A Psychoanalytic Exploration of Media Exposure to Terrorism: Intrapsychic Correlates of Adult Resilience to the Bali bombing

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To take a photograph is to participate in another person's mortality, vulnerability, mutability. Precisely by slicing out this moment and freezing it, all photographs testify to time's relentless melt....The camera makes everyone a tourist in other people's reality, and eventually in one's own.

Susan Sontag
Declaration

I declare that this dissertation is my own account of my research and does not contain work that has previously been submitted for a degree at any tertiary institution or for publication, without due acknowledgement. I further declare that the ethical principles and procedures specified by the Swinburne University of Technology’s Human Research Ethic Committee’s document on human research and experimentation have been adhered to in the preparation of this report.

Signed: Anne E. Curtis
Abstract

This thesis explored the utility of psychoanalytic object relations theory as a framework for understanding the intrapsychic processes that predicate adult resilience following exposure in the media to a large-scale terrorist attack. Little, if anything, is known about how people respond to media coverage of a large-scale terrorist attack when they reside in a different country from where a terrorist attack occurred, but their nationality is highly represented in the directly exposed group. The Bali bombing on October 12, 2002 was investigated as an exemplar of this exposure type in the Australian population. More than two thirds of the dead and injured in the bombing were Australian citizens, and the event attracted national grief and mourning (Raphael, 2005).

Although research on intrapsychic processes draws heavily on projective methodology, a number of self-report instruments have recently been developed that tap conscious derivatives of unconscious processes. To date, efforts to validate and employ these new instruments have focused almost exclusively on examining their relations to various diagnostic categories within the Diagnostic and Statistical Manual of Mental Disorders (American Psychiatric Association, 2000) nomenclature. Few, if any, studies have explored the potential relationship among intrapsychic processes and the construct of adult resilience as conceptualised by Bonanno (2004, 2005).

This thesis has two broad aims. The first was to explore the potential association of media exposure to trauma response and trauma management using resilience as an exemplar of effective trauma management. The second aim was to explore particular intrapsychic processes that purportedly operate unconsciously and to examine their relationship with adult
resilience. The specific aims were to identify differential effects across certain variable 
groups, bivariate correlations among the variables, and third variable effects using mediation 
and moderation models.

The resilience and terrorism literatures have yet to come together in theoretically 
driven studies that set out to examine systematically and comprehensively the numerous risk 
and protective factors associated with adult resilience in the general population. This 
shortcoming was addressed by drawing on Kernberg’s (1975, 1976, 2001) psychostructural 
theory of object relations as a theoretical framework that can inform and integrate both areas 
of research. Using self-report methodology, object relations were investigated in conjunction 
with resilience, narcissism, splitting defence, trauma response, trauma reactive beliefs, and 
media exposure (hours of TV viewing). The study utilised a cross-section design that 
consisted of a convenience sample of adult Australian citizens (96 women & 74 men). They 
were recruited by the snowball sampling technique to secure a broader representation of the 
Australian population than a university population.

The first set of results involved comparative analyses, which indicated that people with 
low levels of television (TV) viewing (≤ 10 hours) endorsed significantly lower trauma 
response scores and significantly higher resilience scores than those with high TV viewing (≥ 
11 hours), as predicted. Also as predicted, respondents who identified with mature object 
relations and minimal splitting scored higher on resilience and lower on impact of event than 
respondents who identified with immature object relations and pervasive splitting. Although, 
as expected, respondents who identified with modest narcissism scored higher on resilience 
than respondents who identified with grandiose narcissism, the groups did not differ on their 
impact of event scores.
The first set of results also established bivariate correlations. Although high TV viewing was more strongly related to trauma response than low TV viewing, as predicted, TV viewing was unrelated to object relations, narcissism, and splitting. Impact of event was positively associated with trauma reactive beliefs and both were negatively associated with resilience. Consistent with expectations, six dimensions of object relations were positively and substantially related to trauma response and splitting, and strongly and negatively related to resilience. The exception was the narcissism dimension, which failed to correlate with any measure of trauma response, and was negatively and weakly related to resilience.

Due to the unexpectedly weak, negligible, and inconsistent relationships among narcissism and both resilience and trauma response, further investigation of the narcissism scale was undertaken using exploratory factor analysis. Two components were identified. The interpretation of the two-factor solution was consistent with previous empirical demonstrations and theoretical approaches, supporting the heterogeneity of the construct. The first factor labelled Overt/Grandiose Beliefs explained 29.22% of the variance. The second factor labelled Covert/Grandiose Fantasies explained 12.00% of the variance.

The second set of results established mediation and moderation models. Six models were developed. The first two models explored the moderating role of TV viewing and the mediating role of trauma reactive beliefs on the resilience-trauma response link. The moderation model showed that the differential effect was under the condition of high resilience. Highly resilient people have significantly lower levels of trauma response if they view low levels of TV. If they watch high levels of TV, the level of trauma response increases to an equivalent level of the low resilience group. Higher resilience fully accounted
for low levels of trauma reactive beliefs, which led to lower level of trauma response. Results were interpreted using the concept of repetition compulsion.

The remainder of the models explored the third variable effects of intrapsychic processes on resilience. Object relations partially mediated the resilience-trauma response link. Splitting fully mediated the object relations-resilience link. Lower levels of impaired object relations accounted for lower splitting, which in turn led to higher resilience.

Narcissism moderated the splitting of self-representations-resilience link. The inverse link was influenced more under conditions of high narcissism than under either low or medium narcissism. Splitting of self-representations fully mediated the covert narcissism-resilience link but failed to be associated with the overt narcissism-resilience link. In addition to the broad concepts of narcissism and splitting, results were interpreted using the narrow associated concepts of overt and covert narcissism and vertical and horizontal splitting.

Taken together, the findings from this exploratory study support the theoretical proposition that that there are multiple and sometimes unexpected pathways to resilience in the face of a potentially traumatic event (Bonanno, 2004, 2005). The findings also support the theoretical proposition that certain intrapsychic processes residing outside of conscious awareness can have a robust association with resilience. The salutary nature of adult resilience to terrorism is discussed in relation to the social and educational implications of geographically remote exposure to terrorism, and an argument is made for its implications for counselling theory and intervention. Methodological limitations are addressed and suggestions are made for directions for further research into adult resilience and the link between resilience and media exposure to a large-scale terrorist attack at the personal, social, and political level.
Acknowledgements

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CHAPTER 1

THE NATURE OF CONTEMPORARY TERRORISM AND EXPLICATION OF AN OBJECT RELATIONS FRAMEWORK FOR UNDERSTANDING ADULT RESILIENCE TO A LARGE-SCALE TERRORIST ATTACK

Introduction and Overview

This thesis develops a psychoanalytic account of resilience in the adult general population following exposure to media coverage of a large-scale terrorist attack. The Bali bombing in Indonesia on October 12, 2002 was used as an exemplar of one such event. The focus is on unconscious processes that influence cognitive appraisal processes, which purportedly predicate adult resilience. The self-report methodology employed instruments designed to tap conscious derivatives of unconscious processes by assessing the qualities of self- and object-representations and tendencies to polarise the contemporaneous social environment. The systematic and comprehensive exploration of the potential associations among the underlying concepts of narcissism, splitting, and object relations and the surface-level expression of resilience is a novel empirical endeavour. Such an effort is consistent with the views of Kernberg (1975, 1976, 1984) who implied, though failed to elaborate on, an association between the surface manifestation of personality constructs and intrapsychic organisational variables.

Since the beginnings of global terrorism in the late 1990s, some theorists have drawn on psychoanalytic theory to provide a framework for understanding resilience to terrorism at individual, community, and societal levels (e.g., Kernberg, 2003a,b; Twemlow, 2000; Volkan, 1997, 2002). Following the September 11 terrorist attack, a number of edited books have been published that show in detail how psychoanalytic theory can uniquely
contribute to an understanding of terrorism (Cancelmo, Tyllim, Hoffenberg, & Myers, 2003; Coates, Rosenthal, & Schechter, 2003; Covington, Williams, Arundale, & Knox, 2002; Sklarew, Twemlow, & Wilkinson, 2004; Varvin & Volkan, 2005). However, as yet, no researchers have applied psychoanalytic concepts to an empirical investigation of the potential associations among media exposure, trauma response, and resilience in the adult general population. Object relations may be a particularly useful construct when exploring questions of adaptation, coping, and resilience to a large-scale terrorist attack. Indeed, individual differences in patterns of object relations functioning may have considerable explanatory power in predicting both a vulnerable and resourceful trauma management trajectory following a potentially traumatic event (PTE).

The present thesis argues that the object relations school of psychoanalytic theory is an appropriate framework for investigating such links due to the intense focus that it applies to the nature and development of defence mechanisms and mental representations of self and others, as well as the affective, cognitive, and motivational processes brought to bear on these representations (Greenberg & Mitchell, 1983; Huprich & Greenberg, 2003; Kernberg, 1995; Westen, 1990). Object relations theory also provides a valuable lens for viewing both psychological vulnerability and resourcefulness within contemporary society and culture that has many parallels with social and cognitive psychology (Westen, 1991).

One implication of the developing interest in how the general population copes with exposure to terrorism is that the resilience and terrorism literatures have yet to come together in theoretically driven studies that set out to examine comprehensively the numerous risk and protective factors associated with resilience (Reissman, Klomp, Kent, & Pfefferbaum, 2004). To date, researchers are left to extrapolate and integrate findings from
(a) resilience studies that identify the factors that create risk or provide protection, and (b) terrorism studies that identify the factors that predict the degree to which an individual’s or society’s resilience may protect against catastrophic terrorism.

In order to investigate the relevance of object relations theory for the understanding of resilience to terrorism, this thesis reports on an exploration of links among media exposure, trauma response, trauma reactive beliefs, object relations, and resilience. In particular, the thesis draws on Kernberg’s (1975, 1976, 2001) tripartite psycho-structural model of object relations, which highlights two constructs axiomatic to object relations theory: narcissism and splitting. It is argued that these two constructs provide important insights into the potential association between trauma response and effective trauma management, of which resilience is presented as an exemplar.

A burgeoning body of research exists concerning various types of exposure to terrorism delineated as direct, vicarious, peri-direct, indirect, and remote by North and Pfefferbaum (2004). Exposure through media coverage is the type of exposure that the majority of people are likely to experience in the event of a large-scale attack (Pfefferbaum, 2005). Yet, we know very little, if anything, in both empirical and theoretical terms, about how people respond to media coverage of a large-scale terrorist attack when they reside in a different country from where an attack occurred, but their nationality is highly represented in the directly exposed group. This thesis terms this group “geographically remote” and postulates it is related to but distinct from the remote exposure group. It is argued that the Australian general population is an exemplar of this group as more than two thirds of the dead and injured in the Bali bombing were Australian citizens.
There have been two generations of terrorism research. First-generation terrorism research focused on the vulnerability model of trauma response and established a bivariate link between media exposure and psychological distress following both direct and indirect exposure to the Oklahoma City bombing and September 11 attack (e.g., Ahern, Galea, Resnick, & Vlahov, 2002; Schlenger et al., 2002; Schuster et al., 2001; Silver, Holman, McIntosh, Poulin, & Gil-Rivas, 2002). This research was not theory driven and consisted largely of epidemiological surveys. In contrast, second-generation terrorism research focuses on the resourceful trajectory of trauma response to media exposure (e.g., Bonanno, Galea, Bucciarelli, & Vlahov, 2006; Butler et al., 2006; Fredrickson, Tugade, Waugh, & Larkin, 2003). This research is theory driven and consists largely of small size studies using social-cognitive theories such as Appraisal-tendency theory, broaden-and build theory of positive emotions, and Terror Management theory to inform their research.

The goal of this thesis was to build on what is known about the vulnerability trajectory to develop a more comprehensive understanding of the resourceful trajectory in the context of geographically remote exposure to a large-scale terrorist attack. The rationale for the focus was twofold. First was the need to respond to the recent call to broaden the scope beyond the vulnerability trajectory to consider resourceful trajectories such as resilience (Pfefferbaum, 2005; Raphael, 2005; Reissman et al., 2004). Second was to respond to the recent unexpected results from research on the psychological effects of the September 11 terrorist attack, which suggested widespread resilience instead of pathology (Vázquez, 2005). Although the impact of the attack within the first weeks and months was in some cases, intense, it did not amount to the severe impact predicted by public health authorities, and in some cases by the authors of epidemiological surveys. Such findings underscore the
prevalence of resilience following a terrorist attack, and raise the question of how the majority of adults, across all levels of exposure, maintained resilience.

This exploratory investigation addressed the methodological limitations of previous research that remains at the level of bivariate associations among media exposure, trauma response, and trauma management. Consistent with the second generation of terrorism research is the argument that a more systematic, comprehensive approach involves multivariate consideration of these factors. Multivariate consideration has the capacity to explore potential moderating and mediating variables. This exploration may elucidate the role that media exposure plays in influencing the strength of the resilience-trauma response link, as well as identify intrapsychic variables that may account for resilient trauma management. As such, this thesis had two broad aims. First, to explore the potential associations of media exposure to both trauma response and resilience. Second, to explore the relationship of adult resilience to particular intrapsychic unconscious processes.

Overview of Empirical Investigation

In brief, Chapter 1 provides a review of the theoretical literature relevant to the current investigation and presents the major propositions and concepts advanced by the thesis. To provide a context for the empirical work, Chapter 1 begins with an overview of terrorism. This is followed by an account of the Bali bombing and its relevance for Australia. The next section briefly outlines two social-cognitive theories that have been employed in previous terrorism-related research. It is then argued that psychoanalytic object relations theory is a more comprehensive theory with which to explore the major concepts and propositions under investigation than the social-cognitive models. The remainder of Chapter 1 explicated object relations theory based on Kernberg’s (1975, 1976, 2001) psycho-structural theory. His
operationalisation of object relations as a “unit of internalisation”, which consists of three components (self-representations, object-representations, & affective valence), is presented first. This is followed by his theoretical account of two constructs axiomatic to object relations in both normal and pathological development: splitting and narcissism.

Whereas Chapter 1 focuses on the theoretical literature relating to the empirical investigation, Chapter 2 reviews the empirical literature exploring the link between media exposure and trauma response following exposure via the media to a terrorist attack. It is argued that while an association between media exposure and symptoms of psychological distress has been established, there is insufficient evidence to implicate the media conclusively in generating negative trauma responses that reach the severity of posttraumatic stress disorder (PTSD), as delineated by the text-revised, fourth edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV-TR; American Psychiatric Association [APA], 2000). The thesis then considers a logical basis for the bivariate association and postulates that media exposure may operate as a moderating variable that influences the strength of the link between trauma response and trauma management.

Chapter 3 discusses the different trajectories that trauma management can take following a response to a potentially traumatic event (PTE). Resilience was chosen as an exemplar of effective trauma management, as it is consistently emerging in recent literature as the modal outcome in adults (Bonanno, 2004, 2005). One psychological factor increasingly implicated as a major predictor of resilience is relational capacity (Rutter, 2000). Relation capacity is theoretically linked to quality of object relations (Kernberg, 2001; Westen, 1991). Poor relational capacity has been positively associated with splitting (Curtis, 1998), and narcissism (Morf & Rhodewalt, 1993). This thesis postulates that a low level (i.e.,
impaired) of object relations may operate as a mediating variable that explains the link between resilience and trauma response. Additional mediation models using the splitting defence, trauma reactive beliefs, and splitting of self-representations were developed to further explore those intrapsychic processes that purport to inform adult resilience. Chapter 3 concludes with an account of the major hypotheses and specific research questions that guided the empirical investigation.

Chapter 4 presents the methodology and results of the major hypotheses that addressed the bivariate association among media exposure, trauma response, and intrapsychic variables. Chapter 5 presents the results of the research questions that involved mediation and moderation models of resilience. Chapter 6 provides a general discussion of the findings in terms of overall aims, major hypotheses, and specific research questions that guided the empirical investigation. This is followed by a discussion of theoretical implications in conceptual and substantive terms and methodological limitations of the thesis. Avenues for future empirical research, theoretical developments, public policy implementations, and counselling interventions for coping with the threat of terrorism are presented. The present chapter begins with a definition of terrorism and its relationship to fundamentalism.

**Terrorism**

*Definition of Terrorism*

Terrorism is a newly acknowledged danger in Western societies characterised by the condition of modernity, although it has been a belief system or “ism” for centuries in non-Western or pre-modern societies (Volkan, 2001). The word “terrorism” traces its modern roots in the English language to the French revolution (1789-1794) as a form of political violence, and this type of political violence known as “terrorism from above”
denoted acts of intimidation of civilians by the French revolutionary government. The 18th century German philosopher Kant defined this type of terrorism in 1798 as a “pessimistic belief system”. As Western society entered the 19th century, which marked the beginning of the condition of modernity, the meaning and nature of terrorism evolved into a form of subversive violence by civilians toward their government known as “terrorism from below”. Terrorism from below continued throughout the 20th century and was known as the “will of the people”. As terrorism entered the 21st century, the change in emphasis has gone from the ethno-separatist, political, and civilian groups, to the clandestine religious and fundamentalist groups (Young, 2001).

Fundamentalism, like terrorism, has been a social fact throughout history, but its association with terrorism within both Christian and Islamic societies, is recent (Young, 2001). In terms of Christian society, the term fundamentalism as it relates to the condition of modernity, derives from an anonymous exposition by a group of extreme right evangelical Protestants in the USA titled *The Fundamentals* published in 1909 (Ringstrom, 2002). This group had particular objects of enmity in the form of modernity and Catholicism, and the exposition based its authority on the infallibility of the Bible because every word in it is the “Word of God”. For the evangelical Protestants, the Bible is an *object fixe*, a literal translation only is permissible, and deviation constitutes heresy. They were willing to “do battle royal” for what they saw as “the fundamentals” of the Christian faith. Up unto the 1940s “fundamentalist” was interchangeable with “evangelical”. In the 1950s and 1960s a rupture occurred when fundamentalists broke with the evangelical Billy Graham after he had invited mainstream denominations to his crusade. Claiming to be the true believers, fundamentalists make absolute truth claims and repudiate the idea of relativism. The “God as
absolute” principle is similar to the Islamic fundamentalist deference to “Allah”, and that in
terms of Islamic society, the origins of fundamentalism is to be found in orthodox religious
ideology that developed in the 20th century in the Middle East.

Despite the clear change in how terrorism operates, there is no universally accepted
definition of terrorism (Ruby, 2002). The construct is classified in different ways, and the
typologies of a terrorist are many and poorly developed. For example, one classification
system may define terrorism by economic characteristics such as domestic, international, or
state sponsored, whereas another classification system may define terrorism by political
characteristics such as non-political, quasi-political, or limited political. Although there is no
universally accepted definition of terrorism, there is agreement in the literature that it has
five distinguishing characteristics or criteria, outlined below.

As a particular type of violence, the first criterion is that terrorism is premeditated
(Ruby, 2002). Second, it is used primarily, though not exclusively, to influence governments,
social groups, or specific religious groups. Thus, violent acts such as robbery, homicide, or
rape, which are committed in furtherance of personal or criminal goals, are not included
(although this is not to say that these acts are any more acceptable). This criterion
emphasises that the social and psychological antecedents of personally or criminally
motivated behaviour are different to the antecedents of terrorist violence. Third, terrorist
violence is directed at non-combatants (Ruby). Non-combatants are people who are not
members of the military service or military members who are not actively involved in
military hostilities. This criterion identifies terrorism as violence directed toward civilian
populations who are ill prepared to defend against the terrorists.
A fourth characteristic of terrorism is that clandestine agents commit terrorist attacks (Ruby, 2002). Under this criterion, political violence by nation-states is not defined as terrorism despite the incidence of non-combatant death. The clandestine nature of terrorism ensures victims cannot anticipate and prevent a specific attack. This is in contrast to situations of declared war, as in England during the World War II, in Iraq during the Gulf War. In clandestine attacks, there is no expectation that attacks will focus on or be restricted to overt military or industrial sites, so non-combatants cannot avoid these sites. A final characteristic is that terrorism involves attacks on random and symbolic targets such as the World Trade Centre (WTC), the Pentagon, and the popular holiday island of Bali.

**The Bali bombing as an Exemplar of a Large-Scale Terrorist Attack**

All five defining characteristics of terrorism were present in the Bali bombing, making the event an exemplary case for investigating the psychological impact of terrorism. The trials of the terrorists belonging to the group Jemaah Islamiah (JI) reveal that the bombing was premeditated and designed to create a climate of fear in a wider audience than the immediate victims. Bali was chosen as a symbolic target as it represents Western ideas of “paradise”, and the bombing shattered worldview assumptions of innocence and safety. The Balinese Hindu society considered it to be violating norms regulating political and religious disputes, protest, and dissent, and it was used to influence particular governments, religious, and moral ideologies, namely Christian countries sympathetic to America’s so called “war on terror”. Indeed, an online transcript of a suspected JI terrorist on trial for the bombing gave 13 reasons for the selection of the holiday island of Bali as a target for terrorist activity (http://www.abc.net.au/4corners/content/2003/20030210_baliconfessions/target_bali.htm).
The online transcript revealed the themes of the reasons that can be linked to the major characteristics of terrorism. For example, one reason included “violently opposing the barbarity of the US army of the Cross and allies, and because Australia had taken part in efforts to separate East Timor from Indonesia, which was an international conspiracy by followers of the Cross”.

**Classical versus Global Terrorism**

The role of the media in covering the events and its relationship to terrorist groups is a characteristic axiomatic to what is referred to as global terrorism, in contrast to classical terrorism (van Leeuwen, 2001). Classical motivations for terrorism are unfulfilled nationalistic or ethnic ambitions (e.g., Basque Country), extremist left wing or right wing ideologies (e.g., Israel and Palestine), and religious divisions (e.g., Northern Ireland). Within classic terrorism, nationalism and religious adherence are inextricably linked, and the demands of these terrorists, whilst uncompromising and overly ambitious, remain concrete, understandable (although not acceptable) in an historical context, and geographically limited to a specific region of the world. The conflict is symmetrical, and attempts to develop solutions based on territorial or political compromise are often discussed, negotiated, and (partially) implemented (if only to fail thereafter). However, with the increase in popularity of the mass media and technology, in particular the Internet and mass movement of people around the globe via air travel, a new type of terrorism has emerged with a number of distinct differences to the classical type of terrorism.

A distinct difference between classical and global terrorism involves outcomes. The classical terrorist group uses the process of inculcating fear and anxiety into the “other” to further political goals of left or right (e.g., Trotskyism, Fascism). In contrast, global terrorist groups use the process of inculcating fear and anxiety into the “other” to further fundamentalist ethnic or religious ideologies. They claim to act in the name of a particular
community or religious doctrine but they share a narrative of holy war, an Armageddon obsession, in which a mighty clash between good and evil is taking place.

Lethality is another distinct difference between classical and global terrorism. Whereas classical terrorists tended to attack strategic targets such as important officials, telephone towers, or power stations, the new terrorists carry out mass killings, suicide bombings, or hideous atrocities such as video-beheadings to gain and shape public attention and project their call to a holy war or “jihad”. Western governments often emphasise the risk that global terrorist groups will try to acquire weapon of mass destruction (WMD), by which they mean lethal chemical, biological or nuclear weapons.

The final distinct difference between classical and global terrorism involves organisation. The new forms of global terrorism are more like a network than the classical terrorist group, which were hierarchical and tightly knit. Today, militant organisations consist of fluid, loose horizontal associations, united by a common narrative but consisting of a variety of groups, cells, religious institutions, non-government groups and leaders. Within the global but invisible network, different units operate fairly autonomously, funded by a combination of transnational support groups and organised crime. They make use of the infrastructure of globalisation such as the mass media technologies of web sites, videos, transnational banking systems, and mobile phones.

Contemporary Global Terrorist Attacks

In many parts of the world such as the Middle East, Northern Ireland, Spain, Africa, Eastern Europe, and South East Asia, classical terrorism has played a prominent part in many individuals’ lives for more than three decades (van Leeuwen, 2001). A number of examples include the Israeli-Arab conflict in the Middle East, which experienced over 65 terrorist
incidents between the years 2000 and 2002 resulting in over 250 deaths (Keinan et al., 2003), and the Catholic-Protestant conflict in Northern Ireland, in particular the Omagh bombing in 1998 by the Irish Republican Army (IRA) where over 370 people were seriously injured (Kapur, 2002). However, in what was to facilitate a change in tactic and purpose from classical terrorism to global terrorism, an American passenger jet exploded above the small Scottish town of Lockerbie in 1988. All 259 people on board and eleven people on the ground were killed. Much of the town was devastated. An Arab Libyan national who was known to have links with Colonel Gaddafi at the time claimed responsibility. Although no Arab leader has officially taken responsibility for the bombing, a number of sources link it to then American President Reagan who ordered an air assault on Libya in 1986, in retaliation for the bombing of a Berlin nightclub in which two American soldiers were killed. The attack on the city of Tripoli killed Gaddafi’s adopted daughter and caused outrage in the Arab world. This is seen to be the accelerant that ignited the new form of global terrorism.

The terrorist attacks that have received mass media attention in the new millennium include the Madrid train bombings in 2004, which killed 191 people and injured over 1,500 more. Although the Basque liberation organization -Euzkadi Ta Azkatasura [ETA] was initially held responsible later there was confirmation that Al-Qaeda were involved. It also includes the Moscow theatre siege in 2002, where 130 hostages were killed, and the Beslan school-siege in 2004, which killed 344 people, 186 of them children, with more than 700 injured (Speckhard, Tarabrina, Krasnov, & Mufel, 2005). The most recent terrorist attack to receive attention in Western society was the London bombings in 2005, which killed 52 people and injured over 700 (Rubin et al., 2005).
The Relationship between Contemporary Global Terrorism and the Mass Media

According to Nacos (2003) and Wilkinson (1997), the relationship between the mass media and contemporary global terrorism is a symbiotic one. In this context, symbiosis is taken to mean relations of mutual dependence between two different groups within a community when the groups are unlike each other and their relations are complementary. Each side uses the other to achieve its objectives. Terrorists exploit the media to achieve political recognition, transmit messages, and to induce fear, horror, and helplessness into the wider audience. It follows that the more catastrophic the terrorist event, the more the mass media will scramble to cover them in order to satisfy the desire of their audiences for dramatic “live” news stories. At the same time, and contingent on the particular audiences monitoring these news events, the mass media also aims to entertain, shock, amuse, or otherwise affect the emotions of people who monitor the news media. Competition among media organisations only heightens the importance of their ability to affect emotions over information provision. Those people who perpetrate terrorist acts understand such competition and carefully script and choreograph events to attract the coverage they want. The terrorists can do without the media no more than the media can resist the terrorist event, creating a mutually beneficial relationship, so that forces and pressure on one provokes reactions by the other in a dynamic interplay. The next section looks at the Bali bombing as an exemplar of this symbiosis.

The Bali Bombing Within an Australian Context

Australians are enthusiastic, frequent travellers. In 2003, there were 3.4 million short-term (less than 12 months) departures of Australians to overseas countries (Australian Bureau of Statistics, cited in Community for the Economic Development of Australia [CEDA], 2003).
Of those, 51% were Australians aged 30-53 years, with both genders equally represented. Apart from New Zealand, nearly half (47%) of all Australian short-term departures were to the UK, USA, and Indonesia. Over 18,000 Australians were visiting or travelling through the USA on September 11, 2001, and over 13,000 Australians were visiting Bali on October 12, 2002. In addition, there were an estimated 858,886 Australians living in other countries in 2001 on either a long-term departure (more than 12 months) status or as expatriates, which is equivalent to 4.3% of the 2001 resident population (CEDA).

The large Australian expatriate community reflects the increasingly mobile and global world in which we live (CEDA, 2003). Impediments to overseas travel and employment have increasingly been removed and most governments of advanced economies are facilitating the movement of skilled individuals across their borders. Australian expatriates are predominantly young. Some 52% are aged between 20 and 34 years, and overwhelmingly for this age group, their current destination is to the UK, USA, and Asia. Noteworthy is the fact that Australia has a very small population relative to other countries. As of July 2005, Australia is only the 54th most populated of 240 countries, and has an estimated population of only 20,090,437 (http://www.cia.gov/cia/publications/factbook/index.html). Yet, Australia has the greatest number of citizens who travel overseas to work, visit, or holiday than any other country (ABS, 2004). Moreover, in 2004, all overseas departures, irrespective of departure status, averaged 25% of the Australian resident population.

**The Bali Bombing**

The bombing of two bars in Kuta, Bali on October 12, 2002 killed 202 individuals, 88 of them Australian (Attorney-General’s Department, 2005). The Australian Broadcasting
Corporation has created a timeline of the Bali bombing and its aftermath, available on the web page: http://www.abc.net.au/news/indepth/bali/timeline/timeline.htm. Up to 110 seriously injured Australians were evacuated from Bali to Darwin and other cities around Australia and a further 86 less critically injured Australians underwent surgery first before flying back to Australia. There were more than 13,000 Australians holidaying in Bali at the time of the bombing and an unknown number of expatriates were advised to return home. To help bring home visitors and those not needing emergency care from Bali, three extra flights (i.e., 1,174 visitors) were scheduled following the bombing around 11pm Bali time.

Media discourse and anecdotal reports articulate that many individuals in Australia at the time of the attack felt as if the bombing was a direct attack on Australians, as October is a peak time for young Australians to holiday in Bali (Attorney General’s Department, 2005). It is the time of year for group tours and football club tours, and on that Saturday night there were members of at least seven Australian teams present at both the venues. Apparently, if you were under 30 years of age, Australian, and staying around the Kuta beach area, the Sari Club was the place to be. Most nights, thousands of partying Australian tourists would wander back and forwards across the 25 metres between the entrances of Paddy’s Bar and the Sari Club. The first explosion occurred shortly after 11pm at Paddy’s Bar. The second explosion occurred one minute later and could be heard at the International Airport four kilometres away with damage to housing occurring up to 750 metres away (Belsham, 2003).

**Significance of the Bali bombing for the Australian Psyche**

According to Wooding and Raphael (2004), despite Australia’s substantial history of both natural and human-made disasters such as Cyclone Tracey in Darwin (1974), the Granville rail disaster (1977), the Ash Wednesday bushfires (1983), and the Port Arthur
massacre (1996), the impact of the Bali bombing on the Australian collective and individual psyche was significant for various reasons. A key reason was that the majority of casualties and deaths were Australians. According to Norris et al. (2002), Raphael (1986), and Wayment (2004), the greater the number of shared characteristics between victim and indirect victim (e.g., race, nationality, age, gender, religion, & ethnicity), the greater the probability of indirect victims identifying with the direct victims, hence, the greater their distress reactions. A second reason was that it caused the greatest loss of Australian civilian lives in any peacetime disaster. The sense of bewilderment, loss, and collective grief that accompanied the bombing had not been seen in Australia since the days of World War II and Vietnam, and the bombing prompted national mourning and memorial services (Kell, 2002).

A third reason for the impact of the bombing on Australians was that the bombing occurred 13 months after the September 11, 2001 attacks. The timing of the bombing suggested a September 11 “anniversary” attack, which created a heightened sense of anticipatory anxiety, panic, and paranoia that an attack on Australian soil was imminent (Fealy, 2002). Expanding on the political relevance of the Bali bombing for Australia, authors such as McDonald (2005), Michaelsen (2005), and Smith and Jones (2004) suggest that the timing of the bombing also forced Government policy makers to reassess their risk perceptions and worldviews about peace in the region, international terrorism, and the relationship that Australia has with Indonesia as an Islamic state.

The fourth reason the impact of the bombing was significant was because a great proportion of the deaths and casualties were late adolescents enjoying a “rite of passage” into adulthood and families enjoying what was a safe and benign holiday “paradise” (Raphael, Dunsmore, & Wooding, 2004). In order to provide an accurate account of Australia’s
relationship with Bali, it is important to state that the construction of Bali as a safe and benign paradise was a Western creation, where Bali was initially on the receiving end of the displaced fears and desires of Europeans (Vickers, 1996). Specifically, the concept of Bali as a paradise was initiated by the Dutch to counter their colonial acquisition of Bali in the early 1920s, and the representation of Bali as “the island of the gods” was further cemented during the 1930s within artistic and academic spheres. Technological advancement within the aviation industry saw global tourist interest rapidly expand in the 1960s and Bali quickly became a cheap and safe holiday destination. Indeed, Australia’s close proximity to Indonesia saw it become the greatest exporter of tourists to Bali (Robinson & Meaton, 2005). Since then, the sustainability of tourism and, by association, economic growth and Hindu culture in Bali, has been substantially intertwined with Australian tourists.

Due to the high proportion of Australian tourists and the frequency with which many Australians travelled to Bali, Australia symbolically became the “new colonial ruler”, and a culture of dominance that coexists along side colonial empires emerged (Vickers, 1996). This sense of ownership was evident in media reports that were disseminated days after the bombing. For example, the New York Times published a photographic survey of front-page headlines in Australian newspapers on October 17, 2002 (cited in Fox, 2003a). The headlines discern the general themes that represented popularist Western discourse at the time of the bombing: TERRORISM ON OUR DOORSTEP (The Advertiser), TERRORISM STRIKES HOME (The Sydney Morning Herald), VICTIMS OF WAR and THEIR ONLY CRIME WAS TO GO ON HOLIDAY (The Daily Telegraph).

The final reason that the Bali bombing impacted significantly on the Australian psyche is related to the previous reason. The extensive and repetitive media coverage of the
bombing, subsequent terrorists’ trial, documentaries of survivors’ stories, and numerous memorial services in both Bali and Australia were unprecedented in scope. Fox (2003a) reported that three major world news agencies, Associated Press, Reuters, and Agence France-Presse had a quasi monopoly in providing representations of the bombing to the world. Specifically, these agencies provided most of the film footage for the vast majority of mainstream news media producers in Australia. From Fox’s perspective, the most striking aspect of the first days of graphic media coverage by Associated Press, Reuters, and Agence France-Presse was the sense of horror and chaos articulated through numerous “eyewitness” accounts that were essentially anecdotal descriptions of the same images and themes repeating themselves. These images and themes included horror and conflagration, rescue and hospital, damage and aftermath, security and investigation, and evacuation. It also included homecoming, official intervention, mourning, memory, and the “suspicious” at large. An example of such footage included “experts” (i.e., uninjured or semi injured tourist bystanders), who were questioned by reporters on the terrorist groups responsible. The camera would repeatedly cut (as it were) to a twenty-second pre-recorded footage of cars and buildings ablaze and horribly disfigured victims being shuttled to the nearby hospital. The two images in fact share only a diegetic relationship in the context of the “story”.

**Framing Terrorism: The Media Framing of the Bali bombing**

As noted by Fox (2003a,b), terrorist events are commonly understood through news “frames” that simplify, prioritise, and structure the narrative flow of events. A media frame can be conceptually defined as a central organising idea or story that provides meaning to an unfolding strip of events (Norris, Kern, & Just, 2003). The frame suggests what the controversy is about, the essence of the issue. Entman (1993) offered a more detailed
explanation of how media provide audiences with schemas for interpreting events. For Entman, essential factors are selection and salience. That is, “to frame is to select some aspects of a perceived reality and make them more salient in a communicating text, in such a way as to promote a particular problem definition, causal interpretation, moral evaluation, and/or treatment recommendation” (p.52). The framing and presentation of events and news in the mass media can thus systematically affect how viewers of the news come to understand these events. Media frames also serve as working routines for journalists that allow the journalists to quickly identify and classify information and to package it for efficient relay to their audiences. This concept of media framing can include the intent of the sender, but the motives can also be unconscious.

In Fox’s (2003a,b) analysis of framing terrorism and the media coverage of the Bali bombing, he argued that the early representations of the event set the parameters for subsequent coverage. In other words, the broadly Anglophone configuration of the bombing in terms of “the war on terror” achieved a considerable degree of hegemony, largely disarticulating alternative accounts of what happened and why. The speculations about al-Qaeda involvement and links to September 11 were repeatedly set against a backdrop of flaming cars, burnt-out buildings, and bloodied, charred, and dismembered bodies. However, little was know about the perpetrators of the bombing during this initial phase, and according to Fox, the highly disturbing images filled the “substance” gap in the framing process.

As with the unprecedented and graphic media coverage of September 11 in the USA, Fox (2003a, b) suggested that the Australian media coverage of the Bali bombing was ideologically driven. It was designed for psychological impact on all who identified with the victims. In other words, the composite images, repeated coverage of small chunks of graphic
images, “expert” opinions, and associated “anecdotal” reports did not depict the event as it happened. Rather, Fox suggested that the restoration of order from chaos is how the Australian media articulated an ideological version of the event to make it more palatable for us to identify with, take in, and digest. In further support for his argument that the Australian media’s representation of the Bali bombing was ideologically driven, Fox (2003a) highlighted two features of the bombing’s coverage by other countries.

First, Fox (2003a) noted the stark contrast between the “shock-and-awe” of the Bali bombing coverage in the Australian media and the “clinical sterility” of the American media coverage of the same film supplied by the three major media agencies. Second, he drew attention to the absence of the preponderance of graphic images and the strong articulation of Islamic fundamentalist’s involvement in both the European and Indonesian mass media. For example, in judging the disjuncture, Fox compared the respective photo galleries posted to the Indonesian newspaper Kompass and the Australian Sydney Morning Herald on the day after the bombing. Most of the small-sized pictures in Kompass depicted the physical destruction to property due to the bombing and minimised human damage. In contrast, Fox observed that the Sydney Morning Herald published many full-page pictures of bloodied victims and others either looking on from a distance or, occasionally, picking their way through the burning rubble with visible charred bodies and Australian flags and symbols.

**Implications of the Bali Bombing for Australian Researchers**

With the coverage of the Bali bombing by Australian media, the number of dead and injured Australians, and uncertainty of ongoing threats to national security, the Australian public and private sectors have become more aware of the need to understand the impact of global terrorism on Australian society. Although no extant research specifically relating to
the Bali bombing exists, two reports that include a section on the impact of the Bali bombing on Australians’ well being, are instructive to the current study.

One report is *The Bali Report* undertaken as supplementary qualitative research to *The Silent Majority IV* report by Clemenger Communications (2002). The fieldwork that forms the basis for *The Bali Report* was conducted on October 30 and 31, 2002. This was just two weeks after the Bali bombing. According to the authors of the report, the event was still front-page news with extensive TV coverage of the bombing and its aftermath.

A total of eight group discussions (*N* = 192) were conducted in Melbourne and Sydney and the groups comprised the following life stages: young singles, young couples, young family, older families, and empty nesters. Each life stage comprised a mix of men and women and ages across a broad social spectrum. The key findings were grouped under the heading “The demise of a safe haven”. The report commented on how people are disengaging from a broader agenda they feel they cannot control and focusing on their personal lives. This shift refers to a “concern collapse” effect, where, after several decades of Australian’s becoming more national and global, these have seen a return to the more personal and parochial. In line with this, the proportion of the population that were “very concerned” about global terrorism dropped from about 35% to just over 20%. Interestingly, the report highlighted how Australians have a clear idea that it is not within an individual’s control to prevent a terrorist attack from happening. Thus, the threat of global terrorism “has simply become a backdrop to our lives” (p. 40). The authors also report that Bali, like September 11, reminded Australians of “what is precious about life: the people you love and the people who love you” (p. 44), so reinforcing the personal focus. The report concluded
that the only discernible impact of the Bali bombing on those not directly affected was in the area of overseas travel and, that ultimately, Australians responded with resilience.

The second report was *The Wellbeing of Australians-The Impact of the Bali Bombing*, which forms part of the *Australian Unity Wellbeing Index Survey Report 5.0* by the Australian Centre on Quality of Life (ACQOL; 2003). The survey was undertaken from four to eight weeks following the Bali bombing. According to the report, prior to and during the period of data collection, there was intense media coverage of the event and its aftermath, including the mourning, funerals, biographies of the victims, and continued speculation regarding the probability of an attack on Australian soil. Security arrangements for major events and at airports were strengthened, guards were placed to protect national monuments, and the general atmosphere of the media was “sombre, dark with imagined menace” (p. 6).

The timing of the nationally representative sample (*N* = 14,638) was at a similar interval after the bombing as the author’s second survey that had followed the September 11 terrorist attack. The format and wording of the questionnaire was the same for both surveys, thereby allowing for a direct comparison of each event on the wellbeing of the Australian population.

To take the immediate effects of the Bali bombing, the report found no change in either the National or Personal Wellbeing Index since the last survey conducted in August 2002 (ACQOL, 2003). However, there were changes at the level of life domains, and these were in the expected direction. Within the Personal Wellbeing Index, the strength of satisfaction with personal safety decreased by 1.3 points, and within the National Wellbeing Index satisfaction with National security also decreased by 1.9 points since the last survey in August, 2002. One survey item showed particularly dramatic change. The item “satisfaction with your religion or spirituality” showed a marked 3.7 points increase. A number of possible reasons
were noted for the failure of decreased satisfaction with personal and national safety to change the value of the Indexes, as was the case for September 11 at the same point in time. Of particular importance to the present thesis, the report argued that the effects of terrorist attacks on wellbeing appear to build over months, and so the full impact of the Bali bombing may yet to be felt one to two months following the event. Linked to this point but offered as an alternative reason is that the unprecedented, graphic, and repetitive media coverage of September 11 may have triggered an adaptive response, such that people are now more prepared for these events, and less disturbed by them. The Bali bombing may have accentuated a process already under way. Similar to *The Bali Report* (Clemenger Communications, 2002), the authors also referred to the “concern collapse” effect as a possible reason that wellbeing was maintained following the Bali bombing.

The two surveys that followed both September 11 and the Bali bombing included questions about feeling sad when remembering the terrorist attack. The phrase “recent terrorist attacks in Bali” replaced “September 11 terrorist attack in America”. Over the 14 months since September 11, 2001, over 50% of the population reported feeling “sadder than normal” when recalling the terrorist attacks. This proportion had decreased from 90% to 50% in the months following September 11, but had been pushed back up to 76% two months following the Bali bombing. The authors of the report made two important observations. First was that the reduction in percentages indicates a process of adaptation to the attacks and may go some way to explaining the lower percentage of people responding that they felt sadder than normal when recalling the Bali bombing compared with the number immediately following September 11. If people had adapted to such feelings of sadness, this adaptation would be expected to generalise to another, catastrophic terrorist attack. Second was that
people may respond “Yes” to the question, as they are no longer reacting with pure emotion (e.g., anger, fear) to an immediate event. According to the authors, the process of event recall and evaluation adds a strong cognitive component, which becomes more evident with the passage of time. People’s reactions may, therefore, represent a mix of personal emotion and their need to produce a socially desirable response to a potentially traumatic event. If this interpretation is correct, the percentage of people who recall the Bali bombing with sadness will continue to decrease, but will plateau above zero.

Apart from the September 11-related American research that investigated the impact of a terrorist attack on individuals geographically distant to the event, few extant studies have investigated the impact of terrorism via the media on individuals residing in another country to that of America on September 11 (e.g., Linley, Joseph, Cooper, Harris, & Meyer, 2003 in Great Britain, & Taylor & Jenkins, 2004 in Australia). As the last three large-scale terrorist attacks have occurred in the three countries that are both the most highly populated in terms of the Australian expatriate community and the most popular tourist places for Australians (i.e., USA, Indonesia, UK), it is imperative that the effect of terrorism-related media exposure on the Australian population be comprehensively and systematically explored so that the empirical demonstrations of the effect can be accurately predicted. At the time of the current investigation, the threat of ongoing terrorist attacks continues to occur on a global dimension, with the increasing possibility of Australia being directly targeted (McDonald, 2005; Michaelson, 2005). Presently, no Australian database exists for recording the normal range of trauma responses to a large-scale terrorist attack in indirectly exposed groups. Therefore, it is crucial that Australia develops and fosters a research infrastructure that can gather this missing information from which to generate future decisions about mental health
responses to terrorism at a personal, collective, and political level on the basis of sound empirical and theoretical knowledge.

The next section briefly outlines two theories that have been employed in the second generation of terrorism research, which focused on the psychological impact of September 11: Appraisal-tendency theory and Terror Management theory. This is followed by the explication of psychoanalytic object relations theory, which is presented as an alternative and more comprehensive theory with which to understand the main concepts and research propositions under investigation.

**Theories of Response to Terrorism**

Empirical research on the psychological impact of terrorism prior to September 11 such as the Israel-Arab conflict (e.g., Slone, 2000) and Oklahoma City bombing (e.g., Pfefferbaum and colleagues, 1999; 2000; 2001; 2003) were not theory-driven. This was also the case for the early epidemiological surveys that investigated the psychological reactions of national representative samples of Americans to the September 11 terrorist attack (e.g., Ahern et al., 2002; Schlenger et al., 2002; Schuster et al., 2001; Silver et al., 2002).

Subsequent to this body of research, smaller scale theory-driven research has drawn predominately on two social and cognitive theories to guide their investigations and interpret their respective findings: Appraisal-tendency theory and Terror Management theory.

**Appraisal-Tendency Theory**

Appraisal-tendency theory was developed by Lerner and Keltner (2001), and is based on the cognitive appraisal theory developed by Lazarus and Folkman (cited in Lerner & Keltner). There are three kinds of appraisal: primary, secondary, and reappraisal. Primary appraisal assists an individual in judging whether an encounter is
irrelevant, benign-positive, or stressful. If stressful, further appraisal is necessary to
decide whether harm/loss, threat, or challenge is involved. Primary appraisal can be
summed up as, “what is at stake?” Secondary appraisal is a judgment concerning what
might and can be done. Reappraisal is based on new information. Both person and
situation factors affect appraisal. Personal factors are determination and belief. Beliefs
are of two types: control and existential. Situational factors include novelty and
predictability of events, temporal factors such as duration, ambiguity, and timing in the
life cycle. Both personal and situational factors affect various outcomes such as
confidence in life and self.

Two assumptions underlie Appraisal-tendency theory (Lerner & Keltner, 2001). One
assumption is that emotions trigger changes in cognition, physiology, and behaviour, which,
while designed to assist the individual respond to the event that evoked the emotions, often
persist beyond the eliciting situation. These emotion-related processes guide subsequent
behaviour and cognition in goal-directed ways, even in response to objects or events that are
unrelated to the original cause of the emotion. The second assumption is that emotions not
only arise from but also elicit specific cognitive appraisals. Emotions of the same valence
differ on multiple appraisal dimensions. These appraisals reflect the core meaning of each
event that elicits the emotion and determine the influence of specific emotions upon social
judgement. For example, fear and anger, although both negative, differ in certainty and
control dimensions. Whereas a sense of situational control and uncertainty defines fear, a
sense of individual control and certainty defines anger. Taken together, these two
assumptions suggest that each emotion activates a predisposition to appraise future events in
line with the central appraisal dimensions that triggered the emotion.
Lerner et al. (2003) applied Appraisal-tendency theory to the study of the impact of terrorism in an American national field experiment, which explored the effects of fear and anger on perceived risks of terrorism following September 11. The researchers found that fear significantly increased risk estimates and plans for precautionary measures whereas anger did the opposite. Experiencing more anger also triggered more optimistic beliefs. Consistent with the theory, the authors found that experiencing more fear triggered greater pessimism and these effects held across a range of risks both terror and non-terror related. All things constant, it holds that an angry country would endorse more reactionary responses to terrorism, whereas a fearful country would endorse more conciliatory responses.

**Terror Management Theory**

Terror management theory was developed by Pyszczynski and colleagues (e.g., Pyszczynski, Solomon, & Greenberg, 2003). The theory is based on principles taken from social psychology and cultural anthropology and has two underlying assumptions. First is that humans have an instinct for self-preservation and survival and all the biological structures of the brain that produce it, evolved, at least initially, to keep the human alive. However, unlike other organisms, humans possess intellectual capacities that make enable them to think and communicate in symbols, project themselves in time and imagine a future that has never happened before, and reflect back on themselves. Taken together these processes force humans to be painfully aware that one day they will die. This pairing of an instinctive desire for everlasting life with awareness of the inevitability of death creates the potential for unmanageable terror. The potential for terror puts a “press” on emerging explanations for reality. Second is that a dual component “cultural anxiety buffer” consisting of the cultural worldview and self-esteem, exists to manage the potential of terror. The
cultural worldview is a set of beliefs about the nature of reality shared by groups of individuals that provide meaning, order, permanency, stability, and the promise of a more literal and/or symbolic immortality to those who live up to the standards of values set by the worldview. In this theory, self-esteem is defined as an individual’s sense of how well he or she is living up to the standards or values prescribed by the cultural worldview. Increasing self-esteem or faith in one’s cultural worldview makes people less prone to anxiety, anxiety-related behaviour and less likely to have awareness of death-related thoughts.

