	2	3	4	5	6	7
53) I think I would enjoy the sensation of skiing very fast down a high mountain slope.	1	2	3	4	5	6	7
54) I enjoy watching many of the 'sexy' scenes in movies.	1	2	3	4	5	6	7
55) The worst social sin is to be a bore.	1	2	3	4	5	6	7
56) Something is wrong with people who need liquor to feel good.	1	2	3	4	5	6	7
57) People should dress according to some standards of taste, neatness and style.	1	2	3	4	5	6	7
58) Sailing long distances in small sailing crafts is foolhardy.	1	2	3	4	5	6	7

	Strongly Agree	Agree	Slightly Agree	Neither Agree or Disagree	Slightly Disagree	Disagree	Strongly Disagree
59) I don't mind watching a movie or play where I can predict what will happen in advance.	1	2	3	4	5	6	7
60) I find something interesting in almost every person I talk with.	1	2	3	4	5	6	7
61) Skiing fast down a high mountain is a good way to end up on crutches.	1	2	3	4	5	6	7

## APPENDIX J

### Attitude to International Travel

**Thinking now about international travel, please indicate below by circling the appropriate number the extent to which you agree with each of the following statements at this point in time.**

	Strongly Agree	Agree	Somewhat Agree	Neither Agree or Disagree	Somewhat Disagree	Disagree	Strongly Disagree
I consider international travel to be a positive experience.	1	2	3	4	5	6	7
I would find international travel stressful.	1	2	3	4	5	6	7
I would not like to travel internationally.	1	2	3	4	5	6	7
I would be scared if I was to travel internationally.	1	2	3	4	5	6	7
I would value the experience of travelling internationally	1	2	3	4	5	6	7
I would feel tense if I was to travel internationally.	1	2	3	4	5	6	7
I would feel secure if I was to travel internationally.	1	2	3	4	5	6	7
I would find international travel threatening.	1	2	3	4	5	6	7
I would find international travel enjoyable.	1	2	3	4	5	6	7
I would feel stressed if I was to travel internationally.	1	2	3	4	5	6	7
I would feel safe if I was to travel internationally.	1	2	3	4	5	6	7
I would find international travel exciting.	1	2	3	4	5	6	7
I would feel agitated if I was to travel internationally.	1	2	3	4	5	6	7



## APPENDIX K

Please indicate below how much of a risk you consider each of the following factors pose to your well being, when travelling abroad.

1. Poor standard of facilities:

No risk	Low risk	Moderate risk	High risk	Very high risk
Would this deter you from travelling to a destination? Yes/ No (Please circle)				

---

2. Civil unrest

No risk	Low risk	Moderate risk	High risk	Very high risk
Would this deter you from travelling to a destination? Yes/ No (Please circle)				

---

3. Lack of knowledge about a country

No risk	Low risk	Moderate risk	High risk	Very high risk
Would this deter you from travelling to a destination? Yes/ No (Please circle)				

---

4. Treatment of animals

No risk	Low risk	Moderate risk	High risk	Very high risk
Would this deter you from travelling to a destination? Yes/ No (Please circle)				

---

5. Different regional food or drink

No risk	Low risk	Moderate risk	High risk	Very high risk
Would this deter you from travelling to a destination? Yes/ No (Please circle)				

---

6. High crime rate

No risk	Low risk	Moderate risk	High risk	Very high risk
Would this deter you from travelling to a destination? Yes/ No (Please circle)				

---

7. Commercialisation of destination

No risk	Low risk	Moderate risk	High risk	Very high risk
Would this deter you from travelling to a destination? Yes/ No (Please circle)				

---

---

8. Political regime of destination

No risk	Low risk	Moderate risk	High risk	Very high risk
Would this deter you from travelling to a destination? Yes/ No (Please circle)				

---

9. Disliking characteristics of local people

No risk	Low risk	Moderate risk	High risk	Very high risk
Would this deter you from travelling to a destination? Yes/ No (Please circle)				