Dunkel (2002) applied Terror Management theory to the study of the impact of terrorism on a sample of indirectly exposed adults Americans. The study explored the effect of September 11 on death anxiety and identity change. Somewhat counterintuitively, Dunkel initially hypothesised that individuals who have a well-formed identity should express a greater amount of fear when faced with the prospect of their own mortality salience. The results showed that mortality salience affected those individuals who actively engage in thinking about the self. Specifically, the effects of the September 11 terrorist attack on identity and ontological anxiety were examined using a terrorism salience approach. Reminders of the terrorist attack produced greater anxiety in those individuals exploring their unformed self-identity and less anxiety in those individuals who were not exploring and had well-formed identities. The results of the study suggest that terrorism was seen as an attack on one’s self, world, and cultural worldview assumptions and leads to an increase in a person’s level of death anxiety. To manage this existential anxiety and fear, Dunkel argued that people with well-formed self-identities resorted to greater pro-American attitudes, values, and beliefs and stronger Western cultural beliefs than people who had poorly-formed identities.
Rationale for Employing Object Relations Theory

Both Terror Management theory and Appraisal-tendency theory, as examples of social-cognitive frameworks, provide a basic perspective for examining the psychological impact of a large-scale terrorist attack. However, a social-cognitive model of the mind is a limited analysis of individual differences, as the methodologies inherent in the two theories draw on responses that involve explicit or conscious information processing. For example, the 150 or so relatively small-scale studies mostly of undergraduate students have not yet demonstrated that mortality salience happens for the very reason that Terror Management theory proposes, namely to alleviate unconscious fears of death. Research on unconscious information processing has suggested that much information about people is done unconsciously, as is true of information processing more generally (Kihlstrom, 2004).

The notion that most mental processes are unconscious is peculiar to psychoanalytic thinking (Westen, 1998). Although there are various schools within psychoanalytic discourse, all schools agree on the importance of the unconscious. Object relations theory was chosen as the theoretical framework for the present study as this theory underscores the internalisation of the relationship between the self and other. Relational capacity is a robust predictor of resilience (Rutter, 2000), so object relations can be said to speak directly and forcefully to the intrapsychic processes that purportedly underlie resilience. It also points to the importance of understanding unconscious schemas and representations that may be qualitatively different from schematic representations that are consciously accessible. For example, in studying Australians’ attitudes toward the Bali bombing, it is possible that researchers may uncover a self-schema that would have been totally disavowed after September 11: self as xenophobic.
Object Relations Theory

In recent years, psychoanalytic theory has seen a shift away from drives toward relations, with a greater emphasis on patterns of thought and emotions that underlie interpersonal behaviour (Greenberg & Mitchell, 1983). With this change in emphasis, object relations theory has emerged, which in broadest terms focuses on the nature and development of intrapsychic representations of self and other and on the cognitive and affective processes brought to bear on these representations (Westen, 1991). Object relations theory was developed primarily to explain phenomena observed in the treatment of highly disturbed individuals, whose pervasive difficulty maintaining social relationships appeared to reflect psychopathology more fundamental than maladaptive compromises among competing drive systems. The theory initially provided a way of understanding and treating these people who were previously outside the reach of orthodox psychoanalysis. It also has come to provide a valuable lens for viewing problems within contemporary culture such as the aestheticisation of computer-mediated communication (Curtis, in press).

An explication of object relations theory is complicated by the fact that the term “object relations theory” has been used in many different contexts (e.g., from broad & non-specific to narrow & restricted) and with a number of different connotations and denotations. For example, Greenberg and Mitchell (1983) broadly define object relations as an “individual’s interactions with external and internal (real or imagined) other people, and the relationship between their internal and external object worlds” (pp.13-14). In the context of their definition, object relations are thought to be a function of an individual’s relationship to the outer world and how cognitive and affective representations arising from this relationship
develop and establish a link between self and other. According to Greenberg and Mitchell, these representations are subjective and substantively influence how we interact with others.

Another broad definition of object relations is by Westen who states that they are:

The individual’s thoughts and feelings about people (social and “sexual” objects in psychoanalytic parlance, hence the term object relations). The cognitive representations of particular people (object representation), the wishes and emotions attached to these representations, and the fantasies and fears about the self and significant others have been seen as crucial in mediating interpersonal functioning. (1991, p. 430)

Kernberg (1976) opposes the use of the broad definition arguing that it threatens to deprive the term of its specificity of meaning, prevent the development of valid, empirical measures, and blur areas of theoretical disagreement. As such, Kernberg limits his usage to:

A more restricted approach within psychoanalytic metapsychology stressing the build-up of dyadic or bipolar intrapsychic representations (self- and object-images) as reflections of the original infant-mother relationship and its later development into dyadic, triangular, and multiple internal and external interpersonal relationships…What is important is the essentially dyadic or bipolar nature of the internalisation within which each unit of self- and object-image is established in a particular affective context. (1976, p.57)

In contrast to Greenberg and Mitchell (1983) and Westen (1990), Kernberg’s definition incorporates motivational aspects and posits that object relations originate in the preoedipal mother-infant relationship. It stresses the simultaneous build up of the self, which is a composite structure derived from the integration of multiple self-images and of object-representations or “internal objects”. In this psycho-structural conceptualisation, the self-object-affect unit or “unit of internalisation” is the primary determinant of the overall structures of the mind.
The Assumptive Framework of Object Relations Theory

Despite taking various forms, object relations theories share several assumptions (Greenberg & Mitchell, 1983; Westen, 1990). These include the prototypic assumptions that a continuum of development is isomorphic with a continuum of pathology and that the origin of severe pathology lies in the preoedipal period, which corresponds to the first three years of life. Another shared assumption is that there is discontinuity between the pre-Oedipal and Oedipal periods, such that certain phenomena (e.g., splitting and narcissism) are transcended by the Oedipal period. The basic framework also suggests that the term “object relations” assumes a unitary phenomenon or developmental line. This is assumed to be culturally invariant, presupposing an “innately unfolding ontogenetic blueprint” (Westen, 1990, p. 674). A final assumption is that clinical data from pathological adults is sufficient for constructing and evaluating a theory of object relations pathology and development.

Two other theoretical threads, which serve to connect clinical observations about cognitive-developmental phenomena, are supported by developmental research (Westen, 1990). First, the development of self- and object-representations emphasises increasing differentiation through childhood, adolescence, and well into adulthood. They reflect the progressive ability of people to make more refined, articulate sense of their own perspectives as distinct, separate to, and apart from the representations of others. Second, as a function of maturation, the representations of self and other become more complex, integrated, and ambivalent or multivalent. These guiding assumptions are axiomatic to most object relations theories, and are most clearly articulated in Kernberg’s (1975, 1976, 2001) theory of normal and pathological development. The theory of normal and pathological development of internalised object relations is now the focus of the explication. It is necessary to explain
object relations theory in a detailed way so as to demonstrate its implications for identifying potential intrapsychic correlates of adult resilience following a potentially traumatic event.

**Normal Development of Internalised Object Relations**

Kernberg’s (1975, 1976, 2001) psycho-structural theory attempts to integrate orthodox psychoanalytic drive theory with the ideas of British object relations, in particular the works of Fairbairn (1940) and Klein (1946), by reconceptualising the nature of internalisation. Specifically, by linking a “systems” model of psychological development that attempts to reconcile Freudian drive theory with Kleinian theory, Kernberg developed a general theory of cognition and motivation. Within this theory, three interrelated processes are posited as simultaneously emerging and developing: the intrapsychic structure, effective representations of the external world and of the self, and the instincts. These higher-order processes derive from a common source, the “unit of internalisation”.

**The Systems Model**

Kernberg (1976) proposed that the infant’s mental life is initially composed of undifferentiated physiological responses or “unit”, which he describes as “inborn perceptive and behavior patterns” (p.87). The units are critical for development of the psychic apparatus and are the precursors for interpersonal and intrapsychic relationships.

An object relations unit is an “early memory structure” of an event containing:

(i) the image of an object, (ii) the image of the self in interaction with that object, and (iii) the affective colouring of both the object-image and the self-image under the influence of the drive representative present at the time of the interaction. (Kernberg, 1976, p. 29)

Through the process of gradual differentiation and reintegration, the units of object relations give rise to still further developments: self-representations, object representations
and a drive motivational system. Drives are conceptualised as highly individualised and displaceable unconscious motivational systems, continuous in their motivational function. Consistent with Klein’s (1946) conceptualisation of drives, they are manifest only by their derivatives, namely representations and affects. As seen in Figure 1.1, the basic units of internalised object relations thus include the constituent affective component of the drives.

**Figure 1.1. Units of internalised object relations**

*The Affective Valence of Self- and Object-Representations*

Kernberg’s (1975, 1976, 1980, 2001) systems model of object relations proposes that affects are the primary motivations of behaviour. They include a fundamental communicative function in the mother/infant relationship, and that it is the integration of positive and negative affects that will form libido and aggression as supraordinate motivational systems or drives. Simultaneously, insofar as peak affective states organise
the internalisation of the relationship between self and objects in the form of affect-invested self and object representations, affects also contribute fundamentally to the organisation of an internalised world of object relations, eventually consolidated in the tripartite structure of the mind: id, ego, and superego. The id is conceptualised in the systems model as the sum total of repressed, desired, and feared primitive object relations. The gradual integration of successive layers of persecutory and idealised, prohibitive and demanding, internalised object relations becomes part of the superego. Internalised object relations activated in the service of defence consolidate as an integrated self-structure within the ego. In other words, the id or dynamic unconscious, the superego, and the ego are constituted by different constellations of internalised object relations, so that the development of the drives out of the constituent affects and the development of the psychic apparatus (i.e., the tripartite structure) out of the constituent self- and object-representations occur contemporaneously. Here, in Kernberg’s systems model, it is apparent that this proposed interrelationship of affects, self- and object-representations, and drives rejects the assumptions of incompatibility of drive theory and object relations theory and provides potential bridging functions with the neurobiology of affects (Greenberg & Mitchell, 1983).

Affects include a subjective experience of pleasure or non-pleasure that motivates the infant to move toward or away from a determinate stimulus or situation (Kernberg, 2001). Each affect includes a typical pattern of neurological and psychomotor responses, with expressive movements that communicate the affective state to the mother. It corresponds to the innate capacity of both infant and mother to read each other’s affective state. Here, Kernberg’s description of the “enigmatic” mother-infant communication is influenced by Bion’s (1962) idea of the mother’s capacity for reverie and the infant communicates by the
process of projective identification, which is an agglomeration of affective states (Curtis, 2000). Inborn affective responses that foster both the linking of early self-experiences with the pleasure giving object as well as the tendency to destroy those links under conditions of intensely experienced fear, danger, pain, or frustration. It is at the moment of peak affective states that self- and object-representations are linked and fixated in early memory structures and elaborated secondarily in unconscious phantasy. Affects removed of the object relations in the context of which they enter the psychic apparatus, cannot reflect, by themselves, the nature of unconscious phantasy, of motivations. Therefore, the libidinal and aggressive drives are formed, not simply by the accumulation and integration of affect states by themselves, but by the ongoing development of phantasised, feared, desired, idealised, and persecutory relations with significant internal and external objects.

The affective component, as an organiser of intrapsychic development, has what Kernberg (1976, 2001) refers to as a valence. By this he means that the affect has a charge or “filledness” that is binary in nature, being either pleasurable/good or un-pleasurable/bad. This valence colours all other aspects of the infant’s perceptions and is the means by which the infant’s intrapsychic experiences become organised in increasing complexity. Significantly Kernberg is not using the term “valence” as either a static electricity metaphor or a metaphor for the dynamic properties of a chemical valence, where opposite attract and like charges repel. A model consistent with the static electricity metaphor would insist that units of object relations of opposite valence attract. In contrast, Kernberg’s model posits that opposite charges initially repel (i.e., good & bad), and like charges attract (i.e., good & good). It is only in the later stages of intrapsychic development through the process of
splitting that opposite representations integrate. How such units of object relations are presumed to emerge from the physiological level is now the focus of the explication.

**The Internalisation Process**

The process of internalisation includes three components, each reflecting the normal situation at a particular developmental stage: introjections, identifications, and ego identity. All three components determine the degree of ego organisation. Normal development proceeds through the organising influence of the affective component within the units of internalised object relations, followed by their possible pathological disturbances and fixations at sequentially arranged developmental stages and junctures.

**Introjection.** The earliest, most primitive form of internalisation is introjection. It represents the internalisation of the least differentiated and organised self and object images in the context of the most violent, least modulated affective colouring. According to Kernberg (1976), it may be used for defensive purposes by the nascent ego or as a process of growth for the psychic apparatus. Similar to Bion’s (1962) idea of epistemophilic link and Klein’s (1930) concept of epistemophilic instinct, Kernberg argued that introjection was a specific and complex organisation of perceptions and memory traces that link “external” perception with the perception of primitive affect states representing drive derivatives.

**Identification.** The next level of internalisation is identification. It represents the internalisation of a moderate level of differentiation organised self- and object images in the context of less violent and more modulated affective colourings. This process can only take place when the perceptive and cognitive abilities of the child have increased to the point that it can recognise the social role of interpersonal interaction. It implies the presence of a socially recognised function that is being carried out by the object. The cluster of memory
traces implicit in identification comprises: the image of an object adopting a role in an interaction with the self, the image of the self more clearly differentiated from the object than in the case of introjection, and an affective colouring of the social interaction that is more differentiated and less intense than in introjection.

**Ego Identity.** The final level of internalisation represents the highest level of organisation. It refers to the overall organisation of introjections and identifications under the guiding principle of the synthetic function of the ego into self- and object-representations. This organisation implies a consolidation of ego structures connected with a sense of continuity of self and self in relation to others. Here, Kernberg (1976) refers to the self as being the organiser of the self-image components of introjection and identification now formed into representations. It also implies an overall conception of the “world of objects” derived from the organisation of the object-image components of introjections and identifications, as well as a sense of consistency in one’s own interpersonal relations that is intrapsychically confirmed by the influence of the reality principle.

Throughout Kernberg’s (1975, 1976) psycho-structural metapsychology, he emphasises that resilience and resiliency occur as a result of the successful organisation of the preceding three components and corresponding affective valence. Resilience is also built on “residuals of infantile omnipotence or narcissism, in other words, the conviction of one’s security, safety, and lovability” (1976, p. 68). In adulthood, it presents as a pragmatic and flexible ability to change, adapt, and transform one’s intrapsychic and interpersonal relationships, which are undergoing a state of flux and inconsistency in order that the “world of object” remain consistent with degree of ego organisation. In contrast, a person who experiences low resilience is unable to change or transform internal and external relationships and affective
valences when confronted with flux and inconsistency develops a sense of vulnerability.

Two important dynamic processes impact on the successful completion of the internalisation process: narcissism and splitting. These processes are now discussed along with a description of what happens to the processes when the normal developmental pathway is disrupted. Both normal and abnormal narcissism and normal and abnormal splitting have implications for identifying intrapsychic correlates of adult resilience in the face of a potentially traumatic event (PTE), as well as potential mediators of resilience, which are the focus of the second research aim.

**Normal and Pathological Splitting and Narcissism**

At a metapsychological level, narcissism refers to the libidinal investment of the self and to the vicissitudes of normal and pathological investment of the self with both libidinal and aggressive drive-derivatives, which are essential to the completion of the internalisation process (Kernberg, 2001). At a clinical level, narcissism refers simply to the normal or abnormal regulation of self-esteem. With regard to splitting, at a metapsychological level, it refers to the segregation of the mental representations of self and others, such that part rather than whole objects are formed. At a clinical level, splitting refers simply to the normal or abnormal tendency to see oneself and others as all good or all bad at any particular moment. Normal narcissism and splitting develop simultaneously with normal object relations, and abnormal narcissism and splitting with abnormal object relations. Thus, narcissistic investment and object investment occur simultaneously, and influence each other through the defence of splitting, so that one cannot study the vicissitudes of object relations without studying the vicissitudes of narcissism and splitting.
The clinical and metapsychological concepts of both normal and pathological narcissism and normal and pathological splitting are a major implication of object relations theory.

**Kernberg’s Object Relations Definition of Normal Narcissism**

The metapsychological definition of narcissism as the libidinal investment of the self, and the clinical definition of narcissism as normal or pathological self-esteem are related, in that, the self and its normal investment with libido assure the regulation of self-esteem (Kernberg, 2001). In other words, the regulation of self-esteem is assured by an integrated concept of self in contrast to a split or disorganised concept of self. This latter concept of the self leads to a sense of uncertainty and lack of capacity for internal wellbeing and resilience. One precondition of normal narcissism is an integrated sense of self, which together with an internal world of significant others, strengthens normal self-esteem. Another precondition of normal narcissism is the successful completion of the process of internalisation. Here, normal self-esteem is strengthened by an integrated representation of the self and an internal world of significant others whose representations we have internalised. A related precondition of normal narcissism is an integrated internal consciousness. Here, normal self-esteem is regulated by the ego ideal and super-ego that tell us we are doing all right, that you deserve to think well about yourself, and that you can be proud of your self. Normal self-esteem is also supported by our expressing instinctual needs (i.e., our sexual and aggressive impulses) in a socially sanctioned way. Thus, normal infantile narcissism followed by normal adult narcissism (i.e., normal self-esteem) allows us to be “creative, effective, genuine; successful in pursuing our chosen tasks, ambitions, and ideals” (Kernberg, p.2).
Normal narcissism implies the investment with libido in a normally integrated self that includes the actual, ideal, good, and bad self-representations, as these are integrated into total object relations in the development of object constancy (Kernberg, 1975). Here, Kernberg’s concept of the self sees the fundamental rejection of drive theory. He reserves the term “self” for “the sum total of self-representations in intimate connection with the sum total of object representations. In other words...the self [is] an interactive structure that originates from the ego and is clearly embedded in the ego” (1982, p. 900).

Kernberg (1982) goes on to state that the normal integration of mutually split-off internalised object relations requires that self-representations invested with libido predominate over those invested with aggression. Such integration of split-off internalised object relations implies an enlistment of aggression at the service of libido. Providing libido is the currency of the psychic apparatus, normal self-esteem regulation, hence narcissism, is guaranteed by the integration of the tripartite psychic structure that, in turn, is based upon such integrative processes within the ego and superego. Therefore, the first developmental task, in Kernberg’s account of psychological development, entails psychic clarification of what is self and what is other. In order for integration to occur, there must be successful differentiation of self and other. If this is not accomplished, no dependable sense of self as separate and distinct emerges and no reliable boundary can develop between internal and external world. Also, there is no clear distinction between one’s own experience and mind, and the experience and mind of others. A failure to accomplish this first developmental task is the defining feature of both the psychotic and borderline personality organisation. The DSM-IV-TR narcissistic personality disorder (NPD) is located within the borderline personality organisation. Although NPD is not the focus of
the thesis, the disorder’s phenomenology is drawn on to illuminate the propositions advanced in the thesis in relation to (a) how people high in narcissism experience their response to a PTE, and (b) the potential link between resilience and narcissism.

**Kernberg’s Object Relations Definition of Abnormal Narcissism**

There are many people whose internal value system or superego has remained at the developmental stage of normal infantile narcissism (Kernberg, 2004). Rather than progressing to seeing the self in relation to others in terms of such adult values as maturity, friendliness, compassion, and empathy, these people remain at the level of experiencing childhood values such as admiration, beauty, intelligence, and control. The absence of an adult superego and the dominance of infantile superego values create unconscious conflicts and symptoms, with a by-product being a fixation at infantile narcissistic values. This pathology manifests in a range of disturbances in personality and character such as the DSM-IV-TR NPD.

Abnormal or pathological narcissism implies a grandiose self as originally described by Rosenfeld (1971). This grandiose self reflects a condensation of the libidinal component of self and object representations, while the bad, devalued, and persecutory aspects of internalised object relations are split, dissociated, and projected (Kernberg, 1975, 1986a). Narcissistic grandiosity largely replaces object love that contains a genuine investment in others, a desire for their approval, and a capacity for gratitude and caritas. Nevertheless, unlike the psychotic personality, in most cases of pathological narcissism, there is still a search for relations with others that have a libidinal, if selfish, character. Also, the grandiose self is infiltrated with aggression, and this is reflected in a search for autonomy, power, and control at the expense of investment in genuine relations with others.
Kernberg (1975, 1986a,b) proposes a dynamic explanation of how the pathology arises. In the earliest stages of development, when self- and other-representations are differentiated from each other and therefore contribute to the development of reality testing and ego boundaries, severe frustrations with significant early objects bring about a refusion of the internalised self- and object-representations. This process allows the child to escape the conflict between the need for the external object and the fear of it. According to Kernberg, in the narcissistic personality, despite the refusion process, ego boundaries are stable and reality testing is preserved. At this point, there is a fusion of ideal self, ideal object, and actual self-representations as a defence against the intolerable reality in the interpersonal realm. There also is a concomitant devaluation and destruction of object-representations as well as of external objects. In their unconscious phantasies, these people identify themselves with their own ideal self-representations in order to deny normal dependency on external objects and on the internalised representations of external objects.

The normal tension between actual self on the one hand, and ideal object on the other, is eliminated by the build-up of an inflated self-concept within which the actual self and the ideal self and ideal object are confused (Kernberg, 1975, 1986a). At the same time, the derivatives of the unacceptable self-representations are repressed and projected onto external objects, which are then devalued. This process is in marked contrast to the normal differentiation between ideal self-representations on the one hand and ideal object-representations on the other, both of which represent the internalised demands of objects, as well as the gratification from these objects if the demands are met. The normal superego integrates the ideal self-representations and ideal object-representations. The tension
between actual self-representations and such ideal ones becomes a realistic tension between
the ego and superego.

In abnormal narcissism, the pathological fusion between ideal self, ideal object, and
actual self-representations prevents such integration of the superego, as the process of
idealisation is highly unrealistic. This unrealistic process prevents the condensation of such
idealised representations with actual parental demands and with the aggressively
determined superego prototypes. Moreover, actual self-representations, as part of the ego
structure, are now pathologically condensed with the prototypes of the superego, and,
therefore, they interfere with the normal differentiation of the superego and ego. Finally,
the superego components preserve a distorted, primitive, and aggressive quality as they are
not integrated with the libidinal aspects of the superego, which are normally drawn from
the ideal self- and object-representations. As there is so little integration with other
superego prototypes, the aggressive and primitive type of superego is easily reprojected in
the form of paranoid projections.

The following example illustrates the concepts articulated by Kernberg (1986a,b). A
person sees himself as being extraordinarily intelligent, beautiful, funny, and special. This
view of the self is a combination of three components. The first component is the ideal
object. The person has learned in childhood that this is the way he should be in order to
have his mother’s love. The second component is the ideal self. He also has learned that
another person, such as his father, whom he would admire and model himself after, would
be like this. However, he had given up on seeing his father in this way and took on this role
for himself. The third component is the actual self. The person viewed the self as being like
this in reality. His self-representation was that he was an extraordinary person. Here, the
actual self does not refer to how one is from an objective perspective. Rather, it refers to how one perceives or views oneself as being in relation to the external world.

Kernberg (1986b) goes on to state that the various characteristics of narcissistic personalities derive from the grandiose and pathological self. First and foremost, narcissistic personalities present with excessive self-absorption and resilience, usually coinciding with a “superficially smooth and effective social adaptation, but with serious distortions in their internal relationships with other people” (pp. 245-246). They present various combinations of contradictory traits, emotions, attributes, behaviours, and cognitions (e.g., feelings of inferiority may coexist with grandiose fantasies, shyness, and arrogance). Their main interest in others is in gaining admiration and praise so as to shore up their fragile self-esteem. They have little interest in others and turn against others if those people criticise them. They also lack empathy, as the internal experience of the other person has no relevance to their interests. The capacity for contradictory states to coexist without affecting each other is reflected in the predominance of the splitting mechanism.

**Overt and Covert Narcissism: Two Sides of the Same Coin?**

Kernberg’s (1975, 1976, 1986a,b) metapsychological account of narcissism does not distinguish between types of narcissism. Rather, he argues that the constant shift in balance to one side or the other (i.e., balancing grandiosity & sense of superiority against a deep sense of inferiority & self-abnegation) determines the predominance of “inflated” or “deflated” dimensions. This contradictory sense of narcissistic self-esteem, as well Kohut’s (1971,1977) self-psychology account of narcissism, which holds that abnormal narcissism reflects the fixation of an archaic normal primitive self, has lead researchers to variously postulate the heterogeneity of narcissism (e.g., Dickinson & Pincus, 2003; Fossati et al.,
2005; Rathvon & Holmstrom, 1996; Rose, 2002; Wink, 1991,1996). Although these researchers generally agree on the multidimensional nature of narcissism, there is considerable controversy about whether these dimensions reflect different components or phases of narcissism as opposed to distinct clinical entities or types.

Wink (1991) argued that overt and covert forms of narcissism are distinct personality types. In a factor analysis of six narcissism scales from the Minnesota Multiphasic Personality Inventory (MMPI; Hathaway & McKinley, cited in Wink), Wink found evidence for two orthogonal narcissism factors, which he labelled Grandiosity/Exhibitionism and Vulnerability/Hypersensitivity. Both factors correlated significantly with self-report and observer ratings of certain narcissistic features such as hostility and impulsivity. Other narcissistic features differentiated the two factors. The Grandiosity/Exhibitionism factor correlated with self-report and observer ratings of egocentricity, extraversion, and self-confidence. In contrast, the Vulnerability/Hypersensitivity factor correlated with self-report and observer ratings of self-effacement/abnegation, introversion, and dissatisfaction.

In a subsequent factor analysis of the Narcissistic Personality Inventory (NPI; Raskin & Hall, 1979) and five narcissism scales from the revised MMPI (MMPI-2; Butcher, Dahlstrom, Graham, Tellegen, & Kaemmer, cited in Wink, 1991), Rathvon and Holmstrom (1996) also found evidence for two orthogonal narcissism factors, which they labelled Grandiosity and Depletion. The pattern of correlations between these two factors and MMPI-2 clinical, supplementary, and content scales largely replicated Wink’s (1991) findings. Both factors correlated positively with scales indicative of hostility and impulsivity. The Depletion factor correlated with all ten clinical scales, with the strongest
correlations occurring for scales 2 (Depression), 6 (Paranoia), 7 (Psychasthenia, 8 (Schizophrenia), and 0 (Social Introversion). In contrast, the Grandiosity factor correlated positively with scale 9 (Hypomania) but negatively with six of the clinical scales, with the strongest negative correlation occurring for scale 0 (Social Introversion). Individuals with high scores on the Depletion factor exhibited an 87/78 (Schizophrenia/Psychasthenia) MMPI-2 profile, which is indicative of subjective distress and alienation. In contrast, individuals with high scores on the Grandiosity factor exhibited a 98/89 (Hypomania/Schizophrenia) or 96/69 (Hypomania/Paranoia) profile, which is indicative of egocentricity, grandiosity, and hostility. The common set of characteristics shared by these two factors is consistent with Kernberg’s (1986a) notion of narcissism as a defence against depression and rage (i.e., alternating phases), whereas the unique set of characteristics associated with each factor is consistent with the notion of distinct types of narcissism as articulated by certain psychoanalytic theorists (e.g., Masterson, 2000).

Other researchers have explained the distinction between overt and covert narcissism in a different way. Watson, Varnell, and Morris (1999-2000) developed a hypothesis that suggests narcissistic personality features vary along a continuum of adjustment. From this perspective, features of covert narcissism may lie toward the maladjusted end of the continuum, whereas most features of overt narcissism may lie toward the more adjusted end of the continuum. Consistent with the continuum hypothesis, researchers have noted that some aspects of narcissism are more strongly related to psychological wellbeing than other aspects (Rose, 2002; Sedikidis, Rudich, Gregg, Kumashiro, & Rusbult, 2004).

Measures of overt narcissism sometimes correlate positively with high self-esteem, resilience, and optimism, and correlate negatively with depressive symptoms (Rathvon &
Holmstrom, 1996). Indeed, Curtis (1998) found a strong positive correlation between overt narcissism using the MMPI-2NPD scale developed by Somwaru and Ben-Porath (cited in Curtis) to measure DSM-IV NPD, which emphasises the overt presentation of narcissistic pathology, and two self-esteem domains: self-liking and self-confidence. Curtis then proposed that overt narcissists are considered relatively high on agency but low on communion. That is, narcissistic self-esteem may derive more from self-perceptions of competence than from self-perceptions of likeability. Curtis argued that if so, then, the self-confidence dimension of self-esteem should emerge as a more potent mediator of the relations between narcissism and psychological health than the self-liking dimension. However, Curtis found that overt narcissists derive self-esteem by considering the self both very competent and very likeable. Both dimensions mediated the link between overt narcissism and psychological health. Moreover, overt narcissism is an outwardly directed comparison with others in which one sees oneself as having power over others (Zondag, 2004). This dispersal manifests as the appropriation of executive skills, the ability to influence others, and the gratification derived from being the centre of attention. Contradictory views of the self but not the object are held in awareness simultaneously by splitting (especially self-representations). The key feature is a belief of self-grandiosity.

In contrast, measures of covert narcissism, on the other hand, tend to correlate positively with measures of anxiety, depression, and vulnerability (Rathvon & Holmstrom, 1996). Indeed, Rose (2002) argued that covert narcissists are self-effacing, lack resilience, and possess little confidence in life and self. Covert narcissism is an inwardly directed comparison with others in which one sees others as having power over self (Zondag, 2004). This location manifests as the experience of being ruled by others, hypersensitivity,
emptiness, and isolation. Contradictory views of both the self and object are held in awareness simultaneously by the process of splitting (both self- & object-representations). The key feature is a desire, wish or fantasy of obtaining self-grandiosity.

These findings suggest that overt narcissism has at least some adaptive properties, whereas covert narcissism is primarily maladaptive. This is consistent with Kernberg’s (1984, 1986a,b) notion that those people high in grandiose beliefs may not present seriously disturbed behaviour. Rather, they have good surface adaptation and resilience, with very little awareness of any emotional pathology except for a chronic sense of boredom, lack of personal commitment, and incapacity for emotional investment in others. In both cases there is an unconscious dependence of the self on the object. Overt and covert narcissism are conceptualised as two independent dimensions. That is, the presence of one form has nothing to do with the presence of the other. Indeed, a theoretical understanding of the relationship between the dimensions holds that a person can be both overtly and covertly narcissistic, both can be absent, or one of the two can predominate.

A particular pathology of narcissism is the NPD, which is the prototype of pathological narcissism. It is a major source of pathology with about 30% of all people with significant personality disorders having such pathological features (Kernberg, 2004). This is one area where psychoanalysis has made a significant contribution to the understanding of personality disorders and their treatment. According to the atheoretical, descriptive DSM-IV-TR, NPD reflects a pervasive pattern of grandiosity, both in fantasy and belief, a need for admiration and a lack of empathy that is present across a variety of contexts. This pattern is indicated by five or more of the following symptoms: grandiose self-importance, preoccupation with fantasies of unlimited success, power, beauty, or
brilliance, a belief in being special or unique, a need for excessive admiration, and a sense of entitlement. It also includes being interpersonally exploitative, unempathic, envious of others (or belief that others are envious of the person), and with associated arrogance, haughty behaviours, and overly (i.e., pseudo) positive psychological attitudes.

Not all theorists, clinicians, and researchers agree with all aspects of the DSM-IV-TR definition of NPD, as it places excessive emphasis on the overt, grandiose, exhibitionistic qualities of the self (Dickinson & Pincus, 2003, Fossati et al., 2005). In fact, many persons appropriately diagnosed with a NPD maintain grandiose fantasies at unconscious or preconscious levels, being aware only of self-effacement, self-abnegation, shyness, feelings of unworthiness, and fears of exhibiting themselves. At times, and only after some period of treatment, do unconscious fantasies of omnipotence and narcissistic grandiosity surface. The presence of extreme contradictions in their self-concept ranging from superiority to inferiority, and the person’s apparent lack of concern over these fluctuating self-representations is often the first evidence of the pathology in their ego and superego.

The discussion now focuses on Kernberg’s account of normal and pathological splitting. Similar to the explication of narcissism, the purpose here is to highlight salient points that relate to the aims and objectives of the thesis. Specifically, the explication provides support for the second research aim, which explores the relationship of adult resilience to particular intrapsychic processes that may operate as mediators between object relations and resilience and narcissism and resilience.

**Defence Mechanisms**

There are three broad classes of coping mechanisms (Cramer, 2000, Vaillant, 2000, 2003). First, there are the ways in which a person elicits help from relevant others. This is
known as social support. Second, there are conscious cognitive strategies that people intentionally employ to facilitate a successful outcome. Third, there are unconscious mental mechanisms. This third, unconscious class of coping mechanisms reduces conflict and cognitive dissonance during sudden changes in internal and external reality. If sudden changes are not altered, they can result in disabling anxiety. Such mental defences protect us from sudden changes in four areas of conflict: affect/impulse, reality, relationships, and social learning. Unconscious coping mechanisms can abolish impulse (e.g., reaction formation), alter reality (e.g., dissociation), change relations (e.g., splitting, introjective & projective identification), and enhance social learning (e.g., sublimation).

**The Link Between Defence Mechanisms and the DSM-IV-TR**

For semantic consistency, the DSM-IV-TR has labelled these mental mechanisms “defences” and defines them as “automatic psychological processes that protect the individual against and from awareness of internal dangers or stressors” (APA, 2000, p. 807). Defence mechanisms mediate the relationship between the internal world (i.e., units of internalisation) and external world (i.e., reactions to emotional conflicts or traumatic events). The interest in the importance of the unconscious mental mechanisms in psychiatric and psychological discourse has been signalled by the DSM-IV-TR. This signalling is somewhat ironic given the recent edition of the manual is an atheoretical, descriptive, and phenomenological classification system. Indeed, defence mechanisms were to be included as one of the several diagnostic categories in DSM-III (APA, 1980), but this plan was abandoned “because defence mechanisms implied unconscious aetiology” (Vaillant, 1984, p. 544). Historically, the DSM system has focused upon the person’s pathology and has tended to ignore the person’s strengths. Recognition of this limitation by
DSM task forces led to the proposed addition of a glossary of consensually validated definitions of specific defences in DSM-III-R (APA, 1987). Then in 1994, a new Axis VI labelled the “Defensive Functioning Scale” was proposed in DSM-IV that would delineate adaptive defence mechanisms as part of the scientific paradigm of the DSM system.

Defence mechanisms are ordered on a continuum, differing in degree of maturity (Cramer, 2000; Vaillant, 2000, 2003). In adulthood, defences are hierarchically ranked, with the most mature ranked at the top of the hierarchy, and the less mature defences at the bottom. In the DSM-IV-TR, the individual defence mechanisms are divided conceptually and empirically into seven related groups that are referred to as “Defence Levels”. All seven groups are effective in defusing conflict and mitigating anxiety and fear in the short-term. They differ greatly in the psychiatric diagnoses assigned to people who use each of the groups and in their consequence for long-term biopsychosocial functioning.

Level 1 is the most pathological and primitive category and is labelled “Defensive dysregulation”. Its mechanisms are found in children, dream material, and psychosis (e.g., psychotic denial). More common to everyday life are the relatively maladaptive defences found in levels 2-5. Defences in these categories are common in adolescents, immature adults, and people with Axis II personality disorders (Vaillant, 2003). The splitting defence and its associated defence “projective identification” are located in the level 3 group of the DSM-IV-TR Defensive Functioning Scale. Labelled “Major image-distorting”, this level is characterised by distortion and misattribution of self- and object-representations. Those defences in level 6, which is labelled “Mental inhibitions”, are most often associated with Axis I anxiety disorders and the psychopathology of everyday life. These centre on repression and its related mechanisms (e.g., intellectualisation, displacement) as delineated
by A. Freud (1946) and expanded on by the American school of Ego Psychology. According to Vaillant they are neither healthy nor unhealthy. Labelled “High adaptive”, level 7 are the mature defences. These allow for the preconscious awareness of feelings, ideas, and their consequences. Relationships in the external world are still altered, however, the alterations are achieved gracefully and flexibly. It includes anticipation, altruism, humour, and suppression. According to Vaillant, resilience as it is defined in the third wave of resilience inquiry is epitomised by level 7 of the Defensive Functioning Scale.

Kernberg’s Object Relations Definition of Normal Splitting

The term “splitting” has a long and complex history is psychoanalysis. For cogent reviews of the splitting literature, in particular the seminal ideas of Freud (1938), Fairbairn (1940), Klein (1946), and Bion (1962), to which Kernberg deferred, the reader is referred to the salient papers by Grotstein (1997), Lichtenberg and Slip (1973), Lustman, (1977), Pruysen (1975), and Ross and Dunn (1980). The concept has much relevance to contemporary psychoanalytic and psychological discourse due to both Kernberg’s (1975, 1976) and Kohut’s (1971, 1977) divergent and influential work on narcissism.

The meaning and usage of splitting in psychoanalytic discourse can be considered under four headings: splitting as a general organising principle, splitting and the organisation of mental contents in infantile life, the defence mechanism of splitting of self- and object-representations, and splitting of self- and object-representations as a factor in pathological intrapsychic structures such as the ego and superego (Lichtenberg & Slap, 1973). Subsumed under these four headings are the many complex types of splitting. These include vertical and horizontal, porous and rigid, molar and molecular, active and passive, fragmented and coherent. According to Grotstein (1997), these many complex types of
splitting can be systematically grouped into four types based on two discriminations: a splitting of the object or of the ego, and a coherent split or a fragmenting one. The four possible types of splits are: a coherent split in the object, a coherent split in the ego, a fragmentation of the object, and a fragmentation of the ego. The current thesis only considers the “splitting of representations” and “coherent split in the ego and object” configurations, as these types were the sustained focus of Kernberg’s metapsychology and they can be tapped more accurately by self-report methodology (Greene, 1996).

Kernberg (1975, 1976) used splitting in the restricted sense to mean the active keeping apart of self- and object-representations in instances in which two differing currents of strong feelings toward an object would arouse anxiety if experienced simultaneously. The one affective current, and the self-representation related to it, is experienced toward one object while the opposite current is linked to a separate object-representation. Kernberg continues this delineation without further conceptualisation.

Although Kernberg (1975, 1976) restricts his definition to include only the invariant elements of the unit of internalisation, he frequently alerts us to the ubiquitous nature of splitting in everyday life. As such, splitting, as a general organising principle, will be briefly mentioned. In the affective, cognitive, and phenomenological sense, an act of discriminative separation is involved. In other words, normal splitting is the basis for the faculty of discrimination and flexible and pragmatic thinking reflective of resilience. The ability to pay attention and to suspend emotion to form an intellectual judgement would not be possible without the capacity for temporary, reversible splitting. Normal splitting serves to ward off anxiety aroused by the synthesis of contradictory perceptions and is connected with modulated forms of persecutory anxiety and idealisation.
In her introduction to the works of Klein, Segal (1964) states that some degree of persecutory anxiety is a precondition for being able to recognise, appreciate, and react to actual situations of external danger. The relationship to a good or positive object usually contains a degree of idealisation, and this idealisation persists in many situations such as forming intimate attachments, appreciating aesthetics, and forming cultural, social, and political ideals. Indeed, Klein (1946) suggested that splitting is a general phenomenon and that all of us are “liable at times to a momentary impairment of logical thinking which amounts to thoughts and associations being cut off from one another and situations being split off from one another; in fact, the ego is temporarily split” (p.14).

Examples of defensive splitting in everyday life include school bullying, racial bias, xenophobia, homophobia, stereotyping, and ethnocentrism (Kernberg, 2003a,b; Twemlow, 2000; Volkan, 1997, 2002). In this framework, splitting serves to defend against feelings of inadequacy and vulnerability aroused through the assimilation of opposite schemas and representations regarding the self. Splitting in these contexts acts to split off and project into others (typically those who challenge our self-identity) feelings of self-abnegation, self-effacement, and low self-esteem and worth. Therefore, the negative feelings about the self and the positive aspects of others are negated in favour of a “good me-bad you” dichotomy. We also see the reverse of this, where minority groups see the self as bad while the dominant group, as the other, is idealised.

Normal defensive splitting also occurs during stressful periods, particularly when that stress is related to a threat to the self-concept. For example, it would be expected that the Bali terrorist attack that was directed at Westerners in general and Australians in particular would threaten an Australian’s self-concept of “a citizen of a nation who is not involved in
terrorism”. As such, the person is likely to temporarily split their experience of the event leading to a perception of him/herself as “all good” and the terrorists as “all bad”.

According to object relations theory, this temporary splitting of experience is reversible once the experience has been effectively managed. Splitting would also be expected to occur during stressful periods largely unrelated to the self-concept, however, since stress is an embodied experience, it would nonetheless be in some way associated with the self.

*Kernberg’s Object Relations Definition of Abnormal Splitting*

So far we know that Kernberg (1975, 1976) formulated two main propositions relating to the ontogeny of object relations. The first holds that introjections, identifications, and ego identity are three levels of the process of internalisation of object relations in the psychic apparatus. The second holds that all these processes of internalisation consist of three basic components: object-images and object-representations, self-images and self-representations, and drive derivatives or dispositions to specific affective states. Kernberg now introduces a third proposition. He suggests that the organisation of the processes of internalisation takes place first at a basic level of ego functioning, in which splitting is the crucial mechanism for the defensive organisation of the ego. Later, a second, advanced level of defensive organisation is reached, at which repression replaces splitting as the central defence mechanism. The degree of ego, as well as superego, integration and development depends on the degree to which repression and its associated defences have replaced splitting and its associated lower level defences.

*The Experience of Splitting and the Splitting of Experience*

The ontogeny of abnormal splitting is as follows. Splitting of representations is a defence that appears early in cognitive development. Like other defences it depends on the
presence of certain cognitive abilities. For example, it requires the ability to perceive and register images in the context of affective experiences. At first, in the early, more passive, stages of defensive activity, the use of splitting as a defence may be conceived of as the result of relative immaturity (or an easy regression) rather than as an active process. With further maturity, the ego, as agent, is easily able to perceive relatively non-conflicted objects as a totality. It is only when the object becomes the target of intolerable ambivalent trends that its representation is split. In this context, ambivalence refers to the simultaneous existence of contradictory strong feelings, attitudes, impulses, and motivations toward an object. Ambivalence is thus a broad experiential concept, not one limited to the drive conception implied in a strict view of “valences”. A realistic sense of perception, then, requires the integration of ambivalent experiences across time. If this is impaired, unrealistic and at times dramatic overreaction to the experience of the moment occurs. Although the segregated affect states and related representations of self and others are accessible to consciousness at different times, neither side of the ambivalence is securely repressed or consistently denied. The fact that only one side of the ambivalence is present in awareness at a given moment precludes the realistic integration of the experience.

By contrast, repression is the central defence mechanism of the ego at a later stage and consists of a rejection of an ideational representation or impulse, or both, from the conscious ego. Repression and its associated defences consolidate and protect the contents of the ego and contribute structurally to the delineation of ego boundaries. As a result of this process, the affective valences provide a source of neutralised energy that can be used to create counter-cathexes. They also repress anxiety-provoking self-and object-representations from consciousness.
**Vertical and Horizontal Splitting**

As seen in Figure 1.2, in structural terms, the dynamic of repression preserves the contents of the ego due to a split in the horizontal plane *between* conscious and unconscious (Kernberg, 1974). Here, the grandiose self-representations are repressed, leading to diminished self-esteem and a lack of confidence in life and self. In contrast, in the dynamic of splitting, the structural split occurs in the vertical plane *through* conscious and unconscious. Here, contradictory and concurrent attitudes toward the self are separated by means of disavowal leading to an overt omnipotent and omniscient self. These fluctuating, contradictory self-representations may be partially explained by the presence of both vertical and horizontal splitting operating independent of each other, as more than one defence operates contemporaneously a structural split between a better structured, more adaptive and resilient self, and a fragmented, more pathological and less resilient one.

*Figure 1.2. Vertical and horizontal splitting of self-representations at conscious and unconscious levels and the defence mechanisms maintaining the barrier.*
When the grandiose self-representations are present predominately in a repressed state, the characteristics are that of narcissistic deficiency and lack of resilience (i.e., covert narcissism). In contrast, when the grandiose self is excluded from the reality of the psyche by disavowal, the characteristics are that of narcissistic grandiosity but reasonably good surface adaptation. Importantly, the grandiose self is said to be present in consciousness. However, the individual’s overt attitudes are inconsistent and contradictory. On the one hand, they are intemperately assertive regarding their grandiose beliefs. On the other hand, since they harbor (in addition to their conscious but split-off grandiosity) a silently repressed grandiose self that is located in the unconscious by a horizontal split, they manifest attitudes which resemble the covert variant but which are strongly at variance with the openly displayed grandiosity. While a vertical split in the psyche is frequently seen in people with narcissistic disturbances, a horizontal split in the psyche is always present, either alone, or in combination with a vertical split (Goldberg, 1999; Grotstein, 1997).

Summary of the Chapter

The first section of this chapter overviewed contemporary terrorism. The second section gave an account of the Bali bombing and discussed its relevance for Australia in socio-cultural and psychological contexts. It was argued that the impact of the Bali bombing on the Australian collective and individual psyche was significant for a number of reasons, which included identification with the victims, a significant loss of Australian lives, and the extensive and repetitive media coverage of the event and its aftermath.

The third section of this chapter outlined two socio-cognitive theories that have been employed in previous terrorism-related research: Appraisal-tendency theory and Terror management theory. It was then argued that object relations theory has more utility as a
framework for understanding the intrapsychic processes that predicate adult resilience following exposure in the media to a large-scale terrorist attack. Kernberg’s (1975, 1976, 2001) psychostructural theory was presented as an exemplar of object relations theory. Emphasis was given to the unit of internalisation (i.e., self-representation, object representation, & affective valence) in the normal development of internalised object relations. Emphasis was also given to two axiomatic constructs of object relations: normal and pathological narcissism and normal and pathological splitting. It was argued that normal narcissism implies the investment with libido in a normally integrated self that includes the actual, ideal, good, and bad self-representations, as these are integrated into total object relations in the development of object constancy. Abnormal narcissism implies a grandiose self, which reflects a condensation of the libidinal component of self and object relations, while the bad, devalued, and persecutory aspects are split, dissociated, and projected. Likewise, temporary, reversible splitting of representations is adaptive whereas pervasive splitting is maladaptive. This section concluded with an outline of two variants of splitting and narcissism that have implications for understanding individual differences in the potential association between resilience-trauma response: overt and covert narcissism and vertical and horizontal splitting. Vertical splitting leads to the presence of contradictory self-representations on the basis of disavowal. Then there are horizontal splits, which lead to a separation between the reality ego and the infantile ego on the basis of repression.

The next chapter explores the potential link between media exposure and trauma response following the Bali bombing. It also reviews the empirical literature relating to previous large-scale terrorist attacks with particular focus on a set of studies relating to the Oklahoma City bombing and the epidemiological surveys relating to September 11 2001.
CHAPTER 2

TRAUMA RESPONSE AND MEDIA EXPOSURE

Chapter 2 explores the proposed link between media exposure and trauma response and is organised into two sections. The first section examines trauma response and provides a conceptual framework for understanding the psychological impact of a traumatic event. It then describes the core psychological responses to a traumatic event and outlines the delineated trauma exposure subpopulations. The second section reviews research on the link between media exposure and trauma response in relation to a large-scale terrorist attack. The first set of studies related to the Oklahoma City bombing (Pfefferbaum & colleagues, 1999; 2000; 2003). This is followed by a review of four epidemiological surveys that investigated the psychological effect of September 11 on indirectly exposed adults that established a bivariate link between media exposure and trauma response (Ahern et al., 2002; Schlenger et al., 2001; Schuster et al., 2002; Silver et al., 2002).

Conceptual Framework for Trauma Response

A traumatic event is defined by its capacity to evoke fear, helplessness, or horror in the face of threat to life or serious injury (American Psychiatric Association, 2000). One major component of all traumatic events is disruption of the experience of safety. Traumatic events can occur at the individual, group, or community level. They are typically divided into two groups: those that are human-generated (i.e., a motor vehicle accident) and those that are natural (i.e., a hurricane or bushfire). In most Western cultures, apart from individuals exposed to intentional events (i.e., assault, rape), such disasters are seen as accidents or unavoidable aspects of living in this world and do not disrupt cultural assumptions about social values or practices (Janoff-Bulman, 2006). The recent emergence of catastrophic
large-scale terrorist attacks is the exception to this assumption (Fullerton, Ursano, Norwood, & Holloway, 2003). Unlike natural and technological disasters, terrorist attacks are unique in that they are human-generated, intentional, and interpersonally violent. They also alter basic societal infrastructures, cause national bereavement and loss of confidence in institutions, and target the global media in order to inculcate fear, terror, and intimidation into the wider audience-at-large. Impact of an event is the moment of trauma or stressor occurrence.

As a type of traumatic event, a large-scale terrorist attack is seen to be associated with the highest risk of psychological sequelae as it has high perceived threat, low controllability, no predictability, high threat of repeat attacks, and high loss of life (Fullerton et al., 2003). From the available data, however, there is lack of consensus as to whether the major determinant of psychological sequelae is the magnitude, scope, and catastrophe of the event or to the intentional and unpredictable nature of the event (North & Pfefferbaum, 2004). Irrespective of what aspect is the strongest contingent, rigorous empirical research requires a firm operational definition of a traumatic event.

Numerous stress response models and conceptual frameworks of trauma response have appeared that emphasise cognitive processing components (e.g., Carlson & Dahlenberg, 2000; Horowitz, 2001; Janoff-Bulman, 1992, 2006). According to Horowitz, Kernberg, and Weinshel (1993) cognitive processing models of trauma response dovetail well with psychoanalytic theory as both are based on the assumption that information about past experiences, current world-views, and expectations about future events are contained in mental schemas or representations. These cognitive models enumerate different ways of managing a traumatic response ranging from the vulnerability model to the resilience model. In the vulnerability model, focus is on the constructs of posttraumatic stress and
posttraumatic growth (e.g., Foa et al., 2005; Tedeschi & Calhoun, 2004; Yehuda, 2005). Contrasting this is the recent resilience model (e.g., Bonanno, 2004, 2005). Both ways of managing trauma need to be considered in any empirical investigation. To fully understand trauma response, it is necessary to first look at what makes an experience traumatic and how a traumatic event is remembered. Emphasis is given to the core responses that most people use to cope with and adjust to the experience of a potentially traumatic event (PTE).

**Trauma Response**

Although most people do not live without a certain level of stress and uncertainty, an acute or sudden event that fulfils the criteria for a traumatic event is not a daily experience in most individuals’ lives (Bonanno, 2004). Some individuals never experience the most serious levels of trauma. Yet, the majority of individuals do experience at least one traumatic stressor and a large number experience more than one traumatic stressor during their lifetime (Brewin, Andrews, & Valentine, 2000). Indeed, research indicates that approximately 60% of the population experience at least one traumatic event during their lifetime (Ozer, Best, Lipsey, & Weiss, 2003). Of those 60%, approximately 58% recover within nine months, around 25% remain unrecovered for years following the event, with only 5%-10% going on to develop the full range of PTSD symptoms according to the DSM-IV-TR. In other words, the probability of developing PTSD after a traumatic event is low and reflects resilience to such adversity at an individual, community, and societal level.

**Cognitive Processing Models of Trauma Response**

Contemporary research has found that to define a traumatic event as only one that involves injury or death is flawed, as it excludes PTEs (Bonanno, 2004). For example, an individual who loses a family member in a terrorist attack may not feel personally threatened
with injury or death, but may feel overwhelmed with fear and helplessness at the loss, and go on to develop symptoms of posttraumatic stress. Defining traumatic events as those involving fear, helplessness, and horror appears to have the advantage of taking into account the interaction between the event and the individual that is critical to theories of trauma. However, some authors argue that this criterion is restrictive, as it does not define an event as traumatic if an individual does not report feeling fear, helplessness, or horror. In response, Carlson and Dalenberg articulated a conceptual framework that provides a broader template based on three essential elements, thus enabling a number of definitions delineated by different theorists to be integrated: (a) a lack of control over what is happening, (b) a highly negative experience, and (c) the suddenness of the experience. All three elements need to be present in phenomenological terms for a trauma response to be elicited.

**Lack of Controllability**

One element that makes an experience traumatic is that it is perceived as having a lack of controllability. Humans generally try to control their environments to protect themselves from harm and ensure their survival (Horowitz, 2001; Janoff-Bulman, 1992). People who have experienced a traumatic event often report being troubled by the fact that, during the event, they could not exert control over what was happening. Those people who believe they will have control over future, similar events often have fewer and less severe posttraumatic symptoms. Importantly, the uncontrollability of an event must reach a certain threshold to cause a negative trauma response. The threshold varies across individuals, as it is shaped by an individual’s life experiences and expectations about controllability. This threshold for uncontrollability also varies across events with different degrees of negative valence. For
example, the negative valence associated with a rape would likely be greater than the negative valence of indirect exposure to a terrorist attack.

**Negative Valence**

The second element that makes an experience traumatic is that it is perceived as having a severely negative valence. A traumatic event might have a severely negative valence because it is physically or emotionally painful, or because it is perceived as likely to cause physical or emotional pain, injury, or death (Horowitz, 2001). The valence of an event for any person is subjective, although physically painful or injurious events are almost universally experienced as negative. From an evolutionary point of view, it makes sense that physically painful events or events that threaten pain, injury, or death would be potentially traumatic. According to Horowitz, humans are innately fearful of physical pain and are universally fearful of dying, so that any threat of death can produce feelings of overwhelming fear or helplessness. Fear is one negative emotion that facilitates the avoidance of pain, injury, or death. It motivates individuals to act to control these negative outcomes. The more an individual perceives that he or she has no control over an imminent experience of pain, injury, or death, the more fearful he or she will be; and extreme fear and feelings of helplessness are the emotional basis for the trauma response.

An understanding of an emotional basis for trauma response, leads to the notion that humans have a unique capacity to experience emotional pain, and, as such, experiences can be traumatic because they are either emotionally painful or because they involve the threat of emotional pain (Carlson & Dalenberg, 2000). In other words, emotional as well as physical pain can produce extreme fear. In such cases, the negative valence is related to the psychological meaning of the event to the individual. For instance, if an person highly
values personal freedom, a terrorist attack on a culturally specific symbol that represents a person’s right to freedom (such as the War Memorial in Australia), would serve to facilitate feelings of helplessness, which in turn, generates a negative valence to the event. Therefore, based on this conceptual framework, it is argued that the perception of the event is more important than the actual danger associated with the event. As with controllability, the negative valence of an event must reach a certain threshold to cause a trauma response, and that threshold varies across individuals and types of trauma. The meaning of the event in determining valence, and an individual’s idiosyncratic perception of an event, therefore contribute to the difficulty in clarifying, in empirical terms, the level of negative valence that is sufficient to cause a trauma response.

**Suddenness**

The final element that makes an experience traumatic is the suddenness of an event. Events that involve imminent threat of harm are more likely to cause overwhelming fear than experiences involving danger that is not imminent (Carlson & Dalenberg, 2000). When the amount of time between a person’s awareness of an uncontrollable, negative event and the event itself is brief, there is insufficient time to act to physically protect oneself, or to psychologically prepare for a negative outcome. Janoff-Bulman (1992) pointed out that some experiences are not traumatising, even if they are negative and frightening, because they occur gradually and incrementally (e.g., diagnosis of a chronic but fatal medical condition). These gradual changes can be adapted to, both cognitively and emotionally, by gradual changes in an individual’s schemas about oneself and the world. Moreover, the time needed to process an event that makes an individual frightened and helpless, is highly variable, and depends on many factors such as the nature of the event and the individual’s perceptions.
In summary, the initial step in articulating a comprehensive conceptual framework for what makes an event traumatic involves identifying three key elements: (a) lack of controllability, (b) a negative valence, and (c) suddenness. All these elements are necessary for an event to be perceived as traumatic, and a person’s perceptions and subjective understanding of the event, mediate all three. The presence, however, of all elements does not automatically lead to a negative or vulnerable trajectory. In other words, while all three elements need to be present for an individual to experience a strong and enduring reaction that can result in a lack of normal functioning for months or years afterward, the presence of all three does not prevent an individual from maintaining a relatively stable trajectory of healthy functioning following exposure to a PTE. Nevertheless, directly following a PTE, most people experience a core set of responses of varying durations and intensities.

**Core Responses to Trauma**

The next step in articulating a conceptual framework for trauma response involves identifying the core responses that follow a traumatic event in most people. Two cognitive theories that elucidate the propositions presented in this study are Horowitz’s (2001) and Janoff-Bulman’s (1992, 2006) theories of core responses to trauma. Links are made to object relations theory in general and Kernberg’s theory in particular in order to understand Horowitz’s completion principle as it relates to Freud’s concept of repetition compulsion.

**Horowitz’s Theory of Core Responses to Trauma**

Horowitz (1976) initially proposed two general types of trauma response: reexperiencing and avoidance, which coincided with the official diagnosis of PTSD in the third edition of DSM in 1980. The first response type involves intrusive repetitions of the trauma in the cognitive, affective, behavioural, and physiological domains. As states of
intrusion are inherently painful, a second response type develops. This involves attempts to suppress these intrusions using defence mechanisms such as denial, emotional numbing, and avoidance of reminders. Interestingly, the distinction between reexperiencing and avoidance symptoms are blurred at times because what appears to be avoidance may be reexperiencing of disconnections felt at the time of the trauma. In 1997, Horowitz proposed a third type of response, which coincided with the most recent DSM-IV criteria for PTSD (APA, 1994) and continued in the DSM-IV-TR. Essentially, this type of trauma response is a cluster of symptoms suggestive of hypervigilance.

**Reexperiencing.** The various aspects of the event that are reexperienced manifest as symptoms including intrusive thoughts, anxious and angry feelings, physiological arousal or reactivity to trauma cues, and hypervigilance (Horowitz, 2001). Other manifestations include nightmares, flashbacks, and sleep disturbances resulting from chronic automatic arousal, and difficulties in concentration due to preoccupation with trauma-related intrusive thoughts (the most common cognitive reexperiencing symptom) that are often followed by gaps in awareness or distortions of perception. The affective reexperiencing symptoms most prominently associated with traumatic experiences are feelings of anxiety, fear, and anger. Behavioural reexperiencing consists of behaviours that are similar to those that occurred at the time of the trauma such as agitation, increased activity, and behaviour directed at defending oneself or escaping danger. When reexperiencing occurs at the physiological level, it manifests as autonomic arousal and physical sensations. Finally, reexperiencing often occurs in more than one mode. For instance, hypervigilance involves reexperiencing in both cognitive and affective domains such as thinking one is in constant danger.
Avoidance. Similar to reexperiencing, avoidance symptoms occur because they afford relief from the anxiety associated with trauma-related stimuli, and they may also be a reexperiencing of a freeze response at the time of the trauma (Horowitz, 2001). Following traumatic experiences, avoidance can be manifested in cognitive, affective, behavioural, and physiological modes. However, avoidance in the cognitive, behavioural and physiological modes is fundamentally in the service of affective avoidance. That is, the purpose of all avoidance is to protect the individual from the feelings of fear associated with the traumatic event. Avoidance in the affective mode of experience usually manifests as emotional numbness and isolation of affect. Cognitive avoidance as a trauma symptom can be voluntary or involuntary. At times, people who have experienced trauma consciously try not to think about the event or anything connected with the event. At other times, people who have experienced a traumatic event unconsciously forget part or all of the event, accompanied by experiences in distortions in their perception of the environment (derealisation), or distortions in perceptions of themselves (depersonalisation).

Like cognitive avoidance, behavioural avoidance may be experienced as voluntary or involuntary. The DSM-IV-TR lists as a symptom of PTSD efforts to avoid activities, places, or people that remind the individual of the trauma. It is not uncommon for the purpose of particular avoidance behaviours to be outside an individual’s awareness (Horowitz, 2001). That is, they remain located in the unconscious. Avoidance in the physiological mode of experience often manifests as a numbing of sensations to avoid sensations such as pain associated with the trauma, which would lead to conscious awareness that a person has experienced a PTE. As with reexperiencing, avoidance can occur in multiple modes simultaneously.
The Completion Principle and the Compulsion to Repeat

Horowitz (2001) describes the process of managing trauma as comprising five phases: initial realisation that the stressor has occurred, denial and numbness, intrusive repetition, working through, and completion. The sequence of phases is not presumed to be universal and individuals may omit certain phases or demonstrate alternative sequences of phasic responding. Importantly, Horowitz articulates the recurrence of traumatic memories in terms of two aspects of psychoanalytic theory: a purposeful need to master the trauma and a more instinctive, automatic compulsion to repeat the trauma. According to this perspective, the contents of short-term memory are repeated and represented in both the conscious and unconscious until cognitive processing of the event is complete, at which time the event is stored in long-term memory. These repetitions are not necessarily phenomenological duplications of the original trauma and they can take a variety of morphosis, ranging from representation by action and sensory images to representation by working through a PTE.

Influenced by Freud’s (1920) theory of the repetition compulsion that predated the concept of the death instinct (later introduced in 1932), Horowitz (2001) formulated a completion principle, which summarises the mind’s innate ability to continue to process new information in order to bring up to date inner schemas of the self and the world. People maintain a variety of inner working models or “cognitive maps” of basic factors in their lives. A PTE event is, by definition, one that is not fully in accord with a person’s usual inner working models. It contains either too much or too little of some familiar situation, but more often, it is not the familiar situation but something else that threatens biopsychosocial functioning and the expectation that things will remain constant. When this happens, the news of the event must be reappraised so that it either conforms to the
inner models or is reappraised as unimportant, or else inner schemas must be revised so that they match changed circumstances. Such processes require considerable cognitive change over a long period for the necessary information processing and subsequent storage. Thus, the point of completion cannot be arrived at immediately or shortly after a PTE.

In much of Freud’s metapsychology, he drew attention to the “compulsion to repeat” as a clinical phenomenon. Theoretically, he describes it for the first time in *Remembering, Repeating, and Working Through* (1914) as the resistant tendency of the individual “to repeat rather than to remember”, that is, memory repeated as action rather than recognised and worked through. He cites it again with a brief explanation in the *Uncanny* (1919). Finally, in *Beyond the Pleasure Principle* (1920) Freud attributes it to the characteristics of an instinct within a biological framework. He observed that the normal flow of psychic events is ruled by the pleasure principle. Nevertheless, there are some exceptions to this principle where there is no evident pleasure. One exception is the tendency to repeat distressing experiences from the past. The aim is to achieve a perception of control and mastery of such phenomena.¹

Discontent with biological reductionism, combined with systematic evidence that relationships, attachments, and PTEs could have direct, predictable, and profound influences on personal adjustment eventually led to the formulation of object relations theory (e.g., Bion 1962; Fairbairn, 1940; Klein, 1946).

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¹Freud (1932) later invoked the existence of a death instinct, a drive to revert, to repeat, and to re-establish a biological state of all animate states that will ultimately be traced. Although Klein drew heavily on the death instinct, post-Kleinian object relations theorists draw only on Freud’s early conceptualisation of repetition compulsion as control & mastery over the environment in which self-representations and object-relations predominate.
Its explanations for the compulsion to repeat are no less convincing. For example, while Rycroft (1985) viewed it as a resistance to change, transformation, and development, Modell (1990) stated that it represented a compulsion to seek a perceptual identity between present representations and past ones.

Object relations theory posits that conscious recall of precipitating events is not a precondition for repetitions, but some representation of the experience in memory is (Casement, 1985; Mitrani, 1998; Modell, 1990; Rycroft, 1985). This conceptualisation is consistent with the observation that repetition phenomena are ubiquitous in the human condition rather than occurring only exceptionally. Repetitions push forward towards progress and the production of new forms. Thus, unlike authors such as Levy (2000) and van der Kolk (1989), who restrict the concept to the repetition of severe trauma resulting in psychopathology, object relations theory suggests the concept describes a broad range of repetitive behaviours ranging from adaptive through to maladaptive. It is at this juncture in this review that the problem of Kernberg’s (1975, 1976) attempt at an object relations and drive theory synthesis is apparent. Unlike most object relations theorists, Kernberg drew on Freud’s concept of repetition compulsion both pre and post the inclusion of the death instinct (Horowitz, Kernberg, & Weinshel, 1993). He rarely refers to the concept in theoretical terms: rather, he employs it to describe the phenomenology of severe personality disorders.

Modell suggests a revisitation of repetition compulsion moving from research on memory by Edelman (cited in Modell, 1990). According to Edelman’s model, motor action is necessary for perception. Perception consists in re-finding categories stored in the memory. This re-finding requires repetitive actions, as periodically testing the environment. Therefore, finding something new produces a re-transcription of the memory in a new
context. What is stored in the memory is not a replica of the event but the potential to re-find the category of which the event is a member, and this potential contributes to avoidance, intrusion, and hyperarousal. For example, transference is a way of imposing on a new object an old category with the compulsion to find a perceptual identity between past and present.

**Janoff-Bulman’s Theory of Core Responses to Trauma**

Similar to Horowitz’s (2001) conceptual framework, Janoff-Bulman’s (1992, 2006) theory of core responses to trauma is also based on the idea of cognitive schemas. The theory assumes that a person’s day-to-day functioning is guided by deeply held assumptions about the self and the world. From this perspective, schematic processing is inherently conservative. People will first try to fit anomalous experiences into extant schemas, with a revision of core beliefs and assumptions occurring only as a last resort.

Janoff-Bulman (1992, 2006) posits that individuals hold three core assumptions: (a) benevolence of the world, (b) meaning of the world, and (c) worthiness of the self. The “benevolent world” schema contains the assumptions that other people are basically trustworthy, moral, and compassionate and that misfortunes occur infrequently. The “meaningful world” schema involves the person’s assumptions about the distribution of outcomes. A meaningful world is one in which events unfold systematically, according to comprehensible rules. The alternative principles of outcome allocation are justice, controllability, and chance. The “just world” theory contends that people will get what they deserve. The principle of controllability assumes that outcomes are determined by individual’s own behaviours.

The principle of chance assumes the distribution of outcomes is random and unrelated to human actions. The “worthy self” assumptive category contains three self-evaluative
dimensions: self-worth, self-controllability, and luck. If outcomes are presumed to be justly distributed, self-worth, or believing oneself to be a decent, ethical individual, should decrease perceived vulnerability to adverse outcomes. Alternatively, if outcomes are the result of one’s own actions, viewing oneself as capable of exercising forethought and sound judgement should result in diminished perceptions of vulnerability. If outcomes are presumed to be random, perceptions of the self as “lucky” should enable the person to feel invulnerable to adverse outcomes.

Extraordinary events, which involve threats to one’s personal or collective survival, contradict the assumptions of self-worth, benevolence, and meaning (Janoff-Bulman, 1992). Because traumatic events are often extremely salient and disturbing, people who have experienced a traumatic event are forcefully confronted with a catastrophic upheaval of their conceptual systems. Irrespective of whether they are categorised as vicarious or directly exposed to a traumatic stressor, these people experience the loss of positive psychological attitudes toward themselves and the world. Moreover, characteristics of the trauma are presumed to affect which assumptions are threatened. For example, natural disasters force survivors to confront the existence of danger and human fragility, whereas human-generated disasters such as acts of terrorism force confrontation with individual, cultural, and religious vulnerability and the hated, xenophobic, and malevolent “other”.

If the old assumptions are rapidly discarded, this could potentially “threaten the breakdown of the entire conceptual system; for the primary postulated represent the foundation on which other systems are built” (Janoff-Bulman, 1992, p.121). Therefore, the coping task facing individuals is to reinterpret the traumatic event in ways that are less incompatible with the old assumption or to revise their worldviews to accommodate the
trauma. Healthy adaptation or resilience involves developing a new perspective that can account for the trauma, while preserving self-worth, connection with others, social embeddedness, and the ability to modulate feelings of terror, helplessness, fear, and horror. Consistent with Horowitz (2001), unhealthy adaptation or vulnerability involves a failure to reconstruct adaptive assumptions, representations, and schemas.

Two sets of cognitive strategies are presumed to facilitate the rebuilding of assumptive worlds: automatic routines for processing novel information and deliberate efforts to reinterpret the new information in light of what is already known. Janoff-Bulman (1992) adopts Horowitz’s (1976) definition of intrusion and denial as the primary automatic cognitive processing strategies of core responses to trauma. Intrusions provide a means for rendering closer and closer approximations of the new threatening event and the old assumptions. Denial and numbing are regarded as adaptive control processes that enable individuals to pace their trauma management. In the normal pattern of adaptation to trauma, intrusion and denial subside over time. Yet, in some individuals, excessive intrusion and denial may interfere with cognitive, social, emotional, and interpersonal functioning. Successful management is therefore defined as not only the cessation of intrusive reexperiencing but also the presence of relatively non-threatening recollections, representations, schemas, and cognitions that emerge naturally, in response to situations that are associated with the original traumatic event. Thus, Janoff-Bulman’s theory of core responses to trauma extends Horowitz’s interpretation of the cognitive schemas and representations of self and others that traumatic events can disrupt.

Collectively, the cognitive processing theories of Carlson and Dahlenberg (2000), Horowitz (1976, 2001) and Janoff-Bulman (1992, 2006) suggest there are five basic factors
that explain individual variations in responses to trauma, which can result in either a vulnerable or resilient trajectory. These include biological factors and an individual’s developmental level at the time of the trauma. It also includes trauma exposure, the social and interpersonal context of the individual both before and after the trauma, and life events that occur prior and subsequent to the trauma. All five factors affect an individual’s trauma response to both a personal and large-scale potentially traumatic event, as they directly affect the valence, uncontrollability, and suddenness of the event. An outline of the trauma exposure factor as it relates to a large-scale terrorist attack provides a context for the next section on media exposure to a traumatic event.

**Large-scale Trauma Exposure Subpopulations**

Until the September 11 terrorist attack, disaster research focused on the most highly exposed individuals in the direct path of the particular disaster agent and rescue/recovery workers (North, 2004). Few studies examined community samples outside the direct disaster zone and no studies examined national samples from the country experiencing the disaster. According to North, the biggest conceptual change to be recognised for post September 11 research, therefore, was that its scope of investigation needed to be enlarged. The post September 11 research was confronted with the potential for widespread psychological effects across distinct populations. This was primarily due to the intent of terrorism, which is not just to kill and injure but more widely to disrupt society and governments and inculcate fear, helplessness, and horror into the wider population.

Conceptualisation of the affected populations and subpopulations are fundamental to establishing a coherent body of knowledge about post disaster psychological issues (North, 2004). In small size disasters, particularly natural and human-generated accidents, the
affected populations can be roughly divided into those who were directly exposed and others. A grey zone between exposure distinctions would include exposure only to the aftermath of the disaster, witnessing from a distance, near misses, and vicarious exposure through others. In catastrophes such as a large-scale terrorist attack, the personally affected populations are more complex and require subdivisions of the populations into distinct exposure groups (Fullerton et al., 2003; North, 2004; North & Pfefferbaum, 2004). These are represented in Figure 2.1.

![Figure 2.1 Subpopulations of large-scale trauma exposure (Adapted from North, 2004).](image)

As seen in Figure 2.1, in large-scale catastrophes, of which a terrorist attack is an exemplar, the affected population is divided into subgroups of directly exposed, indirectly exposed, and remotely exposed (North, 2004; North & Pfefferbaum, 2004). Directly exposed
individuals such as people at the two bars that were bombed in Bali would most likely have injuries and be candidates for PTSD according to the medical or pathogenesis model. Research on the psychological health effects in affected populations not directly exposed to a large-scale terrorist attack raises distinct issues from previous research that focused on PTSD among the directly exposed group. For example, indirectly exposed individuals such as people at Kuta beach who could see the smoke arising from the burning remains of the two bars in the distance or who lost a family member or friend in the Bali bombing, cannot by definition fulfil the exposure criterion required for the diagnosis of PTSD (Pfefferbaum, 2005). Although individuals and entire communities may feel threatened during and after a large-scale terrorist attack, this experience does not signify the immediate threat to life or limb experienced by those directly in the target zone. Their subsequent levels of distress may represent a challenge and an opportunity to grow and develop in positive ways, which is characteristic of the resilience trajectory and salutogenesis model of trauma response.

If the large-scale terrorist attack is of sufficient severity to receive extensive media attention, a ripple effect may spread to varying distances beyond the community’s boundaries to affect people in remote regions of the country where the attack occurred. As shown in Figure 2.1, this exposure type is located at the society level. These populations are considered remotely affected because their geographical distance from the terrorist attack site precludes any possible form of either direct or indirect exposure, thereby again disallowing a diagnosis of PTSD in relation to the event (North, 2004, North & Pfefferbaum, 2004).

Following the documented reaction by Australian citizens to the Bali bombing on October 2002 (see Australian Broadcasting Commission [ABC], 2002, Belsham, 2003; Fox, 2003a,b), this thesis postulates the presence of another relevant disaster-exposed
subpopulation. This group comprises of people who reside in a different country to where a catastrophic disaster occurred, but their nationality is highly represented in the directly exposed. Two-thirds of the directly exposed population were Australian citizens. Given the immediate media coverage of the bombing, the portrayal that the bombing was intended to threaten the “Western way of life”, as well as the threat of future attacks, elevated levels of distress in the Australian population were understandable, expected, and consistent with existing literature on trauma response (e.g., Norris, et al., 2002). However, general levels of distress do not fully capture the range of reactions experienced by Australian citizens whose experience of the Bali bombing was solely delivered by the media.

In recent years, the potential to experience collective grief has increased due to the global multimedia coverage of “cultural tragedy” (e.g., the death of Princess Diana). As the number of shared characteristics between victim and observer increase, so does the level of identification (e.g., gender, religion, nationality, & ethnicity). For example, after the first day of detailed coverage of the Bali bombing, Australian mourners with no personal connection to those who died or were injured in the bombing signed books of condolence for bereaved family members (Belsham, 2003). Moreover, Bali is the most frequented overseas holiday destination for Australian citizens (CEDA, 2003). More than 13,000 Australian citizens were holidaying in Bali at the time of the bombing and an unknown number of expatriates residing on the island that were familiar with the places bombed. As such, it is plausible that many Australians who travelled to Bali in previous times experienced a degree of survivor guilt.

Delineating the geographically remote exposure group raises the issue of the role that the media plays in Australian citizens’ trauma response ten months following the Bali bombing. It is possible that perceptions of similarity to the directly exposed victims were
mediated by the information obtained from the media about the wellbeing of the victims. Specifically, watching and listening to personal survivor accounts on the TV, the terrorist trials, plans for memorials services, and repeated footage of graphic depictions of the dead and injured may have moderated the relationship between resilience and trauma response some ten months following the bombing. This postulate is supported by both resilience and disaster research, which suggests media coverage plays an essential role of communication in large-scale terrorist attacks, and also has the potential to affect powerfully those remotely exposed people who viewed images of the disaster and its aftermath (Ahern et al., 2002; Pfefferbaum et al., 2000; Schlenger et al., 2002; Schuster et al., 2001; Silver et al., 2002).

With these new conceptualisations come new issues, such as how to estimate the total potential psychological effects of terrorism, and how to design interventions for such a complex population (North, 2004). As a result of these important differences in trauma exposure groups, North and North and Pfefferbaum (2004) argue that separate studies need to be performed to address the unique characteristics of each of these populations. If, for example, findings are reported for directly and remotely exposed groups combined, the results will not reflect either group’s unique experiences. As such, the present investigation was concerned only with the remote exposure subpopulation.

The next section reviews those salient epidemiological surveys that researched the psychological effect of exposure via media coverage of the September 11 terrorist attack on national populations. These populations constitute the remote exposure group.

**Media Exposure to a Large-Scale terrorist Attack**

Unlike the paucity of research on the relationship between media exposure and trauma response in adults, there is a larger body of research that has explored the impact of indirect
exposure to a terrorist attack in children (Fremont, 2004; Pfefferbaum et al., 2003).

Fremont’s review of childhood reactions to terrorism-induced trauma found that many of the effects of terrorism-induced trauma are similar to the effects of human-generated trauma in adults. These include acute stress disorder, anxiety, depression, behavioural disturbances, and PTSD. Fremont also found that several aspects of a terrorist attack result in unique stressors and reactions for children. These include the unpredictable, indefinite threat of terrorist attacks, the profound effect on parents, adults, and communities, and the effect of repeated, graphic and extensive media coverage. Fremont went on to suggest that extensive media coverage might exacerbate underlying death anxieties, contributing to a continuous state of hypervigilance and anticipatory anxiety.

As the September 11-related research is in the early stages of development, it remains to be determined whether the findings from the literature reviewed by Fremont (2004) and Pfefferbaum et al. (2003) can be generalised to adults. It is also not known if there are unique stressors and psychological reactions for the normal and remotely exposed adult population.

**Oklahoma City Bombing**

In a set of independent but related studies, Pfefferbaum and colleagues (1999, 2000, 2001, 2003) investigated the effects of media exposure on children indirectly exposed to the terrorist-related Oklahoma City bombing in 1995. A further study published in 2004 investigated teachers’ psychological reactions seven weeks after the bombing. Three studies are reviewed in this thesis, as they are the most relevant to the focus of the investigation. Although now overshadowed by the events of September 11, at the time the Oklahoma City bombing was the most severe act of domestic terrorism in American history (Pfefferbaum et
al., 2002). Over 168 individuals including 19 children were killed and over 700 individuals injured in the deliberate bombing of a large government building.

**Posttraumatic Stress Seven Weeks after the Bombing in Indirectly Exposed Children**

In their initial study, Pfefferbaum et al. (1999) approached the principals of ten middle high schools and eleven high schools in Oklahoma City seven weeks after the bombing. The aims of the study were threefold. The first aim was to describe current stress in relation to retrospectively reported initial symptoms of arousal and fear. The second aim was to examine emotional reactivity to bomb-related television coverage, and the third aim was to investigate the relative importance of the three clusters comprising the PTSD diagnosis in children who knew someone killed in the bombing. Pfefferbaum et al. postulated that those children were more likely to report immediate emotional reactions of arousal and fear as well as posttraumatic stress symptoms (PTSS) than children who did not know anyone directly killed in the bombing.

Respondents in Pfefferbaum et al.’s (1999) study consisted of 3,218 male and female students from 18 schools in grades 6 through 12 who completed a questionnaire distributed by each grade teacher. The questionnaire included 56 items addressing exposure to the bombing, interpersonal consequences, initial physical and emotional response, and current PTSS. TV exposure was assessed with a single item. The respondents were asked how much of their TV viewing was bomb-related in “the last seven days” ranging from “none” to “all”.

The measure of PTSS consists of 22 items taken from the Impact of Event Scale-Revised (IES-R; Weiss & Marmar, 1997) as a measure of stress reactions following exposure to a traumatic life event. The DSM-IV PTSD Criteria B (intrusion), C (avoidance), and D (arousal) were used to achieve a model of PTSD symptomatology although the researchers
did not address Criterion A, which defines the traumatic event and initial emotional reactions to the event, or criterion E, which requires the presence of symptoms for more than one month. The DSM-IV-defined number of PTSD symptom endorsements for each of the three criteria was used to determine the number of self-reported symptoms needed for each IES-R-defined intrusion, avoidance, and arousal question clusters necessary to fulfil Pfefferbaum et al.’s caseness definition. Respondents’ scores that met the “BCD” criteria (positive for one intrusion symptom, three avoidance/numbing symptoms, & two arousal symptoms) caseness definition were compared with their mean PTSS scores.

In addition to physical and interpersonal exposure, Pfefferbaum et al. (1999) found that media exposure was an important predictor of self-reported PTSS in Oklahoma City children seven weeks after the bombing. Most respondents in this sample reported that in the aftermath of the bombing, “most” or “all” of their TV viewing was bomb-related, and television exposure correlated with PTSS at seven weeks. As expected, knowing someone who was killed correlated with difficulty calming down after bomb-related television exposure, although a number of children reported no such difficulty. Moreover, respondents with the greatest arousal at seven weeks reported that “most” or “all” of the TV programs they watched following the bombing were bomb related.

Pfefferbaum et al. (1999) postulated that for those children who reported no difficulty calming down at seven weeks, TV coverage might have provided the information needed to initiate a recovery trajectory. There were frequent reports of the heroic rescue of children and then the determination of the community to get back to normal. In contrast, for those children who reported a positive correlation between the greatest arousal at seven weeks and the greatest amount of bomb-related TV exposure, Pfefferbaum et al. suggested that their
heightened state of arousal may increase their attention to distressing images on the TV, which may, in turn, maintain heightened reactivity to reminders of the bombing. The retrospective report of arousal at the time of the bombing was highly predictive of PTSS and symptom cluster scores at week seven, a finding that is supported in the literature on trauma response (Carlson & Dalenberg, 2000; Horowitz, 2001; Janoff-Bulman, 2004). From this perspective, arousal symptoms that may occur along with or independent of intrusion or avoidance may be the most distressing aspect of the posttraumatic response, and most importantly, these symptoms may be the ones least under conscious control.

A further implication of Pfefferbaum et al.’s (1999) findings involves the idea that a large-scale terrorist attack may comprise a complex interplay of characteristics and dimensions that, when combined, resulted in a unique event for indirectly exposed populations. For example, the Oklahoma City bombing was large-scale, human-generated, intentional, and interpersonally violent. It also attracted immediate, extensive, and graphic media coverage all against a background of a protracted criminal investigation and trial, and ongoing community focus. This led Pfefferbaum and colleagues to examine more remote effects of the bombing in children without direct physical proximity and in those without direct interpersonal loss two years after the bombing. The trial of the suspect occurred at this time, which meant that the media renewed its attention on the incident, serving as a constant reminder of the initial event.

*Posttraumatic Stress Two Years after the Bombing in Indirectly Exposed Children*

Pfefferbaum et al. (2000) surveyed children in a community outside of Oklahoma City two years after the bombing to assess media exposure and indirect interpersonal loss and to investigate the effects of these types of exposure on self-reported PTSS. It was postulated
that PTSS would increase with greater media exposure and with indirect interpersonal exposure in those children with no physical exposure of interpersonal loss.

The researchers visited a middle school 100 miles from Oklahoma City, where 69 sixth-grade (age 10-11 years) respondents were enrolled to coordinate and assist in data collection (Pfefferbaum et al., 2000). Teachers distributed questionnaires, which were completed in a group setting. The questionnaire measured media and interpersonal exposure, current PTSS associated with the bombing, and current bombing-related difficulty functioning. Media exposure was divided into four groups ranging from “none” to “a lot”. There were four measures of bomb-related media exposure (both print and broadcast medium). Broadcast exposure to the bombing was identified as (a) the proportion of TV or radio time currently (the last seven days) devoted to bomb-related coverage and (b) the retrospectively recalled proportion of TV or radio time devoted to bomb-related coverage in the immediate aftermath of the bombing. Similarly, both the current proportion and retrospectively recalled proportion variables were used for print media. As with the Pfefferbaum et al. (1999) study, the PTSS measure was adapted from the IES-R.

For TV/radio exposure, Pfefferbaum et al. (2000) found that indirectly exposed children who stated that most of their TV was bomb related in the seven weeks after the bombing reported more PTSS than children who did not watch or hear as much bomb-related TV or radio in the seven weeks after the bombing. There was a modest but statistically significant correlation between current and past exposure to bomb-related TV coverage ($r = .29, p < 0.001$), and a significant overall effect of TV/radio on mean PTSS score was found for both current exposure and recalled exposure in the aftermath of the bombing. Having no
current exposure was associated with significantly lower PTSS scores than having any exposure.

Although the overall effect of TV/radio exposure on mean PTSS scores were highly significant, post-hoc comparisons among all exposure groups was not possible because many respondents were clustered on the high end of the media scales. To investigate these differences, Pfefferbaum et al. (2000) collapsed the lowest two levels and the highest two levels of each of the four media exposure questions to create a high group and low group for comparison. When the respondents were divided into two groups (those that met the PTSD “BCD” criteria symptoms, & those who did not), mean TV/radio exposure was significantly higher in the PTSS positive group. The fraction of PTSS positive respondents was significantly higher in those who endorsed highest TV/radio exposure following the bombing than in those respondents who experienced only “some” exposure or in all categories less than the highest (i.e., “a lot”).

For print media, the correlation between the proportion of time devoted to reading about the bombing in its aftermath and endorsement of current print exposure was higher than that found for the comparison of television/radio exposure at the two times ($r = .56, p < 0.001$). A correlation also existed between endorsement of current exposure to bomb-related broadcast and print media ($r = .56, p <0.001$) and retrospective recall of broadcast and print media immediately after the bombing ($r = .59, p <0.001$).

Almost 20% of Pfefferbaum et al.’s (2000) sample acknowledged bomb-related difficulties in biopsychosocial functioning two years following a terrorist attack in a remotely exposed sample. This supported Pfefferbaum et al.’s hypothesis that media exposure and indirect interpersonal exposure are salient predictors in PTSS response.
Functional impairment, when it was present, was associated with indirect interpersonal impairment but not with exposure to either broadcast or print mediums.

**The Link Between Bomb-Related Television Exposure and Posttraumatic Stress**

In a related study involving the link between media exposure and PTSS in children following the Oklahoma City bombing, Pfefferbaum et al. (2003) extended previous work by postulating that the children’s indirect interpersonal exposure would be directly related to PTSS. They also postulated that PTSS would be contingent upon emotional and physiological reactions to media coverage. A survey was administered to 88 sixth-grade (10-11 years of age) children in a public middle school, located 100 miles from Oklahoma City, two years after the bombing. The emotional reaction to the media coverage of the bombing was measured by asking respondents if they felt sad, afraid, nervous, or mad when exposed to either the broadcast or print mediums immediately following the bombing.

In Pfefferbaum et al.’s (2003) study, significant intercorrelations among the broadcast and print medium exposure, immediate emotional reaction to media exposure, and PTSS ranged of 0.33 to 0.71. Indirect interpersonal exposure was not correlated with either of the media exposure variables but was correlated with reaction to print media exposure. Although PTSS scores were low on average, mean PTSS scores were higher with increasing level of exposure for both broadcast and print coverage. Of interest, enduring PTSS scores were more strongly associated with higher levels of print exposure than of broadcast exposure.

Although media exposure itself may be associated with PTSS scores, Pfefferbaum et al. (2003) concluded that the relationship between PTSS scores and media exposure was contingent upon emotional reactions to the broadcast of the bombing. The interaction of emotional reaction to print coverage with the amount of print exposure explained 47% of the
total variance in mean PTSS scores, whereas the interaction of emotional reaction to broadcast coverage with the amount of broadcast exposure explained 26% of the total variance in mean PTSS scores. There was no relationship between increasing levels of media exposure and PTSS scores when emotional reaction to media coverage was low. For those children with moderate and intense emotional reactions, PTSS scores increased with increased exposure to both broadcast and print exposure, suggesting a moderating effect.

To summarise, in a set of cross-sectional self-report studies, Pfefferbaum and colleagues (1999, 2000, 2003) comprehensively examined the remote and vicarious effects of a large-scale terrorist attack on the psychological well being of children. To achieve this aim, they studied the relationship between posttraumatic stress reactions and exposure to media coverage, using both the broadcast and print mediums, ranging in time from seven weeks through to two years following the event. All studies revealed an association between media exposure and PTSS. Despite the association few children acknowledged deleterious effects on their biopsychosocial functioning. Importantly, functional impairment, when it was present, was associated with indirect interpersonal exposure but not with exposure to media coverage.

The studies by Pfefferbaum et al. (1999, 2000, 2003) established the first generation of terrorism research and have been cited as salient reference points by September 11-based research that investigated the link between media exposure and trauma response in indirectly exposed adult populations (e.g., Ahern et al., 2002, 2004; Schlenger et al., 2002; Schuster et al., 2001; Silver et al., 2002). The next section reviews the results, trends, and implications of four September 11 epidemiological surveys that demonstrated a bivariate association between watching TV coverage of the attack and PTSS.
Epidemiological Surveys Relating to the September 11 Terrorist Attack

On September 11, 2001, a group of fundamentalist Islamic terrorists crashed two aeroplanes into the World Trade Centre (WTC) in lower Manhattan, New York City (NYC), causing the towers to collapse within a short period of time. Two additional planes were hijacked, one crashing into the Pentagon and the other over a field in Pennsylvania. Approximately 3000 individuals were killed and thousands more were injured or missing. TV coverage of the event was global, graphic, immediate, and unprecedented in nature and scope due to the catastrophic quality of the event, and it established a backdrop against which the psychological effects of terrorism assumed central stage in trauma research.

National Survey of Stress Reactions following the September 11 Terrorist Attack

The first epidemiological survey to be published was a nationwide telephone survey conducted by Schuster et al. (2001) three to five days after September 11, 2001. Using random-digit dialling, the researchers contacted a nationally representative sample of 768 adults about their reactions to the attack and their perception of their children’s reactions. Of these individuals, 560 (or 73%) agreed to be interviewed. To assess exposure to the attack through TV viewing, respondents recorded the amount of time in hours (or in minutes if less than an hour) on September 11 that they watched TV coverage of the attack. Hours of TV were grouped into four categories: 0-3 hours, 4-7 hours, 8-12 hours, and 13 or more hours. To assess psychological stress, the researchers used a modified 5-item version of the 17-item Posttraumatic Stress Disorder Checklist (PCL; Weathers, Litz, Herman, Huska, & Keane, cited in Schuster et al., 2001), which measures the full range of PTSD. The symptoms were selected from those reported by more than 50% of the survivors of the Oklahoma City bombing (North et al., cited in Schuster et al.).
The results of Schuster et al.’s (2001) study indicated that respondents throughout America reported stress symptoms. Of these respondents, 90% had one or more symptoms to at least some degree; 44% reported one or more substantial symptoms of stress. In the second part of the same study, undertaken two months after the attack, but published three years later (see Stein et al., 2004), 16% of those individuals who had a substantial stress level in September 2001 still had that reaction in November 2001.

For hours of TV viewing, Schuster et al. (2001), found that on September 11, 2001, adult respondents watched TV coverage of the attack for a mean of 8.1 hours (range not provided), 2% watched less than 1 hour, 15% for 1 to 3 hours (& of these two groups, 37% reported a substantial stress reaction), 34% for 4 to 7 hours (39% reporting a substantial stress reaction), 31% for 8 to 12 hours (46% reporting a substantial stress reaction), and 18% for 13 hours or more (58% reporting a substantial stress reaction) ($p < 0.001$). Children watched TV coverage of the attack for a mean of 3.0 hours on September 11. Across age groupings, 73% of children who were aged between five and eight years watched for one hour or less, whereas 51% of adolescents aged 17 or 18 years watched for five hours or more. These percentages were almost identical when respondents who avoided TV coverage were omitted from the analysis ($p = .003$). Schuster et al. (2001) concluded that the attack had a significant effect on respondents who were geographically distant to the targeted area, and the levels of PTSS were associated with the extent of TV viewing.

Schuster et al. (2001) posited several possible explanations for the link between media exposure and trauma response. As the meaning, magnitude, and conclusion of the September 11 terrorist attack was uncertain, the media in general and the TV medium in particular provided ongoing information about what to do, and whether the situation posed a potential
or future threat. Consistent with the threat-appraisal model of coping and stress, it may therefore have served as a coping method for some people.

An important limitation of Schuster et al.’s (2001) survey involves the lack of comparison data. Differences between those individuals who watched high levels of TV coverage of the attack and those who watched low levels of TV coverage may well reflect September 11-related psychological effects. Yet, the absence of pre-September 11 comparison data invites uncertainty about the degree to which these findings can be assumed to be directly related to the terrorist attack. Another important limitation is the lack of diagnostic precision in identifying subthreshold levels of traumatic responses. It is possible that data about “substantial stress reactions” indicate that the immediate reactions of the general population might be elevated, although this cannot be generalised. Above all, however, the data seem to indicate an overestimation of the clinical cases.

Methodological limitations notwithstanding, a major implications of Schuster et al.’s (2001) survey involve the issues of assessment, diagnosis, and treatment of PTSS in indirectly exposed individuals. Studies of prior traumatic events suggest that trauma responses diminish over time in the majority of indirectly exposed individuals. Yet, the unprecedented scope and nature of the September 11 attack, the threat of ongoing attacks, and the media’s representation of the event across all mediums, make this event unique. Therefore, there is no gold standard on how to assess, diagnose, and treat such people. The fact that PTSS were present in the majority of this nationally representative sample suggests that mental health professionals need to be aware of the link between media exposure and trauma response in areas remote to the site of a major disaster or terrorist attack that is covered by the media.
Psychological Reactions to the September 11 Terrorist Attack

The second epidemiological survey was conducted by Schlenger et al. (2002) It was an Internet-based nationally representative cross-sectional sample of American adults. The sample was drawn from a probability-based standing research panel recruited prior to September 11. A total of 3,131 individuals were sent a Web-based survey. Of these individuals, 2,273 (or 73%) completed and returned the survey. The recruitment of their panel prior to September 11 reduced the potential for sampling bias attributable to psychological effects of the terrorist attack. There were two aims. The first was to estimate the prevalence of PTSD and non-specific clinically significant psychological distress in the second month after the attack, both nationwide and in the areas proximal to the attack sites. The second aim was to examine the link among direct and indirect exposure to September 11 with symptoms of PTSD and non-specific clinically significant psychological distress.

Similar to Schuster et al. (2001), Schlenger et al. (2002) used the PCL as a clinically significant measure of PTSD. Two outcome variables were created from the PCL: a total PTSD symptom score, which measures the full range of PTSD symptoms and a binary PTSD “caseness” indicator. Caseness was obtained based on the total score, which was used for estimating prevalence. The PCL cutoff score of 50 created a PTSD caseness indicator called “probable PTSD” as the diagnoses were made on the basis of screening instruments, not clinical evaluations. Respondents whose total PCL score was ≥ 50 are considered probable cases of PTSD and those scoring < 50 were considered probable noncases.

Clinically significant but non-specific symptoms of psychological distress were assessed using the 18-item version of the Brief Symptom Inventory (BSI-18), the latest
derivation of the Symptom Checklist-90-Revised and the original BSI (Derogatis, cited in Schuster et al., 2002). The BSI-18 is designed to serve as a general screen for clinically significant psychological distress. Schlenger et al. (2002) created two outcomes from the BSI-18: a global distress symptom index and an indicator of probable caseness (i.e., clinically significant psychological distress) for making prevalence estimates.

Direct exposure in Schlenger et al.’s (2002) survey was assessed by inquiring whether respondents were at or near the major attack sites on September 11, 2001, saw the sites in person, or smoke emanating from site. They were also asked if they knew someone who was injured, killed, or missing in the attack. Indirect exposure was assessed by inquiring about both the amount of time spent watching TV and specific elements of the content viewed. Respondents were asked to estimate the average number of hours they watched TV each day between September 11 and September 14, and whether they viewed repeated TV coverage of several graphic events that were captured live as they happened. Hours of TV viewing was categorised into four groups (0-4 hrs, 4-7 hours, 8-11 hrs, 12≥ hrs). A TV content index was created ranging from 0 to 7, which indicated the number of different kinds of live graphic events the person reported viewing.

The prevalence of probable PTSD two months following September 11 was 11.2% in New York City, compared with a national prevalence estimate of 4.3% (Schlenger et al., 2002). Symptoms of probable PTSD were significantly associated with the two indirect exposure measures: the number of hours of TV coverage of the attack that respondents reported watching between September 11 and September 14, and the number of different types of televised content such as live graphic images.
For direct exposure, geographical proximity to the WTC attack site was the only variable to be significantly related to the prevalence of PTSD (Schlenger et al., 2002). Nonetheless, there was a trend toward higher prevalence of probable PTSD in individuals who reported that family, friends, or work colleagues were killed, missing, or injured in the attack. When controlling for age, sex, race, ethnicity, and education, those respondents who were in NYC on September 11 were 2.9 times more likely to be probable cases of PTSD that those respondents who were elsewhere on that day.

Schlenger et al. (2002) then modelled the association of direct exposure measure with the full range of PTSD symptom scale score. They used the PTSD symptom scale score as the dependent variable in a subset of NYC respondents (N = 777). With the full set of direct exposure measures controlled for, only age, sex, attack site, and hours of TV coverage viewed per day were significantly associated with PTSD symptoms.

To provide perspective on the clinical relevance of their findings in respect to probable PTSD, Schlenger et al. (2002) compared their results with those of other studies that had included both the PCL scale and clinical diagnosis. The mean PCL scale score in Schlenger et al.’s survey was 58. Those studies cited ranged from a study of survivors of motor vehicle accidents through to survivors of sexual assault and the mean PCL scores ranged from 55 to 60. According to Schlenger et al., this suggests that the probable PTSD cases identified in their survey had severity in the range that one would expect to find in clinical populations. Together with the prevalence findings, Schlenger et al. asserted that the elevated rates of probable PTSD in the NYC area represent a major public health issue.

A similar pattern was found for non-specific clinically significant psychological distress symptoms. Schlenger et al., (2002) found that these symptoms were associated with
both hours of TV viewing per day and TV content index. Measures of indirect exposure were significantly associated with measures of non-specific clinically significant distress symptoms. During the second month following the attack, 11.6% of the American population was experiencing clinically significant distress. Although rates of non-specific clinically significant distress were higher in NYC (16.6%) and Washington DC (14.9%) in comparison to the rest of the country, these differences failed to reach statistical significance. Interestingly, using both direct and indirect exposure measures, the only variable with a significant bivariate association with the measure of non-specific clinically significant psychological distress symptoms was hours of TV coverage viewed each day.