---

10. Destination not suitable for children

No risk	Low risk	Moderate risk	High risk	Very high risk
Would this deter you from travelling to a destination? Yes/ No (Please circle)				

---

11. Weather conditions

No risk	Low risk	Moderate risk	High risk	Very high risk
Would this deter you from travelling to a destination? Yes/ No (Please circle)				

---

12. Poor standard of hygiene

No risk	Low risk	Moderate risk	High risk	Very high risk
Would this deter you from travelling to a destination? Yes/ No (Please circle)				

---

13. Cultural differences

No risk	Low risk	Moderate risk	High risk	Very high risk
Would this deter you from travelling to a destination? Yes/ No (Please circle)				

---

14. Poor environmental conditions

No risk	Low risk	Moderate risk	High risk	Very high risk
Would this deter you from travelling to a destination? Yes/ No (Please circle)				

---

15. Animals and other wildlife found at destination

No risk	Low risk	Moderate risk	High risk	Very high risk
Would this deter you from travelling to a destination? Yes/ No (Please circle)				

---

---

16. Characteristics of the landscape

No risk	Low risk	Moderate risk	High risk	Very high risk
Would this deter you from travelling to a destination? Yes/ No (Please circle)				

---

17. Economic factors

No risk	Low risk	Moderate risk	High risk	Very high risk
Would this deter you from travelling to a destination? Yes/ No (Please circle)				

---

18. Tourists harassed by locals

No risk	Low risk	Moderate risk	High risk	Very high risk
Would this deter you from travelling to a destination? Yes/ No (Please circle)				

---

19. Country does not appeal

No risk	Low risk	Moderate risk	High risk	Very high risk
Would this deter you from travelling to a destination? Yes/ No (Please circle)				

---

20. Terrorism

No risk	Low risk	Moderate risk	High risk	Very high risk
Would this deter you from travelling to a destination? Yes/ No (Please circle)				

---

21. Poverty of the people

No risk	Low risk	Moderate risk	High risk	Very high risk
Would this deter you from travelling to a destination? Yes/ No (Please circle)				

---

22. Harsh legal system

No risk	Low risk	Moderate risk	High risk	Very high risk
Would this deter you from travelling to a destination? Yes/ No (Please circle)				

---

23. Been there before

No risk	Low risk	Moderate risk	High risk	Very high risk
Would this deter you from travelling to a destination? Yes/ No (Please circle)				

---

---

24. Travelling to destination

No risk	Low risk	Moderate risk	High risk	Very high risk
Would this deter you from travelling to a destination? Yes/ No (Please circle)				

---

25. Area prone to natural disasters

No risk	Low risk	Moderate risk	High risk	Very high risk
Would this deter you from travelling to a destination? Yes/ No (Please circle)				

---

26. Availability of sex and drugs

No risk	Low risk	Moderate risk	High risk	Very high risk
Would this deter you from travelling to a destination? Yes/ No (Please circle)				

## APPENDIX L

E-mail confirming ethical approval for study reported in Chapter 11, received from the Chairperson of the University Ethics Committee.

Date: Fri, 4 Jun 2004 14:56:45 +0100  
From: robyn holliday <r.holliday@kent.ac.uk>  
Reply-To: robyn holliday <r.holliday@kent.ac.uk>  
Subject: ethics  
To: jmg3@kent.ac.uk

Dear Jackie

I am pleased to inform you that your recent ethics application has been approved by me as the Chair of the Ethics Committee. One small point, I assume that any material given to participants will be on Departmental letterhead?

Good luck with the study.