Schlenger et al. (2002) noted that while the national prevalence of estimated cases of non-specific clinically significant distress was not different from what would have been expected for a community sample (based on Derogatis’s normative data cited in Schlenger et al.). However, they raised a number of important questions about the role of media exposure in the development of PTSS on the basis of the adjusted associations in a community sample of adults. Although the associations could be an indication that exposure via TV contributed to the development of the symptoms, it could also be argued that those who were already distressed by other September 11 exposures watched TV coverage as a coping mechanism, or that psychologically vulnerable individuals were more likely to seek out graphic exposure via the TV. Importantly, although Schlenger et al. (2002) did not specifically address the issue of causality, the researchers suggested that both hours of TV coverage viewed and specific TV content might be better conceived of as correlates of psychological distress (e.g., coping mechanism) than as indices of indirect exposure.
An important limitation of Schlenger et al. ’s (2002) survey involves sampling bias. It was noted that the response rate for the first stage of the random-digit dialling to recruit participants was 41%, and the within sample response rate for those selected for the Internet-based survey was 73%, thus providing considerable potential for sampling bias. The study by Schuster et al. (2001) had a similar response rate and a low yield rate to their random-digit dialling recruitment process. It appears that Schuster et al. attempted to mitigate the issue of sampling bias by the demonstration of close demographic conformity with comparison census data from the general population represented by the sample.

Longitudinal Study of Psychological Responses to the September 11 Terrorist Attack

The third epidemiological survey was an Internet-based nationally representative longitudinal sample of American adults by Silver et al. (2002). As with Schlenger et al. ’s (2002) survey, this survey made use of a probability-based research panel recruited prior to September 11, 2001. Extending the previous cross-sectional designs, the survey explored the acute and longer-term symptoms of posttraumatic stress. Testing occurred between 9 and 23 days (wave 1), 2 months (wave 2), and again at 6 months (wave 3). A total of 3,496 individuals were sent a Web-based survey. Of these individuals, 2,729 (or 78%) completed and returned the survey (wave 1). Of these individuals, a random sample of 1,069 of panellists residing outside of NYC received a second survey (wave 2). Of these panelists, 933 (or 87%) completed the survey two months after the attack.

The recruitment of Silver et al. ’s (2002) panel prior to September 11 reduced the potential for sampling bias attributable to psychological effects of the terrorist attack. The objective was to examine the degree to which socio-demographic factors, psychological and physical history, lifetime exposure to stressful events, September11-related experiences, and
coping strategies used following the attack predict psychological outcomes over time. The design allowed for respondents to record direct exposure, indirect exposure, or both. Only 2% of the sample reported having experienced direct exposure, and 96% of the sample reported having no losses related to the attack.

To assess early acute stress symptoms, respondents in Silver et al.’s (2002) survey completed a modified and abbreviated version of the Stanford Acute Stress Questionnaire (SASRQ; Cardena, Koopman, Classen, Waelde, & Spiegel, cited in Silver et al.), a measure used to assess acute stress disorder (ASD) according to the DSM-IV criteria. Respondents reported whether they “experienced” or “did not experience” acute stress symptoms specific to September 11. Rates of acute stress symptoms were determined using several of the DSM-IV criteria for ASD. As the SASRQ is designed to assess ASD within a month following a traumatic event (wave 1), Silver et al. also used the IES-R to assess posttraumatic stress symptoms at 2 and 6-month intervals (waves 2 and 3).

Silver et al. (2002) computed two scores from the IES-R data: a continuous mean score of all items and a dichotomous index of high versus low PTSS. When computing the dichotomous score, symptoms were considered present if respondents reported having been at least moderately distressed by them in the week prior (score of 2 on a scale of 0-4). Rates of PTSS were determined using the DSM-IV criteria for PTSD. Respondents meeting these cut-offs were classified as having high levels of PTSS. Coping strategies were measured at wave 1 using the Brief COPE scale (Carver, cited in Silver et al.), which is a 28-item self-report measure of both adaptive and maladaptive coping skills and yields fourteen subscales, comprised of two items each. The inventory includes some responses that are expected to be dysfunctional, as well as some that are expected to be functional.
Indirect exposure in Silver et al.’s (2002) survey was measured by asking wave 1 respondents to indicate the number of hours per day they watched TV coverage of the attack in the seven days following September 11, their degree of psychosocial loss due to the attack, and the degree to which they felt that they or someone close to them was personally in danger as a result of the attack. These additional indicators enabled a calculation of the percentage of respondents who reported PTSS. However, as Silver et al. did not assess all PTSD criteria as they omitted degree of functional impairment and duration of symptoms, respondents were not assumed to have PTSD.

The data from Silver et al.’s (2002) survey indicated that whereas 17% of the American population residing outside of NYC reported symptoms that met criteria for a diagnosis of PTSD two months following the attack, 5.8% did so at six months. This finding was in contrast to Schlenger et al. (2002) who reported that 11.6% of the America population was experiencing clinically significant psychological distress two months following September 11. High levels of PTSS were associated with female sex, no current relationship, and early disengagement from adaptive coping strategies such as avoiding repetitive TV coverage.

In terms of exposure to the attack, Silver et al. (2002) reported that 60% of the sample reported watching the attack as it unfolded on TV in real time. Between 9 and 23 days following the attack (wave 1), 15% of respondents watched less than 1 hour per day, 43% watched 1 to 3 hours per day, 26% watched 4 to 6 hours per day, and 16% watched more than 6 hours per day. Only six respondents (0.6% of the sample) reported watching no TV coverage of the attack during the week following the attack. In terms of coping strategies, Silver et al. (2002) found that the use of several coping strategies in the immediate aftermath
of the attack consistently and significantly predicted psychological outcomes over time, even after adjusting for all relevant variables.

Overall, Silver et al.’s (2002) data reveal that as long as six months after the events of September 11, the effects continued throughout the nation among people who were, for the most part, not directly affected by the attack. Although declining over the six months, PTSS still remained elevated. This finding suggests that psychological effects of a major national trauma are not limited to those who experience it directly, and the degree of response is not predicted simply by objective measures of exposure to or loss from the trauma. Importantly, Silver et al. raised the question of whether the presence of PTSS in a substantial proportion of respondents may represent a normal response to a catastrophic, unprecedented, and abnormal event. Silver et al.’s data adds further support for the research by Pfefferbaum et al. (2003), which found that the interaction of emotional reactions and media exposure were more important than TV viewing alone for predicting an individual’s level of trauma response.

**TV Images and Psychological Symptoms after the September 11 Terrorist Attack**

The fourth epidemiological survey was conducted by Ahern et al. (2002) and extended Pfefferbaum et al.’s (1999; 2000; 2003) research by including specific TV content to explore the potential interaction effect of TV images on PTSS in both directly and indirectly exposed adults residing in NYC. The random-digit-dial telephone survey of 1,008 NYC residents occurred between October 15 and November 15, 2001. Respondents answered questions about demographics including age, race, ethnicity, religion, income, and education. Information was collected on background factors such as major stressors experienced in the previous 12 months (including psychological problems), amount of social support available in the past six months, and geographical location on September 11. The survey included
questions on level of exposure to the event, such as whether a friend or family member was directly involved, injured, or killed, witnessing the attack directly, and subsequent loss of employment, income, or residence. For the purposes of the exploration, Ahern et al. then created an “any event experience” question. Event experiences were combined into one measure of any direct exposure (any of the preceding items reported or none), which focused on individuals exposed in any way to the September 11 attack.

Media exposure was measured in Ahern et al.’s (2002) survey with a series of questions about specific images that were broadcast repeatedly. Participants were asked whether or not they saw those images on TV, and if so, how many times they were exposed to them in the week following September 11. The images included an aeroplane hitting the WTC, a building collapsing, individuals running away from a cloud of smoke, and individuals falling or jumping from the towers of the WTC. For the purpose of the exploration, the number of times people had viewed each of these images on TV were categorised as 0 times, 1-7 times, and more than 7 times. According to Ahern et al., these categories were chosen because they represent potentially meaningful differences between routine TV viewing and heavy TV viewing during the week following September 11.

To assess for overall levels of psychological distress, two outcome measures of PTSD and major depressive disorder (MDD) were used to capture symptoms consistent with the DSM-IV criteria (Ahern et al., 2002). The first outcome measure was the National Women’s Study PTSD module developed by Kilpatrick (cited in Ahern et al.). This module is a structured interview that captures the presence of DSM-IV PTSD, which has a sensitivity of 99 % and a specificity of 79 % when compared with PTSD diagnosed by the Structured Clinical Interview for DSM-III-R. For event specific questions, (e.g., unwanted distressing
memories), the response contributed to the measure of current PTSD if it was specifically related to the September 11 attack. The second outcome measure was the NWS depression module, a well-validated measure that captures symptoms consistent with the DSM-IV criteria for MDD. To meet MDD criteria, respondents had to report four or more symptoms for a period of at least two weeks, one of which included depressed mood or anhedonia. Current PTSD and MDD were based on required symptoms reported within the past 30 days.

It was hypothesised that more frequent viewing of different images regarding the September 11 attacks would be associated with PTSD and MDD, and that more direct levels of exposure to the attack would have an interactive effect with TV viewing and be more strongly associated with PTSD and MDD (Ahern et al., 2002). The researchers found that most respondents were exposed to multiple TV images related to the WTC attack in the first week after it occurred. The image of the aeroplane hitting the WTC was seen more than seven times in the seven days following the attack by 87% of respondents. This image was the most viewed, with a median viewing rate of 36 times. In contrast, the image of people falling or jumping from the towers of the WTC was seen more than seven times in the seven days following the attack by only 19.5% of respondents. This image was the least viewed, with a median viewing rate of two times.

In terms of psychological symptoms, Ahern et al. (2002) reported a trend between increased frequency of viewing the images and both PTSD and MDD prevalence. The strongest association in both disorders was for the image of people falling or jumping from the WTC, with 14.7% of those individuals who reported seeing this image more than seven times had PTSD and 17.4% had MDD. The image of the WTC buildings collapsing was not associated with either PTSD or MDD.
To test the interactive effect, Ahern et al. (2002) first adjusted the relations between the image of people falling or jumping from the WTC towers (the image most consistently associated with both PTSD and MDD), and PTSD and MDD by both background and demographic factors associated with each outcome. Second, they accounted for traumatic event experiences by adjusting for those who had experienced direct event exposure related to the attack. Third, they added an interaction term between the frequency of viewing the image of people falling or jumping and being directly exposed. This permitted the assessment of multiplicative interaction between image viewing frequency and exposure to the event. Ahern et al. then stratified the association of TV image frequency with PTSD and MDD by direct event exposure (i.e., any or none).

Ahern et al. (2002) found that a specific disaster-related TV image was associated with PTSD and MDD among respondents who were directly exposed but not among those respondents who were indirectly exposed. The prevalence of PTSD was highest among those respondents who were directly exposed and saw the image more than seven times (22.5%), while it was much lower among those indirectly exposed and reported seeing the image more than seven times (3.6%), suggesting additive interaction. Similarly, the prevalence of MDD was highest among respondents who were directly exposed and saw the image more than seven times (21.3%), and much lower than those who were indirectly exposed and reported seeing the image more than seven times (11.7%), again suggesting additive interaction. Interestingly, this image was shown on TV in the USA for only the first three days following September 11 (Ahern et al.). The lack of availability of the image may explain its less frequent viewing, although the representation of humans jumping or falling to their death, may explain its strong association with indicators of psychological distress.
It was concluded that the different relations between each of the four images and both PTSD and MDD suggest that certain images may be more disturbing to people and contribute to more to PTSS (Ahern et al., 2002). In particular, the association was exacerbated among respondents who were directly affected. The strong relation between image frequency and PTSD and MDD among those directly involved in, or affected by, the attack, and the lack of such a relation in indirectly exposed respondents has not previously been documented in adult populations. Ahern et al.’s conclusion was similar to Pfefferbaum et al.’s (2001) child study, which demonstrated that although TV viewing time was positively associated with PTSS, there was no interaction between physical and emotional exposure to the bombing and TV viewing time in relation to this outcome.

Despite the important findings, Ahern et al.’s (2002) survey had a major design limitation. They examined media exposure in the seven days after the attack, and then PTSD and MDD between five and eight weeks after September 11. As such, they were unable to establish whether people who began to develop psychological symptoms soon after the attack watched more TV as a result of these symptoms or if the TV viewing contributed to these symptoms. It is plausible that a bi-directional association was operating in a number of cases. The different associations of qualitatively different images with PTSD and MDD do suggest that there may be an exacerbation of PTSS by more disturbing images. However, prospective assessment would be necessary to establish the temporal association between these factors. Moreover, individuals with PTSD and MDD may have recalled seeing the TV images more frequently in retrospect as they felt more affected by the images, or those with preexisting psychopathology may have watched more TV that included the images, causing traumatisation, leading to a PTSD diagnosis.
Summary of the Chapter

The first section of this chapter defined the concept of trauma response and provided a conceptual framework delineated by Carlson and Dahlenberg (2000) for understanding the psychological impact of a traumatic event based on cognitive processing models. Three elements were identified as needing to be present for an event to be experienced as traumatic. They are lack of controllability, negative valence, and suddenness. The core psychological responses to a traumatic event such as the completion principle as outlined by Horowitz (2001), the associated compulsion to repeat concept described by Freud, and Janoff-Bulman’s (1992, 2006) fundamental assumptions were then outlined. The first section concluded with an outline of trauma exposure subpopulations and this thesis postulated the presence of a novel subpopulation termed geographically remote exposure to describe those citizens of a country that attracted the most loss of life in a terrorist attack in a distant location. The Bali bombing was presented as an exemplar of this subpopulation.

The second section provided a terrorist-related context for the conceptual framework and exposure subpopulations. A set of studies by Pfefferbaum and colleagues (1999, 2000, 2003) investigated the potential link between media exposure and trauma response in indirectly exposed children. It was found that although media exposure itself was associated with PTSS, the relationship between these two factors was contingent upon a person’s immediate emotional reactions to the media’s coverage of a terrorist attack. The issue of generalisability to the adult normal population was raised as a limitation.

The chapter then reviewed four September 11-related epidemiological surveys that provided further support for the link between media exposure and trauma response in the adult general population. However, questions were raised about alleged PTSS not anchored
to a traumatic event and without the requisite exposure to a qualifying precipitating event for eliciting symptoms. The failure of these studies to attach symptoms to a qualifying exposure is further complicated by failure to note the timing of symptoms, whether they were post event or pre event, making it unlikely that they could be ascribed to the event. The PTSD diagnosis in these studies may include cases related to a variety of traumatic events, not just the September 11 terrorist attack, therefore explaining a portion of the cases reported. Furthermore, the rates of PTSD symptoms and diagnostic estimates among the studies are scattered in numbers reported. The scatter in rates of PTSS assessed in remotely exposed subpopulations suggests that the symptoms identified may be part of the statistical noise inherent in methodological imprecision of the data acquired.

The next chapter explores the various ways that individuals manage their trauma response following a PTE. To date, most research has focused on the pathogenesis model and the vulnerability trajectory as illustrated by the Oklahoma City bombing studies and September 11 epidemiological surveys. Few studies have explored the role of effective trauma management in the link between terrorist-related media exposure and trauma response in the adult normal population (e.g., Bonanno et al., 2006; Bonanno, Rennicke, & Dekel, 2005; Butler et al., 2006; Fredrickson, Tugade, Waugh, & Larkin, 2003). Adult resilience (as conceptualised by Bonnano [2004, 2005]) to a large-scale terrorist attack is presented as an exemplar of an effective trauma management trajectory using relevant empirical studies to elucidate the propositions advanced in this thesis.
CHAPTER 3
TRAUMA MANAGEMENT

Chapter 2 reviewed the empirical literature that explored the link between trauma response and media exposure to a large-scale terrorist attack. Chapter 3 focuses on how people effectively manage their trauma response. This chapter introduces the construct of resilience and argues that it is a determinant of an adaptive response to a potentially traumatic event (PTE) rather than an effect or outcome of the event. That is, it is an exemplar of effective trauma management following exposure to a stressor or a PTE.

The chapter is in three sections. The first section defines resilience according to the most recent wave of resilience inquiry. It then overviews the developmental context of resilience and discusses a recent operational definition of adult resilience and three associated assumptions (Bonanno, 2004, 2005). The second section discusses salient pathways to adult resilience using recent terrorism-related empirical studies to elucidate multiple, and at times counterintuitive, routes including worldviews, self-enhancement, and positive emotions. The final section outlines the present empirical investigation and introduces the aims and propositions advanced in the thesis. These include four major hypotheses and six research questions designed to test third variable effects on resilience.

The Resilience Construct

Definition

As a general construct resilience eludes precise definition and a uniform operational approach of any kind. Whether it is conceptualised as a static attribute, a process, a continuum, or a bounded category, resilience does not, and cannot, exist without a context. In many ways, the term is useless without acknowledgement of the trauma in which it is
being studied. For instance, it is inaccurate to compare resilience in a child exposed to a corrosive and highly toxic home environment with a supposedly similar set of characteristics or behaviours in an adult who experiences a brief and isolated PTE in the context of otherwise normal circumstances. Indeed, what may be resilience for one person might not be for another person. As an example, “resilience in a war veteran” and “resilience in adults indirectly exposed to a large-scale terrorist attack” cannot be compared and certainly cannot be combined into one general category. Therefore, there is no universal “resilience”: only resilience in context.

**Three Waves of Resilience Inquiry**

Resilience research has undergone a paradigm shift from a reductionist, problem-orientated approach to an inductive solution-focused approach (Luthar, 2006). Richardson (2002) identified three distinct waves of inquiry over the past 50 years that incorporate the paradigm shift. The first wave of resilience inquiry did not emerge from academic grounding in theory, but rather through the phenomenological identification of characteristics of children living in high-risk or corrosive environments and the support systems that predict social and personal success. Lists of qualities, assets, or protective factors that help children cope with adversity (e.g., self-esteem, self-mastery, internal locus of control) were the focus of early developmental and psychopathological research.

The second wave of resilience inquiry attempted to identify how resilient qualities are acquired (Richardson, 2002). Developmental researchers mapped a broad model of resilience to discover the process of attaining the identified qualities assets, or protective factors. Resilience then became a dynamic process of coping with stressors, adversity, change, or opportunity in a manner that result in identification, fortification, and
enrichment of protective factors and mechanisms. This process is presented as a simple
linear model or trajectory and depicts a person, irrespective of age or stage of life, passing
through various stages of biopsychosocial homeostasis.

The third and most recent wave of resilience inquiry moves beyond biopsychosocial
homeostasis toward biopsychosocial and spiritual heterostasis containing a
multidimensional mix of both fluctuating and fixed loci, with various, at times unexpected
pathways (Richardson, 2002). This wave of inquiry is concerned with identifying innate
motivational forces and processes within individuals, groups, and communities, creating
experiences that foster the activation and utilisation of such forces, and disseminating
information about the theory of resilience. This wave reveals the ordinariness of the
phenomenon that results in most situations from the organic function of “basic human
adaptational systems” (Masten, 2001, p. 227).

**The Developmental Construct of Resilience**

Since the construct of resilience was introduced into the field of psychology research
and theory, there has been little consensus about definitions and terminology, and
substantial variations in operationalisation and measurement of key constructs (see Luthar,
2006, for a cogent discussion). For example, current operational definitions vary from
absence of psychopathology in a child of a severely mentally ill parent, to recovery of a
severely physically ill patient, and to resumption of healthy functioning in people exposed
to extreme disaster or trauma (Agaibi & Wilson, 2005). The development and subsequent
investigation of the construct emerged from the field of developmental psychology. Over
the last decade it has been employed in various areas of research and this generic
adaptation of the construct has partially resulted in its definitional ambiguity.
Major theoretical concerns have been raised about variations in interdomain functioning among ostensibly resilient people, and ontogenic instability in the phenomenon of resilience (e.g., Tedeschi & Kilmer, 2005). There are related empirical and theoretical concerns, including questions about whether the construct, which is embedded in developmental terms and assumptions, has enough utility, validity, and specificity to be scientifically researched and evaluated across the lifespan (e.g., Campbell-Sills, Cohan, & Stein, 2006; Connor & Davidson, 2003; Friborg, Hjemdal, Rosenvinge, and Martinussen, 2003). As Bonanno (2004, 2005) has taken the developmental literature on resilience as a starting point for his thesis, the following overview highlights the salient factors that promote health among children exposed to corrosive environments. This is followed by a discussion of Bonanno’s adaptation of this body of work to the study of resilient outcomes among adults in otherwise normal environments who are exposed to an isolated and brief but potentially highly disruptive event.

**Variables that Facilitate Resilience in Children**

The developmental literature has delineated four main clusters of variables that appear to facilitate a child’s positive adaptation under conditions of risk (Luthar, 2006). The first cluster of variables is referred to as the dispositional pattern. This pattern relates to physical and ego-related psychosocial attributes that promote positive adaptation. These entail those aspects of a person that promote a resilient disposition towards life-stressors, and can include a sense of autonomy or self-reliance, a sense of basic worth, good physical health, and good physical appearance. The second cluster of variables is referred to as the relational pattern and concerns a person’s role in society and relationships with others.
These relationships and roles can range from intimate relationships such as family, to those within the broader social system.

The third cluster of variables that facilitate positive adaptation is referred to as the situational pattern and measures those aspects that link a person and a stressful situation. This can include a person’s problem-solving ability, the ability to evaluate situations and responses, and the capacity to take action in response to a situation. The final cluster of variables is referred to as the philosophical pattern and refers to a person’s worldview or orientation to life paradigm. This can include various beliefs that promote positive adaptation, such as the belief that positive meaning can be found in all experiences, the belief that self-development and self-identity is important, and the belief that life is satisfying, purposeful, and valuable.

**The Essential Components of the Developmental Construct: Inference and Criterion**

To understand the construct of developmental resilience requires identification of the unequivocal critical conditions that run through the various developmental definitions, terminology, and theoretical concerns. A review of the developmental literature by the current author on each of these areas found an unequivocal theme: resilience contains an **inference** component (or the need to have previously experienced a significant threat to one’s ontology) component and a **criterion** component (or the need to develop criteria to evaluate a psychologically and socially advantageous outcome).

Inherent in the resilience construct is the **risk** side of the inference component (Luthar, 2006; Masten, 2001). A child is not considered resilient if there has never been a significant threat or risk to his/her ontogenesis that has the potential to derail development. In other words, there must be exposure to a demonstrable risk. Empirical research has
found that in many cases, however, these risks are actuarially based predictors of problematic outcomes obtained from data, which states a situation is statistically associated with higher probability of a poor outcome in the future. This emphasis on actuarially based predictors poses two problems for researchers interested in studying resilience in adults. First, there are no known actuarially based predictors of problematic outcomes in adult populations. Second, most risk gradients are arbitrarily labelled in such a way that they can be inverted to create a “resource” gradient, indicating that high levels of asset are associated with more favourable outcomes. Little room is left for the pure risk factors that predict negative outcomes such as posttraumatic stress symptoms (PTSS) when they are identified or are conceptualised as existing in isolation (i.e., non-cumulative).

Also inherent in the developmental construct is the criterion component by which the quality of adaptation or developmental outcome is assessed or evaluated as good or favourable (Luthar, 2006; Masten, 2001). Although there is little doubt that such criteria exist, there remains much controversy as to who should define resilience and by what standards. For example, many developmental theorists define resilience on the basis of a child’s observable record of meeting the major expectations of a given society or culture in historical context for the behaviour of children of that age and situation. These expectations are termed salient developmental tasks, competency criteria, or cultural age expectancy. Other researchers, particularly in the field of psychopathology, have focused on the absence of illness or a low level of symptoms and impairment in functioning as the essential criterion for resilience, rather than the presence of academic or social achievements (e.g., Rutter, 2000). The choices made about specific qualities that constitute a particular criterion for defining a good or adaptive outcome reflect dominant cultural,
social, educational, and political norms. These criteria then influence which children are considered resilient, independent of whether the norms are articulated in the relevant study undertaken.

Taken together, the inference and criterion components of developmental resilience suggest that resilience in children arises in response to chronic corrosive and toxic environments such as poverty and abuse, rather than an isolated stressor or PTE. That is, it is characterised by favourable outcomes in spite of serious environmental or external threats to adaptation or development. In terms of developmental research, Bonanno noted it is very curious that there is so much research on children exposed to caustic environments but very little research on children exposed to PTEs (G.A. Bonanno, personal communication, March 15, 2006). Perhaps this is changing as the events of the Oklahoma City bombing and September 11 terrorist attacks have underscored the need to examine this issue in children from otherwise normal environments who have been exposed via media coverage of a large-scale terrorist attack (Fremont, 2004; Pfefferbaum et al., 2003).

**The Construct of Adult Resilience**

Bonanno and colleagues set out to challenge the prevailing assumption that resilience is either a psychopathological state or is seen only in rare and exceptionally healthy individuals (Bonanno et al., 2002; Bonanno, Wortman, & Nesse, 2004; Bonanno, Moskowitz, Papa, & Folkman, 2005; Bonanno et al., 2005; Bonanno et al., 2006). They began an ongoing investigation of the means by which people in the context of otherwise normal environments manage a relatively stable trajectory of healthy functioning following exposure to a major stressor or a PTE.
Although Bonanno and colleagues’ investigation is a third wave of resilience work-in-progress, a number of cogent findings have emerged. Perhaps the three most important contributions and, indeed, the three most relevant to this present investigation are (a) the notion that resilience is an innate determinant of trauma response (i.e., it antecedes or is *a priori* a trauma response) rather than an outcome or effect of the event, (b) an operational definition of adult resilience and three associated working assumptions, and (c) the mapping of four core trauma management trajectories following a PTE.

**Bonanno’s Operational Definition of Adult Resilience**

Bonanno (2004, 2005) embraced the third wave of resilience inquiry that sets about asking the question of what is the energy source or motivation to reintegrate resiliently following perturbation. This third wave articulates that growth or adaptation (in contrast to just recovering or bouncing back) requires increased energy or “motivational force”, and the source of that energy, is an *innate* resilience. In order to arrive at a novel operational definition of adult resilience, this thesis postulates that Bonanno (2004, 2005) reduced the ambiguity and complexity inherent in the developmental construct by removing the “inference” and “criterion” axiomatic components of the developmental construct. Bonanno recently applauded this novel postulate (G.A. Bonanno, personal communication, March 15, 2006). That is, adult resilience is more frequently a matter of managing an isolated and usually brief response to a PTE (although this is not always, for instance in chronic illness). In contrast, childhood resilience is typically understood in response to cumulative traumata originating in toxic, corrosive environments. Importantly, toxic and corrosive environments require children and adolescents to develop longer-term coping mechanisms and processes to prevent the development of psychopathology.
Brief and isolated events in the context of otherwise normal environmental circumstances often necessitate a more flexible and pragmatic form of managing one’s response to a PTE. Flexible management describes coping behaviours that are generally adaptive across situations, whereas pragmatic management describes coping behaviours that are adaptive in face of adversity but not necessarily adaptive or even maladaptive in other contexts (e.g., repressive coping & self-enhancement). As Bonanno (2004) puts it, the ability to be flexible and pragmatic when managing a trauma response is a kind of “whatever it takes” approach. Taken together, a brief, isolated event in the context of otherwise normal circumstances and the capacity to cognitively appraise a PTE using flexible and pragmatic thinking distinguish adult resilience from childhood resilience.

Having removed the inferential and criterion components of the developmental definition and highlighted the crucial cognitive, behavioural, and emotional difference between children and adults (i.e., flexible and pragmatic trauma management in adults), Bonanno (2004) delineated his operational definition of adult resilience:

Resilience to loss and trauma...pertains to the ability of adults in otherwise normal circumstances who are exposed to an isolated and potentially highly disruptive event, such as the death of a close relation or a violent or life-threatening situation, to maintain relatively stable healthy levels of psychological and physical functioning ... as well as the capacity for generative experiences and positive emotions. (pp.20-21)

Although yet to be determined, it is argued that this operational definition affords greater utility and specificity when researching resilience across the lifespan and across life events.

In addition to his operational definition of resilience, Bonanno (2004) argued that his research led to three primary conclusions, each reflecting but also extending the insights
gained from developmental theory and research. First, adult resilience in the face of adversity or potential trauma represents a distinct trauma management trajectory from that of recovery. Second, as an exemplar of effective trauma management, resilience is more common that has hitherto been documented. Finally, in relation to the heterogeneity of the construct, there are multiple, and at times counterintuitive, pathways to resilience in adults facing a PTE.

Three Assumptions of Bonanno’s Concept of Adult Resilience

Assumption One: Resilience is Different from Recovery

During the course of their lives most people are exposed to at least one traumatic event (Ozer & Weiss, 2004). Research reveals wide variation in the way people manage their initial trauma response from vulnerability to resourcefulness (e.g., Foa et al., 2005; Galea & Resnick, 2005; Calhoun & Tedeschi, 2006; Yehuda et al., 2005). Yet, until recently, there has been little attempt to theoretically distinguish subgroups within the broad category of individuals exposed to traumatic stressors. When resilience was considered, it was either lumped together in to a single, recovery category or posited in terms of factors “that favour a path of recovery” (McFarlane & Yehuda, 1996, p. 158). Nevertheless, recent data demonstrate that resilience and recovery are discrete and empirically distinguishable trajectories following the death of a spouse (e.g., Bonanno, Moskowitz et al., 2005), direct exposure to a terrorist attack (e.g., Bonanno et al., 2005; Bonanno et al., 2006) and indirect exposure to a terrorist attack (e.g., Butler et al., 2006; Fredrickson et al., 2003). The term “trajectory” refers to the series of successive states by which a person precedes over time. It represents the way a person manages a response to a PTE in terms of long-term functioning. The prototypic recovery and resilience trajectories,
as well as trajectories representing chronic and delayed symptom elevations are found in Figure 3.1.

![Figure 3.1. Prototypical trajectories of loss in biopsychosocial functioning over a 2-year period following a potentially traumatic event (Adapted from Bonanno, 2005).](image)

**Vulnerable Trajectory**

**Recovery.** Historically, the recovery trajectory and attendant negative changes were considered to be the most common type of trauma management (Bonanno, 2004, 2005). According to Bonanno, some people manage their trauma response through a moderate to severe initial elevation in biopsychosocial symptoms that significantly disrupt normal functioning such as difficulties carrying out their normal tasks at work or in the
home. They somehow manage to struggle through these tasks and slowly but gradually this disruption declines over the course of many months before returning to pre-trauma level of functioning within approximately two years.

Trauma research has identified two subsets within the recovery trajectory: delayed and chronic (Foa et al., 2005). Some people start off by experiencing a moderate disruption in normal functioning following a PTE. They recover quickly, but six months after the event, they experience unexpected biopsychosocial problems or difficulties in experiencing life as they did previously. As seen in Figure 3.1, this is the delayed trajectory. Another subset of people experiences an acute and severe trauma response, which they are unable to effectively manage. As seen in Figure 3.1, this is the chronic trajectory.

Resourceful Trajectory

Resilience. Recent trauma literature supports a shift away from vulnerable toward resourceful management following a response to a PTE (e.g., Bonanno, 2004, 2005; Calhoun & Tedeschi, 2006; Janoff-Bulman, 2006; Linley & Joseph, 2004). Bonanno and colleagues’ initial research in the area of loss, grief, and bereavement found that many people manage to tolerate an initial, transient upheaval in response to a PTE in an effective way, with only a mild loss or perturbation in normal functioning in the affective, cognitive, intrapsychic, and interpersonal domains across time. For some reason, these people manage their trauma response through a number of pathways such as hardiness, self-enhancement, flexible and pragmatic coping, positive attitudes, and positive emotions. These resourceful pathways allow people not only to manage their response to a PTE but also to move onto novel challenges and generative experiences with apparent ease.
Studies have confirmed that resilience can be reliably distinguished from recovery. For example, in their direct exposure to the September 11 terrorist attack sample, Bonanno et al. (2005) provided respondents’ friends and relatives with a graphic representation and a narrative description of the prototype outcome trajectories. These included the resilient and recovery trajectories as well as chronic and delayed symptom patterns. The researchers then asked the directly exposed respondents’ friends and relatives to assign the respondent to the outcome trajectory that most closely matched their own observations of the participants’ reactions before and after the terrorist attack. The friends and relatives were able to make this assignment with a high degree of accuracy and closely matched the trajectories derived from respondents’ symptom scores. The key difference between resilience and recovery appears to be that resilient people are able to manage their trauma response in such a manner that it does not interfere with their ability to maintain effective biopsychosocial functioning.

Implications of the Failure to Differentiate Between Resilience and Recovery

Distinguishing between the recovery and resilience trajectories has important implications with respect to clinical interventions for trauma and loss (Bonanno, 2004, 2005; Mancini & Bonanno, 2006; Reissman et al., 2004). Researchers and clinicians have tended to assume a unidimensional trauma response with minimal variability in individual differences (McFarlane & Yehuda, 1996). An implication for failing to differentiate among the trajectories is illustrated using Figure 3.1. As seen in Figure 3.1, there is a point in time when both the recovery and delayed trajectories intersect. It is quite possible that as these two groups experience the same level of disruption in normal functioning at the nine month point (i.e., those people that, at the time of assessment, exhibit &/or report moderate signs
& symptoms of biopsychosocial disturbance), they may risk being lumped into one treatment group if a thorough peri-event and post-event functioning in the first eight months, is not undertaken. It stands to reason that clinicians and counsellors risk making the faulty assumption that people belonging to the recovery trajectory must engage in the same treatment interventions as people belonging to the delayed trajectory. As seen in Figure 3.1, the recovery and delayed trajectories are vastly divergent.

There is increasing evidence in the literature that failure to differentiate among resilience, recovery, chronic, and delayed trajectories might shift the balance from recovery to vulnerability (North, 2004). Pathologising normative responses to non-normative events or providing forced debriefing interventions risks destabilising the innate resilience process inherent in effective and resourceful trauma management. Indeed, Raphael (2005) argues that there is no evidence that critical incident stress debriefing (first implemented in Australia in 1977 following the Granville train disaster), developed for use with emergency response personnel to help mitigate the effects of psychological distress after exposure to a PTE assists recovery. Rather, for many people across levels and types of exposure, this type of intervention is inappropriate for the time required to normally grieve and deal with any traumatic event (Raphael, 2000).

Litz, Gray, Bryant, and Adler (2002) developed a clinical intervention that differs to critical incident stress debriefing. This intervention was developed in response to the psychological reaction of the American public following the September 11 terrorist attack. It appears to resonate with Bonanno’s (2004) thesis by suggesting that it is important to distinguish between psychopathology and “reactions” or “responses” that are normative and expected following extraordinarily disturbing events. They proposed the development
of initial screening practices for intervention with people who demonstrate potential risk factors (e.g., low social support, previous trauma, ethnicity, hyperarousal). Implicit in this intervention is the view that, of the people exposed to a PTE, the majority will demonstrate resilience over a period of time and should not be undermined by counselling interventions.

Similar to the situation where people may receive premature or overtly aggressive interventions that interfere with the innate resilience and recovery processes, are the situations of loss, grief, and bereavement. Clinicians in western societies have tended to understand loss, grief, and bereavement from a unidimensional perspective characterised by the need for “grief work” (Bonanno & Kaltman, 2001). Despite endorsing this perspective, researchers have failed to demonstrate empirical support for such a view. Indeed, Bonanno and colleagues have found instead that for many people, such grief work was counterproductive and even deleterious. For Bonanno (2004), the upshot of this finding is that grief work is appropriate and effective for only a subset of bereaved people, most typically those experiencing difficulties of a severe level of grief and distress.

**Assumption Two: Resilience is the Modal Trajectory**

A second assumption emerging from the work of Bonanno and colleagues is that resilience is the modal trauma management trajectory following a PTE. The researchers investigated the prevalence of adult resilience in a set of studies on loss, grief, and bereavement (e.g., Bonanno et al., 2001; Bonanno et al., 2002; Bonanno Moskowitz, et al., 2005; Bonanno et al., 2004). In establishing the prevalence of resilience, Wortman and Silver (cited in Bonanno et al., 2002) found no empirical basis for either the assumption that the absence of a grief reaction is pathological, or that it is always followed by delayed manifestations of grief. Despite their important findings, there were few prospective and
longitudinal bereavement studies from which they could comprehensively evaluate their claim.

**Developing a Working Model of Resilience**

In order to develop an empirically based, working model and taxonomy of grief, Bonanno and Kaltman (2001) reviewed the literature on bereavement. They sought to elucidate the parameters of typical grief; as well as extreme forms of grieving that would shed light on individual differences in grief reaction. The researchers first considered longitudinal studies of grief duration. They then reviewed descriptive studies of basic dimensions or phenomenological features of grieving. Finally, they evaluated diagnostically orientated studies focused on the categorical distinction between normal and complicated grief. One outcome of their review was the finding that there had been few attempts to examine the validity of the specific “grief outcome” categorisations in relation to the available empirical data. In response to this paucity, Bonanno and colleagues set out to map the core trajectories of grief reaction in a way that had not been possible in previous studies. This proposal, in addition to their empirically based, working model and taxonomy, enabled Bonanno and Kaltman to not only test certain postulates but also to generalise the model to the study of trauma.

The departure point for Bonanno and Kalman’s (2001) systematic investigation was the prevailing assumption held by bereavement theorists that absence of prolonged distress or depression following the death of an important relative or friend is a rare and pathological response. As a pathological response, “absent grief” results from denial, absence, or splitting of the emotional reality of the loss. These theorists also held the view that “absent grievers” had poor quality of object relations (Field, Sturgeon, Puryear,
Hibbard, & Horowitz, cited in Bonanno & Kaltman). Indeed, in a survey of self-identified bereavement experts by Middleton, Moylan, Raphael, Burnett, and Martinek (1993), the majority (65%) endorsed beliefs that absent trauma exists, that it usually stems from denial or other defence mechanisms, and that it is a robust predictor of maladaptation in the long run. However, in a related study by Middleton, Burnett, Raphael, and Martinek (1996), cluster analyses of different types of bereavement samples found “no evidence for the pattern of responses which might be expected for delayed grief” (p.169).

Bonanno and colleagues have addressed preloss functioning in a set of studies on grief and bereavement. Their first prospective, longitudinal study obtained data beginning prior to the death of a partner/spouse through 18 months of bereavement (Bonanno et al., 2002). Robust evidence emerged that adults who do not experience the death of a spouse as a traumatic stressor are also capable of genuine resilience. In this study, over 1,500 married people were recruited regardless of health status and then interviewed periodically over several years. During this period, 205 people lost a spouse/partner and were interviewed several years prior to bereavement and at 6 months and 18 months postloss.

To determine individual differences in grief patterns, Bonanno et al. (2002) categorised respondents conducted in three steps. The first two steps involved categorising high and low preloss depression and adjustment scores. Two change scores were calculated for each respondent by comparing preloss depression and adjustment scores at preloss with the 6-month follow-up, and with the 18-month follow-up. Changes were then categorised as grief reaction, no change, and improved functioning. The categories created in the first two steps were used in step three, which defined four possible patterns from preloss to 18-months postloss. Bonanno et al. then assigned respondents to one of four patterns for both
grief and depression: *chronic* (i.e., high preloss symptoms showing no change at both 6 months & 18 months, *improved* (i.e., high preloss symptoms showing improvement in functioning at both 6 & 18 months), *delayed* (i.e., high preloss symptoms showing no change at 6 months, but showed improved functioning at 18 months), and *improved-relapsed* (i.e., high preloss symptoms showing improved functioning at 6 months, but were no longer different from prelevel symptoms at 18 months).

Bonanno et al. (2002) found that in the resilient group (46%), pre-bereavement functioning revealed an absence of maladjustment and did not show dismissive or avoidant patterns of attachment. These people did, however, rate highly on scores suggestive of positive adaptation to a stressor (e.g., instrumental support, worldviews, acceptance of the finality of death). Notably, although this group experienced the emotional pangs and cognitive intrusions at some point early after the loss, the resilient group differed from the other respondents in that these experiences were transient rather than enduring in nature, with only mild disturbances in levels of functioning.

**Estimated Prevalence Rates of the Grief Reaction Trajectories**

Only estimated prevalence rates for grief could be determined in Bonanno et al.’s (2002) study due to various instruments used to measure grief in the empirical studies on bereavement reviewed by Bonanno and Kaltman (2001). Between 50% and 80% of bereaved people appeared to exhibit a *common grief pattern* consisting of moderate disruptions in biopsychosocial functioning during the initial months following the death of a spouse/partner. Although some disruptive aspects of the grief process continue for a number of months following the death, most bereaved people return to baseline (i.e., normal) levels of functioning. Only a relatively smaller subset (~15%) of bereaved people
in these studies continued to show serious disruptions in functioning at the 1-2-year point, thereby suggesting some form of chronic grief. The review also identified a minority of bereaved people who demonstrated minimal grief (i.e., little or no overt signs of disruption to functioning) in the first months of bereavement. Due to measurement variations, the size varies from 15%-50%. Overall, this is consistent with the DSM-IV’s prevalence rates of various bereavement patterns.

**Estimated Prevalence Rates of Prototypic Trajectories Following a PTE**

Bonanno and colleagues generalised their patterns of grief reactions to other areas of grief and bereavement using prospective, longitudinal studies such as sudden and violent deaths, gay men and HIV/AIDS, the elderly, and cross-cultural comparisons (e.g., Bonanno, Moskowitz, et al., 2005; Bonanno Papa, Lalande, Nanping, & Noll, 2005; Lalande & Bonanno, in press). These studies consistently mapped the core trajectories of grief reaction and supported the prevalence of the resilience pattern. Bonanno (2005) concluded that they have important implications for how adults manage their response to stressors and PTEs.

Having successfully generalised his patterns of grief reactions to a range of bereavement experiences and situations, Bonanno (2004, 2005) extrapolated the overall prevalence rates and patterns of grief reactions to the hitherto neglected area of adult resilience in the face of highly aversive and potentially disruptive events. In developing his thesis, Bonanno modified the grief reaction patterns to create four prototypic trajectories of functioning and their estimated prevalence rates following exposure to a PTE in adults. These prevalence rates and disruption in normal biopsychosocial functioning are shown in Figure 3.1. As seen in Figure 3.1, due to variation in measures across the studies reviewed by Bonanno and Kaltman (2001), resilience is estimated to be the prototypic trajectory for
between 35-55% of adults, recovery between 15-35%, delayed between 5-10%, and chronic between 10-30%.

**Resilience in Indirectly Exposed People after the September 11 Terrorist Attack**

Bonanno et al. (2006) investigated the prevalence of resilience following the September 11 terrorist attack in a large probability sample of adults residing in or near in NYC on the day of the attack. Potential respondents were contacted by random-digit dial six months after September 11 to see if they would agree to a computer-assisted telephone interview. The final sample ($N = 2,752$) represented the broader NYC population, as evidenced by comparison with the most recent census data. Respondents were assessed for the presence of the 17 symptoms that constitute PTSD using the NWS survey consistent with previous September 11-related research (e.g., Ahern et al., 2002). Respondents were also asked how close they had been to the WTC, whether they had been physically injured by it, and whether they had lost family, friends, or colleagues.

In determining the cut-off for resilience in Bonanno et al.’s (2006) study, the normal range was found to be two or fewer PTSD symptoms when PTSD symptoms were assessed in the absence of exposure to a PTE. However, Bonanno et al. noted that previous studies set a more conservative criterion for the absence of pathology as one or zero symptoms. Therefore, resilience was designed as one or zero PTSD symptoms and recovery as two or more PTSD symptoms in the absence of the PTSD diagnosis.

Despite the conservative definition for resilience, Bonanno et al. (2006) found that 65.1% of respondents were resilient. There was little variation in the prevalence of resilience across demographic categories, with over 50% prevalence in almost all categories. The study demonstrates resilience in NYC during the six months following
September 11. Even among the most destructive levels of exposure, the proportion of resilience never dropped below one-third. However, Bonanno noted that the operational definition of resilience was restricted, a problem inherent in the use of a large probability sample. Yet, when a more stringent and a more liberal definition were used, the results did not change to any substantial degree. As some respondents may have been depressed even in the absence of PTSD symptoms, Bonanno et al. further narrowed the definition of resilience to include the absence of depression. Again, this restriction did not appreciably lower the proportions of people showing resilience across exposure categories. Taken together, this indicates that although resilience is reduced at the highest levels of exposure, it is nonetheless still observed in up to 50% of exposed people and always remains prevalent long enough to be considered a common and innate response to a PTE.

In summary, from the outset of Bonanno’s (2004) novel thesis, he articulates that bereavement is not synonymous with highly disruptive events. They are qualitatively different. What is similar is that resilience is the modal trauma management trajectory. Bonanno agrees that there are a number of qualitative and quantitative dimensions to a PTE that differentially affect a person’s response to the event. However, the key point to his thesis is that resilience is antecedent to the event rather than the outcome of the event. As such, resilience determines both the quality and quantity of a person’s initial trauma response and subsequent management. Furthermore, although he agreed with the current trauma literature that the proportion of adults exhibiting a resilience trajectory would fluctuate across different types and durations of PTEs, Bonanno nevertheless postulates “resilience will almost be the modal outcome among adults exposed to even the most pernicious of stressor events” (p.267).
**Assumption Three: Multiple and Unexpected Pathways to Resilience**

A third assumption to emerge from Bonanno and colleagues’ research builds on from the first two assumptions that resilience is distinct from recovery and is the modal response trajectory. It suggests that multiple, unexpected, and sometimes counterintuitive, pathways lead to resilience. This assumption is consistent with the third wave of resilience inquiry that posits it as an innate, antecedent/a priori, and heterogenous construct.

At the broad level, many of the same qualities, characteristics, and processes that promote healthy, stable development in children also lead to resilience in adults. These include situational factors such as the supportive relationships with family and peers, and individual factors such as mature object relations and capacity to productively work and play. At a specific level, similar to childhood resilience, adult resilience constitutes a heterogenous group of factors that represent efficient attempts by the mind to use the interface between the person and society (Richardson, 2002).

A key element in maintaining normal functioning following exposure to a PTE, despite some mild and transient perturbation, is not so much, which pathways are used, but rather, whether these pathways are applied flexibly, pragmatically, and appropriately to the immediate context in order to promote resourceful and adaptive functioning.

**The Importance of Being Flexible**

One example of adaptive flexibility in adults is flexibility in emotion regulation. Bonanno’s research team examined flexibility in a recent study associating resilience with the ability to both enhance and suppress emotional expression when instructed to do so following the September 11 terrorist attack (Bonanno, Papa, Lalande, Westphal, & Coifman, 2004). In this study, Bonanno et al. drew on a key individual difference variable
delineated in the developmental research known as “behavioural flexibility”. The researchers extended this construct to adults by demonstrating that flexibility in the capacity to consciously regulate the overt elements of an internal emotional state predicted resilience. Using a longitudinal, within-subjects manipulation design, Bonanno et al. tested a sample of NYC university students ($N = 87$) across two times to investigate the hypothesis that favourable adjustment and successful adaptation depends not so much on one regulatory system, but on the ability to both enhance and suppress emotional expression concurrent with situational demands. Time 1 occurred a few days following September 11, and Time 2 occurred 18 months later.

Bonanno et al. (2004) found considerable variability in distress scores from Time 1 to Time 2. Irrespective of their level of adjustment, respondents experienced the emotion-evoking situation in very similar ways. However, as predicted by the expressive-flexibility hypothesis, the abilities to enhance and to suppress emotion each independently predicted reduced distress at Time 2, over and above the effects that can be accounted for by Time 1 distress. Moreover, combining expressive-enhancement and expressive-suppression abilities into an overall flexibility score also predicted reduced distress, whereas a polarity score was unrelated to adjustment.

The study by Bonanno et al. (2004) shows that expressive suppression does not influence the subjective experience of emotion. Rather, it reduces the overt expression of emotion and attenuated memory for emotional stimuli. The findings contribute to a novel perspective on the potential benefits linked to the ability to both enhance and suppress emotional expression following a PTE. However, caution is warranted in generalising this finding to all trauma experiences, as there is evidence that chronic suppression of emotions
can have intrapsychic and interpersonal costs long-term (e.g., Campbell, Rudich, & Sedikides, 2002). The next section focuses on three constructs considered by Bonanno (2004) to be salient pathways to adult resilience.

**Pathways to Resilience**

For Bonanno, successful employment of factors such as worldviews, self-enhancement, and positive emotions that serve as pathways to resilience rests on a person’s capacity for self-identity continuity in face of a PTE (Bonanno, Papa, O’Neill, 2001). Similar to Kernberg’s (1975, 1976) understanding of personality, Bonanno views the self not as a fixed, unitary entity, but rather a multifaceted, fluid, flexible arrangement of experienced, anticipated, and remembered self- and other-representations. This multifaceted perspective allows for a depth analysis of the broader question of how people manage a continuous sense of self in relation to the normal, ever-changing challenges of work, relationships, health, illness, risk, uncertainty, and death inherent in contemporary Western culture and society. This perspective is also consistent with a considerable body of research in social psychology over the last decade that has produced a more complex view of the self (e.g., Morf & Rhodewalt, 2001). This section elaborates on three possible mechanisms by which resilient people might maintain self-identity in the context of exposure through the media of a large-scale terrorist attack.

**Worldviews**

One potential way that resilience might maintain self-identity continuity following a PTE is through worldviews (Bonanno et al., 2001). Worldviews are learned and confirmed by our years of life experience and make our adult lives continuously comprehensible and intelligible. Our fundamental worldview assumptions are our most general, abstract
schemas developed in childhood (Horowitz, 2001; Janoff-Bulman, 1992, 2006; Janoff-Bulman & Yopyk, 2004). They are like a conceptual framework that ties everything together, that allows us to understand society, culture, and the world. By adulthood, they typically go unquestioned and unchallenged; yet, they provide us with our most basic expectations about our existential and ontological outcomes and social interactions.

The worldview conceptual system is represented by a set of internal representations about the self and others. These representations reflect and guide our interactions in the world and enable us to function effectively. They also provide a cognitive, affective, and behavioural pathway for effectively planning critical ontological decisions that shape our future. Perceiving the social world as orderly and predictable provides people with a number of benefits, which include enhanced control, motivation, self-efficacy, self-worth, safety, security, and benevolence. They also provide us with mental health and normative proscriptions for action and behaviour toward others in society.

According to Janoff-Bulman (1992), there are at least seven fundamental components of a worldview. The first component is a model of the world, which allows us to understand how the world functions and how we fit into the scheme of things. It lets us ask the question: “Who are we?” The second component explains the first one. It helps us answer the questions: “Why is the world the way it is? “Where do we come from?” This extrapolation of past evolution in to the future defines a third component of a worldview: futurology. It helps us answer the question: “Where do we go from here?” Yet, this question confronts us with a choice: which of the different alternatives should we promote and which should we avoid. This is the more fundamental issue of value: “What is good
and what is evil?” The theory of values is the fourth component of a worldview and includes morals, ethics, and relative versus absolute rules by which to govern one’s life. Knowing what to strive for in one’s life does not yet mean knowing how to get there. The theory of action or praxiology is the fifth component of a worldview, and helps us answer the question: “How should we act?” (Janoff-Bulman, 1992). This is the ability to be flexible and pragmatic in one’s actions. This is the component that solves practical problems in a “what ever it takes” approach, which Bonanno (2005) equates with pragmatic flexibility that is axiomatic to adult resilience. Plans are based on knowledge and information, on theories and models describing the phenomena we engage with in the world. As such, we need to know how to construct reliable models. This is the sixth component of a worldview and is termed knowledge acquisition or epistemology. It allows us to know with a degree of certainty the question: “What is true and what is false?”.

The final component does not answer any fundamental question (Janoff-Bulman, 1992). Rather, it reminds us that worldviews cannot be developed from sensory perception alone. Each person builds a worldview from fragments of existing models, theories, concepts, narratives, and memories, scattered over many different personal and public discourses. This defines the seventh component: fragments are a starting point of a comprehensive worldview, which is consistent with a multidimensional self-identity.

Belief in a Just-World Hypothesis

It is argued that belief in a just world contributes to the perceived orderliness, predictability, and stability of one’s social world (Hafer & Bègue, 2005). This explanatory process is adaptive to a certain degree as it protects people from feeling overwhelmed by and vulnerable to events that counter the normative proscription for behaviour in the short-
term. When these beliefs are challenged by strong evidence that suggests the world is not just, benevolent, and fair after all, different aspects of a person’s worldview may be more or less functional in relation to the psychological distress that is caused by the traumatic event. For example, it is highly probable that the Bali bombing was strong evidence for the shattering of the fundamental assumption of safety and controllability in the world for many Australian citizens. The psychological distress would clearly manifest as varying degrees of anticipatory anxiety, anger, fear, and outrage. It is unlikely, however, that this large-scale event shattered the belief of personal injustice (i.e., that the world is unjust to oneself). Thus, it is possible that the more relative, flexible, and pragmatic a person’s worldview, in contrast to absolute, rigid, and principled, the more likely it is that the person is able to positively adapt to PTEs in a resourceful; hence, resilient way.

Many people search for but cannot find any meaning in a traumatic event. These people tend to have a prolonged and severe disruption in functioning (Bonanno et al., 2002). Conversely, other people report that they do not actively search for meaning following a traumatic event. According to Bonanno et al., these people tend to have a brief and mild disruption in functioning. One plausible explanation for the later group’s trauma response is that they hold a priori beliefs about themselves and the world that can more readily accommodate the possibility of risk, chaos, catastrophe, and contradiction inherent in contemporary western societies. These a priori beliefs minimise the need to search for possible and probable reasons and justifications for the traumatic event.

**Worldviews as a Predictor of Resilience Following the September 11 Terrorist Attack**

In a large \((N = 1,281)\) Internet longitudinal sample of Americans, Butler et al. (2006) examined correlates and predictors of both negative and positive psychological responses
to the September 11 terrorist attack. Testing involved a brief initial questionnaire posted on September 28, 2001, with a six-month follow up posted on November 3, 2001. Media exposure was assessed by asking respondents to indicate the amount of time per day they had spent attending to September 11-related media in the first few days following the attack (range was none through to more than 12 hours). Worldviews were measured with the 26-item Changes in Outlook scale (Joseph, Williams, & Yule, cited in Butler et al.).

Significant factors at both baseline and the 6-month follow-up associated with higher resilience included fewer changes in worldview, positive rather than negative worldviews, lower levels of denial, and low hours of media exposure. These findings are consistent with Janoff-Bulman’s (1992) assertion that adjustment may depend, at least in some part, on avoiding lapsing into overgeneralised negative views of the world in the aftermath of a PTE experienced at a personal level. In respect to media exposure, results were consistent with those of previous studies on the effects of September 11 on psychological wellbeing (Ahern et al., 2002, 2004; Schlenger et al., 2002; Schuster et al., 2001; Silver et al., 2002).

The results of Butler et al.’s (2006) study suggests that the type of person who is most resilient after indirect exposure to the September 11 attack is someone who is flexible and pragmatic, and who does not come away from the experience with a negative worldview or trauma reactive beliefs. Notably, the finding that negative changes in worldview was the strongest predictor of distress emphasises the importance of cognitive assessment and attribution of resilience. Butler et al. suggested that future research identify the pre-existing worldview assumptions and beliefs in a just world vulnerable to negative change. This would lead to the implementation of educational programs and preventative and therapeutic interventions to foster personal and collective-level resilience to terrorism.
To reiterate, not everyone experiences a “belief in a just world” schema to make meaning and sense of a shattered worldview. It is argued that, for many people, a shift in one’s fundamental assumption, which is likened to a shifting scientific paradigm (Kuhn, 1962), is effectively managed by adopting pragmatic and flexible worldviews to quickly re-establish the original set of assumptions (Bonanno, 2004). Resourceful management of one’s initial trauma response also involves the capacity to both enhance and suppress emotional expression, so as to move from potentially overgeneralised negative assumptions to more balanced assumptive worldviews that provide self-identity continuity. This process then obviates complex cognitive restructuring (as seen in posttraumatic growth [PTG]) and self-identity discontinuity (as seen in PTSD) that accompanies the vulnerability trajectories (i.e., recovery, chronic, & delayed).

**Self-Enhancement**

A second way that resilience maintains self-identity continuity following a PTE is through a self-enhancing or overly favourable and unrealistic self-serving bias (Bonanno, Field, et al., 2005; Bonanno et al., 2005; Kwan et al., 2004; Taylor et al., 2003). Self-enhancement has been of central concern to both personality and social psychologists for some time. Traditionally, the construct was viewed as a fundamental component of psychological health, but only in so far as people tempered it by a realistic acceptance of one’s inherent limitations and negative characteristics. In 1988, however, Taylor and Brown challenged the traditional assumption that self-enhancement was adaptive so long as it was perceived accurately. For Taylor and Brown, self-enhancement is “an unrealistic, positive view of the self, [an] exaggerated perception of personal control, and unrealistic optimism” (p. 194). In addition to self-enhancement being common, they argued that is
highly adaptive, particularly in contexts of extreme adversity. For the most part, they continue to maintain this position (e.g., Taylor et al., 2003).

A number of researchers dispute Taylor and Brown’s (1988) “positive illusions” thesis, especially the claim that it is innate and adaptive. Colvin and Block (1994) questioned the evidential basis for their claims. Paulhus (1998) both demonstrated that trained interviewers and peers rated self-enhancers negatively over a period of time. For example, in Paulhus’s longitudinal study of social interactions, self-enhancers were rated positively (i.e., agreeable, well adjusted, & competent) after an initial meeting with five strangers. After seven weeks, however, they were rated negatively by all five strangers and continued to provide self-evaluations discrepant with peer evaluations despite negative feedback from their peers. John and Robins (1994) found self-enhancement bias in only 60% of respondents who evaluated their performance in a group discussion task more positively than did a group of independent observers. Taken together, these disparate views led to a debate between psychologists who believe that psychologically healthy people perceive themselves accurately and psychologists who believe it is more common and adaptive to have overly positive illusions, self-serving biases, or self-enhancing tendencies.

As a result of the distinction between the two conceptions of self-enhancement, the construct is now operationalised according to two distinct perspectives. The first perspective derives from Festinger’s (cited in Kwan et al., 2004) social comparison theory, where people possess a drive for self-evaluation based on comparison with others. Contrasting with the social comparison model of self-enhancement, is a model based on Allport’s (cited in Kwan et al., 2004) self-insight personality theory, which suggests that self-enhancers perceive themselves more positively than others perceive them. Based on the divergent assumptions
of the two distinct conceptual perspectives of self-enhancement, the benefits and costs of self-enhancement can best be summarised as trade off, or a “mixed blessing” postulate (Paulhus, 1998). This mixed blessing perspective views the self-enhancement bias as having positive consequences for both intrapsychic and interpersonal adjustment and adaptation following a PTE. This allows self-enhancers to think and feel positively about their selves under the condition of perceived threat, but not for interpersonal adjustment. In other words, when perceived or actual threats to the self are salient, a self-serving bias may benefit biopsychosocial equilibrium short-term, but with interpersonal costs long-term.

**Self-Enhancement among High-Exposure to the September 11 Terrorist Attack**

Bonnano et al. (2005) explored whether self-enhancing individuals who were directly exposed to the September 11 terrorist attack showed resilience or instead exhibited a form of delayed trauma response or social maladjustment. The researchers interviewed 52 respondents at seven and eleven months after the attack. To test the hypothesised link between self-enhancement and resilience, Bonanno et al. mapped each of the four prototypic trajectories following a PTE: recovery, resilience, delayed, and chronic. Participants were assigned to one of the four trajectories on the basis of their depression and PTSD symptoms across time.

To provide objective validation of the symptoms trajectories, the researchers then asked three close friends or relatives of each respondent, a number of questions at 28 months post September 11. The view of self-enhancement as an adaptive trait predicts that self-enhancers friends and relatives will describe them in positive terms and rate them as psychologically healthy prior to September 11. It also predicts the respondents will be rated as not changing or changing less than other respondents following September 11. By
contrast, the view of self-enhancement as a superficial form of adjustment (i.e., maladjusted) makes the opposite prediction; being rated by others as being psychologically unhealthy and having poor adjustment following September 11. The friends and relatives were then asked to choose the trajectory that most closely matched the respondent’s experience. Bonanno et al. (2005) anticipated that even an adaptive view of self-enhancers would not preclude the possibility that they may engender some social costs at minimum.

The results of Bonanno et al.’s (2005) study demonstrated that mean self-enhancement scores were higher among respondents who exhibited resilience than any other trajectory. Self-enhancers also reported fewer initial PTSD symptoms, which remained low over the time of testing. The four trajectories effectively mirrored the four prototypical trajectories observed in Bonanno and colleagues previous bereavement studies. In the interviews conducted seven months after the attacks, respondents who were found to be self-enhancers showed greater enjoyment, happiness, and positive emotional experiences and less fear, anger and overall negative affect. The chronic and resilient groups demonstrated consistent extremes of high and low symptom ratings, respectively, across time. Although the resilient and delayed groups had initially low levels of PTSD symptoms, the delayed-symptom group had higher initial levels of PTSD symptoms than the resilient group. Finally, the recovery group demonstrated elevated but sub-threshold levels of initial symptoms that declined gradually over time. The independent assignment by the friends and family of the respondents to one of four possible trajectories provided convergent support for Bonanno and colleagues’ trajectory model.

In relation to the quality of social relations, Bonanno et al. (2005) found that friends and relatives of self-enhancers who experienced high levels of exposure during the attack,
such as witnessing deaths and injuries, reported that the self-enhancers were less honest after 18 months. This finding suggests that the social costs of self-enhancement are more prominent after a PTE. Despite deteriorating social relations, self-enhancers nonetheless tended to perceive their social milieu as generally supportive and encouraging of personal disclosure. Finally, self-enhancers’ erroneous perception of an absence of social constraints against disclosure, fully mediated their initial low levels of PTSD symptoms.

**The Link Between Narcissism and Self-Enhancement.**

It is well established that narcissists’ self-perceptions are overly positive, almost by definition (Morf & Rhodewalt, 2001). Moreover, narcissists’ self-enhancement has a very particular pattern. As Paulhus and John (1998) and Campbell et al., (2002) argued, narcissists engage primarily in egoistic self-deceptive enhancement. That is, they see themselves as superior on agentic traits such as intelligence, dominance, positive psychological attitudes, and emotional stability. In contrast, they are not likely to see themselves as especially moral, agreeable, or dutiful. Therefore, in light of Bonanno’s (2005) thesis, it would be expected that a measure of narcissism would be substantially and positively associated with a measure of positive psychological attitudes, which characterise a resilient worldview (Kass, 1998).

**Positive Emotions**

A third way that resilience maintains self-identity continuity following a PTE is through positive emotions and attitudes (e.g., Butler et al., 2006; Fredrickson et al., 2003; Linley et al., 2003). Individuals differ on several dimensions of affective experience: affect intensity, lability, tendency to experience pleasant and unpleasant emotions, tendency to experience particular affects, consciousness of affective experience, capacity for experiencing ambivalent emotions, and emotional expression (Westen, Muderrisoglu,
Intensity of affective experience (the extent to which emotions are strong) is not the same as affective variability or lability, which refers to the extent to which a person fluctuates from one emotional state to another. People also differ in the extent to which they chronically experience pleasant and unpleasant emotions. They differ, furthermore, in the extent to which they can tolerate emotional experience; that is, in their level of comfort with feelings and their capacity to be conscious of them. Object relations theorists argue that the capacity for ambivalence - the ability to experience positive and negative feelings simultaneously is another important affective variable - one that distinguishes people with severe personality disorders from those with a more healthy personality organisation (Kernberg, 1984).

Extending on affect experience, affect regulation refers to the conscious and unconscious procedures people use to maximise pleasant, and minimise unpleasant emotions. People regulate their affects using behaviors, conscious coping strategies, and mature defensive processes. According to Westen et al., 1997, people who fail to regulate their affective experience possess less positive emotions and psychological attitudes and more intense negative emotions and attitudes. As positive emotions and attitudes are central domains for adult resilience (Bonanno, 2004, 2005), as they foster flexible and pragmatic thinking and abstract problems solving, it holds that people who are high splitters have low resilience especially following a PTE.

**Emotional Predictors of Resilience Following the September 11 Terrorist Attack**

A prospective study by Fredrickson et al., (2003), investigated predictors of resilience in response to the September 11 terrorist attack in a group of 47 college students. Testing occurred two weeks following the event. The theoretical underpinning was Fredrickson’s
(2001) broaden-and-build theory of positive emotions, which holds that, over time, the cognitive broadening and physiological undoing triggered by positive emotions builds a range of personal resources, including physical, social, and psychological resources. It was hypothesised that positive emotions are active variables in resilience, resilient people experience less trauma response following a PTE, and this buffering effect is mediated by more frequent post-PTE experience of positive emotions.

To unpack the associations between resilience and emotions, Fredrickson et al. (2003) examined the emotion data by discrete emotions. The three most frequently experienced negative emotions were fear, anger, and sadness and the three most frequently experienced positive emotions were gratitude, interest, and love. The emotion of anger was the most frequently experience negative emotion whilst the emotion of grateful was the most frequent positive emotion. The emotion of sympathy, which is not easily categorised as either positive or negative, was the most frequently experienced emotion overall, with a modal response of three. This indicated that, after the attack, most respondents experienced sympathy “often”. Five of the eight negative emotions and eight of the ten positive emotions yielded modal responses of two or higher, indicating that most respondents experienced each of the discrete emotions “some of the time”.

The results of Fredrickson et al.’s (2003) mediation models established that experiences of positive emotion appear to be critical, active ingredients that buffer resilient people from psychological distress following a large-scale terrorist attack. They also demonstrated that pretrauma resilience predicted increases in psychological resources from pre- to posttrauma and that this posttrauma change was fully mediated by respondents’ posttrauma experiences of positive emotions. Taken together, these findings suggest that
resilient people appear to bounce back stronger than before. In other words, positive emotions may have helped resilient people to thrive after exposure through the media of the September 11 terrorist attack. Notably, the experiences of resilient people are not exclusively positive. The sample experienced considerable anger, fear, and sadness in the days and weeks following the attack but they offset their negative experiences with positive ones. They were moved by the disaster but not overwhelmed by it.

**Methodological Issues Relating to Measures of Adult Resilience**

Although adult resilience is of increasing theoretical interest, very little is known empirically about the process, as most research into trauma and loss has only included treatment-seeking populations in the last ten years (Bonanno, 2004). The studies reviewed in the present thesis are attempts to redress this paucity of adult resilience research. Due to such paucity, a clear-cut taxonomy, in addition to well-validated scales designed specifically for adults are scarce. Indeed, Campbell-Sills et al. (2006) argued that a textbook on psychological measurements published by the American Psychiatric Association in 2000 contains not a single resilience measure. Moreover, most studies of resilience are heavily reliant on either symptom measures or known robust correlates of resilience and only address the broader aspects of biopsychosocial functioning.

A review of the literature on adult resilience published in the last five years revealed three self-report instruments designed specifically to measure the construct. First, Kass (1998) developed a self-report inventory to measure two axiomatic dimensions of resilience: life purpose and satisfaction and self-confidence during stress. The IPPA-32R was used in this present investigation, as it was the only inventory available at the data collection phase in 2003. Next, Friborg et al. (2003) developed a self-report rating scale for
adult resilience that assesses protective factors central to regaining and maintaining a stable, healthy level of functioning following a PTE. At the same time, Connor and Davidson (2003) developed a measure of resilience that assessed stress coping ability in adults following a PTE. Finally, Harvey et al. (2003) are currently undertaking a set of four studies that utilise a multidimensional approach to the assessment of trauma impact, recovery, and resilience on each of eight domains of functioning. However, in contrast to self-report, this instrument is designed for use by clinicians rating their clients or by clinical researchers rating co-conducted standardised clinical interviews.

All adult resilience scales published to date are wave two resilience measures, using the scheme outlined by Richardson (2002). The second wave of resilience inquiry assesses characteristics of resilience, and does not assess the resilience process or provide information about the theory of resilience. Bonanno’s (2004) novel conceptualisation of adult resilience, particular his assertion that there are many and varied pathways to resilience, has opened the way for further development of adult resilience measures and empirically-driven studies that specifically address the resilience process. Moreover, Bonanno’s construct may afford greater methodological precision, utility, and specificity.

In summary, section two of this chapter discussed salient pathways to adult resilience using recent terrorism-related empirical studies to elucidate the propositions advanced in the thesis. The salient pathways include worldviews, self-enhancement, and positive emotions. They also include repressive coping, hardiness, and laughter. These pathways are distinct constructs and provide support for the heterogeneity of the construct. Notably, some pathways are less than efficient ways of maintaining resilience to a PTE. For instance, people who perceive the world through a self-serving bias tend to be narcissistic,
often invoking negative feelings in others. However, in a counterintuitive way, these people also tend to have higher positive psychological attitudes and, in the context of a PTE, demonstrate stable surface functioning indicative of resilience. The key points are that resilience is distinct from recovery, resilience is the modal trauma management trajectory, and there are multiple, unexpected, and at times counterintuitive, dimensions that inform resilience. Successful employment of these dimensions rests on a person’s capacity for self-identity continuity in the face of a PTE.

The next section provides an overview of the empirical investigation and describes the overall aims and purpose of the study. It outlines the major hypotheses and research questions employed by this study to explore the potential association among media exposure, trauma response, trauma reactive beliefs, resilience, object relations, narcissism, and splitting in a sample of geographically remotely exposed Australian adult citizens.

**Overview of the Empirical Investigation**

This study was exploratory and the overall objective was to establish if there are associations amongst media exposure, trauma response, trauma reactive beliefs, resilience, object relations, narcissism, and splitting. A preliminary undertaking involved assessing the psychometric properties of the scales employed to operationalise the variables. Obtaining descriptive data and Cronbach’s alpha coefficients allowed for comparisons with previous samples and for demonstration of internal consistency of each scale respectively. Correlation coefficients between scales and constituent subscales were used to assess construct validity, and a factor analysis was used to explore the factor structure of the measure of narcissism.
Having investigated the psychometric properties of the scales used in the present study, the major aims were to identify broad and specific bivariate correlations among the variables, differential effects across certain variable groups, and third variable effects using mediation and moderation models. The rationale for investigating third variable effects is to respond to the recent call in terrorism and trauma literature to look to novel methodologies that address various implications generated by previous research that remained at the bivariate level of data analysis (Reissman et al., 2004). Another rationale is to respond to the recent call to understand the role of resilience in various exposure groups (Pfefferbaum, 2005; North, 2004; Raphael, 2005).

**Research Questions**

Five questions directed investigations into the links among media exposure, trauma response, trauma reactive beliefs, resilience, object relations, splitting, and narcissism. A cross-sectional study using a convenience sample of adult Australian citizens was designed to address the following questions using data obtained from self-report inventories. Interpretation of the findings is based on object relations concepts as delineated by Kernberg’s (1975, 1976, 2001) tripartite psycho-structural model explicated in Chapter 1.

1. Does media exposure of the Bali bombing moderate the relationship between resilience and trauma response?
2. Do trauma reactive beliefs mediate the relationship between resilience and trauma response?
3. Do object relations mediate the relationship between resilience and trauma response?
4. Does the splitting defence mediate the relationship between the quality of object relations and resilience?

5. Does narcissism moderate the relationship between the splitting of self-representations and resilience?

6. Does splitting of self-representations mediate the relationship between overt narcissism and resilience and covert narcissism and resilience?

Research Questions 1 and 2 relate to the literature reviewed and arguments presented in Chapters 2 and 3 on media exposure to terrorism, trauma reactive beliefs, and trauma response. Research Question 3 relates to object relations theory presented in Chapter 1. Research Question 4 relates to the outline of the splitting defence presented in Chapter 1 and the discussion of Bonanno’s (2004) concept of adult resilience presented in this chapter. Research Questions 5 and 6 relate to both the literature presented in Chapter 1 on narcissism and splitting and the literature presented in this chapter on resilience.

Hypotheses

To address Research Question 1, four hypotheses were developed regarding the link between media exposure and trauma response and media exposure and resilience.

Hypothesis 1.1: The Effect of Media Exposure on Overall Trauma Response

On the basis of the positive association between hours of TV viewing and trauma response previously demonstrated (Ahern et al., 2002; Butler et al., 2006; Pefferbaum et al., 1999, 2001; 2003; Schlenger et al., 2002, Schuster et al., 2001; Silver et al., 2002), it was hypothesised that hours of TV viewing would differ in the multivariate effect of overall trauma response. Overall trauma response consists of three measures: (a) loss of psychosocial resources (measured by the LPS), (b) trauma reactive beliefs (measured by
the TRB), and impact of event (measured by the IES-R). It was predicted that the low (≤10 hours) TV viewing group would show a lower mean score on the linear combination of overall trauma response, than the high (≥11 hours) TV viewing group.

**Hypothesis 1.2: Association Among Media Exposure and Overall Trauma Response**

On the basis of the positive association between hours of TV viewing and trauma response previously demonstrated (Ahern et al., 2002; Butler et al., 2006; Pfefferbaum et al., 1999, 2001; 2003; Schlenger et al., 2002, Schuster et al., 2001; Silver et al., 2002), it was hypothesised that high (≥11 hours) TV viewing would be positively related to loss of psychosocial resources, impact of event, and trauma reactive beliefs.

**Hypothesis 1.3: The Effect of Media Exposure and Resilience**

On the basis of an association between hours of TV viewing and resilience previously demonstrated (Butler et al., 2006), and that emotional reactions (e.g., Pfefferbaum et al., 2003) figure in the link between media exposure and resilience, it was hypothesised that hours of TV viewing would differ in the effect of resilience. It was predicted that the low (≤10 hours) TV viewing group would show a higher mean score on the resilience scale (IPPA-32R) and its two constituent subscales than the high (≥11 hours) TV viewing group.

**Hypothesis 1.4: Association Between Media Exposure and Resilience**

On the basis of an association between hours of TV viewing and resilience previously demonstrated (Butler et al., 2006), as well as the finding that there may be some self-selection operating in those people who watch a high amount of traumatic material (e.g., Pfefferbaum et al., 2003), it was hypothesised that high (≥11 hours) TV viewing would be negatively related to a flexible and pragmatic coping style characteristic of adult resilience.
To address Research Question 2, two hypotheses were developed regarding the relationships among resilience, worldviews, and trauma response.

**Hypothesis 2.1: Associations Among Trauma Reactive Beliefs and Resilience**

In light of theories on shattered worldviews and trauma response (Carlson & Dalenberg, 2000; Horowitz, 2001; Janoff-Bulman, 1992, 2006), it was hypothesised that resilience, as measured by the IPPA-32R and two constituent subscales, would be negatively and substantively associated with the trauma reactive beliefs (TRB).

**Hypothesis 2.2: Associations Among Trauma Reactive Beliefs and Trauma Response**

In light of theories on shattered worldviews and trauma response (Carlson & Dalenberg, 2000; Horowitz, 2001; Janoff-Bulman, 1992, 2006), it was hypothesised that trauma response, as measured by the IES-R and three constituent subscales, would be positively and substantively associated with both the TRB scale.

To address Research Question 3 and 4, two hypotheses were developed regarding the links among resilience, object relations, splitting, and trauma response.

**Hypothesis 3.1: Associations Among Object Relations, Splitting, and Resilience**

In light of object relations theory (Kernberg, 1975, 1976, 2001) and previously demonstrated associations (Curtis, 1998; Gould et al., 1996), correlations were expected to be substantive and positive among object relations (measured by the TOR) and the splitting defence (measured by the SI). Taken together, the TOR and SI were then expected to substantively and negatively correlate with the IPPA-32R. Specific correlations were expected to be negative and substantive among the two IPPA-32R subscales, the three SI subscales, and five of the six TOR subscales (symbiotic merging [SYM], separation anxiety [SEP], egocentricity [EGO], fear of
engulfment [ENG], & social isolation [SOC]). Different correlations and comparative analyses were expected for the narcissism subscale, as outlined in Hypotheses 4.1- 4.4.

To assess for individual differences within splitting, it was expected the low (i.e., minimal/healthy) splitting group would show a higher mean score on the resilience scale (IPPA-32R) than the high (i.e., pervasive/pathological) splitting group. Likewise, to assess for individual differences within object relations, it was expected the low (i.e., mature/healthy) object relations group would show a higher mean score on the resilience scale (IPPA-32R) than the high (i.e., immature/pathological) object relations group.

**Hypothesis 3.2: Associations Among Object Relations, Splitting, and Trauma Response**

In light of object relations theory (Kernberg, 1975, 1976), it was hypothesised that correlations would be negative and substantive among the three impact of event (IES-R) subscales avoidance, intrusion, hypervigilance (AVO, INT, HYP), and the three SI subscales splitting of self-representations, others-representations, family-representations (SOS, SOO, SOF) and five of the six TOR subscales (SYM, SEP, EGO, ENG, SOC).

To assess for individual differences within defensive splitting, it was expected that people who experience low levels of splitting would show a low mean score on the IES-R than people who experience high levels of splitting. Likewise, to assess for individual differences within object relations, it was expected that people who have clear self-other differentiation and ability to tolerate ambivalence would show a lower mean score on the IES-R than people who experience poor self-other differentiation and dichotomous affect.

To address Research Question 5 and 6, four hypotheses were developed regarding the links among narcissism, self-representation splitting, resilience, and trauma response.
In light of (a) recent empirical studies, which demonstrate that narcissism is a heterogenous construct differentially associated with certain criterion variables (Wink, 1996), (b) clinical evidence that suggests the existence of two different forms of narcissism (Dickinson & Pincus, 2003), and (c) recent criticism regarding the ambiguity of the DSM-IV model of NPD (Fossati et al., 2005), different correlations and comparative analyses were predicted for the narcissism (NAR) subscale.

**Hypothesis 4.1: Associations Between Narcissism and Resilience**

Given the heterogeneity of the narcissism construct, it was hypothesised that the narcissism scale would correlate positively and substantively with the resilience scale (IPPA-32R), which measures positive psychological attitudes across two dimensions: life purpose and satisfaction (LPS) and self-confidence during stress (SCDS). Combined, they measure confidence in life and self (CLS) or resilience. To assess for individual differences within narcissism, it was expected the low (i.e., modest/healthy) narcissism group would show a higher mean score on the IPPA-32R than the high (i.e., grandiose/pathological) narcissism group.

**Hypothesis 4.2: Associations Between Narcissism and Trauma Response**

As narcissism is empirically and theoretically linked to the splitting of self- and other-representations resulting in overly positive and grandiose self-representations, self-enhancement, and splitting of psychological distress from consciousness (Gould et al., 1996; Kernberg, 1975, 1976), it was hypothesised that the TOR narcissism (NAR) scale would correlate negatively and substantively with the three measures of trauma response: (a) loss of psychosocial resources (measured by the LPS), (b) trauma reactive beliefs (measured by the TRB), and impact of event (measured by the IES-R). To assess for individual differences
within narcissism, it was expected the low narcissism group would show a lower mean score on the IES-R scale than the high narcissism group.

**Hypothesis 4.3: Associations Among Narcissism, Splitting of Self, and Resilience**

In light of object relations theory (Kernberg, 1975, 1976, 2001) and on the basis of associations between splitting of self-representations and narcissism previously demonstrated (Curtis, 1998; Gould et al., 1996), it was hypothesised that the splitting of self (SOS) subscale would be substantively and positively correlated with the NAR subscale of the object relations scale (TOR) and substantively and negatively correlated with the resilience scale (IPPA-32R).

**Hypothesis 4.4: Associations Among Splitting of Self-Representations and Both Overt and Covert Narcissism**

In light of object relations theory on narcissism and splitting (Kernberg, 1975, 1976, 2001), which suggests that overt narcissism does not employ splitting as pervasively in their interpersonal relationships as covert narcissists, it was hypothesised that overt narcissism would be positively related to the splitting of self (SOS) subscale but not the splitting of family (SOF) and splitting of others (SOO) subscales and that covert narcissism would be positively related to the all three subscales (SOS, SOF, & SOO).

In addition, an exploratory factor analysis of the narcissism scale was undertaken to determine the underlying structure of the scale.

**Summary of the Chapter**

This chapter presented an outline of adult resilience as conceptualised by Bonanno (2004, 2005). The first section argued that resilience is a complex and ambiguous construct embedded in developmental terms and, existing in the construct is the unequivocal theme
that resilience contains an inference and a criterion component. That is, resilience involves chronic environmental risk and a favourable outcome. Bonanno challenged these prevailing assumptions by arguing that most adults effectively manage their response to a brief and isolated PTE in the context of an otherwise normal environment. They do this by adopting flexible and pragmatic coping styles. It was argued that he reduced the complexity and ambiguity of the developmental construct by removing the inference and criterion components thereby affording greater specificity and utility. Bonanno’s novel operational definition of adult resilience was then discussed in the context of three primary assumptions: (a) resilience is a distinct trajectory from recovery, (b) it is the model trauma management trajectory, and (c) it is a heterogeneous construct with multiple, varied, and at times counterintuitive, pathways.

The second section of the chapter reviewed terrorist-related empirical studies to elucidate three salient pathways that purportedly inform resilience: worldviews, self-enhancement, and positive emotions. The final section outlined the present empirical investigation and introduced the major hypothesis and specific research questions.

The next chapter describes the respondents who participated in the present research in terms of recruitment procedure and sample characteristics. Statistical analyses used to address the hypotheses that explored the potential links of media exposure to trauma response, resilience, and intrapsychic variables were presented followed by the results.
CHAPTER 4

METHOD AND RESULTS OF MAJOR HYPOTHESES THAT EXPLORED POTENTIAL LINKS OF MEDIA EXPOSURE TO TRAUMA RESPONSE, RESILIENCE, AND INTRAPSYCHIC VARIABLES.

This chapter is organised into three sections. The first section describes the respondents who participated in the present research in terms of recruitment procedure and sample characteristics. The next section outlines the statistical analyses used to address each of the hypotheses. The final section presents the results relevant to the hypotheses.

**Participants**

The convenience sample comprised of both undergraduate and graduate students ($n = 80$ or $47.1\%$) of Swinburne University of Technology, who were recruited by the direct approach method. It also included interested members of the normal adult population ($n = 90$ or $52.9\%$) in Melbourne, Australia, who were recruited through a student-generated snowball technique. Recruitment of participants occurred ten months following the Bali bombing in August 2003 over a period of two weeks ($15^{th}$ August-$21^{st}$ September, 2003).

As part of the questionnaire booklet, respondents provided demographic information about age, gender, place of birth, citizenship, religion, relationship, education, employment, political party, and place of residence, consistent with categories cited in the American September 11 epidemiological surveys (Schlenger et al., 2002; Schuster et al., 2001; Silver et al., 2002). The rationale for obtaining these demographics was to assess potential trends in Australian citizens’ attitudes and psychological responses to terrorism.

**Participant eligibility.**

To be eligible for inclusion in the present sample, participants needed to be at least 18
years old and Australian citizens. Those meeting these inclusion criteria comprised 201 participants. To restrict the analyses to those remotely exposed via the media, participants were excluded if their experience of the attacks included having a relative, friend, or colleague die or be injured in the bombing and/or they had experienced firsthand event exposure (i.e., in Bali at the time of the bombing), such as being in or around the bars that were bombed; having seen, heard, or felt the bombing (or smoke plumes) as it occurred. Thirty-two directly and indirectly exposed participants (11.4% of the eligible baseline sample) were excluded from the present analyses on these grounds. The total sample size for this investigation was 170.

**Demographic Characteristics**

The demographic characteristics of the sample are found in Table 4.1. As seen in Table 4.1, the descriptive profile of the respondents was moderately representative of the demographic profile of Australian society (AQOL, 2003). Of the sample, 72% were born in Australia. There were 96 women (56.5%) and 74 men (43.5%). Respondents were not confined to the young. There was a tendency for the respondents to be associated with the tertiary education sector (78.2%). Most respondents were in various types of paid employment. In terms of political affiliation, more that half (56.5%) of the sample was aligned with either the Labor (25.9%) or Liberal/National (30.6%) parties. One third of the sample was married or partnered, a third was in a casual relationship, and under a third was single. A modest proportion was divorced or separated (8.9%). The proportion of respondents who reported to be single in no relationship may be an artefact of age. In terms of religion, 50% of the sample was Christian, 23.5% did not have religious affiliations, and only 3.5% stated they were Muslim.
Table 4.1

*Percentage Distribution for the Convenience Sample on Demographic Variables (N = 170)*

<table>
<thead>
<tr>
<th>Variable</th>
<th>n</th>
<th>%</th>
<th>Variable</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
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<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
<td><strong>Age</strong></td>
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<td></td>
</tr>
<tr>
<td>Female</td>
<td>96</td>
<td>56.5</td>
<td>18-20 years</td>
<td>35</td>
<td>20.6</td>
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<tr>
<td>Male</td>
<td>74</td>
<td>43.5</td>
<td>21-29 years</td>
<td>47</td>
<td>27.6</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>30-39 years</td>
<td>27</td>
<td>15.9</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>40-49 years</td>
<td>21</td>
<td>12.4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>50-59 years</td>
<td>25</td>
<td>14.7</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>60 plus</td>
<td>15</td>
<td>8.8</td>
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<tr>
<td><strong>Education</strong></td>
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<td></td>
<td><strong>Employment</strong></td>
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<td></td>
</tr>
<tr>
<td>Primary</td>
<td>3</td>
<td>1.8</td>
<td>Unemployed</td>
<td>9</td>
<td>5.3</td>
</tr>
<tr>
<td>Secondary</td>
<td>7</td>
<td>4.1</td>
<td>Casual</td>
<td>29</td>
<td>17.1</td>
</tr>
<tr>
<td>Trade/TAFE</td>
<td>16</td>
<td>9.4</td>
<td>Part-Time</td>
<td>39</td>
<td>22.9</td>
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<tr>
<td>Tertiary Incomplete</td>
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<td>6.5</td>
<td>Full-Time</td>
<td>46</td>
<td>27.1</td>
</tr>
<tr>
<td>Tertiary Current</td>
<td>69</td>
<td>40.6</td>
<td>Part-Time Student</td>
<td>6</td>
<td>3.5</td>
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<tr>
<td>Tertiary Completed</td>
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<td>14.7</td>
<td>Full-Time Student</td>
<td>30</td>
<td>17.6</td>
</tr>
<tr>
<td>Postgraduate</td>
<td>39</td>
<td>22.9</td>
<td>Retired</td>
<td>11</td>
<td>6.5</td>
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<td><strong>Religion</strong></td>
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<td>72.4</td>
<td>Buddhist</td>
<td>10</td>
<td>5.9</td>
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<td>Christian</td>
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<td>11</td>
<td>6.5</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>6</td>
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<td>Muslim</td>
<td>6</td>
<td>3.5</td>
</tr>
<tr>
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<td>9.4</td>
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<td>5.9</td>
<td>Nil</td>
<td>40</td>
<td>23.5</td>
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<td>1.2</td>
<td>Other</td>
<td>2</td>
<td>1.2</td>
</tr>
<tr>
<td>Japan/Korea</td>
<td>5</td>
<td>2.9</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>New Zealand</td>
<td>6</td>
<td>3.5</td>
<td></td>
<td></td>
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<td></td>
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<td></td>
<td><strong>Relationship</strong></td>
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<td></td>
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<tr>
<td>Democrats</td>
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<td>6.5</td>
<td>Married/Partnered</td>
<td>62</td>
<td>36.5</td>
</tr>
<tr>
<td>Greens</td>
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<td>Single-nil</td>
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<td>30.6</td>
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<td>Single-casual</td>
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<td>30.6</td>
<td>Separated</td>
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<tr>
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<td>25</td>
<td>14.7</td>
<td>Widowed</td>
<td>4</td>
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</tbody>
</table>


Materials

Letter to Participants (Appendix A.1), Recruitment Flier (Appendix, A.2), and eight self-report instruments (Appendix A.3) were used to obtain quantitative responses. This section provides a description of the measures included in the questionnaire booklet.

Exposure to Terrorism

There were three measures of exposure: hours of TV viewing, level and type of exposure checklist, and loss of psychosocial resources questionnaire.

Television Viewing

TV viewing as a measure of indirect exposure was assessed by inquiring about the total amount of time in hours spent purposely viewing TV coverage of the event and its aftermath in the ten months following the Bali bombing. Respondents were asked to indicate by ticking a box that corresponded to 0-5 hours, 6-10 hours, 11-15 hours, and 16+ hours following the question.

According to Rubin et al. (2003), measuring overall TV exposure by having respondents indicate how many hours of TV they watched in relation to a specific event over a specified period of time have provided reliable estimates in past research. For example, in Rubin et al.’s study, they asked about respondents’ exposure to terrorist-related stories that had been on the TV in the six months since the September 11, 2001 terrorist attack. Rubin et al.’s rationale for administering their questionnaires six months after the attack related to cultivation theory, which stresses that perceptual effects of TV such as anxiety are long-term and cumulative. In addition, collecting data in the immediate aftermath of a catastrophic terrorist attack event, which achieves extensive media coverage, can result in restricted scores on measures such as anxiety.
The four-category variable “hours of TV viewing” is based on the categories used by Butler et al. (2006), Linley et al. (2003), Schlenger et al. (2002) and Schuster et al. (2001), which ranged from 0 hours of TV viewing through to greater than 15 hours of TV viewing over specific periods of time that ranged from one day (i.e., September 11, 2001) through to ten months following the attack. Schuster et al. reported a mean of 8.1 hours viewing on the day of the attack, with extensive TV viewing (>12 hours) being associated with a substantial stress reaction. However, for the purpose of parsimony in the data analysis stage, and based on the work of Pfefferbaum et al. (2000), two groups of TV viewing were created from the four categories. The two groups were determined by High versus Low splits (e.g., collapsing together the lowest two categories of TV viewing to compare against the highest two categories of TV viewing). Thus, ≤10 hours TV viewing represents low levels of media exposure and ≥11 hours TV viewing represents high levels of media exposure. Moreover, these categories were also chosen based on Rubin et al.’s (2003) argument that they represent meaningful differences between individuals who routinely watch a representation of terrorism on TV (i.e., when presented as part of a news bulletin) and individuals who purposely watch repeated coverage of an event.

**Exposure to the Event**

The *Exposure to the Events* (EE; modified version) checklist was developed by Norris (2001) in response to the September 11. The checklist is a pre-test and is the first part of a 3-module instrument designed to assess exposure to the event (Module 1), loss of psychosocial resources (Module 2) and health consequences (Module 3). Modules 1 and 2 only measure exposure, not full-range consequences, and they were selected to measure levels of exposure to the event thereby ensuring different exposure groups are not mixed.
The EE checklist consists of eleven questions. The questions relate to various categories of exposure: directness of exposure, location to attack, injury, when the respondent learnt of the event, purposeful exposure to media coverage of the event, immediate emotional reaction, cognitive appraisal, perceived support, support elicited, death or loss of significant other, fear for ethnic or religious safety, and overall global rating of their perceived stress. For the first ten questions, respondents ticked a box that was relevant to their experience of the Bali bombing based on the above categories. The last question of overall global rating of perceived stress was rated on a 10-point Likert scale, where 1 = not stressed and 10 = extremely stressed.

Questions pertaining to the most serious experiences were gated (i.e., “Were you directly exposed to the disaster of September 11?” - if NO, skip to question 2, if YES [please answer a & b]) so that the measure is brief for respondents who were exposed only minimally. Nevertheless, according to Norris, it can assess critical stressors among respondents who were most exposed. Questions relating to direct impact of the terrorist attack on civilians such as being evacuated or stranded, loss of employment, and loss of income were omitted in this current study as members of the convenience sample were assumed to be residing in Australia at the time of the Bali bombing. Moreover, for the purposes of this research, references to the September 11 terrorist attack were replaced with references to the Bali bombing on October 12, 2002.

**Loss of Psychosocial Resources**

The *Loss of Psychosocial Resources* (LPR) scale was developed by Norris (2001) to measure psychosocial resource loss following a terrorist attack and is Module 2 of the 3-module instrument designed to assess psychological impact of a terrorist attack. The LPR
consists of 12 items on a Likert scale, where 1 = “not at all true” and 5 = “extremely true”. One item is reverse scored (item 9. “Feeling closer to at least one person”). According to Norris, the items demonstrate good variability, acceptability (numbers not answering specific questions ranged from 0 to 2), and item-to-total correlations of between 0.29 and 0.58. Internal consistency using Cronbach’s alpha was 0.78, which is acceptable for a short measure designed to be multi-dimensional.

In Norris’s (2001) study, a principal components analysis with varimax rotation revealed two 6-item factors. The first factor was Loss of Agency ($\alpha = 0.80$), which taps a decline in the psychological resources of coping, self-efficacy, mastery, perceived control, self-esteem, hope, and optimism. It represented 25% of the variance. Factor loadings ranged from 0.77 (less control) to 0.55 (less confident in ability to cope). The second factor was Loss of Support ($\alpha = 0.65$), which taps a decline in the psychological resources of social embeddedness, received social support, and perceived social support. It explained an additional 19% of the variance and factor loadings ranged from 0.71 (disappointed in others) to 0.47 (disappointed in self). On the basis of these results, two 6-item subscales and a total 12-item scale were scored as the means of component items. According to Norris, the two subscales correlate substantively ($r = 0.35$), indicating that they share some common variance (12%), but clearly they reflect two different types of resource loss.

The means of the component items are added to obtain a total score and the range of possible scores is from 12 to 60. Means of the minimally or indirectly exposed sample in Norris’s (2001) study were 1.98 ($SD = 0.55$) for the total scale, 2.24 ($SD = 0.75$) for Loss of agency, and 1.72 ($SD = 0.59$) for Loss of Support, which suggest that on average the respondents considered the statements overall to be “a little true”. Scores of 3.1 for the total
scale, 3.7 for Loss of Agency, and 2.9 for Loss of Support would correspond to two SD’s above the means is indicative of an abnormally high loss of psychological resources.

Validation remains unreported as no clear external standard against which to measure the validity currently exists. Despite this constraint, Norris anticipated that future studies would find significant correlations between the LPR and a measure of the impact of event (in the positive direction) and resilience (in the negative direction).

*Attitudes to Terrorism Questionnaire*

The *Attitudes to Terrorism Questionnaire* (ATQ) was specifically constructed for the present study by the author as a self-report measure of current attitudes to the Australian Government’s response to the Bali bombing and broad perceptions of terrorism that were prevalent in the media discourse immediate following the attack. The checklist is loosely adapted from Linley et al.’s (2003) *Perceptions of September 11 Scale*, which was designed to measure a number of broad attitudes and perceptions of the September 11 attack in a sample of respondents living in Britain five months following the attack. Items were reworded to suit the Australian context. Eight constructs were presented as eight statements and were selected by the author for two reasons. First, they were prevalent in the media and were popular discourses immediately following the bombing. Second, they were consistent with theories of posttraumatic reactions that emphasise the role of violated assumptions about values and beliefs that are held about oneself and the world (Janoff-Bulman, 1992). The statements specified that attitudes be “current” to prevent recall bias. Questions are framed within the context of the bombing, and respondents are asked how their attitudes, behaviour, and perceptions are impacted by the event.
Respondents are asked to rate each of the eight statements on a 7-point Likert scale where 0 = “not at all” and 7 = “a great deal”. A representative item is as follows:

The Bali bombing recorded the highest loss of Australian life in any peacetime disaster. The bombing came almost 13 months after the September 11 attack. To what extent has the terrorist bombing caused Australia to lose its sense of political neutrality, isolation, and national safety?”

Each of the eight items stood independently in terms of score. Items one and two refer to Australia’s relationship with the USA and low scores are associated with greater pro-American sentiment. High scores (>5) on each of the remaining six items indicate a greater belief that terrorists violated social values and cultural beliefs of personal safety.

**Measure of Trauma Response**

The *Impact of Event Scale-Revised* (IES-R) was developed by Weiss and Marmar (1997) as a self-report instrument to parallel the DSM-IV criteria for PTSD. It is designed to assess current subjective distress for any specific life event. The original IES was developed before the adoption of PTSD as a formal diagnosis in the third edition of the DSM (APA, 1980), and only tapped two of the four criteria set out for PTSD in the DSM-IV: intrusion and avoidance. In response, Weiss and Marmar revised the original IES to tap hyperarousal symptoms to coincide with Criterion D.

The IES-R consists of 22 items and respondents are asked to rate each item on a Likert scale, where 0 = “not at all” and 4 = “extremely” according to the past seven days. There are three subscales: avoidance, which consists of eight items; intrusions, which consists of eight items; and hyperarousal, which consists of six items. Scoring is the mean
of each subscale and the total IES-R score is the sum of the three subscales. The range of possible scores for the total scale is from 0 to 88.

In their sample of four different population samples, Weiss and Marmar (1997) reported good psychometric properties of the IES-R. For example, the internal consistency of the three subscales was high, with intrusion alphas ranging from 0.87 to 0.92, avoidance alphas ranging from 0.84 to 0.86, and hyperarousal alphas ranging from 0.79 to 0.90. Drawing on both a community sample and a treatment sample comprising Vietnam veterans, Creamer, Bell, and Failla (2003) also reported high internal consistencies for the treatment sample’s total scale using Cronbach’s coefficient alpha (0.96), as well as for the three subscales: intrusion (0.94); avoidance: (0.87); and hyperarousal: (0.91). Correlations among the subscales were higher for the community sample (intrusion/avoidance = 0.81; intrusion/arousal = 0.87; avoidance/arousal = 0.84) than for the treatment sample.

Test-retest reliability was reported to be high in Weiss and Marmar’s (1997) study. Weiss and Marmar also noted that the hyperarousal subscale has good criterion or predictive validity with regard to trauma, and the intrusion and avoidance subscales detected changes in respondents’ clinical status over time and relevant differences in the response to traumatic events of varying severity. Content validity was not reported for the hyperarousal subscale in Weiss and Marmar’s study. However, the intrusion and avoidance subscales, which comprise the original IES items, had high endorsement of up to 85% (Horowitz, Wilner, & Alvarez, cited in Weiss & Marmar). Indeed, the original IES has been shown to differentiate between those individuals who endorse symptoms severe enough for a diagnosis of PTSD and those individuals who do not (Creamer et al.).
Consistent with the findings of Weiss and Marmar (1997), a principal components analysis with varimax rotation performed by Creamer et al. (2003) on Australian data showed that a single factor accounted for a substantial proportion (56%) of the variance in the IES-R. The extent to which the IES-R, as a measure of current subjective distress for any specific traumatic life event, is measuring the same construct, Creamer et al. compared the IES-R with the PTSD checklist (PCL; Weathers et al., 1993) and reported that the IES-R was highly correlated with the PCL total score ($\alpha = .84$) using data from both the clinical and community samples.