Regards

Robyn E Holliday

Dr Robyn Holliday  
Lecturer in Psychology  
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## APPENDIX M

### Attitudes to Air Travel

Now we would like to know about the beliefs you hold about air travel to various locations. The areas included in this questionnaire are the U.S.A. (e.g. Boston, Los Angeles, Chicago), Europe (e.g. Frankfurt, Rome, Paris) and the U.K. (e.g. Glasgow, Manchester, Plymouth). Please circle the number that best reflects the extent to which you agree or disagree with each of the following statements. These statements may seem repetitive, but it is extremely important to our research that you answer *all* of them. Thank you.

	Strongly disagree	Disagree	Slightly Disagree	Unsure	Slightly Agree	Agree	Strongly Agree
1) Travelling by air within the U.K. would be frightening:	1	2	3	4	5	6	7
2) Travelling by air to Europe would be relaxing:	1	2	3	4	5	6	7
3) Travelling by air within the U.K. would be the only practical way to get there:	1	2	3	4	5	6	7
4) Travelling by air to the U.S.A. would be safe:	1	2	3	4	5	6	7
5) Travelling by air to Europe would be the only practical way to get there:	1	2	3	4	5	6	7
6) Travelling by air to Europe would be frightening:	1	2	3	4	5	6	7
7) Travelling by air within the U.K. would be relaxing:	1	2	3	4	5	6	7
8) Travelling by air to the U.S.A. would be the only practical way to get there:	1	2	3	4	5	6	7
9) Travelling by air to Europe would be enjoyable:	1	2	3	4	5	6	7
10) Travelling by air within the U.K. would be the quickest way to get there:	1	2	3	4	5	6	7
11) Travelling by air to the U.S.A. would be enjoyable:	1	2	3	4	5	6	7
12) Travelling by air to Europe would be the quickest way to get there:	1	2	3	4	5	6	7

	<b>Strongly disagree</b>	<b>Disagree</b>	<b>Slightly Disagree</b>	<b>Unsure</b>	<b>Slightly Agree</b>	<b>Agree</b>	<b>Strongly Agree</b>
13) Travelling by air to the U.S.A. would be relaxing:	1	2	3	4	5	6	7
14) Travelling by air within the U.K. would be safe:	1	2	3	4	5	6	7
15) Travelling by air within the U.K. would be enjoyable:	1	2	3	4	5	6	7
16) Travelling by air to the U.S.A. would be the quickest way to get there:	1	2	3	4	5	6	7
17) Travelling by air to Europe would be safe:	1	2	3	4	5	6	7
18) Travelling by air to the U.S.A. would be frightening:	1	2	3	4	5	6	7

**Thank You**

## APPENDIX N

### Other people's views of air travel.

**Sometimes we are influenced by what other people think we should or should not do – particularly those who are important to us. Please circle the response that best represents your view for each of the following statements, *if you were deciding to travel by air*. Mark as not applicable any items that are not personally relevant.**

	Strongly disagree	Disagree	Slightly Disagree	Unsure	Slightly Agree	Agree	Strongly Agree	Not Applicable
1) My spouse/partner thinks I should travel by air to the U.S.A.	1	2	3	4	5	6	7	N/A
2) My parent(s) think I should travel by air to the U.S.A.	1	2	3	4	5	6	7	N/A
3) My son(s) think I should travel by air to the U.S.A.	1	2	3	4	5	6	7	N/A
4) My daughter(s) think I should travel by air to the U.S.A.	1	2	3	4	5	6	7	N/A
5) My brother(s) think I should travel by air to the U.S.A.	1	2	3	4	5	6	7	N/A
6) My sister(s) think I should travel by air to the U.S.A.	1	2	3	4	5	6	7	N/A
7) My friends think that I should travel by air to the U.S.A.	1	2	3	4	5	6	7	N/A
8) My spouse/partner thinks I should travel by air to Europe.	1	2	3	4	5	6	7	N/A
9) My parent(s) think I should travel by air to Europe.	1	2	3	4	5	6	7	N/A
10) My son(s) think I should travel by air to Europe.	1	2	3	4	5	6	7	N/A
11) My daughter(s) think I should travel by air to Europe.	1	2	3	4	5	6	7	N/A
12) My brother(s) think I should travel by air to Europe.	1	2	3	4	5	6	7	N/A