**Measure of World Views**

The *World View Survey* (WVS) was developed by Skidmore and Fletcher (1997) as a self-report instrument designed to assess important beliefs that may be changed by exposure to stressful or traumatic events. The theoretical underpinning of the instrument derives from Horowitz’s (1976, 1986, 1997) theory of stress response syndrome and Janoff-Bulman’s (1992) theory of core responses to trauma. The WVS consists of 50 items on a Likert scale, where 1 = “strongly agree” and 4 = “strongly disagree”. It is not recommended to add all 50 items to create an overall scale. Instead, according to Fletcher and Skidmore, a principal components factor analysis revealed a nine-factor solution and a higher-order factor analysis resulted in two second-order factors named: Trauma Reactive Beliefs (TRB) Negative Beliefs (NB).

The TRB subscale consists of 34 items repeated in a number of factors. To compute the TRB score, the following five factors are added with the scores of the seven items that repeat subtracted: (1) Anxious /Uncertainty (Anticipatory Anxiety) (15 items), (2) Inadequacy (9 items), (3) Dangerous World (6 items), (4) Self-abnegation (7 items), and
(5) Lack of Control (4 items). These factors are associated with exposure to traumatic stress and one’s subsequent representations of self, other, and the world that have been altered. These five factors constitute the Trauma Reactive Beliefs (TRB) subscale.

To create an overall Negative Belief (NB) subscale, the scores of the remaining four factors are added with the scores of three items that repeat, then subtracted from the total to give the overall NB Subscale score: (1) Poor Ego-strength/Low Resilience (5 items), (2) Negative Social Relations or Attachment (10 items), (3) Lack of Personal Empowerment (4 items), and (4) Negative Outlook (4 items). The NB Subscale is not associated with traumatic exposure. Rather, the NB subscale taps into established negative world assumptions. Scoring for each of subscales involves first reversing those items indicated with a minus sign preceding them in the scoring manual, to create a uniform means of rating each item in a negative direction.

Skidmore and Fletcher (1997) reported good internal consistency ($\alpha = 0.90$) for the TRB and 0.71 for the NB scales, with a range between 0.61 and 0.90 for the nine factors. Convergent validity using the original IES was good for both scales with mild to substantive correlations with the IES “intrusion” and “avoidance” subscales. Thresholds for the WVS derive from an undergraduate sample consisting of 147 women and 105 men. The 85th percentile and last two scores indicate problematic worldviews and negative beliefs.

**Measure of Resilience**

The *Inventory of Positive Psychological Attitudes-Revised* (IPPA-32R) was developed by Kass (1997) as a self-report measure of positive psychological attitudes, which are axiomatic to resilience. The IPPA-32 can be administered in two formats. The standard format is for research and diagnosis. In this format, the 32 items are presented in a
randomised pattern, including reverse ordering of positive directionality on the Likert scales. The self-test format is used in psycho-educational settings, in which individuals score their own tests. In this format, statements for each of the two subscales are grouped together. There is no reverse ordering of the positive dimensions on the Likert scales.

The IPPA-32R is composed of two related, but distinct subscales derived from two central constellations of positive attitudinal constructs hypothesised to be axiomatic to resilience: locus of control and perceived meaning. The first subscale, containing 15 items, measures self-confidence during stress (SCDS). The second subscale contains 17 items and measures life purpose and satisfaction (LPS). Using a Likert scale ranging from 1 to 7, individuals report their degree of agreement with 32 different statements each having a different anchoring statement.

There are three dimensions to the IPPA-32R. The first dimension, which is reflected by the SCDS scale, is built upon the idea that the stress-buffering aspects of control derive from the perception that stressful events are under control, rather than from the perception that the individual is in control. The range of this continuum includes perceived internal locus of control, positive forms of external locus of control, and habitually calm, balanced responses reflective of perceptions of ontological security. Therefore, the SCDS scale includes three types of attitudes: perceived internal locus of control during stressful situations, positive forms of external locus of control, and habitually calm responses reflective of ontological security.

The second dimension of the IPPA-32R, which is reflected by the LPS scale, is built upon the belief that meaning-based attitudinal resources also exist on a continuum. The range of this continuum includes generalised perceptions of life satisfaction, personally
constructed forms of meaning, and ontologically derived forms of meaning. Therefore, the LPS scale contains three types of psychological attitudes: general life satisfaction, personally constructed forms of meaning, and ontological meaning.

The third dimension of the IPPA-32R, which is reflected in the CLS scale, is built around the belief of a unifying concept. Although the IPPA-32R was designed to be as multidimensional instrument, the two subscales within the IPPA-32R are conceptualised as complementary aspects of a unified positive worldview (CLS). Thus, although the SCDS and LPS are hypothesised to contain independent stress-buffering effects, and while a respondent’s scores on the subscales can be different, an optimally positive attitude is assumed to include strength in both dimensions.

Scoring and interpretation instructions provide normative mean scores for the IPPA-32R (Kass & Kass, 2000). Norms for the IPPA-32R were developed using a sample of 1029 adults in the USA (Kass, 1998). Kass’s sample comprised 554 women and 475 men. The mean scores for the women (\( M = 4.80, SD = 0.94 \)) were similar to the men (\( M = 5.09, SD = 0.88 \)). According to Kass, this similarity allows the use of normative data for women and men together, rather than developing separate norms for each. High scores were between 5.51-7.00, medium high between 4.01-5.50, medium low between 2.50-4.00, and low scores between 1.00-2.49. The mean score was 4.95. The lowest possible score is 1.00. The highest possible score is 7.00. The mid-point is 4.00. For each item, the number circled on the questionnaire is the score. Scores are added for the items in each subscale with the two subscale scores added to make a total score.

The psychometric properties of the IPPA-32R demonstrate a mixture of convergence and divergence between the two subscales (Kass, 1998). Factor analyses distinguish
between the two subscales and the reliability of the unified scale, as well as inter-scale
correlation are high. According to Kass, high scores on the total IPPA-32R are more
strongly associated with positive outcomes than high scores on the individual subscales.
Thus, there is an aggregate effect between the two subscales.

Confirmation of the hypothesised multidimensional structure of the IPPA-32R was
obtained by Kass (1998) using principal components with varimax rotation and common
factor analyses on data from a sample of 309 non-clinical adults (55% women, 45% men).
An exploratory analysis differentiated two factors, corresponding to the LPS scale and the
SCDS scale. The first factor (eigenvalue, 8.89; 27.8% variance explained) included the 17
items of the LPS scale. Factor loadings ranged from 0.43 to 0.82. The second factor
(eigenvalue, 6.90; 21.4% variance explained) included the 15 items of the SCDS scale.
Factor loadings ranged from 0.39 to 0.76. A degree of convergence was found despite clear
factor differentiation. One item from the LPS scale loaded above 0.4 on the SCDS scale.
Four items on the SCDS scale loaded above 0.4 on the LPS scale. The results of the factor
analyses support the multidimensional structure of the IPPA-32R. The LPS and SCDS
scales are different from each other. At the same time they are not fully orthogonal, and the
convergence suggests they are complementary aspects of an underlying resilience.

In terms of reliability, Kass (1998) reported excellent internal consistency using
Cronbach’s alpha coefficient for each of the two IPPA-32R subscales and total scale
(SCDS: $\alpha = 0.92$; LPS: $\alpha = 0.94$; CLS: $\alpha = 0.96$). Kass and Kass (2000) reported good
construct validity, with positive correlations between the IPPA-32R and positive moods,
life satisfaction, and self-esteem, and a negative correlation between the IPPA-32R and
loneliness. The strength of the positive and negative correlations ranged between 0.38 and 0.79 ($p < 0.001$). Further validity studies are yet to be published.

**Measure of Defence Mechanisms**

The *Splitting Index* (SI) was developed by Gould, Prentice, and Ainslie (1996) as a self-report measure of the defence mechanism of splitting according to Kernberg’s (1975, 1976) object relations theory. Self-report is an appropriate mode of assessing the splitting defence because the manifestations of the defence, such as shifting self- and object-representations and evaluations, are part of awareness, although the purpose served by the shifts is not. The SI consists of 24 items, where high scores suggested the pervasive reliance on the splitting defence, manifested in polarised representations of self (internal object) and other (external objects). It contains three 8-item factors: splitting of self (SOS), splitting of other (SOO), and splitting of family (SOF) representations. Each item is rated on a 5-point Likert scale, where 1 = “strongly disagree” and 5 = “strongly agree”. Scoring involves reversing 12 items to create a uniform means of rating each item in a negative direction. Item scores are added and the range of possible scores is between 24 and 120. Scores two $SD$s above the mean indicate high reliance on splitting.

Gould et al. (1996) discussed the psychometric properties of the SI as adequate with an internal consistency of 0.90 using Cronbach’s coefficient alpha, and moderate subscale intercorrelation ($r = 0.47$). Test-retest reliability of the SI was reported as .86 after a four-week interval. Similarly, Curtis (1998) reported 4-week test-retest reliability for the SI of 0.92. In a further investigation of the convergent validity of the SI, Curtis (1998) reported favourable temporal stability and reliability. Internal consistency was high with an alpha of 0.93 for the SI, 0.82 for SOF, 0.77 for SOS, and 0.85 for SOO. Test-retest reliability over a
one-month period was also high with a coefficient alpha of 0.92 for the SI, 0.87 for the SOF, 0.87 for the SOO, and 0.89 for the SOS subscales.

Curtis (1998) also assessed comparative validation between the SI and two measures of personality disorder that rely on pathological splitting. Curtis found a strong positive correlation between the SI and both the narcissistic and borderline scales of the MMPI-2 developed by Somwaru and Ben-Porath (1994, cited in Curtis), and the *Millon Clinical Multiaxial Inventory* (MCMI-II; Millon, 1994, cited in Curtis) (0.63 and 0.80 respectively).

**Measure of Object Relations**

The *Test of Object Relations* (TOR) was developed by Zvelc (1998) as a self-report instrument for measuring the quality of object relations. The test was built according to Loevinger’s (cited in Zvelc, 2000) model of test construction. In this method, test construction is theory-driven, and follows a step-by-step process, with development and validation occurring together, resulting in three phases of psychometric validation: theoretical-substantive, internal-structural, and external-criterion.

Items were written according to object relations theory, which resulted in six dimensions or constructs considered basic aspects of interpersonal relatedness: (a) Symbiotic Merging, (b) Separation Anxiety, (c) Narcissism, (d) Egocentricity, (e) Social Isolation, and (f) Fear of Engulfment. The six constructs were developed primarily on the basis of the varied theories of Kernberg, Klein, Kohut, and Mahler (G. Zvelc, personal communication, 27th June, 2002). Four clinicians trained in object relations theory judged the items based on both theoretical and psychometric characteristics.

The scale consists of 95 items. Each of the six domains contains 15 items and there is an additional 5-item validity scale for distinguishing social desirability of answers and
random answering. A validity index of $15 \geq$ suggests questionable validity. Each item is rated on a 5-point Likert scale, where 1 = “completely disagree” and 5 = “completely agree”. Scoring for the six domains involves summing the 90 items. Range of possible scores for the total of the six domains is from 90 to 450. According to Zvelc (1998), object relations theory predicts that a normal functioning adult’s mean score is between two and three on each item. Item scores of 4 or 5 indicate impaired object relations, which manifests in poor relational capacity, lack of self-other differentiation, and high narcissism.

The TOR has adequate theoretical and internal-structural validity and internal reliability using Cronbach’s coefficient alpha averaged .83 (Zvelc, 1998). Test-retest reliability for the six domains over a 3-week period is reported as Symbiotic Merging (0.76), Separation Anxiety (0.84), Narcissism (0.92), Egocentricity (0.65), Fear of Engulfment (0.84) and Social Isolation (0.65). Construct validity is yet to be determined.

**Procedure**

Following University Ethics Committee approval, testing occurred between 25th August and 21st September, at the beginning of semester 2, 2003. It involved two parts. The first part was an initial testing phase using a take-away questionnaire booklet and the second part was an invitation to participate in a group pencil-paper test. Part One of the study involved the author approaching students from three separate undergraduate psychology lecture bodies prior to the commencement of a lecture. The author also approached students from six separate media, business, and psychology tutorial bodies at the completion of a tutorial. Using a recruitment flier (Appendix A.2) detailing key aspects of the study (projected via an overhead transparency), the author outlined the area of the study and then distributed questionnaire booklets to interested students.
To sample from a wide range of the Australian population as possible, a snowball sampling technique was used. Interested students were asked to take one or more additional questionnaire booklets and disseminate them to interested friends, family, or work colleagues. An information Letter to Participants (Appendix A.1) was distributed to those students willing to participate, and standard verbal instructions outlining the nature, duration, likely consequences of participating, and potential benefits of the study were undertaken. Questionnaire booklets included: (a) demographics, (b) eight self-report instruments, and (c) four qualitative responses requiring a brief narrative, with the wording of the questions matching Groth-Marnat’s (2003) recommendations for administering the Thematic Apperception Test (TAT; Murray, cited in Groth-Marnat). Copies of the Recruitment Flier, Letter to Participants, and questionnaire booklet are presented as Appendices A.1 to A.3 respectively.

Completed questionnaire booklets were returned either by mail in a reply-paid envelope provided, or by hand at a central depository located on University grounds. Collection of the questionnaire booklets from the central depository ensured anonymity. Confidentiality of data was assured using a secure filing cabinet to store the booklets. Inclusion of contact details of the investigators, two counselling services, and Swinburne University of Technology Research Ethics Committee on the Letter to Participants provided an opportunity to debrief and/or to discuss issues arising from the procedure. To ensure an effective sample size, a total of 250 booklets were distributed. In total, 170 booklets were completed and returned within two weeks of distribution. This constituted a 68% response rate for the 250 questionnaire booklets distributed.
Part two of the study was designed to allow for a further investigation of individual differences in respondents’ relational capacity using the TAT. It forms part of another study independent of the current research investigation.

The next section presents the statistical analyses undertaken to address the four major hypotheses that explored the potential links of media exposure to trauma response, resilience, and intrapsychic variables. The hypotheses forms the basis of the necessary preliminary analyses required for investigating third variable effects.

**Outline of Statistical Analyses Undertaken**

The statistical analyses used to address each of the broad and specific hypotheses and major research questions are now outlined.

**Hypotheses 1.1- 1.4**

Two sets of analyses were undertaken to explore the potential association between media exposure and trauma response and media exposure and resilience. The first involved a one-way between-group multiple analysis of variance (MANOVA) to compare low and high TV groups in terms of mean scores on each of the three trauma response scales. The univariate comparisons were then investigated to determine on which trauma response scale the group difference was significant. It also involved three independent *t*-tests to compare low and high TV groups in terms of mean resilience and its two constituent subscale scores.

The second set of analyses involved computing correlation coefficients among the media exposure group scores and scores on the three trauma response scales and three personality scales. Media exposure is a categorical variable, which is coded as 0 and 1, where $0 = \leq 10$ hours of TV viewing ($n = 102$) and $1 = \geq 11$ hours of TV viewing ($n = 68$). According to Tabachnick and Fidell (1996), a Pearson product moment correlation
The coefficient using a categorical variable coded as 0 and 1 is mathematically equivalent to the point-biserial correlation used for calculating the correlation between a continuous variable and a categorical variable. The interpretation of the categorical variable is similar to the interpretation of the Pearson correlation coefficient. A positive correlation indicates that the group associated the value of 1 (≥ 11 hrs) has larger values than the group associated with the value of 0 (≤ 10 hrs). A negative correlation indicates that the group linked with the value of 1 has smaller values than the group linked with the value of 0.

**Hypotheses 2.1-2.2**

Associations among trauma response (IES-R), trauma reactive beliefs (TRB), and resilience (IPPA-32R) were investigated via Pearson product moment coefficient.

**Hypotheses 3.1-3.2**

Two analytic approaches were undertaken to explore the associations among object relations, splitting, resilience, and trauma response. First, Pearson product moment coefficients were computed for each of the TOR, SI, IPPA-32R, and IES-R scales and subscales. Second, seven one-way analyses of variances (ANOVAs) with planned comparisons were used to explore differences among high and low splitting and object relations groups (defined by creating low, medium, & high groups one SD above the mean & one SD below the mean) in mean scores on the IPPA-32R and IES-R and subscales.

**Hypotheses 4.1-4.3**

Three analytic approaches were taken to explore the potential associations among narcissism and both resilience and trauma response. First, Pearson product moment correlation coefficients among the NAR subscale and the LPR, IES-R, TRB, and IPPA-32R scales and constituent subscales were computed. Second, seven ANOVAs with planned
comparisons were used to explore differences among high and low narcissism groups (defined by creating low, medium, & high groups one SD above the mean & one SD below the mean) in mean scores on both the IPPA-32R and IES-R and constituent subscales. Third, due to the heterogeneity of the narcissism construct, factor analysis using Maximum Likelihood Extraction and Direct Oblimin rotation was undertaken to explore the factor structure of the TOR “narcissism” subscale.

**Preliminary Analysis of Data**

Prior to statistical analysis, loss of psychosocial resources, impact of event, trauma reactive beliefs, resilience, object relations, and splitting defence were examined to determine the accuracy of data entry, missing values, fit between their distribution, and the assumptions of multivariate analysis.

**Data Screening**

The raw data were screened for any out of range or improbable values using frequency tables and descriptive statistics. No values were found to be out of range.

*Treatment of Missing Data.* A variable was computed for each questionnaire set to determine the number of missing variables for each case. No cases had more than either 5% or three items missing from any one of the measures. For those cases that had less that 5% or only one or two items missing from any one of the measures, the SPSS series mean procedure was used to replace these missing data, consistent with Tabachnick and Fidell’s (1996) recommendations.

*Outliers.* Once the variables had been computed, the raw data were screened for the presence of univariate and multivariate outliers. This was undertaken separately for each set of grouped data as recommended by Tabachnick and Fidell (1996). According to Tabachnick
and Fidell, cases with standardised scores in excess of ±3.29 ($p <0.001$, 2-tailed) are potential univariate outliers. No cases of potential univariate outliers were detected. Using Mahalanobis distances, two cases had an extreme score on the IES-R and were assigned a raw score one unit larger than the next extreme score in the distribution.

**Normality Checks.** Normality checks were undertaken on all key variables to ensure they met with the assumption of normal distribution required for the statistical procedures used in the following analyses. Based on Tabachnick and Fidell’s (1996) recommendations, a variable that has a value for detecting skewness and kurtosis of ±3.29 ($p <0.001$, 2-tailed) has an acceptable distribution for the analyses intended in this research. None of the variables fell outside this limit. Therefore, no transformations of any of the variables were made. Linearity was investigated using bivariate scatterplots. All scatterplots were oval-shaped: hence linearity was assumed. Correlation matrixes also were computed to detect multicollinearity and based on Tabachnick and Fidell’s recommendations, no correlations were above or equal to 0.90.

**Order Effects.** Self-administered pencil-and-paper questionnaires appear to be less susceptible to simple serial order effects than self-administered Internet questionnaires and researcher or clinical administered questionnaires (Dunn, Jordan, & Croft, 2003). This is primarily due to the fact that the questions and response categories are all present at once for respondents to refer to back and forth enabling them to complete questions in any order. Therefore, order effects are difficult to ascertain. That stated, Dunn et al. suggested structuring the order of self-report questionnaire booklets in such a way that sees specific event-related questions being placed first, followed by more general and non-event-related questions.
Statistical Analysis

This section presents the statistical analysis undertaken for the investigation. Results of descriptive statistics and calculation of internal consistency of key measures, aimed at establishing accuracy of data entry and providing data for purpose of comparability, are presented first. Results relevant to the four major hypotheses are then addressed in turn.

Means, standard deviations, and Cronbach’s coefficient alpha as a measure of internal consistency for key variables’ representative scales are presented in Table 4.2.

Table 4.2

Means, Standard Deviations, and Internal Consistencies on Three Trauma Response scales, Resilience, Object Relations, and Splitting Defence scales

<table>
<thead>
<tr>
<th>Scales</th>
<th>M</th>
<th>SD</th>
<th>α</th>
</tr>
</thead>
<tbody>
<tr>
<td>LPR</td>
<td>27.96</td>
<td>8.97</td>
<td>.87</td>
</tr>
<tr>
<td>IES-R</td>
<td>16.96</td>
<td>15.51</td>
<td>.93</td>
</tr>
<tr>
<td>TRB</td>
<td>72.80</td>
<td>18.15</td>
<td>.95</td>
</tr>
<tr>
<td>IPPA-32R</td>
<td>128.19</td>
<td>39.68</td>
<td>.98</td>
</tr>
<tr>
<td>TOR</td>
<td>229.75</td>
<td>55.73</td>
<td>.97</td>
</tr>
<tr>
<td>SI</td>
<td>63.43</td>
<td>22.67</td>
<td>.95</td>
</tr>
</tbody>
</table>

Note. N = 170. LPR = Loss of Psychosocial Resources; IES-R = Impact of Event Scale-Revised; TRB = Traumatic Reactive Beliefs; IPPA-32R = Inventory of Positive Psychological Attitudes-Revised; TOR = Test of Object Relations; SI = Splitting Index.

As seen in Table 4.2, the reliability for each measure is excellent and in addition to the means and standard deviations, with the exception of the IES-R scale, they are comparable to previous studies (Curtis, 1998; Fletcher & Skidmore, 1997; Gould et al.,
1996; Zvelc, 1998). Although the means and standard deviations for the IES-R in this study are comparable to Pfeffebaum et al.’s (2004) study of teachers’ reactions to the Oklahoma City bombing seven weeks following the event, the scores were not comparable to Creamer et al.’s (2003) study that investigated the psychometric properties of the IES-R in two Australian samples of Vietnam Veterans. In Creamer et al.’s non-treatment-seeking sample, the community sample comprised male ex-servicemen with various levels of traumatic stress symptomatology ($M = 40.04, SD = 23.1$). As such, the substantially lower IES-R scores in the present study are to be expected in a convenience sample of adult Australians.

**Differences in Mean Overall Trauma Response and Resilience Scores for Low and High TV Viewing Groups**

Comparative analyses relating to the effect of TV viewing hours on overall trauma response and resilience as well as links among high and low TV viewing groups and the three trauma response scales and resilience were largely consistent with Hypotheses 1.1-1.4.

**Hypothesis 1.1: The Effect of Media Exposure on Overall Trauma Response**

Scores on three scales represent overall trauma response and constituted the dependent variables: loss of psychosocial resources (LPR), impact of event (IES-R) and trauma reactive beliefs (TRB). The independent variable was hours of media exposure. In the data collection phase, media exposure was initially categorised into four groups: (Group 1: 0-5 hours; Group 2: 6 -10 hours; Group 3: 11-15 hours; Group 4: ≥16 hours) consistent with previous September 11 studies (e.g., Linley et al., 2003; Schlenger et al., 2002; Schuster et al., 2001; Silver et al., 2002). However, similar to Pfefferbaum et al.’s study (2000), while a preliminary analysis of a MANOVA was significant, post-hoc comparisons among the four TV viewing groups were not possible because of unequal sample sizes within the groups.
Table 4.3

Mean Scale Score (& Standard Deviations) for Hours of TV Viewing Across Three Trauma Response Groups

<table>
<thead>
<tr>
<th>TV Viewing Groups</th>
<th>Low TV</th>
<th>High TV</th>
<th>$\eta^2$</th>
<th>$F$</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$(n = 102)$</td>
<td>$(n = 68)$</td>
<td>(1,168)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Trauma Response Scales

| Loss of Psychosocial Resources | 26.75(9.82) | 29.78(7.23) | 0.02 | 4.73 | 0.031 |
| Impact of Event-Revised       | 12.84(14.74)| 23.53(15.44)| 0.10 | 21.03| <0.001|
| Trauma Reactive Beliefs       | 70.53(18.68)| 76.22(16.89)| 0.02 | 4.08 | 0.045 |

Following Pfefferbaum et al.’s (2000) recommendations for investigating the differences in TV viewing hours, the lower two levels and the higher two levels of the media exposure question were collapsed together to form two groups. Moreover, dividing the groups at the 10 hour mark, where low is $\leq 10$ hrs ($n = 102$) and high is $\geq 11$ ($n = 68$) hours, reflects Schuster et al.’s (2001) findings that the mean hours of TV viewing was 8.1 hours over a 72 hours period following September 11. In the current study, the timeline was ten months. The media exposure question asked respondents to report the total amount of purposeful TV viewing hours of the Bali bombing and aftermath. This included suspects’ trials, survivor stories, TV special broadcasts of the event, and memorial services. Thus, it was appropriate to include a heaviest TV viewing category of greater than 16 hours over the ten months following the Bali bombing. Results can be found in Table 4.3.

A one-way between-groups (high TV vs. low TV) MANOVA was conducted for the
three trauma response scales. Using the robust Pillai’s Trace at the $p < 0.001$ level, there was a significant difference among the groups on the linear combination of the three dependent variables, $F(4, 165) = 11.05, p = <0.001$; Pillai’s Trace $= 0.21$; partial $\eta^2 = 0.21$. Based on Cohen’s (1988) recommendations, an effect size of 0.21 is large, which indicates that 21% of the variance in overall trauma response is explained by media exposure.

When the results for the univariate analyses were considered, all variables reached statistical significance As seen in Table 4.3, the large effect size of 10% for the IES-R in contrast to the 2% variance for both the LPR and TRB scales suggests that the difference in mean IES-R scores is the most pronounced of the three scales, as predicted.

**Hypothesis 1.3: The Effect of Media Exposure on Resilience**

Three independent $t$-tests were conducted to compare differences in mean resilience scores and its two constituent subscales across the two TV viewing groups. Results can be found in Table 4.4.

As seen in Table 4.4, there was a significant difference in mean scores for both the “confidence in life and self” total resilience scale and “life purpose and satisfaction” subscale. The magnitude of the differences was small. This suggests that those respondents who personally create ontological meaning and experience minimal anticipatory anxiety purposely watched low hours of TV viewing of the Bali bombing and its aftermath. There was no significant difference in mean scores for the “self-confidence during stress” subscale. This suggests that both low and high TV groups equally endorse the perception that events are under control rather than one being personally in control of potentially traumatic events such as the Bali bombing.
Table 4.4

Mean Scale Score (& Standard Deviations) for Hours of TV Viewing Across the Resilience Scale and Two Subscales (N = 170)

<table>
<thead>
<tr>
<th>TV Viewing Groups</th>
<th>Low TV</th>
<th>High TV</th>
<th>$\eta^2$</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>(n = 102)</td>
<td>(n = 68)</td>
<td>(1,168)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Resilience Scale and Subscales

<p>| | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Life Purpose and Satisfaction</td>
<td>78.50(21.27)</td>
<td>68.84(24.34)</td>
<td>.04</td>
<td>2.73</td>
<td>0.007</td>
</tr>
<tr>
<td>Self-Confidence During Stress</td>
<td>55.00(19.25)</td>
<td>51.38(18.97)</td>
<td>.04</td>
<td>1.20</td>
<td>0.229</td>
</tr>
<tr>
<td>Confidence in Life and Self</td>
<td>133.50(37.90)</td>
<td>120.22(41.23)</td>
<td>.02</td>
<td>2.16</td>
<td>0.032</td>
</tr>
</tbody>
</table>

Correlations Among Hours of TV Viewing, Trauma Response, and Resilience Scales

Correlations among low and high TV viewing groups and the three trauma response scales and constituent subscales can be found in Table 4.5 and correlations among low and high TV viewing groups, resilience, and two intrapsychic scales are found in Table 4.6.

Media exposure is a categorical variable, coded as 0 and 1, where 0 = less than or equal to ten hours of TV viewing and 1 = greater than or equal to eleven hours of TV viewing. A positive correlation indicates the group associated with the value of 1 has larger values than the group associated with the value of 0. A negative correlation indicates the group linked with the value of 1 has smaller values than the group linked with the value of 0. In determining strength of correlations, Cohen’s (1988) guidelines were followed. Correlations greater than ±0.50 were considered strong, correlations between ±0.30 and
±0.49 were considered substantial, and correlations of ±0.30 and below were considered mild.

**Hypothesis 1.2: Associations Among Media Exposure and Overall Trauma Response**

As seen in Table 4.5, a substantial positive relationship was found between hours of TV viewing and the IES-R and three constituent subscales. High hours of TV viewing help to explain nearly 11% of the variance in mean scores on the IES-R. This indicates that high TV viewing over a ten-month period is more related to trauma-specific symptoms of avoidance, intrusion, hyperarousal reported over a one-week period ten-months following the Bali bombing than low TV viewing.

Although no specific prediction was made, there was a substantial correlation between scores on the avoidance subscale of the IES-R and high TV viewing. This suggests that avoidance of getting upset and talking about a distressing event, believing as if the event hadn’t happened or wasn’t real, and awareness of strong affects but numb emotions were associated with high hours of purposeful TV viewing of the Bali bombing and its aftermath.

A mild positive relationship between the LPR and hours of TV viewing also was found. Of the two subscales, only Loss of Agency was associated with hours of TV viewing. This indicates that high hours TV viewing is more related to loss of mastery, control, self-efficacy, hope, and optimism than low hours of TV viewing. Similarly, hours of TV viewing were significantly and positively associated with the TRB scale and “loss of control” subscale. This indicates that high TV viewing is more significantly associated with beliefs of lack of control following a potentially traumatic event (PTE) than low TV viewing.
Table 4.5

Correlations Among Hours of TV Viewing and Three Trauma Response Scale Scores

<table>
<thead>
<tr>
<th>TV Viewing Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Trauma Response Scales and Constituent Subscales</strong></td>
</tr>
<tr>
<td>LPR</td>
</tr>
<tr>
<td>Loss of Agency</td>
</tr>
<tr>
<td>Loss of Support</td>
</tr>
<tr>
<td>IES-R</td>
</tr>
<tr>
<td>Avoidance</td>
</tr>
<tr>
<td>Intrusion</td>
</tr>
<tr>
<td>Hyperarousal</td>
</tr>
<tr>
<td>TRB</td>
</tr>
<tr>
<td>Anxious Uncertainty</td>
</tr>
<tr>
<td>Inadequacy</td>
</tr>
<tr>
<td>Dangerous World</td>
</tr>
<tr>
<td>Self-Abnegation</td>
</tr>
<tr>
<td>Lack of Control</td>
</tr>
</tbody>
</table>

Note. N = 170. * p < 0.05. ** p < 0.01. *** p < 0.001. All 2-tailed. LPR = Loss of Psychosocial Resources; IES-R Impact of Event Scale-Revised; TRB = Trauma Reactive Beliefs.

Hypothesis 1.4: Association Between Media Exposure and Resilience

As seen in Table 4.6, there was a mild negative relationship among the IPPA-32R scales and its two constituent subscales and low hours of TV viewing. This relationship explains only 3% of the variance in mean scores on the IPPA-32R. This suggests that a resilient worldview, as defined by life purpose and satisfaction (i.e., ontological meaning) and self-confidence during stress (i.e., perceived internal locus of control during stressful
situations, positive forms of external locus of control, & habitually calm responses reflective of ontological security) is mildly associated with low hours of purposeful TV viewing of the Bali bombing and its aftermath. In terms of the two IPPA-32R subscales, life purpose and satisfaction was more associated with low hours of TV viewing than self-confidence during stress.

**Table 4.6**

*Correlations Among Hours of TV Viewing, Resilience, and Intrapsychic Scale Scores*

<table>
<thead>
<tr>
<th>TV Viewing Hours</th>
<th>Personality Scales and Constituent Subscales</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>IPPA-32R</td>
</tr>
<tr>
<td></td>
<td>Life Purpose and Satisfaction</td>
</tr>
<tr>
<td></td>
<td>Self-Confidence During Stress</td>
</tr>
<tr>
<td></td>
<td>TOR</td>
</tr>
<tr>
<td></td>
<td>Symbiotic Merging</td>
</tr>
<tr>
<td></td>
<td>Separation Anxiety</td>
</tr>
<tr>
<td></td>
<td>Egocentricity</td>
</tr>
<tr>
<td></td>
<td>Fear of Engulfment</td>
</tr>
<tr>
<td></td>
<td>Social Isolation</td>
</tr>
<tr>
<td></td>
<td>Narcissism</td>
</tr>
<tr>
<td></td>
<td>SI</td>
</tr>
<tr>
<td></td>
<td>Splitting of Self-Representations</td>
</tr>
<tr>
<td></td>
<td>Splitting of Other-Representations</td>
</tr>
<tr>
<td></td>
<td>Splitting of Family-Representations</td>
</tr>
</tbody>
</table>

*Note. N = 170. *p < 0.01. IPPA-32R = Inventory of Positive Psychological Attitudes-Revised; TOR = Test of Object Relations; SI = Splitting Index.*
Correlations Among Hours of TV Viewing and Two Intrapsychic Scale Scores

As seen in Table 4.6, there was no relationship between hours of TV viewing and either the TOR or SI, which was contrary to prediction. This suggests that immature object relations and pervasive splitting are largely unrelated to high hours of TV viewing.

Hypothesis 2.1: Associations Among Trauma Reactive Beliefs and Resilience

Correlations among the scores on the TRB and IPPA-32R scales and constituent subscales are shown in Table 4.7. The associations between the trauma reactive beliefs scale and resilience scale were largely consistent with Hypothesis 2.1. As seen in Table 4.7, all scores on the trauma reactive beliefs scale and constituent subscales correlated strongly and negatively with scores on the resilience scale and constituent subscales, as predicted. Confidence in life and self helps to explain more than 56% of the variance in scores on the trauma reactive beliefs scale.

While significant, the correlation between scores on the dangerous world subscale and scores on the resilience scale and constituent subscales were uniformly lower than the other trauma reactive beliefs subscales. This finding suggests that changed beliefs and appraisals of the potential threat and harmfulness of a traumatic event are less associated in a negative direction with a resilient worldview than changed beliefs about uncertainty, perception that events are under control rather than being in control, inadequacy to change future similar events, and renouncement of self-identity. In terms of the trauma reactive beliefs subscales, changed beliefs in the area of anxious uncertainty (i.e., anticipatory anxiety) was most highly correlated in the negative direction with confidence in life and self following the Bali bombing and its aftermath.
Table 4.7

Correlations Among Scales and Subscales of the Trauma Reactive Beliefs and the Inventory of Positive Psychological Attitudes-Revised

<table>
<thead>
<tr>
<th>IPPA-32R scale and subscales</th>
<th>LPS</th>
<th>SCDS</th>
<th>CLS</th>
</tr>
</thead>
<tbody>
<tr>
<td>TRB scale and subscales</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TRB</td>
<td>-.71</td>
<td>-.70</td>
<td>-.75</td>
</tr>
<tr>
<td>Anxious Uncertainty</td>
<td>-.69</td>
<td>-.68</td>
<td>-.72</td>
</tr>
<tr>
<td>Inadequacy</td>
<td>-.67</td>
<td>-.66</td>
<td>-.71</td>
</tr>
<tr>
<td>Dangerous World</td>
<td>-.50</td>
<td>-.51</td>
<td>-.51</td>
</tr>
<tr>
<td>Self-Abnegation</td>
<td>-.62</td>
<td>-.61</td>
<td>-.61</td>
</tr>
<tr>
<td>Loss of Control</td>
<td>-.66</td>
<td>-.61</td>
<td>-.68</td>
</tr>
</tbody>
</table>

Note. N = 170. All results are at \( p < 0.001 \). IPPA-32R = Inventory of Positive Psychological Attitudes-Revised; LPS = Life Purpose and Satisfaction; SCDS = Self-Confidence During Stress; CLS = Confidence in Life/Self; TRB = Trauma Reactive Beliefs.

Hypothesis 2.2: Associations Among Trauma Reactive Beliefs and Trauma Response

Correlations among the scores on the TRB and IES-R scales and constituent subscales are shown in Table 4.8, and were consistent with Hypothesis 2.2. As seen in Table 4.8, all scores correlated positively and substantively, as predicted.

The IES-R helps to explain nearly 35% of the variance in scores on the TRB scale. In terms of scores on the TRB subscales, correlations with scores on all three IES-R subscales showed slightly more differentiation than expected. Scores on the IES-R avoidance subscale
correlated strongly with scores on the TRB anxious uncertainty subscale, and substantively with scores on the other four subscales. Scores on the IES-R intrusion subscale correlated strongly with scores on the TRB anxious uncertainty and dangerous world subscales, and substantively on the other three subscales. Scores on the IES-R hyperarousal subscale correlated strongly with anxious uncertainty, inadequacy, and dangerous world subscales, and substantively with the other two subscales.

**Table 4.8**

*Correlations Among Scales and Subscales of the Trauma Reactive Beliefs and Impact of Event-Revised Scales*

<table>
<thead>
<tr>
<th></th>
<th>IES-R scale and subscales</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>AVO</td>
</tr>
<tr>
<td><strong>TRB scale and subscales</strong></td>
<td></td>
</tr>
<tr>
<td>TRB</td>
<td>.50</td>
</tr>
<tr>
<td>Anxious Uncertainty</td>
<td>.52</td>
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<tr>
<td>Inadequacy</td>
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<tr>
<td>Dangerous World</td>
<td>.40</td>
</tr>
<tr>
<td>Self-Abnegation</td>
<td>.30</td>
</tr>
<tr>
<td>Loss of Control</td>
<td>.35</td>
</tr>
</tbody>
</table>

*Note.* *N* = 170. All results are at *p* < 0.01. All 2-tailed. IES-R = Impact of Event Scale-Revised; AVO = Avoidance; INT = Intrusion; HYP = Hyperarousal; TRB = Trauma Reactive Beliefs.
While scores on the anxious uncertainty subscale were consistently the highest correlation for the IES-R scale and constituent subscales, scores on the self-abnegation subscale were consistently the lowest correlation. This finding is in keeping with the strong empirical and theoretical link that anticipatory anxiety and uncertainty have to changed fundamental worldviews following exposure to a PTE, but that renouncing one’s self-identity is not as strongly linked to indirect and impersonal exposure to a PTE as it is to direct and personal exposure.

*Hypothesis 3.1: Associations Among Object Relations, Splitting, and Resilience*

Correlations among scores on the TOR, SI, and IPPA-32R scales and constituent subscales can be seen in Table 4.9. The broad associations among the object relations, splitting defence, and resilience scales were largely consistent with Hypothesis 3.1.

As seen in Table 4.9, scores on the object relations scale correlated strongly and positively with scores on the splitting defence scale, and these correlated strongly and negatively with scores on the resilience scale, as predicted. Correlations among the two resilience subscale scores and both object relations and splitting defence subscale scores showed minimal differentiation. This finding supports Kass’s (1998) proposition and Kernberg’s (2001) assertion that life purpose and satisfaction and self-confidence during stress are complementary aspects of a resilient worldview.

Intercorrelations among the object relations and splitting scales and subscales showed more difference than anticipated. Noteworthy is the substantial correlation between splitting of self-representations and narcissism while splitting of family- and other-representations showed a mild correlation with narcissism scores. Associations among narcissism, splitting of self-representations, and resilience are reported as part of Hypotheses 4.1 and 4.3.
Table 4.9

Intercorrelations Among Scales and Subscales of the Test of Object Relations, Splitting Index, and the Inventory for Positive Psychological Attitudes-Revised

<table>
<thead>
<tr>
<th>Variable</th>
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<th>3</th>
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<tbody>
<tr>
<td>TOR</td>
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</tr>
<tr>
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<td>-.58</td>
<td>.95</td>
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<td>SCDS</td>
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<td>-.62</td>
<td>-.61</td>
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<td>-.63</td>
<td>-.25</td>
<td>-.71</td>
<td>-.70</td>
<td>-.67</td>
<td>-.48</td>
<td>.93</td>
<td>.77</td>
</tr>
</tbody>
</table>

Note. N = 170. Results are at p < 0.001 except *p < 0.05. TOR = Test of Object Relations; SYM = Symbiotic Merging; SEP = Separation Anxiety; EGO = Egocentricity; ENG = Fear of Engulfment; SOC = Social Isolation; NAR = Narcissism; SI = Splitting Index; SOS = Splitting of Self; SOO = Splitting of Others; SOF = Splitting of Family; CLS = Confidence in Life/Self; LPS = Life Purpose & Satisfaction; SCDS = Self-Confidence During Stress.
Differences in Resilience Scale and Subscale Scores for Low and High Object Relations and Low and High Splitting Defence Groups

Three separate one-way between-group (high, medium, low) ANOVAs with planned comparisons (low vs. high) were used to explore differences in mean scores on the IPPA-32R and its two constituent subscales for both object relations groups and splitting groups. Respondents were initially divided into three groups according to their mean TOR score one SD below and one SD above the scale mean (Mature: 174 or below; Normal: 175 to 285; Immature: 286 & above) and to their SI score, one SD below and one SD above the scale mean (Minimal: 40 or below; Normal: 41 to 86; Pervasive: 87 & above).

Kernberg’s (1984, 2001) theoretical proposition states there are three levels of object relations and narcissism functioning in normal and pathological development. The crucial dimension along which one can explore normal and abnormal object relations and narcissism is the extent to which the splitting defence is employed. He argues that the highest and lowest levels of functioning can be readily differentiated whilst the middle range of the object relations, narcissism, and splitting spectrums is often difficult to detect at the surface level of adaptation. Therefore, only the “mature/immature” and “minimal/pervasive” subsets of all possible combinations of groups were explored in planned comparisons.

The rationale for comparing extreme scores was to determine if high mean object relations and splitting defence scores, which indicate immature object relations and pervasive splitting, differ from low mean object relations and splitting defence scores, which indicate mature object relations and minimal splitting on mean resilience and trauma response scores. To date, no prior research has explored mean differences between extreme groups on any combination of these variables. Hence, the current study was unable to use the
more desired extra-sample criteria for such cut-offs. Means and standard deviations for the middle groups can be found in Appendix B.1. The issue of using criteria internal to the current sample notwithstanding, the means and standard deviations of this Australian normative sample are comparable to earlier research using these scales with normative samples (Curtis, 1998; Gould et al., 1996; Zvelc, 2000).

**Object Relations Groups.** There was a significant difference in mean IPPA-32R and two subscale scores for the three object relations (TOR) groups, as predicted. The differences in mean scores among the three TOR groups for each of the three ANOVAs was large. As seen in Table 4.10, results of planned comparison analyses indicated that the mean TOR score for the low object relations group was significantly different from the high object relations group for the CLS: $t(1, 49.73) = -11.47, p < 0.001$; LPS: $t(1, 45.41) = -10.05, p < 0.001$; and SCDS $t(1, 167) = -9.01, p < 0.001$, as predicted. Respondents endorsing immature object relations scores scored significantly lower than the mature object relations respondents on the resilience scales. This finding suggests that, relative to the mature object relations group, the immature object relations group was characterised by lower levels of self-confidence during stress (i.e., acceptance that an event is under control rather than the person being in control) and life purpose and satisfaction (i.e., lack of ontological meaning & presence of existential anxiety), which are two complementary aspects of resilience.

**Splitting Defence Groups.** There was a significant difference in mean IPPA-32R and two subscale scores for the three splitting defence (SI) groups, as predicted. The differences in mean scores among the three SI groups for each of the three ANOVAs was large. As seen in Table 4.11, results of planned comparison analyses indicated that the mean SI score for the low splitting defence group was significantly different from the high splitting defence group
for the CLS: $t(1, 55.81) = -15.83, p < 0.001$; LPS: $t(1, 54.59) = -15.27, p < 0.001$; and SCDS $t(1, 167) = -11.77, p < 0.001$, as predicted.

**Table 4.10**

*Mean Scale and Subscale Scores (& Standard Deviations) on the Inventory of Positive Psychological Attitudes-Revised for Mature and Immature Object Relations Groups*

<table>
<thead>
<tr>
<th>IPPA-32R scales</th>
<th>Mature Object Relations ($n = 26$)</th>
<th>Immature Object Relations ($n = 29$)</th>
<th>$\eta^2$</th>
<th>$F(2, 167)$</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLS</td>
<td>161.15(20.68)</td>
<td>81.79(30.17)</td>
<td>.34</td>
<td>44.65</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>LPS</td>
<td>89.65(10.75)</td>
<td>48.66(18.78)</td>
<td>.29</td>
<td>35.43</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>SCDS</td>
<td>71.50(12.45)</td>
<td>33.14(13.19)</td>
<td>.33</td>
<td>41.43</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>

*Note.* Higher scores indicate higher endorsement of each resilience scale. One $SD$ below the mean Test of Object Relations score is classified “mature”; one $SD$ above the mean Test of Object Relations score is classified “immature”. IPPA-32R = Inventory of Positive Psychological Attitudes-Revised; CLS = Confidence in Life/Self; LPS = Life Purpose and Satisfaction; SCDS = Self-Confidence During Stress.

Respondents endorsing pervasive splitting scored significantly lower than minimal splitting respondents on the resilience scales and subscales. This suggests that, relative to the minimal splitting group, the pervasive splitting group was characterised by lower levels of self-confidence during stress, life purpose and satisfaction and ontology.
Table 4.11

**Mean Scale and Subscale Scores (& Standard Deviations) on the Inventory of Positive Psychological Attitudes-Revised for Minimal and Pervasive Splitting Groups**

<table>
<thead>
<tr>
<th></th>
<th>Minimal Splitting ($n = 31$)</th>
<th>Pervasive Splitting ($n = 35$)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$M$ (SD)</td>
<td>$M$ (SD)</td>
</tr>
<tr>
<td><strong>IPPA-32R scales</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CLS</td>
<td>169.940(17.01)</td>
<td>78.11(29.15)</td>
</tr>
<tr>
<td>LPS</td>
<td>96.00(9.42)</td>
<td>45.49(16.81)</td>
</tr>
<tr>
<td>SCDS</td>
<td>73.94(12.34)</td>
<td>32.63(13.69)</td>
</tr>
</tbody>
</table>

*Note.* Higher scores indicate higher endorsement of each resilience scale. One SD below the mean Splitting Index score is classified “minimal”; one SD above the mean Splitting Index score is classified “pervasive”. IPPA-32R = Inventory of Positive Psychological Attitudes-Revised; CLS = Confidence in Life/Self; LPS = Life Purpose/Satisfaction; SCDS = Self-Confidence During Stress.

**Hypothesis 3.2: Associations Among Object Relations, Splitting, and Trauma Response**

Correlations among scores on the TOR, SI, and IES-R scales and their constituent subscales can be found in Table 4.12. As seen in Table 4.12, with the exception of the narcissism subscale, scores on the TOR scale correlated substantively and positively with scores on the IES-R scale and its three constituent subscales. Contrary to prediction, scores on the narcissism subscale failed to correlate with scores on any of the IES-R scales. This suggests that the trait of narcissism is unrelated to trauma response in general and impact of event in particular. Specifically, the narcissism scores obtained by respondents who identified with grandiose beliefs and omnipotence were largely unrelated to the stress
response symptoms of avoidance, intrusion, and hypervigilence experienced over a one-week period prior to testing.

For the SI subscales, scores on the splitting of self-representations subscale had only mild correlations with the IES-R “avoidance” and “hyperarousal” subscales and a negligible correlation with the “intrusion” subscale. This suggests that the splitting of affects, cognitions, and perceptions relating to unconscious self-representations is unrelated to intrusive disturbing memories of externally stressful events. In contrast, scores on the splitting of family-representations and splitting of others-representations subscales correlated substantially and positively with all four IES-R scales. This suggests that the unconscious need to separate representations of family and others into all good or all bad to reduce anxiety is related to the biopsychosocial impact of a recent PTE.

*Differences in Impact of Event Scale and Subscale Scores for Low and High Object Relations and Splitting Groups*

Four separate one-way between-group (high, medium, low) ANOVAs with planned comparisons (high vs. low) were used to explore differences among both object relations and splitting defence groups in scores on the IES-R scale and its three subscales. Respondents were initially divided into three groups according to their mean TOR score, one SD below and one SD above the scale mean (Mature: 174 or below; Normal: 175 to 285; Immature: 286 & above) and to their mean SI score one SD below and one SD above the scale mean (Minimal: 40 or below; Normal: 41 to 86; Pervasive: 87 & above). The normal object relations and splitting defence groups were omitted from the planned comparison analysis, as the focus was on mean scores for the extreme groups on the two intrapsychic variables.
Table 4.12
Correlations Among Scales and Subscales of the Test of Object Relations, Splitting Index, and Impact of Event-Revised Scales

<table>
<thead>
<tr>
<th></th>
<th>IES-R scale and subscales</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>AVO</td>
<td>INT</td>
<td>HYP</td>
<td>IES-R</td>
</tr>
<tr>
<td>TOR</td>
<td>.41***</td>
<td>.31***</td>
<td>.44***</td>
<td>.42***</td>
</tr>
<tr>
<td>SYM</td>
<td>.30***</td>
<td>.27**</td>
<td>.21**</td>
<td>.22**</td>
</tr>
<tr>
<td>SEP</td>
<td>.41***</td>
<td>.36***</td>
<td>.45***</td>
<td>.44***</td>
</tr>
<tr>
<td>EGO</td>
<td>.35***</td>
<td>.38***</td>
<td>.45***</td>
<td>.43***</td>
</tr>
<tr>
<td>ENG</td>
<td>.39***</td>
<td>.33***</td>
<td>.48***</td>
<td>.44***</td>
</tr>
<tr>
<td>SOC</td>
<td>.38***</td>
<td>.30***</td>
<td>.45***</td>
<td>.41***</td>
</tr>
<tr>
<td>NAR</td>
<td>.08</td>
<td>-.08</td>
<td>-.01</td>
<td>-.03</td>
</tr>
<tr>
<td>SI</td>
<td>.35***</td>
<td>.32**</td>
<td>.44***</td>
<td>.40***</td>
</tr>
<tr>
<td>SOS</td>
<td>.24**</td>
<td>.16*</td>
<td>.18*</td>
<td>.17*</td>
</tr>
<tr>
<td>SOO</td>
<td>.30***</td>
<td>.38***</td>
<td>.48***</td>
<td>.41***</td>
</tr>
<tr>
<td>SOF</td>
<td>.40***</td>
<td>.39***</td>
<td>.52***</td>
<td>.48***</td>
</tr>
</tbody>
</table>

Note. N = 170. *p < 0.05. **p < 0.01. ***p < 0.001. All 2-tailed. TOR = Test of Object Relations; SYM = Symbiotic Merging; SEP = Separation Anxiety; EGO = Egocentricity; ENG = Fear of Engulfment; SOC Social Isolation; NAR = Narcissism; SI = Splitting Index; SOS = Splitting of Self-Representations; SOO = Splitting of Others-Representations; SOF = Splitting of Family-Representations; IES-R = Impact of Event Scale-Revised; AVO = Avoidance; INT = Intrusion; HYP = Hyperarousal.
**Object Relations Groups.** There was a significant difference in mean IES-R and three subscale scores for the three object relations (TOR) groups, as predicted. The differences in mean scores among the three groups for each of the four ANOVAs was large. As seen in Table 4.13, results of planned comparison analyses indicated that the mean TOR score for the mature object relations group was significantly different from the immature object relations group for the IES-R: \( t(1, 52.38) = 2.62, p = .011 \); AVO: \( t(1, 52.94) = 2.83, p = .006 \); HYP: \( t(1, 52.45) = 3.29, p = .002 \); but nonsignificant for the INT subscale: \( t(1, 51.59) = 1.43, p = .157 \), which was contrary to prediction. Respondents endorsing immature object relations scores scored significantly lower than mature object relations respondents on the impact of event scale and avoidance and hyperarousal subscales. There was no difference in intrusion scores for either the mature or immature group. This suggests that both groups were equally characterised by trouble concentrating, feelings that the event wasn’t real or hadn’t happened, and attempts to remove the event from memory and not think about it. Although nonsignificant, there was a trend toward the mature object relations group endorsing lower levels of intrusive symptoms.

**Splitting Defence Groups.** There was a significant difference in mean IES-R and three subscale scores for the three splitting defence (SI) groups, as predicted. The differences in mean scores among the four SI groups for each of the three ANOVAs was large. As seen in Table 4.14, results of planned comparison analyses indicated that the mean SI score for the minimal splitting group was significantly different from the pervasive splitting group for the IES-R total scale: \( t(1, 63.38) = 3.51, p = .001 \); AVO: \( t(1, 63.31) = 3.45, p = .001 \); INT: \( t(1, 61.85) = 2.34, p = .022 \); and HYP: \( t(1, 62.10) = 4.04, p = .001 \), as predicted.
Table 4.13

Mean Scale and Subscale Scores (& Standard Deviations) on the Impact of Event Scale-Revised for Mature and Immature Object Relations Groups

<table>
<thead>
<tr>
<th></th>
<th>Mature Object Relations (n = 26)</th>
<th>Immature Object Relations (n = 29)</th>
<th>(\eta^2)</th>
<th>(F(2,167))</th>
<th>(p)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>IES-R scales</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IES-R</td>
<td>20.69(17.02)</td>
<td>32.76(17.08)</td>
<td>.25</td>
<td>23.23</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>AVO</td>
<td>6.73(5.82)</td>
<td>11.38(6.31)</td>
<td>.13</td>
<td>13.29</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>INT</td>
<td>8.62(7.22)</td>
<td>11.34(6.84)</td>
<td>.23</td>
<td>26.08</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>HYP</td>
<td>5.35(4.71)</td>
<td>10.03(5.84)</td>
<td>.28</td>
<td>33.15</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>

**Note.** Higher scores indicate higher endorsement of each resilience scale. One \(SD\) below the mean Test of Object Relations score is classified “mature”; one \(SD\) above the mean Test of Object Relations score is classified “immature”. IES-R = Impact of Event Scale-Revised; AVO = Avoidance; INT = Intrusion; HYP = Hyperarousal.

Respondents endorsing pervasive splitting scores scored significantly lower than minimal splitting respondents on the resilience scales. This suggests that, relative to minimal splitters, those respondents who repeatedly organise experiences into constellations of good and bad representations on the basis of their affective valence, experienced the impact of the Bali bombing in a way that was characterised by intrusions, avoidance, and hyperarousal symptoms. These affects, cognitions, and perceptions included repeated images and memories of the event intruding into awareness, attempts to remove it from memory, feelings as if the event hadn’t happened, and strong emotions and cognitions relating to the event.
Table 4.14

Mean Scale and Subscale Scores (& Standard Deviations) on the Impact of Event Scale-Revised for Minimal and Pervasive Splitting Groups

<table>
<thead>
<tr>
<th></th>
<th>Minimal Splitting (n = 31)</th>
<th>Pervasive Splitting (n = 35)</th>
<th>( \eta^2 )</th>
<th>( F(2,167) )</th>
<th>( p )</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>IES-R scales</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IES-R</td>
<td>17.58(16.59)</td>
<td>32.11(17.01)</td>
<td>.26</td>
<td>30.76</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>AVO</td>
<td>5.97(5.81)</td>
<td>10.97(5.92)</td>
<td>.13</td>
<td>13.53</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>INT</td>
<td>7.32(7.00)</td>
<td>11.26(6.57)</td>
<td>.24</td>
<td>27.78</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>HYP</td>
<td>4.29(4.75)</td>
<td>9.89(6.43)</td>
<td>.31</td>
<td>38.75</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>

*Note.* Higher scores indicate higher endorsement of each resilience scale. One SD below the mean Splitting Index score is classified “minimal”; one SD above the mean Splitting Index score is classified “pervasive”. IES-R = Impact of Event Scale-Revised; AVO = Avoidance; INT = Intrusion; HYP = Hyperarousal.

**Hypothesis 4.1: Associations Between Narcissism and Resilience**

Correlations among scores on the NAR subscale and IPPA-32R scale and constituent subscales can be found in Table 4.9 (p.36). The associations among scores on narcissism and scores on the IPPA-32R and its two subscales were inconsistent with Hypothesis 4.1, with correlations revealing some unexpected deviations. As evident in Table 4.7, scores on the narcissism subscale had only mild correlations with the resilience scales and were in the negative direction, contrary to prediction (CLS: \( r = -0.22 \); LPS: \( r = -0.18 \); SCDS: \( r = -0.25 \), \( p \))
< 0.05). This suggests that self-confidence during stress and life purpose and satisfaction are inversely related to grandiose beliefs and an omnipotent experiencing of the self.

**Differences in Resilience Scale and Subscale Scores for Low and High Narcissism**

Three separate one-way between-group (high, medium, low) ANOVAs with planned comparisons (low vs. high) were used to explore differences among narcissism groups in scores on the IPPA-32R scale and two subscales. Respondents were initially divided into three groups according to their mean NAR score, one SD below and one SD above the scale mean (Modest: 34 or below; Normal: 35 to 50; Grandiose: 51 & above). The medium “normal” narcissism group was omitted from the planned comparison analysis but means and standard deviations for this group can be found in Appendix B.1.

**Narcissism Groups.** There was a significant difference in IPPA-32R and two subscale scores for the three narcissism (NAR) groups, as predicted. The differences in mean scores among the three NAR groups for each of the CLS and LPS ANOVAs was small, whereas the effect size for the differences in mean SCDS scores for the three NAR groups was large. This suggests that the difference among the groups was more pronounced for the self-confidence during stress subscale.

As seen in Table 4.15, results of the planned comparison analyses indicated that the mean NAR score for the modest group was significantly different from the grandiose group for the CLS: $t(1, 38.05) = -3.10, p = 0.004$; LPS: $t(1, 34.36) = -2.90, p = 0.006$; SCDS $t(1, 42.30) = -2.99, p = 0.005$, as predicted. This suggests that the grandiose type of narcissism is characterised by relatively less self-confidence during stress, life purpose and satisfaction, and ontological and existential meaning than the modest type of narcissism.
Table 4.15

Mean Scale and Subscale Scores (& Standard Deviations) on the Inventory of Positive Psychological Attitudes-Revised for Modest and Grandiose Narcissism Groups

<table>
<thead>
<tr>
<th></th>
<th>Modest Narcissism (n = 30)</th>
<th>Grandiose Narcissism (n = 25)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M (SD)</td>
<td>M (SD)</td>
</tr>
<tr>
<td><strong>IPPA-32R scales</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CLS</td>
<td>153.63 (29.26)</td>
<td>119.48 (48.16)</td>
</tr>
<tr>
<td>LPS</td>
<td>85.77 (13.95)</td>
<td>68.36 (27.12)</td>
</tr>
<tr>
<td>SCDS</td>
<td>67.87 (16.69)</td>
<td>51.12 (23.45)</td>
</tr>
</tbody>
</table>

*Note. Higher scores indicate higher endorsement of each resilience scale. One SD below the mean narcissism score is classified “modest”; one SD above the mean narcissism score is classified “grandiose”. IPPA-32R = Inventory of Positive Psychological Attitudes-Revised; CLS = Confidence in Life/Self; LPS = Life Purpose and Satisfaction; SCDS = Self-Confidence During Stress.*

**Hypothesis 4.2: Associations Between Narcissism and Trauma Response**

Correlations among scores on the NAR scale and LPR, IES-R, and TRB scales and subscales can be found in Table 4.16. Results were inconsistent with Hypothesis 4.2. As seen in Table 4.16, the narcissism scale did not demonstrate the predicted substantial correlation with the three trauma response scales. Instead, scores on the narcissism scale showed negligible correlations with scores on the loss of psychosocial resources, impact of event, and trauma reactive beliefs scales and subscales. However, with the exception of anxious uncertainty and inadequacy (both \(r = 0.00\)), the negligible correlations between the narcissism and three trauma response scales were in the predicted negative direction.
Table 4.16

*Correlations Among the Narcissism Scale and Three Trauma Response Scale Scores*

<table>
<thead>
<tr>
<th>Trauma Response Scales</th>
<th>Narcissism Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>and Constituent Subscales</em></td>
<td></td>
</tr>
<tr>
<td>LPR</td>
<td>-.03</td>
</tr>
<tr>
<td>Loss of Agency</td>
<td>-.10</td>
</tr>
<tr>
<td>Loss of Support</td>
<td>-.11</td>
</tr>
<tr>
<td>IES-R</td>
<td>-.03</td>
</tr>
<tr>
<td>Avoidance</td>
<td>-.08</td>
</tr>
<tr>
<td>Intrusion</td>
<td>-.08</td>
</tr>
<tr>
<td>Hyperarousal</td>
<td>-.01</td>
</tr>
<tr>
<td>TRB</td>
<td>-.10</td>
</tr>
<tr>
<td>Anxious Uncertainty</td>
<td>.00</td>
</tr>
<tr>
<td>Inadequacy</td>
<td>.00</td>
</tr>
<tr>
<td>Dangerous World</td>
<td>-.06</td>
</tr>
<tr>
<td>Self-Abnegation</td>
<td>-.02</td>
</tr>
<tr>
<td>Lack of Control</td>
<td>-.02</td>
</tr>
</tbody>
</table>

*Note.* $N = 170$. LPR = Loss of Psychosocial Resources; IES-R = Impact of Event Scale; TRB = Trauma Reactive Beliefs Scale.
Differences in Impact of Event Scale and Subscale Scores for Low and High Narcissism

Four separate one-way between-group (high, medium, low) ANOVAs were used to explore differences among the three narcissism groups in scores on the IES-R scale and three subscales. Respondents were initially divided into three groups according to their mean NAR score, one SD below and one SD above the scale mean (Modest: 34 or below; Normal: 35 to 50; Grandiose 51 & above). There was no significant difference in IES-R and three subscale scores for the three narcissism groups. This further supports the correlation analyses that narcissism is unrelated to trauma response.

Hypothesis 4.3: Associations Among Narcissism, Splitting of Self, and Resilience

Correlations among scores on the NAR, SOS, and IPPA-32R scales can be found in Table 4.9. The associations were consistent with Hypothesis 4.3. As seen in Table 4.9, scores on the narcissism scale correlated substantively and positively with scores on the splitting of self-representations subscale, as predicted. This further supports the proposition that the splitting of self-representations is strongly related to grandiose self-representations. Also, as predicted, scores on the splitting of self-representations subscale correlated substantively and negatively with scores on the resilience scale. This suggests that keeping apart opposite affects, cognitions, and perceptions is inversely related to resilience.

Due to the unexpectedly weak, negligible, and inconsistent relationship among narcissism and both resilience and trauma response, further investigation of the NAR set of 15 items was undertaken using exploratory factor analysis. The next section gives an account of the underlying factor structure of the NAR scale.
Factor Analysis of the Narcissism Scale

Empirical studies have demonstrated that narcissism is a heterogenous construct (Dickinson & Pincus, 2003; Rose, 2002). Theoretical approaches to the study of narcissism assert that there are two variants known as overt and covert narcissism (Wink, 1991). Both exploratory factor analysis and confirmatory factor analysis were used in a study by Fossati et al. (2005) to evaluate whether the DSM-IV-TR NPD criteria measure a single latent construct. Both analyses showed that the NPD criteria loaded on two correlated factors consistent with the two variants. However, Fossati et al. argue that the description of the NPD in the DSM-IV-TR is ambiguous in that it emphasises grandiose and omnipotent features but contains a number of features more aligned to the covert variant. A corollary of these findings is the need to gather information about the underlying structure and interrelations among the set of items on the NAR scale using exploratory factor analysis.

Data were first examined to ensure that the variable’s distribution would not violate multivariate normality assumptions of the planned analyses. No substantial violations were uncovered (skewness = .029, SE = .18; kurtosis = -.008, SE = .37). The sample size exceeded the number of cases needed for a respondents-to-parameter ratio of 10:1, a guideline traditionally used to determine if the factor analysis can accurately estimate the factor structure of a scale (Nunnally, 1978). However, recent research has suggested that this guideline is not sufficiently sensitive to a variety of important characteristics of the data. For example, Fabrigar, Wegener, MacCallum, and Strahan (1999) and MacCallum, Widaman, Zhang, and Hong (1999) suggest that adequate sample size is not a function of measured variables per se but is influenced by the extent to which factors are overdetermined and the level of the communalities of the measured variables. In the present study, although each
common factor was overdetermined (i.e., at least three or four measured variables represent each common factor), the communalities were only mild to moderate, which suggests that a larger sample size of at least 200 was preferable.

To evaluate the internal consistency and item homogeneity of the NAR, Cronbach’s alpha and the mean inter-item correlation coefficient were calculated. The acceptable level of alpha coefficient for the early stages of research is .70 and above (Streiner, 2003), and the optimal level of mean inter-item correlation is between .2 and .4 for scales that measure broad characteristics (Briggs & Cheek, 1986).

**Exploratory factor analysis (EFA).** The primary purpose of EFA is to arrive at a more parsimonious conceptual understanding of a set of measured variables by determining the number and nature of common factors needed to account for the pattern of correlations among the measured variables (Fabrigar et al., 1999). EFA was the most appropriate methodology for the present study as there was insufficient basis to specify an a priori model. The significance of Bartlett’s test of sphericity, $\chi^2 (105, N = 170) = 541.85, p < 0.001$, and the size of the Kaiser-Meyer-Olkin measure of sampling adequacy (0.77) revealed that the set of NAR items had an adequate proportion of common variance for conducting factor analysis (Tabachnick & Fidell, 2001). The model-fitting method of maximum likelihood extraction and direct oblimin rotation was used to evaluate the structure of the NAR scale. The rationale for employing this method of extraction was to enable an estimation of factor loadings for the selected population that maximise the likelihood of sampling the observed correlation matrix.

Direct oblimin rotation was used in the EFA as many constructs examined in psychology have substantial, theoretical, and empirical bases for expecting these constructs
or dimensions of constructs to be correlated (Fabrigar et al., 1999). Therefore, oblique rotation provides a more accurate and realistic representation of how constructs are most likely to be related to one another. The delta weight was specified to be zero as this value permits a moderate correlation among the factors. The number of factors was determined by factor eigenvalues above 1.0 and a noticeable change to the slopes within the scree plot.

The pattern matrix was examined for factor/item loadings and the factor correlation matrix was examined for evidence of correlations between the factors. Although a common guideline is to interpret loadings of 0.32 or higher, which equates to approximately 10% overlapping variance with the other items in that factor (Tabachnick & Fidell, 2001), the minimum loading cutoff was set at 0.40 in order to maximise confidence in the factors derived from the solution (Fabrigar et al., 1999). A factor with fewer than three items was considered weak and unstable, and indication of a strong factor was five or more strongly (≥ 0.50) loading items. (Floyd & Widaman, 1995).

Four factors had eigenvalues greater than 1.0. Initial eigenvalues and percentage of variance accounted for by each of these factors were 3.92 and 26.16% for Factor 1, 1.66 and 11.10% for Factor 2, 1.25 and 8.33% for Factor 3, and 1.13 and 7.56% for Factor 4. Together, they accounted for 53.17% of the variance. An inspection of the scree plot revealed a precipitous drop between the second and third factor, with a gradual trailing of the remaining factors. Thus, based on Fabrigar et al.’s (1999), MacCallum et al.’s (1999), and Tabachnick and Fidell’s (2001) recommendations, the factor solution of only those two factors was examined.
Table 4.17

*Item Factor Loadings and Corrected Item-Total Correlations for Each Narcissism Scale*

*Factor Obtained From Analysing the Data (N = 170)*

<table>
<thead>
<tr>
<th>Factor and Item</th>
<th>1</th>
<th>2</th>
<th>Item-total: r</th>
</tr>
</thead>
<tbody>
<tr>
<td>89. I believe I was born to do great things</td>
<td>.63</td>
<td>-.07</td>
<td>.72</td>
</tr>
<tr>
<td>36. I am worth more than other people</td>
<td>.62</td>
<td>.01</td>
<td>.69</td>
</tr>
<tr>
<td>77. I believe I am truly special</td>
<td>.59</td>
<td>.13</td>
<td>.69</td>
</tr>
<tr>
<td>53. Sometimes I feel so strong that I think nothing bad can happen to me</td>
<td>.55</td>
<td>-.12</td>
<td>.73</td>
</tr>
<tr>
<td>34. I am better looking than other people</td>
<td>.50</td>
<td>.29</td>
<td>.70</td>
</tr>
<tr>
<td>22. “Average” people are uninteresting to me</td>
<td>.46</td>
<td>.24</td>
<td>.72</td>
</tr>
<tr>
<td>2. I admire myself very much</td>
<td>.43</td>
<td>.08</td>
<td>.74</td>
</tr>
</tbody>
</table>

Factor 2: Covert/Grandiose Fantasies (α = .65)

<table>
<thead>
<tr>
<th>Factor and Item</th>
<th>1</th>
<th>2</th>
<th>Item-total: r</th>
</tr>
</thead>
<tbody>
<tr>
<td>61. I would like to become famous</td>
<td>-.24</td>
<td>.61</td>
<td>.62</td>
</tr>
<tr>
<td>72. I want to be perfect</td>
<td>.06</td>
<td>.61</td>
<td>.59</td>
</tr>
<tr>
<td>91. When I am in the company of others, I want to be the centre of attention</td>
<td>.14</td>
<td>.48</td>
<td>.60</td>
</tr>
<tr>
<td>21. I am going to achieve more in life than other people</td>
<td>.10</td>
<td>.47</td>
<td>.58</td>
</tr>
<tr>
<td>29. Other people are fascinated by me</td>
<td>.12</td>
<td>.46</td>
<td>.62</td>
</tr>
<tr>
<td>57. I have a special power that other people don’t possess</td>
<td>.27</td>
<td>.41</td>
<td>.63</td>
</tr>
</tbody>
</table>

The rotated solution revealed the presence of a simple structure. One item (item 8) had factor loadings less than 0.40 and was eliminated. No factor had cross-loadings greater
than or equal to .30. One item (item 45) failed to load on either factor and was eliminated. It could be that this item “Sometimes I feel as I am almighty” taps a psychotic process, as “almighty” is a religious reference rather than simply a reference to omnipotence. This procedure resulted in 13 items, with Factor 1 containing 7 items and Factor 2 containing 6 items. Next, these 13 items were factor analysed with maximum likelihood extraction, two factors, and a direct oblimin rotation ($\delta = 0$). Results are found in Table 4.17. As seen in Table 4.17, all items loaded greater than 0.40 on their respective factor and less than 0.30 on the other factor, which indicates the relative homogeneity of the scale. This two-factor solution accounted for 41.22% of the variance of the data.

The first factor (eigenvalue = 3.79) accounted for 29.22% of the variance; its factor loadings ranged from .33 to .63. To assist with assigning a meaningful label to each of the factors, Kernberg’s concepts of independent fluctuations between vulnerability and grandiosity were used to support the label Overt/Grandiose Beliefs. A representative item is “I believe I was born to do great things”. The second factor (eigenvalue = 1.56) accounted for 12.00% of the variance; its factor loadings ranged from 0.33 to 0.61. Again, in keeping with Kernberg’s conceptualisation of narcissism, this factor and subscale was labelled Covert/Grandiose Fantasies. A representative item is “I would like to become famous”.

Factor labels were also selected to reflect the common components of the phases, dimensions, and types of narcissism variously described in object relations theory literature.

**Internal consistency reliability evidence for the NAR.** The internal consistency reliabilities using Cronbach’s alpha for scores on the total NAR and subscales were 0.78 for the total 13-item NAR, 0.75 for the Overt/Grandiose Beliefs subscale and 0.65 for the Covert/Grandiose Fantasies subscale. For each subscale, corrected item-total correlations
were all above .30. The mean inter-item correlations were 0.28 or the Overt/Grandiose
Beliefs subscale and 0.22 for the Covert/Grandiose Fantasies subscale. These correlations
exceeded the recommended minimum of 0.15 for broad constructs (Briggs & Cheek, 1986).
The moderate, positive relationship between the two factors ($r = 0.38$) provides evidence that
they each reflect conceptually related yet distinct constructs. It also implies that grandiose
beliefs and grandiose fantasies may be complementary rather than competing explanatory
perspectives, as some have argued. In conclusion, an exploration of the NAR’s factor
structure revealed that 13 of its 15 items formed two conceptually meaningful factors, which
accounted for 41.22% of its variance. Internal consistency reliability of the TOR Validity
scale was unacceptably low ($\alpha = 0.62$).

**Social Desirability.** The TOR Validity scale assessed whether the participants were
answering the questions in a socially desirable manner. As expected, the TOR Validity scale
was not significantly correlated with the NAR ($r = -.07, p = .351; M = 7.85, SD = 1.66$).

Collectively, these findings provide preliminary evidence that the NAR scale item set
is factorially heterogenous. The two-factor structure of the NAR scale is consistent with the
theoretical proposition of two dissociable expressions of narcissism rather than a single
latent construct. The results of this analysis support the use of the overt items and the covert
items as separate scales. The two factors were used to further explore the relationships
among narcissism, resilience, and splitting of self-representations, and they formed the
rationale for the mediation model of Research Question 6.

**Summary of Findings**

The preliminary objective of the study was to explore the potential associations among
hours of TV viewing of the Bali bombing and its aftermath, impact of event, trauma reactive
beliefs, resilience, quality of object relations, and level of splitting defence. The comparative analyses support the hypotheses that low TV viewing would demonstrate a lower mean score on the linear combination of overall trauma response (Hypothesis 1.1). They also support the hypothesis that low TV viewing would demonstrate a higher mean resilience score (Hypothesis 1.3). The bivariate associations support the hypotheses that high TV viewing is positively related to impact of event and (Hypothesis 1.2) and negatively related to resilience (Hypothesis 1.4). Trauma reactive beliefs were substantively and negatively associated with resilience (Hypothesis 2.1) and substantively and positively associated with impact of event (Hypothesis 2.2).

The associations among both the object relations and splitting defence scales and constituent subscales were strongly correlated with resilience in the negative direction (Hypothesis 3.1), and substantively correlated with trauma response in the positive direction (Hypothesis 3.2). Comparative analyses found that respondents who identified with pervasive splitting and immature object relations were significantly different in their mean resilience and trauma response scores from those respondents who identified with minimal splitting and mature object relations (Hypotheses 3.1, 3.2).

Narcissism was found to be mildly associated with resilience in the negative direction, which was contrary to prediction (Hypothesis 4.1). However, as predicted, there was a significant difference in mean resilience scores between those individuals who identified with modest narcissism and those individuals who identified with grandiose narcissism. Furthermore, inconsistent with predictions, narcissism was unrelated to loss of psychosocial support, impact of event, and trauma reactive beliefs, and there was no difference in mean impact of event scores between those respondents who identified with modest narcissism
and those respondents who identified with grandiose narcissism (Hypothesis 4.2). Although narcissism was unrelated to trauma response, it was positively associated with splitting of self-representations, as predicted (Hypothesis 4.3). An exploratory factor analysis provided preliminary evidence for the heterogeneity of the narcissism construct by revealing a two-factor construct. Factor 1 was termed Overt/Grandiose Beliefs and explained 29.22% of the variance. Factor 2 was termed Covert/Grandiose Fantasies and explained 12.00% of the variance. The two-factor solution was consistent with theoretical considerations (Kernberg, 1975, 1976) and clinical (Dickinson & Pincus, 2003; Kernberg, 1984, 1986a,b) and empirical evidence (Fossati et al., 2005; Rose, 2002; Wink, 1991).

The results of the bivariate correlations satisfied the necessary preliminary analysis for exploring third variable effects on resilience using six mediation and moderation models. The next chapter presents an outline of analyses undertaken to address the six research questions formulated from the theoretical links previously highlighted.
CHAPTER 5

RESULTS OF RESEARCH QUESTIONS THAT EXPLORED MEDIATION AND MODERATION MODELS IN RELATION TO RESILIENCE

The focus of this chapter is potential third variable effects in relation to resilience. Six mediation and moderation models were developed based on Baron and Kenny’s (1986) analytic procedures for making the most effective use of the moderator and mediator distinction in third variable effects, and Frazier et al.’s (2004) recommendations for testing moderator and mediator effects in counselling psychology.

Research Question 1: Does Bali Bombing Media Exposure Moderate the Relationship Between Resilience and Trauma Response?

Testing Moderation

To test for potential moderation, a hierarchical multiple regression analysis was structured using SPSS Version 11.0.2. A graphical depiction of a moderation model based on Baron and Kenny’s (1986) recommendations can be found in Figure 5.1.

![Figure 5.1. Moderation relationship among variables (A = predictor; B = moderator; C = outcome).](image-url)
Variables are entered through two steps. For Step 1, the main effect of resilience was entered first followed by the main effect of TV viewing hours. For Step 2, the interaction term was entered. Significant change on $R^2$ for the interaction term indicates a significant moderator effect. Results of statistical significance are presented as a 3-step model.

**Transformation of data**

The original four-category media exposure variable “hours of TV viewing” (0-5 hrs, 6-10 hrs, 11-15 hrs, 16 ≥ hrs) is based on the categories outlined by Butler et al. (2006), Linley et al. (2003), Schlenger et al. (2002), Schuster et al. (2001), and Silver et al. (2002). To avoid the problem of restriction in range due to the predictor variable not having equal variance at each of the four levels of the moderator, it was recoded into a dichotomous variable. The dummy code of 0 was given to the low (≤ 10) hours TV viewing group ($n = 102$) and the comparison group code of 1 was given to the high (≥ 11) hours TV viewing group ($n = 68$). The rationale for collapsing the lower two levels and the higher two levels together to form two groups to test the interplay between resilience and trauma response, is that the procedure fits with past studies that identified >10 hours as high terrorist-related TV viewing and <10 hours as low terrorist-related TV viewing (Pfefferbaum et al., 2000).

**Centring.** The mean of the continuous variable “resilience” was centred to reduce multicollinearity between predictors and any interaction terms among them when testing for moderation. Based on Aiken and West’s (1991) and Frazier et al.’s (2004) recommendations, centring is achieved by subtracting the sample mean from all individuals’ scores on the variable, leaving deviation scores, producing a revised sample mean of 0.
**Product terms.** Product terms were created that represent the interaction between predictor and moderator. The predictor and moderator are multiplied using the newly coded categorical variable (TV viewing) and centred continuous variable (resilience).

**Statistical Analyses**

As a necessary preliminary undertaking, descriptive statistics were obtained to ensure the dummy variable was coded correctly and that the continuous variable was centred. Correlations were obtained to ensure that the interaction term and its components were not highly correlated. As seen in Table 5.1, “hours of TV viewing” is correctly coded, resilience is correctly centred at zero, and there was no evidence of multicollinearity.

**Table 5.1**

*Summary Statistics, Intercorrelations and Alphas amongst Primary and Interaction Variables: Resilience, Hours of TV Viewing, Trauma Response, and Interaction*

<table>
<thead>
<tr>
<th>Variable</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>M</th>
<th>SD</th>
<th>α</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Resilience</td>
<td></td>
<td>-.39***</td>
<td>-.21**</td>
<td>.67***</td>
<td>128.19 (0.00)a</td>
<td>39.68</td>
<td>.97</td>
</tr>
<tr>
<td>2. Trauma Response</td>
<td></td>
<td></td>
<td>.33***</td>
<td>-.11</td>
<td>16.96</td>
<td>15.51</td>
<td>.93</td>
</tr>
<tr>
<td>3. TV Hours</td>
<td></td>
<td></td>
<td></td>
<td>-.15*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Resilience$^x$TVhrs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note.* $N = 170.$ a Mean centred. b Categorical Variable and dummy coded (low hours coded 0, high hours coded 1). * $p < 0.05.$ *** $p < 0.001.$

**Step 1: Interpreting the Effects of the Predictor and Moderator Variables**

The first step in interpreting the effects of the predictor and moderator variables was to assess the overall model. Table 5.2 contains the analyses necessary to examine the
moderation hypothesis. As seen in Table 5.2, step 1 of the hierarchical multiple regression was significant ($R^2 = .23, p < 0.001$), which indicates that resilience and TV viewing were significantly associated with trauma response, $F (2, 167) = 24.91, p < 0.001$. Step 2 was significant ($R^2 = .28, p < 0.001$), which indicates that resilience, TV viewing, and interaction were all significantly associated with trauma response, $F (2, 167) = 21.61, p < 0.001$.

**Table 5.2**

*Testing Moderator Effects of Media Exposure Using Hierarchical Multiple Regression*

<table>
<thead>
<tr>
<th>Step and Variable</th>
<th>$B$</th>
<th>$SE$</th>
<th>$\beta$</th>
<th>$R^2$ chg</th>
<th>95% CI</th>
<th>$F$ inc.</th>
<th>df</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Resilience$^a$</td>
<td>-0.22</td>
<td>0.04</td>
<td>-.55</td>
<td>-0.28, 0.14</td>
<td></td>
<td>24.911</td>
<td>2,167</td>
</tr>
<tr>
<td>TV Hrs$^b$</td>
<td>9.11</td>
<td>2.16</td>
<td>.29</td>
<td>4.94, 13.27</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Step 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>21.616</td>
<td>3,166</td>
</tr>
<tr>
<td>TV Hrs$^b$ x Resilience$^a$</td>
<td>0.18</td>
<td>0.05</td>
<td>.31</td>
<td>0.07, 0.28</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note. N = 170. $^a$ Mean centred. $^b$ Dummy coded (low hours coded 0, high hours coded 1). All results significant at $p < 0.001$ except $^* p < 0.05$."

The second step in interpreting the effects of the predictor and moderator variables was to assess whether the inclusion of step 2 variables significantly improves prediction of trauma response. The obtained regression coefficient ($B = -0.22, p < 0.001$) in Model 2 indicates a mild negative relationship between resilience and trauma response. Individuals who reported higher levels of resilience reported lower levels of trauma response. The main effect of the categorical hours of TV viewing variable was entered next. Resilience is still in
the equation, and the question is whether the addition of hours of TV viewing explains significant new variance in trauma response scores.

In model 2, where $0 = \leq 10$ hours TV viewing and $1 = \geq 11$ hours TV viewing, the mean trauma response scores for those individuals who viewed $\leq 10$ hours TV viewing, is 13.89. The $\beta$ coefficient for the constant is 13.90 ($p < 0.001$). The $\beta$ coefficient for hours TV viewing is 9.11 ($p < 0.001$). In the case of a categorical dummy-coded variable, Aiken and West (1991) recommend the following procedure for interpreting the $\beta$ coefficient. Here, the $\beta$ coefficient represents what is needed to obtain the mean trauma response score for those individuals who viewed $\geq 11$ hours TV ($M = 22.99$). In other words, the $\beta$ coefficient of 9.11 is interpreted as the result of the mean trauma response score for the high hours TV viewing group minus the mean trauma response score for the low hours TV viewing group.

**Evaluating the Model**

After the variables (resilience, & TV viewing hrs) in Model 1 have been entered, the overall model explains 23% of the variance in trauma response scores ($R^2 = .23, p < 0.001$). After the variables in Model 2 have also been included (i.e., all the variables from both models), the model as a whole explains 28.1% ($R^2 = .28, p < 0.001$). The overall variance in the model is explained by the significant interaction effect of resilience and TV viewing hours ($R^2_{\text{chg}} = .05, p < 0.001$). That is, the interaction between resilience and media exposure ($\beta = .31, p < 0.001$) explained an additional 5% of variance in trauma response scores over and above the 30% explained by the main effects of resilience ($\beta = -.55, p < 0.001$), and the 8.4% explained by the main effects of media exposure ($\beta = .29, p < 0.001$) alone.
Assessing the Form of the Significant Interaction Effect

To understand the form of the interaction, it was necessary to undertake two further regression analyses as recommended by Aiken and West (1991). In the first analysis, regression equations obtained in the previous analyses were used to calculate and plot resilience scores one standard deviation (SD) above and below the medium. This step requires generating the nine cell means required for graphing the interpretation. Hours of TV viewing is trichotomised (high, medium, & low) as is resilience (high, medium, & low), and these levels are then crossed to obtain nine cell means. This was achieved both statistically and graphically using ModGraph (Internet Version 1.0), a program developed by Jose (2004) to compute cell means for the graphical display of a significant moderation effect, which can be found in Figure 5.2.

In Figure 5.2, the predictor variable and main effect (i.e., resilience) is displayed along the X-axis, the criterion variable (i.e., impact of event) along the Y-axis, and the moderating variable (i.e., hours of TV viewing) is depicted with two lines designated as high (≥11 hrs) and low (≤10 hours). The three levels of high, medium, and low (for the main effect of resilience) are computed using the mean as the medium value, one SD above the mean as the high mean, and one SD below the mean as the low mean.
Figure 5.2: Moderation of effect of resilience on trauma response by media exposure.

Step 2: Statistical Significance Between the Two Regression Lines

Significant interaction occurs when the lines are not parallel. As displayed in Figure 5.2, the fan effect occurs under the condition of high resilience. The moderating variable has its greatest impact under the particular part of the range for the main effect of resilience. Under the condition of high resilience, respondents who experience high levels of resilience report differential levels of trauma response depending upon whether they report high (M =
21.61) or low ($M = 5.32$) hours of TV viewing. In the case of low TV viewing, resilience increases as the impact of event decreases. The change in IES-R points for each level of resilience equals 8.58 points. For high TV viewing, resilience still increases as the impact of event decreases but the change in the number of IES-R points equals only 1.39 points. In other words, there was a significant difference when comparing high TV to low TV for high resilience people on trauma response, $t (1, 31) = -13.37, p < 0.001$. In contrast, under conditions of low resilience, neither high TV or low TV viewing make any difference to resilience scores as the mean IPPA-32R score under the low ($M = 22.46$) and high ($M = 24.38$) conditions are nearly identical, $t (1, 34) = 0.70, p = .484$. Moreover, the difference between the two regression lines was significant, as indicated by the regression coefficient for the interaction term ($B = 0.18, p < 0.001$). The significant interaction term indicates that the slopes differ from each other but not whether each slope differs from zero.

**Step 3: Simple Slopes Computation- Significant Difference from Zero**

The second analysis of the form of the interaction serves as a third step in interpreting the results of the hierarchical regression analyses. It examines whether the slope of the simple regression lines at high and low hours of TV viewing are significantly different from zero. To achieve this, simple regression analyses outlined by Aiken and West (1991) were conducted. The criterion (trauma response) is regressed on the predictor (resilience), the moderator (media exposure) at a conditional value (i.e., high or low TV viewing hrs), the interaction of the predictor, and the moderator. The $t$-test for the regression coefficient of the predictor variable reflects the significance of the slope.

As discussed earlier, when regression equations contain interaction terms, the regression coefficient for the predictor represents the relation between the predictor and the
criterion/outcome when the moderator has a value of 0. With media exposure dummy-coded, and ≤10 hours TV viewing coded as 0, the regression coefficient for resilience represents the relation between resilience and trauma response for ≥11 hours television viewing. With media exposure dummy-coded, and ≥11 hours TV viewing coded as 0, the regression coefficient for resilience represents the relation between resilience and trauma response for ≤10 hours TV viewing. This procedure for simple slope computation was achieved statistically using ModGraph (Jose, 2004) and results are found in Table 5.3.

Table 5.3
Simple Slope Regression Analyses of Resilience Predicting Trauma Response at High and Low Levels of Media Exposure

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SE</th>
<th>Variance</th>
<th>Covariance</th>
<th>t</th>
<th>df</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resilience</td>
<td>-0.22</td>
<td>0.04</td>
<td>-0.0012</td>
<td>-0.0065</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interaction</td>
<td>0.18</td>
<td>0.05</td>
<td>-0.0028</td>
<td>-0.0013</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Link between resilience and trauma response at low hours of TV viewing

< 10 hours  | -0.22 | 0.03 | -6.1967*** | 3, 166 |

Link between resilience and trauma response at high hours of TV viewing

≥ 11 hours  | -0.04 | 2.23 | -0.4836    | 3, 166 |

Note. N = 170. aDummy coded 0 = low hours, 1 = high hours. bDummy coded 0 = high hours, 1 = low hours. B SE B and t reflect values from the final regression equation. *p < 0.05. ***p < 0.001.

As seen in Table 5.3, when these two regressions were performed, the results indicated the unstandardised regression coefficient for the low TV viewing comparison group was significantly different from zero (B = -0.22, t [3, 166] = -6.19, p <0.001), whereas the
unstandardised regression coefficient for the high TV viewing dummy-coded group failed to reach significance ($B = -0.04$, $t [3, 166] = -0.48$, 0.629). This finding suggests the relation between resilience and trauma response is significant and negative for individuals with low TV viewing but insignificant for those individuals with high TV viewing.

Taken together, these findings suggest the relationship between resilience and trauma response differs at different levels of media exposure. Resilience influences an individual’s trauma response more under conditions of low media exposure compared to conditions of high media exposure. If media exposure, as the moderator, had not been included in the regression analyses, it could have been concluded that resilience had a small negative relation with trauma response, which would have masked the fact that the relation was stronger for low hours of TV viewing and weaker for high hours of TV viewing.

**Research Question 2: Do Trauma Reactive Beliefs Mediate the Relationship Between Resilience and Trauma Response?**

**Testing Mediation**

To test for potential mediation, hierarchical regression analyses were structured using SPSS Version 11.0.2. Baron and Kenny’s (1986) method for testing mediation in psychological research was followed. A figurative depiction of Baron and Kenny’s (1986) mediation model can be found in Figure 5.3. Mediation, both partial and full, is said to have occurred if the following four steps have been satisfied.

The first step is to show that there is a significant relation between the predictor and the outcome (see path c in Figure 5.3). The second step is to show that the predictor is related to the mediator (see path a in Figure 5.3). The third step is to show that the mediator is related to the outcome variable. This is path b in Figure 5.3, and it is estimated by
controlling for the effects of the predictor on the outcome. The fourth and final step is to show that the strength of the relation between the predictor and the outcome is significantly reduced when the mediator is added to the model (compare path $c$ with path $c'$ in Figure 5.3). If the indirect effect variable is a full mediator, the relation between the predictor and criterion variables will not differ from zero after the mediator is included. For partial mediation to occur, the relation between the predictor and criterion variables will be significantly smaller when the mediator is included, but will still be greater than zero.

![Diagram of mediation relationship](insert_diagram)

*Figure 5.3. Mediation relationship among variables (X = Independent Variable; Y = Dependent Variable; M = Mediator; a, b, c, and c' are path coefficients).*

**Statistical Analysis**

Hierarchical multiple regression analysis was used instead of structural equation modeling due to the relatively small sample size (Baron & Kenny, 1986). Three regression equations were performed to address the four steps in establishing mediation. First, the outcome variable was regressed on the predictor to establish that there is an effect to mediate (path $c$ in Figure 5.3) after controlling for any covariates. Second, the mediator was regressed on the predictor to establish path $a$ in the mediational chain (path $a$ in Figure 5.3). In the third equation, the outcome variable was regressed on both the predictor and the
mediator to test whether the mediator is related to the outcome (path b in Figure 5.3), as well as to estimate the relation between the predictor and outcome controlling for the mediator (path c’ in Figure 5.3).

Descriptive statistics and intercorrelations were obtained to ensure that three important design issues were satisfied based on Frazier et al.’s (2004) recommendations: effective sample size, size of path a and path b relations, and reliability of the mediator measure. The descriptive statistics and intercorrelations can be found in Table 5.4.

The first design issue is effective sample size. The relations among the mediator, predictor, and outcome variables can affect the powers of mediation. For example, the power associated with test of the relations between the mediator and outcome (path b in Figure 5.3) and between the predictor and the outcome controlling for the mediator (path c’ in Figure 5.3) decreases as the relation between the variable and the mediator increases. That is, when the predictor explains more variance in the mediator, there is less variance in the mediator to contribute to the prediction of the outcome. Therefore, as the predictor-mediator relation increases, a larger sample is needed to have the same amount of power to test the effects of path b and path c’, as would be the case if the relation between the predictor and mediator were smaller. As seen in Table 5.4, the sample size is 170 and the correlation between the predictor and mediator is 0.75. Kenny et al. (1998) developed a formula to determine effective sample size is $N(1-r_{xm}^2)$, where $N$ is the sample size and $r_{xm}$ is the correlation between predictor and mediator. Based on this formula, the effective sample size is 75. Due to the high correlation between the predictor and the mediator, power reduces to what it would be if the sample size were 75 rather than 170.
Table 5.4

**Summary Statistics, Intercorrelations, and Alphas among the Primary Variables:**

**Resilience, Trauma Reactive Beliefs, and Trauma Response**

<table>
<thead>
<tr>
<th>Variable</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>M</th>
<th>SD</th>
<th>α</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Resiliencea</td>
<td>_</td>
<td>-0.39***</td>
<td>-0.75***</td>
<td>128.18</td>
<td>39.68</td>
<td>0.97</td>
</tr>
<tr>
<td>2. Trauma Responseb</td>
<td>_</td>
<td>_</td>
<td>0.59***</td>
<td>17.11</td>
<td>15.87</td>
<td>0.93</td>
</tr>
<tr>
<td>3. Trauma Beliefs^c</td>
<td>_</td>
<td>_</td>
<td>72.80</td>
<td>18.15</td>
<td>0.94</td>
<td></td>
</tr>
</tbody>
</table>

*Note. N = 170. *** p < .001 (2-tailed). a = predictor variable, b = outcome variable, c = mediator variable.*

The second design issue is the size of the predictor to mediator (path a) and mediator to outcome (path b) relations. According to Baron and Kenny (1986), the two paths’ correlations should be comparable in size. As seen is Table 5.19, the two paths’ correlations are roughly comparable in size (-0.75 & 0.68 respectively). Moreover, the power of tests of mediation is greatest when the relation between the mediator and the outcome exceeds the relations between the predictor and the mediator. As seen in Table 5.5, this is not the case, as the relations between the predictor and the mediator (-0.75) exceeds the relations between the mediator and the outcome (0.68).

The third design issue is reliability of the mediator measure. According to Baron and Kenny (1986), the effect of the mediator on the outcome variable is underestimated, and the effect of the predictor variable on the outcome variable is overestimated with low reliability of the measure of the mediator. As seen in Table 5.4, the reliability of the trauma reactive beliefs (TRB) scale, as the measure of the mediator, was high (α = 0.94).
The limitations of two design issues (i.e., reduced power due to small effective sample size, & path a correlation exceeding path b correlation) notwithstanding, the next step in exploring the mediation model involves a standard multiple regression analysis that tested three regression equations. Analyses can be found in Table 5.5.

**Table 5.5**

*Testing Mediator Effects of Trauma Reactive Beliefs on Resilience and Trauma Response Using Simultaneous Multiple Regression*

<table>
<thead>
<tr>
<th>Testing steps in mediation model</th>
<th>$B$</th>
<th>$SE_B$</th>
<th>95% CI</th>
<th>$\beta$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Testing Step 1 (path c)</td>
<td>-0.15</td>
<td>0.02</td>
<td>-0.20, -0.09</td>
<td>-.39***</td>
</tr>
<tr>
<td>Predictor: Resilience</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Outcome: Trauma Response</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Testing Step 2 (path a)</td>
<td>-0.34</td>
<td>0.02</td>
<td>-0.38, -0.29</td>
<td>-.75***</td>
</tr>
<tr>
<td>Predictor: Resilience</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mediator: Trauma Beliefs</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Testing Step 3 (path b)</td>
<td>0.58</td>
<td>0.08</td>
<td>0.42, 0.74</td>
<td>.68***</td>
</tr>
<tr>
<td>Outcome: Trauma Response</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mediator: Trauma Beliefs</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Testing Step 4 (path $c'$)</td>
<td>-0.04</td>
<td>0.03</td>
<td>-0.02, 0.11</td>
<td>-.11</td>
</tr>
<tr>
<td>Predictor: Resilience</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Outcome: Trauma Response</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note.* $N = 170$. CI = confidence interval. ***$p < 0.001$. 
**Three Regression Equations to Establish Mediation of Trauma Reactive Beliefs**

In the first equation, the outcome variable (trauma response) was regressed on the predictor (resilience) to establish that an effect to mediate (path c in Figure 5.3), controlling for any covariates. As seen in Table 5.5, the unstandardised regression coefficient ($B = -0.15$) associated with the effect of object relations on resilience was significant ($p < 0.001$). Thus, path c in Figure 4 was significant, and the requirement for mediation in Step 1 was met. Trauma reactive beliefs were then regressed on resilience (path a in Figure 5.3). The unstandardised regression coefficient associated with the second relation was significant ($B = -0.34, p < 0.001$). Thus, the condition for Step 2 was met (path a was significant).

To test whether trauma reactive beliefs are related to trauma response, trauma response was regressed simultaneously on both resilience and trauma reactive beliefs (Step 3). The unstandardised regression coefficient associated with the relation between trauma reactive beliefs and trauma response, controlling for resilience was significant ($B = 0.58, p < 0.001$). Thus, the condition for Step 3 was met (path b was significant). This third regression provided an estimate of path $c'$, which is the relation between trauma reactive beliefs and resilience controlling for trauma response. The standardised regression coefficient for path $c'$ was nonsignificant ($\beta = -0.04, ns$) and demonstrated that the strength of the relationship between predictor and outcome was significantly reduced when the mediator was added to the model. Hence, conditions for step 4 were met, and a path analysis of this mediation effect can be found in Figure 5.4.