	<b>Strongly disagree</b>	<b>Disagree</b>	<b>Slightly Disagree</b>	<b>Unsure</b>	<b>Slightly Agree</b>	<b>Agree</b>	<b>Strongly Agree</b>	<b>Not Applicable</b>
13) My sister(s) think I should travel by air to Europe.	1	2	3	4	5	6	7	N/A
14) My friends think that I should travel by air to Europe.	1	2	3	4	5	6	7	N/A
15) My spouse/partner thinks I should travel by air in the U.K.	1	2	3	4	5	6	7	N/A
16) My parent(s) think I should travel by air in the U.K.	1	2	3	4	5	6	7	N/A
17) My son(s) think I should travel by air in the U.K.	1	2	3	4	5	6	7	N/A
18) My daughter(s) think I should travel by air in the U.K.	1	2	3	4	5	6	7	N/A
19) My brother(s) think I should travel by air in the U.K.	1	2	3	4	5	6	7	N/A
20) My sister(s) think I should travel by air in the U.K.	1	2	3	4	5	6	7	N/A
21) My friends think that I should travel by air in the U.K.	1	2	3	4	5	6	7	N/A

**Thank You**

## APPENDIX O

### Other things that may affect our decision to travel by air

**In addition to the things that you have been asked about in the previous questionnaires there may be other considerations that would influence how likely you would be to travel by air. Again, please circle the response that best represents the extent to which you think each item might influence your decision to travel by plane, if you were considering travelling to the U.S.A, Europe or within the U.K.**

	Strongly disagree	Disagree	Slightly Disagree	Unsure	Slightly Agree	Agree	Strongly Agree
1) I would find it difficult to travel to the airport:	1	2	3	4	5	6	7
2) I would find the air fare too expensive:	1	2	3	4	5	6	7
3) Whether or not I travel by air is entirely up to me:	1	2	3	4	5	6	7
4) My flight may be at an inconvenient time:	1	2	3	4	5	6	7
5) I am confident that I could travel by air:	1	2	3	4	5	6	7
6) My flight might be cancelled:	1	2	3	4	5	6	7
7) It is my decision whether or not I travel by air:	1	2	3	4	5	6	7
8) I can control whether or not I travel by air:	1	2	3	4	5	6	7

**Thank you**

## APPENDIX P

**Moving on now to consider your likely future air travel. Please indicate below the response that most represents how probable it is that you will undertake the types of travel described within the next 6 months.**

	Very Probable	Probable	Somewhat probable	Neither probable or improbable	Somewhat improbable	Improbable	Very improbable
1) I intend to fly to Europe to visit friends within the next 6 months	1	2	3	4	5	6	7
2) I intend to fly within the UK for a holiday within the next 6 months	1	2	3	4	5	6	7
3) I intend to fly to the USA on business within the next 6 months	1	2	3	4	5	6	7
4) I intend to fly within the UK to visit family within the next 6 months	1	2	3	4	5	6	7
5) I intend to fly to the USA to visit friends within the next 6 months	1	2	3	4	5	6	7
6) I intend to fly to Europe on business within the next 6 months	1	2	3	4	5	6	7
7) I intend to fly within the UK to visit friends within the next 6 months	1	2	3	4	5	6	7
8) I intend to fly to the USA for a holiday within the next 6 months	1	2	3	4	5	6	7
9) I intend to fly to Europe to visit family within the next 6 months	1	2	3	4	5	6	7
10) I intend to fly within the UK on business within the next 6 months	1	2	3	4	5	6	7
11) I intend to fly to Europe for a holiday within the next 6 months	1	2	3	4	5	6	7
12) I intend to fly to the USA to visit family within the next 6 months	1	2	3	4	5	6	7