**Assessing Path c to Path c' for Significance**

To assess whether the drop from -0.39 to -0.11 (as seen in Figure 5.4) is significant (from c to $c'$), an indirect and approximate test involves determining whether both $a$...
(unstandardised regression coefficient for the association between predictor & mediator) and 
b (unstandardised regression coefficient for the association between the mediator & outcome 
variable) are zero (Steps 2 and 3). More specifically, Baron and Kenny (1986) provide a 
direct test of $ab$, which is a modification of a test originally proposed by Sobel. It requires 
the standard error of $a$ or $sa$ and the standard error of $b$ or $sb$ and is the square root of $b^2sa^2 = 
a^2sb^2 + sa^2sb^2$. The test of the indirect effect is given by dividing $ab$ by the square root of 
the variance and treating the ratio as a $Z$ test (i.e., $> \pm 1.96$ in absolute value is significant at 
the 0.05 level). In contrast to Baron and Kenny’s formula, the original Sobel test does not 
contain the last term ($sa^2sb$). While Baron and Kenny’s formula is a population formula, the 
Sobel formula is an approximation. The formulas only differ in the last term. Baron and 
Kenny’s size is usually trivial in that it depends on sample size squared whereas Sobel’s 
term depends only on sample size.

![Diagram of mediation relationship and intercorrelations among resilience, trauma 
reactive beliefs, and trauma response.](image)

Figure 5.4. Mediation relationship and intercorrelations among resilience, trauma 
reactive beliefs, and trauma response.

While different versions of the Sobel test have since been published, the Goodman [1] 
version popularised by Baron and Kenny (1986) remains the most commonly used, as it does 
not make the unnecessary assumption that the product of $sa$ and $sb$ is very small. Calculation
of this version of Sobel’s test was achieved statistically using MedGraph (Internet Version 1.0), a program developed by Jose (2004) to depict mediation among three variables. The unstandardised regression coefficients and standard error terms required for the formula \( \sqrt{b^2 + a^2 + b^2 + c^2} = a^2 + b^2 + c^2 + \) can be found in Table 5.6.

The reported \( p \)-value is drawn from the unit normal distribution under the assumption of a two-tailed \( z \)-test of the hypothesis that the mediated effect equals zero in the population. The terms \( \pm 1.96 \) are the critical values of the test ratio, which contain the central 95\% of the unit normal distribution. Using MedGraph (Jose, 2004), the calculation yielded a sufficiently large and significant \( z \)-value of -6.53 (\( p < 0.001 \)). This suggests that the relation between resilience and trauma response (path \( c \) in Figure 4) has been reduced by the inclusion of the mediating variable in the second regression (path \( c' \) in Figure 5.4).

**Determining Full or Partial Mediation**

Although the Sobel test indicated that significant mediation has occurred, it does not indicate whether partial or full mediation has occurred (Baron & Kenny, 1986). To determine full mediation requires the correlation between the predictor variable and outcome variable to be reduced to a non-significant level. If the correlation is still significant, then partial mediation has been identified. As seen in Figure 5.4, the correlation coefficient between the predictor variable and the outcome variable in path \( c \) is -0.39 (\( p < 0.001 \)) and the correlation between the predictor variable and the mediator variable in path \( c' \) (i.e., after controlling for the predictor variable) is insignificant (\( \beta = -0.11, ns \)). This insufficiency indicates that full mediation has occurred through trauma reactive beliefs.
Size of Indirect Effect

The final analysis involves determining how much of the effect of the predictor variable on the outcome variable is direct as opposed to indirect (Baron & Kenny, 1986). The direct effect is the size of the correlation between predictor and outcome with the mediator included in the regression (path c’). As seen in Table 5.5, the correlation is $\beta = -0.11$. The indirect effect is the amount of the original correlation between the predictor variable and the outcome variable ($\beta = -0.39$) that now goes through the mediator to the outcome variable. If the direct effect is relatively small then partial mediation has been identified. If the indirect effect is relatively large, then full mediation has been identified.

In conclusion, full mediation was identified with about five sixths of the effect of resilience on trauma response going through trauma reactive beliefs. Only about one sixth of the effect is direct from resilience to trauma response.

Research Question 3: Do Object Relations Mediate the Relationship Between Resilience and Trauma Response?

Descriptive statistics and intercorrelations were obtained to ensure the three design issues were satisfied, and they are found in Table 5.6. The first design issue is effective sample size. As seen in Table 5.6, the sample size is 170 and the correlation between the predictor and the mediator is -0.67. Based on Kenny et al.’s (1998) formula, the effective sample size is 94. The second design issue is the size of the predictor to mediator (path a) and mediator to outcome (path b) relations. As seen is Table 5.7, the two paths’ correlations are not comparable in size (-0.67 & 0.29 respectively) and the relations between the predictor and the mediator (-0.039) is exceeded by the relations between the mediator and outcome (0.29).
Table 5.6

Summary Statistics, Intercorrelations, and Alphas among the Primary Variables:

Resilience, Object Relations, and Trauma Response

<table>
<thead>
<tr>
<th>Variable</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>$M$</th>
<th>$SD$</th>
<th>$\alpha$</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Resilence$^a$</td>
<td>_</td>
<td>-.39***</td>
<td>-.67***</td>
<td>128.19</td>
<td>39.68</td>
<td>.97</td>
</tr>
<tr>
<td>2. Trauma Response$^b$</td>
<td>_</td>
<td>.42***</td>
<td>16.96</td>
<td>15.51</td>
<td>.93</td>
<td></td>
</tr>
<tr>
<td>3. Object Relations$^c$</td>
<td>_</td>
<td></td>
<td>229.76</td>
<td>55.73</td>
<td>.96</td>
<td></td>
</tr>
</tbody>
</table>

Note. $N = 170$. *** $p < 0.001$ (2-tailed). $^a$ = predictor variable, $^b$ = predictor variable, $^c$ = mediator variable.

The third design issue is reliability of the mediator measure. As seen in Table 5.6, the reliability of the object relations (TOR) scale, as the measure of the mediator, was high ($\alpha = 0.96$). The limitations of three design issues (i.e., reduced power due to small effective sample size, lack of comparability between path a & b, & the relations between path a exceeding path b) notwithstanding, the next step in exploring the mediation model involves a standard multiple regression analysis that tested three regression equations. Analyses can be found in Table 5.7 and the correlations between paths can be found in Figure 5.5.

![Diagram](https://via.placeholder.com/150)

Figure 5.5. Mediation relationship and intercorrelations among resilience, object relations, and trauma response.
Three Regression Equations to Establish Mediation of Object Relations

In the first equation, the outcome variable (trauma response) was regressed on the predictor (resilience) to establish that an effect to mediate (i.e., path c in Figure 5.5), controlling for any covariates. As seen in Table 5.7, the unstandardised regression coefficient \( B = -0.15 \) associated with the effect of resilience on trauma response was significant \( (p < 0.001) \). Thus path c in Figure 5.5 was significant, and the requirement for mediation in Step 1 was met. Object relations was then regressed on resilience (i.e., path a in Figure 5.5). The unstandardised regression coefficient associated with the second relation was significant \( (B = -0.94, p < 0.001) \). Therefore, the condition for Step 2 was met.

To test whether object relations was related to trauma response, trauma response was regressed simultaneously on both object relations and resilience variables (Step 3). The unstandardised regression coefficient associated with the relation between object relations and trauma response, controlling for resilience was significant \( (B = 0.08, p < 0.01) \). Therefore, the condition for Step 3 was met (path b was significant). This third regression provided an estimate of path \( c' \), which is the relation between resilience and trauma response controlling for object relations. The standardised regression coefficient for path \( c' \) was still significant \( (\beta = -0.20, p < 0.05) \), although it was smaller than the standardised regression coefficient for path c \( (\beta = -.039, p < 0.001) \). Therefore, the conditions for step 4 were met, and a path analysis of this mediation effect can be found in Figure 5.5.

Assessing Path c to Path c' for Significance

To assess whether the drop from -0.039 to -0.20 (as seen in Figure 5) is significant (from c to c’), calculation of the Sobel’s test was achieved statistically using MedGraph (Jose, 2004). The calculation yielded a large and significant \( z \)-value of -3.00 \( (p <0.01) \).
This suggests the relationship between resilience and trauma response (path c) has been reduced by the inclusion of the mediating variable in the second regression (path c').

Table 5.7

**Testing Mediator Effects of Object Relations on Resilience and Trauma Response Using Simultaneous Multiple Regression**

<table>
<thead>
<tr>
<th>Testing steps in mediation model</th>
<th>B</th>
<th>SE B</th>
<th>95% CI</th>
<th>β</th>
</tr>
</thead>
<tbody>
<tr>
<td>Testing Step 1 (path c)</td>
<td>-0.15</td>
<td>0.02</td>
<td>-0.20, -0.09</td>
<td>-0.39***</td>
</tr>
<tr>
<td>Predictor: Resilience</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Outcome: Trauma Response</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Testing Step 2 (path a)</td>
<td>-0.94</td>
<td>0.08</td>
<td>-1.10, -0.78</td>
<td>-0.67***</td>
</tr>
<tr>
<td>Predictor: Resilience</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mediator: Object Relations</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Testing Step 3 (path b)</td>
<td>0.08</td>
<td>0.02</td>
<td>0.02, 0.13</td>
<td>0.29**</td>
</tr>
<tr>
<td>Outcome: Trauma Response</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mediator: Object Relations</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Testing Step 4 (path c')</td>
<td>-0.07</td>
<td>0.03</td>
<td>-0.15, -0.06</td>
<td>-0.20*</td>
</tr>
<tr>
<td>Predictor: Resilience</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Outcome: Trauma Response</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note. N = 170. CI = confidence interval. * p < 0.05. ** p < 0.01. *** p <0.001.*


Determining Full or Partial Mediation

As seen in Table 5.7, the correlation coefficient between the (path c) predictor variable and the outcome variable is -0.39 ($p < 0.001$) and the correlation between the (path c’) predictor variable and the mediator variable (after controlling for the predictor variable) is still significant ($\beta = -0.20, p < 0.05$). This level of significance indicates that partial mediation has occurred with about one third of the effect of resilience on trauma response going through object relations, and about two thirds of the effect is direct.

Research Question 4: Does the Splitting Defence Mediate the Relationship Between Object Relations and Resilience?

Descriptive statistics and intercorrelations were obtained to ensure that three design issues were satisfied, and they are found in Table 5.8. The first design issue is effective sample size. As seen in Table 5.8, the sample size is 170 and the correlation between the predictor and the mediator is 0.81. The effective sample size is 58.

The second design issue is the size of the predictor to mediator (path a) and mediator to outcome (path b) relations. As seen in Table 5.9, the two paths’ correlations are roughly comparable in size (0.81 & -0.70 respectively) and relations between the predictor and the mediator (0.81) exceeds the relations between the mediator and the outcome (-0.70).

The third design issue is reliability of the mediator measure. As seen in Table 5.8, the reliability of the splitting defence (SI) scale, as the measure of the mediator, was high ($\alpha = 0.96$). The limitations of two design issues (i.e., reduced power & the relations between path a exceeding path b) notwithstanding, the next step in exploring the mediation model involves a standard multiple regression analysis that tested three regression equations. Analyses can be found in Table 5.9 and the correlations between paths in Figure 5.6.
Table 5.8

Summary Statistics, Intercorrelations, and Alphas among the Primary Variables: Object Relations, Splitting Defence, and Resilience

<table>
<thead>
<tr>
<th>Variable</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>M</th>
<th>SD</th>
<th>α</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Object Relationsa</td>
<td>_</td>
<td>.81***</td>
<td>-.67***</td>
<td>229.76</td>
<td>55.73</td>
<td>.96</td>
</tr>
<tr>
<td>2. Splitting Defenceb</td>
<td>_</td>
<td></td>
<td>-.78***</td>
<td>63.44</td>
<td>22.67</td>
<td>.95</td>
</tr>
<tr>
<td>3. Resiliencec</td>
<td>_</td>
<td></td>
<td></td>
<td>128.19</td>
<td>39.68</td>
<td>.97</td>
</tr>
</tbody>
</table>

Note. $N = 170$. *** $p < 0.001$ (2-tailed). $a = $ predictor variable, $b = $ mediator variable, $c = $ outcome variable.

Three Regression Equations to Establish Mediation of the Splitting Defence

In the first equation, the outcome variable (resilience) was regressed on the predictor (object relations) to establish that an effect to mediate (path c in Figure 5.6), controlling for any covariates. As seen in Table 5.9, the unstandardised regression coefficient ($B = -0.47$) associated with the effect of object relations on resilience was significant ($p < 0.001$). Thus, path c in Figure 5.6 was significant, and the requirement for mediation in Step 1 was met. Splitting defence was then regressed on object relations (path a in Figure 5.6). The unstandardised regression coefficient associated with the second relation was significant ($B = 0.33$, $p < 0.001$). Thus, the condition for Step 2 was met (path a was significant).

To test whether splitting defence is related to resilience, resilience was regressed simultaneously on both object relations and splitting defence (Step 3). The unstandardised regression coefficient associated with the relation between splitting defence and resilience, controlling for object relations was significant ($B = -1.23$, $p < 0.001$). Thus, the condition for Step 3 was met (path b was significant). This third regression provided an estimate of path $c'$, which is the relation between object relations and resilience controlling for the splitting
defence. The standardised regression coefficient for path $c'$ was nonsignificant ($\beta = -0.09, ns$), hence conditions for step 4 were met, and a path analysis of this mediation effect can be found in Figure 5.6.

![Diagram of mediation relationship and intercorrelations among object relations, splitting defence, and resilience.](image)

**Figure 5.6.** Mediation relationship and intercorrelations among object relations, splitting defence, and resilience.

**Assessing Path c to Path c’ for Significance**

To assess whether the drop from -0.67 to -0.09 (as seen in Figure 5.6) is significant (from c to c’), calculation of Sobel’s test was achieved statistically using MedGraph (Jose, 2004). The calculation yielded a large and significant $z$-value of 6.89 ($p < 0.001$). This suggests that the relation between object relations and resilience (path c) has been reduced by the inclusion of the mediating variable in the second regression (path c’).

**Determining Full or Partial Mediation**

As seen in Table 5.23, the correlation coefficient between the predictor variable and the outcome variable in path c is -0.67 ($p < 0.001$) and the correlation between the predictor variable and the mediator variable in path c’ (i.e., after controlling for the predictor variable) is nonsignificant ($\beta = -0.09, ns$). This nonsignificance indicates that full mediation has been identified with about five sixths of the effect of object relations on resilience going through the splitting defence. Only one sixth of the effect is direct.
Table 5.9

*Testing Mediator Effects of Splitting on Object Relations and Resilience Using Simultaneous Multiple Regression*

<table>
<thead>
<tr>
<th>Testing steps in mediation model</th>
<th>B</th>
<th>SE B</th>
<th>95% CI</th>
<th>$\beta$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Testing Step 1 (path c)</td>
<td>-0.47</td>
<td>0.04</td>
<td>-0.55, -3.97</td>
<td>-0.67***</td>
</tr>
<tr>
<td>Predictor: Object Relations</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Outcome: Resilience</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Testing Step 2 (path a)</td>
<td>0.33</td>
<td>0.01</td>
<td>0.29, 0.36</td>
<td>0.81***</td>
</tr>
<tr>
<td>Predictor: Object Relations</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mediator: Splitting Defence</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Testing Step 3 (path b)</td>
<td>-1.23</td>
<td>0.14</td>
<td>-1.51, -0.94</td>
<td>-0.70***</td>
</tr>
<tr>
<td>Outcome: Resilience</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mediator: Splitting Defence</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Testing Step 4 (path c')</td>
<td>-0.07</td>
<td>0.05</td>
<td>-0.18, 0.45</td>
<td>-0.09</td>
</tr>
<tr>
<td>Predictor: Object Relations</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Outcome: Resilience</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note. N = 170. CI = confidence interval. ***p < 0.001.*

Research Question 5: Does Narcissism Moderate the Relationship Between Splitting of Self-Representations and Resilience?

Descriptive statistics were obtained to ensure the continuous variables were centred. Correlations were obtained to ensure that the interaction term and its components were not
highly correlated. As seen in Table 5.10, narcissism and splitting of self-representations are correctly centred at zero, and there is no evidence of multicollinearity.

**Step 1: Interpreting the Effects of the Predictor and Moderator Variables**

The first step in interpreting the effects of the predictor and moderator variables was to assess the overall model. Table 5.11 contains the analyses necessary to examine the moderation hypothesis. As seen in Table 5.11, step 1 of the hierarchical multiple regression was significant ($R^2 = 0.53$, $p < 0.001$), which indicates that splitting of self-representations and narcissism were significantly associated with resilience, $F(2, 167) = 94.91$, $p < 0.001$.

Step 2 of the hierarchical regression was significant ($R^2 = 0.56$, $p < 0.001$), which indicates that splitting of self-representations, narcissism, and the interaction term were all significantly associated with trauma response, $F(3, 166) = 69.46$, $p <0.001$.

The second step in interpreting the effects of the predictor and moderator variables was to assess whether the inclusion of step 2 variables significantly improves prediction of splitting of self-representations. The main effect of narcissism was entered in the equation. Splitting of self-representations is still in the equation, and the question is whether the addition of narcissism explains significant new variance in resilience scores.

**Evaluating the Model**

After the variables (splitting of self-representations & narcissism) in Model 1 have been entered, the overall model explains 53.2% of the variance in trauma response scores ($R^2 = 0.53$, $p < 0.001$). After Model 2 variables have also been included (all the variables from both models), the model as a whole explains 55.7% ($R^2 = 0.58$, $p <0.01$). The overall variance is explained by the significant interaction effect of splitting of self-representations and narcissism ($R^2_{\text{chg}} = 0.02$, $p <0.01$). In other words, the mild significant interaction
between splitting of self-representations and narcissism ($\beta = -.017, p < 0.01$) explained an additional 2.5% of variance in resilience scores over and above the 69% explained by the main effects of splitting of representations ($\beta = -0.83, p < 0.001$), and the 1.5% explained by the main effects of narcissism ($\beta = 0.12, p < 0.05$) alone.

**Table 5.10**

*Summary Statistics, Intercorrelations, and Alphas amongst Primary and Interaction Variables: Splitting of Self-Representations, Resilience, Narcissism and Interaction*

<table>
<thead>
<tr>
<th>Variable</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>$M$</th>
<th>$SD$</th>
<th>$\alpha$</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Splitting of Self</td>
<td>-</td>
<td>-1.72***</td>
<td>.47***</td>
<td>-.30***</td>
<td>25.35 (.0029)$^a$</td>
<td>8.90</td>
<td>.92</td>
</tr>
<tr>
<td>2. Resilience</td>
<td></td>
<td></td>
<td>-1.22***</td>
<td>.05</td>
<td>128.19</td>
<td>39.68</td>
<td>.97</td>
</tr>
<tr>
<td>3. Narcissism</td>
<td></td>
<td></td>
<td></td>
<td>-1.24 ***</td>
<td>42.56 (.0047)$^a$</td>
<td>8.29</td>
<td>.78</td>
</tr>
<tr>
<td>4. SplittingxNarcissism</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note. N = 170. $^a$ Mean centred. *** $p < 0.001$.*

**Assessing the Form of the Significant Interaction Effect**

To understand the form of the interaction, it is necessary to undertake two further regression analyses as recommended by Aiken and West (1991). This was achieved both statistically and graphically using *ModGraph-I* (Jose, 2004). The graphical presentation can be found in Figure 5.7 and the statistical presentation can be found in Table 5.12.

As seen in Figure 5.7, the predictor variable and main effect (i.e., splitting of self-representations) is displayed along the X-axis, the criterion variable (i.e., resilience) along the Y-axis, and the moderating variable (i.e., narcissism) is depicted with three lines designated as high, medium, and low narcissism. The three levels of high, medium, and low
both for the main effect of splitting of self-representations and narcissism are computed using each variable’s mean as the medium value, one SD above the mean as the high mean, and one SD below the mean as the low mean.

Table 5.11

**Testing Moderator Effects of Narcissism Using Hierarchical Multiple Regression**

<table>
<thead>
<tr>
<th>Step and Variable</th>
<th>$B$</th>
<th>$SEB$</th>
<th>$\beta$</th>
<th>$R^2$ chg</th>
<th>$R^2$ chg</th>
<th>95% CI</th>
<th>$F$ inc.</th>
<th>$df$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Splitting-Self Narcissim</td>
<td>-3.67</td>
<td>.59</td>
<td>-0.83***</td>
<td>-4.20, -3.15</td>
<td>4.20, -3.15</td>
<td>-4.20, -3.15</td>
<td>94.917</td>
<td>2,167</td>
</tr>
<tr>
<td>Step 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Splitting-Self x Narcissim</td>
<td>-0.08</td>
<td>0.02</td>
<td>-0.17**</td>
<td>-0.13, -0.02</td>
<td>-0.13, -0.02</td>
<td>-0.13, -0.02</td>
<td>64.461</td>
<td>3,166</td>
</tr>
</tbody>
</table>

*Note. N = 170. CI = confidence interval. * $p < 0.05$. ** $p < 0.01$. *** $p < 0.001$.*

**Step 2: Statistical Significance between the Two Regression Lines**

As displayed in Figure 5.7, respondents who experience low levels of splitting of self-representations report differential levels of resilience depending upon whether they report high ($M = 174.77$), medium ($M = 163.77$), or low ($M = 152.77$) levels of narcissism. Splitting of self-representations decreased as resilience increases across all three narcissism groups. In the case of high narcissism, the increase of IPPA-32R points for each level of splitting of self-representations is 38.87 points. For medium narcissism, the IPPA-32R points equals 32.74. The increase in IPPA-32R points for low narcissism is only 26.63.
Under the condition of high splitting of self-representations, the three levels of narcissism make no difference to resilience scores, as the mean IPPA-32R score under the low ($M = 99.49$), medium ($M = 98.27$), and high ($M = 97.05$) levels of narcissism are virtually identical. The difference between these three regression lines was significant, as indicated by the regression coefficient for the interaction term ($B = -0.08$, $F [3, 166] = 9.21$, $p < 0.05$).
The significant interaction terms tells us that the slopes differ from each other but not whether each slope differs from zero.

**Step 3: Simple Slopes Computation-Significant Difference from Zero**

The second analysis of the form of the interaction examines whether the slope of the simple regression lines at high, medium, and low narcissism are significantly different from zero. To achieve this, simple regression analyses outlined by Aiken and West (1991) were conducted. The criterion variable is regressed on the predictor, the moderator at a conditional value, the interaction of the predictor, and the moderator. The $t$-test for the regression coefficient of the predictor variable reflects the significance of the slope.

**Table 5.12**

**Simple Slope Regression Analyses of Splitting of Self-Representations predicting Resilience at High, Medium, and Low Levels of Narcissism**

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SE B</th>
<th>Variance</th>
<th>Covariance</th>
<th>t</th>
<th>df</th>
</tr>
</thead>
<tbody>
<tr>
<td>Splitting of Self Interaction</td>
<td>-3.68***</td>
<td>0.02</td>
<td>0.0711</td>
<td>0.0015</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Link between splitting of self-representations and resilience at low narcissism</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low Narcissism</td>
<td>-2.99</td>
<td>0.38</td>
<td></td>
<td></td>
<td>-7.7567***</td>
<td>3,166</td>
</tr>
<tr>
<td>Link between splitting of self-representations and resilience by medium narcissism</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medium Narcissism</td>
<td>-3.677</td>
<td>0.26</td>
<td></td>
<td></td>
<td>-13.78***</td>
<td>3,166</td>
</tr>
<tr>
<td>Link between splitting of self-representations and resilience by high narcissism</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High Narcissism</td>
<td>-4.36</td>
<td>0.31</td>
<td></td>
<td></td>
<td>-14.07***</td>
<td>3,166</td>
</tr>
</tbody>
</table>

*Note. N = 170. B SE B and t reflect values from the final regression equation. *** $p < 0.001$. ** $p < 0.01$.**
As seen in Table 5.12, the results of the three regression analyses indicated that there was a significant negative slope for all three narcissism groups: low ($B = -2.99, t [3, 166] = -7.75, p < 0.001$), medium ($B = -3.67, t [3,166] = -13.78, p < 0.001$), and high ($B = -4.36, t [3,166] = -14.07, p < 0.001$). That is, the three simple slopes differed from zero, which suggests that the relation between splitting of self-representations and resilience is significant and negative across three levels of narcissism ($B = -3.67, p < 0.001$).

**Research Question 6: Does Splitting of Self-Representations Mediate the Relationship Between Covert Narcissism and Resilience and Overt Narcissism and Resilience?**

Two mediation models were developed to address this two-part question. The first part explores the relationship between covert narcissism and resilience with splitting of self-representations as the mediator. Descriptive statistics and intercorrelations were obtained to assess the three design issues, and they are found in Table 5.13. The first design issue is effective sample size. As seen in Table 5.13, the sample size is 170, the correlation between the predictor and mediator is -0.32, and the effective sample size is 153.

**Table 5.13**

*Summary Statistics, Intercorrelations, and Alphas among the Primary Variables: Covert Narcissism, Splitting of Self-Representations, and Resilience*

<table>
<thead>
<tr>
<th>Variable</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>M</th>
<th>SD</th>
<th>$\alpha$</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Covert Narcissima</td>
<td>_</td>
<td>.43***</td>
<td>-.32***</td>
<td>16.57</td>
<td>3.90</td>
<td>.63</td>
</tr>
<tr>
<td>2. Splitting of Selfb</td>
<td>_</td>
<td></td>
<td>-.72***</td>
<td>25.35</td>
<td>8.90</td>
<td>.93</td>
</tr>
<tr>
<td>3. Resilencec</td>
<td>_</td>
<td></td>
<td></td>
<td>128.19</td>
<td>39.68</td>
<td>.97</td>
</tr>
</tbody>
</table>

*Note. N = 170. *** $p < 0.001$ (2-tailed). a = predictor variable, b = mediator variable, c = outcome variable.*
The second design issue is the size of the predictor to mediator (path a) and mediator to outcome (path b) relations. As seen in Figure 5.8, the two paths’ correlations are not comparable in size (0.43 & -0.72 respectively). However, the power is at its greatest as the relation between the mediator and outcome (path c = -0.72) exceeds the relation between the predictor and mediator (path a = 0.43).

The third design issue is reliability of the mediator measure. As seen in Table 5.13, the reliability of the covert narcissism scale, as the measure of the mediator, was moderate (\(\alpha = 0.63\)). The limitations of two design issues (i.e., path a & path b not comparable in size & moderate internal reliability) notwithstanding, the next step in exploring the model involves a standard multiple regression analysis that tested three regression equations. Analyses can be found in Table 5.14 and the correlations coefficients between paths in Figure 5.8.

**Three Regression Equations to Establish Mediation of Covert Narcissism**

In the first equation, resilience was regressed on covert narcissism to establish that an effect to mediate (path c in Figure 5.8), controlling for any covariates. As seen in Table 5.14, the unstandardised regression coefficient (\(B = -3.19\)) associated with the effect of covert narcissism on resilience was significant (\(p < 0.001\)). Thus, path c in Figure 5.8 was significant, and the requirement for mediation in Step 1 was met. Splitting of Self-Representations was then regressed on covert narcissism (path a in Figure 5.8). The unstandardised regression coefficient associated with the second relation was significant (\(B = 0.98, p < 0.001\)). Thus, the condition for Step 2 was met (path a in Figure 5.8).

To test whether splitting of self-representations is related to resilience, resilience was regressed simultaneously on both covert narcissism and splitting of self-representations (Step 3). The unstandardised regression coefficient associated with the relation between
splitting of self-representations and resilience, controlling for covert narcissism was significant ($B = -3.18, p < 0.001$). Thus, the condition for Step 3 was met (path $b$ was significant). This third regression coefficient provided an estimate of path $c'$, which is the relation between covert narcissism and resilience controlling for splitting of self-representations. The standardised regression coefficient for path $c'$ was nonsignificant ($\beta = -0.00$, $ns$), hence conditions for step 4 were met, and a path analysis of this mediation is found in Figure 5.8.

![Diagram of mediation relationship and intercorrelations among covert narcissism, splitting of self-representations, and resilience.](image)

**Figure 5.8.** Mediation relationship and intercorrelations among covert narcissism, splitting of self-representations, and resilience.

**Assessing Path $c$ to Path $c'$ for Significance**

To assess whether the drop from -0.67 to -0.09 (as seen in Figure 5.8) is significant (from $c$ to $c'$), calculation of Sobel’s test was achieved statistically using *MedGraph* (Jose, 2004). The calculation yielded a large and significant $z$-value of 4.04 ($p < 0.001$). This suggests that the relation between covert narcissism and resilience (path $c$) has been reduced by the inclusion of the mediating variable in the second regression (path $c'$).

**Determining Full or Partial Mediation**

As seen in Table 5.14, the correlation coefficient between the predictor variable and the outcome variable in path $c$ is significant ($\beta = -0.32, p < 0.001$) and the correlation
between the predictor variable and the mediator variable in path c’ is nonsignificant ($\beta = -0.00$, $ns$). This nonsignificance indicates that full mediation has been identified with all of the effect of covert narcissism on resilience going through splitting of self-representations.

**Table 5.14**

*Testing Mediator Effects of Splitting of Self Representations on Covert Narcissism and Resilience Using Simultaneous Multiple Regression*

<table>
<thead>
<tr>
<th>Testing steps in mediation model</th>
<th>$B$</th>
<th>$SE$</th>
<th>95% CI</th>
<th>$\beta$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Testing Step 1 (path c)</td>
<td>-3.19</td>
<td>0.74</td>
<td>-4.66, -1.72</td>
<td>-0.32***</td>
</tr>
<tr>
<td>Predictor: Covert Narcissism</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Outcome: Resilience</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Testing Step 2 (path a)</td>
<td>0.98</td>
<td>0.15</td>
<td>0.66, 1.29</td>
<td>0.43***</td>
</tr>
<tr>
<td>Predictor: Covert Narcissism</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mediator: Splitting of Self</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Testing Step 3 (path b)</td>
<td>-3.18</td>
<td>0.26</td>
<td>-3.71, -2.66</td>
<td>-0.72***</td>
</tr>
<tr>
<td>Outcome: Resilience</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mediator: Splitting of Self</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Testing Step 4 (path c‘)</td>
<td>-0.06</td>
<td>0.60</td>
<td>-1.25, 1.13</td>
<td>-0.00</td>
</tr>
<tr>
<td>Predictor: Covert Narcissism</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Outcome: Resilience</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note.* $N = 170$. CI = confidence interval. *** $p < 0.001$. 
Overt Narcissism, Splitting of Self-Representations, and Resilience Correlations

The second part of Research Question 6 explored the relationship between overt narcissism and resilience with splitting of self-representations as the mediator. Descriptive statistics and intercorrelations were obtained to assess that the three design issues were satisfied. The first design issue is effective sample size. As seen in Table 5.13, the sample size is 170, however the correlation between the predictor (overt narcissism) and criterion/outcome (resilience) was nonsignificant ($r = -0.09$, ns). This correlation is required to be significant according to Baron and Kenny’s (1986) four-step procedure analyses for the testing of mediation. As Step 1 was not met, no further analyses were undertaken. Mediation could not be established based on the configuration of the variables, as scores on the overt narcissism scale were unrelated to scores on the resilience scale.

Hypotheses 4.4: Association Among Covert and Overt Narcissism and Splitting of Self-, Others-, and Family-Representations

In light of demonstrated associations among overt and covert narcissism and splitting of self-representations, as well as theoretical implications that covert narcissists split self- and other-representations more pervasively than overt narcissists, a final prediction was made. It was hypothesised that scores on the overt narcissism scale would correlate substantially and positively with scores on the splitting of self-representations scale, but not with scores on the splitting of other- and family-representations scales. In contrast, it was hypothesised that scores on the covert narcissism scale would substantively and positively correlate with scores on the splitting of self-, other-, and family-representations scales. Finally, it was hypothesised that scores on the covert narcissism scale would correlate more strongly with scores on the splitting scale than scores on the overt narcissism scale.
Correlations among the scores on the overt narcissism and covert narcissism scales, SI scale, and SOS, SOO, and SOF subscales are shown in Table 5.15. The specific associations among the two narcissism scales and four splitting defence scales were largely consistent with Hypothesis 4.4.

Table 5.15

*Correlations Among Scales of the Overt and Covert Narcissism Scales, and the Splitting Index and Three Constituent Subscales*

<table>
<thead>
<tr>
<th>Splitting Index scale and subscales</th>
<th>SOS</th>
<th>SOO</th>
<th>SOF</th>
<th>SI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overt Narcissism</td>
<td>.37***</td>
<td>.09</td>
<td>.13</td>
<td>.33**</td>
</tr>
<tr>
<td>Covert Narcissism</td>
<td>.43***</td>
<td>.31***</td>
<td>.35***</td>
<td>.38***</td>
</tr>
</tbody>
</table>

*Note. N = 170. ** p < 0.01. *** p < 0.001. SOS = Splitting of Self-Representations; SOO = Splitting of Others-Representations; SOF = Splitting of Family-Representations.*

As seen in Table 5.15, scores on the overt narcissism scale correlated substantially and positively with scores on the splitting of self-representations scale, but not with the splitting of others- and splitting of self-representations, as predicted. This suggests that overt narcissists pervasively split their self-representations but not others-representations and family-representations. In contrast, scores on the covert narcissism scale correlated with scores on the SI and its constituent subscales, as predicted. This suggests that covert narcissists pervasively split their self-, other-, and family-representations, which is consistent
with previous demonstrated findings and theoretical approaches that suggest the covert variant is more pathological (Dickinson & Pincus, 2003; Fossatti et al., 2005; Wink, 1991. As expected, scores on both variants correlated positively with scores on the SI. The association with covert narcissism was substantial whereas the association with overt narcissism was mild. This suggests that the covert variant employs the splitting defence across interpersonal relationships more pervasively than the overt variant, which is consistent with object relations theory in general and Kernberg’s metapsychology in particular.

Summary of Findings

The main objective of this study was to explore third variable effects using moderation and mediation models following the establishment of bivariate correlations amongst the variables. For Research Question 1, the moderation model revealed an erosion effect, where high TV viewing is associated with higher levels of trauma response than low TV viewing for people high in resilience. There was no difference in trauma levels across high and low TV viewing for low resilient people. For Research Question 2, full mediation was identified with about five sixths of the effect of resilience on trauma response going through trauma reactive beliefs. For Research Question 3, partial mediation was identified with about one third of the effect of resilience on trauma response going through object relations.

For Research Question 4, full mediation was identified with about five sixths of the effect of object relations on resilience going through the splitting defence. For Research Question 5, the moderation model revealed an additive effect, where splitting of self-representations influences resilience more under conditions of high narcissism than under conditions of low and medium narcissism. For part one of Research Question 6, full
mediation was identified with all the effect of covert narcissism on resilience going through splitting of self-representations. For part two, the mediation model could not be tested as overt narcissism scores failed to correlate with resilience scores. Finally, covert narcissism was associated with both splitting of self-, other-, and family-representations, whereas overt narcissism was associated only with splitting of self-representations.

This chapter has presented the results of the research questions, with a summary of the key findings relevant to the associations among trauma reactive beliefs, object relations, narcissism, covert narcissism, splitting, and splitting of self-representations. The final chapter presents an integrated discussion of how these variables intervene in the nexus between trauma and resilience, bringing together the media exposure, trauma response, and trauma management characteristics as well as the intrapsychic processes and mechanisms that appear to predicate adult resilience to a PTE.
CHAPTER 6
DISCUSSION

The discussion of the results of the study is divided into four sections. The first section summarises the results in relation to the two major aims of the thesis. The second section considers the relationship of the current findings to prior research and discusses the theoretical implications of the findings in conceptual and substantive terms for Aim 1 followed by Aim 2. The next section discusses counselling, social, and educational implications of the findings. Finally, methodological issues are addressed and proposals are made for the direction of future research.

Summary of Research Findings

The data provide substantial evidence in support of the utility of psychoanalytic object relations theory for understanding the intrapsychic processes that predicate adult resilience following exposure in the media to a large-scale terrorist attack. Different levels of TV viewing hours significantly impacted on both resilience and trauma response, with the low TV viewing group endorsing greater resilience and less trauma response than the high TV viewing group. Those respondents who identified with mature object relations, minimal splitting, and modest narcissism demonstrated more life purpose and satisfaction and self-confidence during stress than respondents who identified with immature object relations, pervasive splitting, and grandiose narcissism. Self-report measures of trauma response, object relations, narcissism, and splitting evidenced significant associations with hours of TV viewing and resilience. The exception was the measure of narcissism, which showed unexpectedly weak, negligible, and inconsistent associations with hours of TV viewing, trauma response, and resilience. An exploratory factor analysis revealed two factors in the
narcissism measure, supporting the heterogeneity of the construct. The overt/grandiose beliefs factor was unrelated to resilience whereas the covert/grandiose fantasies factor had a substantial negative association.

The data also provide strong evidence of third variable effects on resilience. A moderation model found that there is no difference in trauma levels across high and low TV viewing for low resilient people. However, for people high in resilience, high TV viewing is associated with higher levels of trauma response than low TV viewing. A mediation model showed that trauma reactive beliefs fully mediated the link between resilience and trauma response. In regard to the intrapsychic processes that purport to predicate resilience, object relations partially mediated the resilience-trauma response link, splitting fully mediated the object relations-resilience link, and narcissism moderated the strength of the splitting of self-representations-resilience link. Also, splitting of self-representations fully mediated the covert narcissism-resilience link. A mediation model could not be built for the splitting of self-representations and overt narcissism-resilience link as the first step in the process of establishing mediation based on Baron and Kenny’s (1986) recommendations (i.e., a significant relationship between predictor & outcome) could not be satisfied.

The first aim of the current research was to explore the potential associations of media exposure to trauma response and trauma management using resilience as an exemplar of effective trauma management. The second aim was to explore particular intrapsychic processes believed to operate unconsciously and to examine their potential relationship with adult resilience. A related aim was to explore differences in resilience across object relations, splitting, and narcissism levels. The results are now considered in relation to each of the two aims and related to previous research in both conceptual and substantive terms.


**Aim 1: To Explore the Potential Associations of Media Exposure to Trauma Response and Resilience**

Comparative analyses support the hypothesis that people who purposely watched less than ten hours of Bali bombing-related TV coverage reported significantly less trauma response over a one week period than those people who purposely watched eleven or more hours of Bali bombing-related TV coverage, as predicted (Hypothesis 1.1). Differences in the impact of the event measure across high and low TV viewing was the most pronounced of the three trauma response scales. This suggests the amount of purposeful TV viewing impacts of the symptoms of hyperarousal, avoidance, and intrusion to a greater degree than changed worldviews and loss of support and agency. Resilience also demonstrated a significant difference between TV viewing groups, with higher mean resilience scores for low TV viewing than for high TV viewing (Hypothesis 1.3).

Bivariate correlations support the hypotheses that high TV viewing is positively related to trauma response and (Hypothesis 1.2) and negatively related to resilience (Hypothesis 1.4). There was a substantial and negative association of trauma reactive beliefs with resilience (Hypothesis 2.1) and substantive and positive association with trauma response (Hypothesis 2.2).

As these six hypotheses provided the necessary preliminary steps for the testing of third variable effects, a discussion of the results of the bivariate correlations is integrated into the discussion of the models along with results of the comparative analyses. The results of the models are discussed using object relations theory to interpret the results. Hypotheses 1.2 and 1.4 relate to the moderation model based on Research Question 1. Hypotheses 2.1 and 2.2 relate to the mediation model based on Research Question 2.
Research Question 1: Does Bali Bombing Media Exposure Moderate the Relationship Between Resilience and Trauma Response?

The preliminary finding of a positive bivariate association between self-reported non-specific distress symptom levels and hours of TV viewing ten months following a large-scale terrorist attack were consistent with terrorist-related epidemiological surveys (Ahern et al., 2002; Pfefferbaum et al., 2003; Schlenger et al., 2002; Schuster et al., 2001; Silver et al., 2002). Rather than concluding that this association necessarily represents adverse psychological effects of exposure to terrorist-related TV content, as was reported in previous studies, it is necessary to consider the possible logical bases for such an association. These include third variable effects such as intrapsychic processes and reversed directionality from psychological distress to hours of TV viewing. It is possible that a third variable not considered here may have made people less resilient to the psychological impact of terrorism and caused them to seek out more media coverage of the bombing. This raises the issue that the measure of TV viewing may be better conceived of as a correlate of psychological distress than as an index of indirect exposure. This issue requires additional research, however, in designs that support more definitive causal inference. In the present study, the focus was on the potential moderating effect of TV viewing on the relation between resilience and trauma response based on empirical evidence that suggests resilience may be differentially effective for individuals high and low in TV viewing (e.g., Butler et al., 2006).

Although hours of TV viewing was negatively related to resilience, comparative analyses found that resilience or confidence in life and self and life purpose and satisfaction differed across high and low hours of TV viewing. It would appear that people who personally create ontological meaning from their experiences purposely avoided repetitive
and prolonged coverage of the Bali bombing and its aftermath. In contrast, self-confidence during stress did not differ significantly across the two TV viewing groups. Nevertheless, the trend was for the low TV viewing group to experience slightly higher levels of self-confidence during stress. Although no conclusions can be drawn regarding the trend, it seems that both TV viewing groups benefited to a similar degree from the stress-buffering aspects of locus of control. These stress-buffering aspects derive from perceived internal locus of control during stressful situations, positive forms of external locus of control, and habitually calm responses reflective of ontological security. It is unclear why this subscale should behave differently from the life purpose and satisfaction subscale, as the two resilience (IPPA-32R) subscales are complementary aspects of a unified resilient worldview. Further research is needed to clarify this unexpected finding.

In terms of the bivariate relationship between high hours of TV viewing and impact of the Bali bombing, it is curious and somewhat paradoxical that symptoms of avoidance over a one week period ten months following the bombing were substantially associated with purposeful exposure to media coverage of the event. Again, it is possible that another third variable not considered here may have caused certain people to consciously seek out more media coverage of the bombing whilst simultaneously avoiding reminders of the initial traumatic images at an unconscious level, as in dissociation. In this situation, there is avoidance of the implications of the event by seeking excessive exposure to the very external stimuli or activity that facilitated the initial trauma response. It may be that excessive and repetitive TV viewing of the event and its aftermath had an analgesic or numbing effect that enabled the person to avoid creating a synthesis of thoughts, feelings, or conversations associated with the event. It may have facilitated a diminished interest in activities and an
inability to recall aspects of the event. It is also possible that initial intense media exposure in the days and weeks following the event had a delayed effect, so that the full impact of the event may only have been felt some ten months later following a trigger. For example, renewed media interest in the bombing’s one-year anniversary. In other words, the initial stimulus may have caused distress that was outside an individual’s awareness, and that the effect of repetitive media exposure was initially insignificant until a deep trigger stimulus.

Linked to this point, but offered as an alternative possibility, is that at the time of testing (15th August - 21st September, 2003), a number of events associated with the Bali bombing were broadcast on the Australian media. There was live coverage of the suspects’ trials. Amrozi was sentenced to death on 7th August, Sumundra on the 10th September, and Bashir was cleared of leading JI but sentenced to four years jail on a lesser charge on the 2nd September (http://www.abc.net.au/news/indepth/bali/timeline/timeline.htm). Also during the time of testing, the Australian Department of Foreign Affairs and Trade advised Australians via the media to defer any non-essential travel to Indonesia. Perhaps the most distressing event to be broadcast on the media during the testing period was the survivors’ personal accounts of the bombing to mark the one-year anniversary, which was played on the ABC on the 15th September (Belsham, 2003). Even if a person purposefully avoided watching the full media coverage of these specific events, they would be exposed to bits of information via the daily news broadcasts. Although no conclusions can be drawn regarding the involvement of the Bali bombing events at the ten-month point, it is possible that this coverage may have had a cumulative effect on people who were already distressed by their high TV viewing.

In contrast to high TV viewing, low TV viewing was positively associated with confidence in life and self or resilience. It would appear that people who avoided purposeful
TV coverage of the Bali bombing and its aftermath experienced a greater internal locus of control during stressful events, positive forms of external locus of control, and habitually calm responses reflective of ontological security than people who purposefully exposed themselves to extensive and repetitive coverage of the event. This finding is consistent with previous research by ACQOL (2003), who suggested that the unprecedented, graphic, and repetitive media coverage of September 11 might have quickly triggered an adaptive response, such that people are now more prepared for these events, less disturbed by them, and made a choice to try and reduce exposure to the TV content. It is possible that the media coverage of the Bali bombing attenuated a resilience process already underway. It may be that the “concern collapse” effect reported by Clemenger Communications (2002) was operating. According to this effect, watching TV coverage of a PTE is a way of processing new information. Once the need to process new schemas and representations following a shattering of worldviews that the world is safe, orderly, and predictable is no longer necessary, the number of TV viewing hours also decreases.

In regards to the TV viewing moderation model, for people low in resilience, there was no difference in trauma levels across high and low TV viewing groups of the Bali bombing and its aftermath. However, for people high in resilience, high TV viewing is associated with higher levels of trauma response than low TV viewing. Moreover, people low in resilience have high levels of trauma response irrespective of how much TV they view. However, highly resilient people have significantly lower levels of trauma response if they view a low amount of TV. If they view a high level of TV, the level of trauma response increases to an equivalent level of the low resilient group. The theoretical implications of this moderating effect will be discussed following Research Question 2.
Having established the existence of a significant interaction between hours of TV viewing and resilience in predicting trauma response, the next step in the research design was to examine what accounts for the hours of TV viewing difference in the relationship between resilience and trauma response. That is, why is resilience more strongly related to trauma response in the negative direction for low TV viewing than for high TV viewing?

Earlier in this thesis, it was hypothesised that a possible reason is that negative changes in worldviews (i.e., trauma reactive beliefs) following a PTE tend to be more related to high TV viewing than to low TV viewing (Butler et al., 2006). As predicted, the present study found that trauma reactive beliefs were more related to high TV viewing than to low TV viewing. More specifically, anticipatory anxiety, uncertainty, and lack of control following the Bali bombing were the beliefs robustly related to high TV viewing. Interestingly, the belief that the world is dangerous following the Bali bombing was unrelated to high TV viewing. This finding is consistent with a qualitative research report, which found Australian citizens described the world as a dangerous place following September 11, and that since then, they were disengaging from a broader agenda they feel they cannot control and focusing on their personal lives they feel they can control (Clemenger Communications, 2002). The Clemenger Report concluded that the only discernable impact of the Bali bombing on Australian citizens’ resilience involved overseas travel by aeroplane, whereby participants’ transcripts revealed high levels of anticipatory anxiety and lack of internal locus of control. Therefore, Research Question 2 assessed if changed fundamental assumptions or worldviews, as measured by the level of trauma reactive beliefs, mediate the association between resilience and trauma response.
Research Question 2: Do Trauma Reactive Beliefs Mediate the Relationship Between Resilience and Trauma Response?

The preliminary findings of a positive bivariate association between self-reported non-specific distress symptom levels and trauma reactive beliefs, and a negative association between resilience and trauma reactive beliefs, ten months following a large-scale terrorist attack, were consistent with previous terrorist-related research (Butler et al., 2006). It also seems that the more the Bali bombing is perceived as incompatible with a person’s worldview, the greater the distress. This is primarily because it undermines or shatters that worldview and leads to the development of trauma reactive beliefs (Janoff-Bulman, 1992, 2006). Anticipatory anxiety, as measured by anxious and uncertain trauma reactive beliefs appears to play a pivotal role in the link between a shattered worldview and a person’s trauma response. Anticipatory anxiety typically worsens cognitive functioning and may impair learning about the bombing as it blocks working memory with anxious thoughts that limit comprehension and retention of new information (Horowitz, 2001). Indeed, anticipatory anxiety correlated strongly with symptoms of avoidance, intrusion, and hyperarousal.

In contrast, the more resilient a person is to the Bali bombing the fewer and less intense their trauma reactive beliefs. Change occurs at the level of narrow, concrete, specific assumptions (e.g., dangerous world, lack of control, self-abnegation, & inadequacy) and is related to flexible and pragmatic thinking and confidence in life and self (Bonanno et al., 2004; Butler et al., 2006). In other words, the less these fundamental assumptions are changed as a result of a PTE, the more a person demonstrates confidence in life and self and the less likely a person is to experience a significant impact of the event. One of the most compelling explanations for this association is that these people hold specific a priori beliefs
about themselves and the world that can more readily accommodate the possibility of a traumatic event, thereby minimising the need to search for an explanation for the event (Janoff-Bulman, 2006). In other words, flexible and pragmatic worldviews that more readily assimilate the PTE obviate the need for more elaborate cognitive restructuring of different representations of self in relation to others and the world. For example, people whose worldview includes an acceptance of risk may be more able to assimilate the Bali bombing than people who are uncomfortable with risk or avert risk. Similarly, people who believe that the world is a just and fair place in spite of the fact that the world contains certain dangers that are beyond their control demonstrate more relativistic thinking, flexible adaptation, and pragmatic coping, which are salient characteristics of adult resilience (Bonanno, 2004).

The finding that resilient people believe more clearly that the world is just in spite of danger suggests several possible avenues for linking current findings to past research. There is general agreement in the theoretical literature that PTEs are likely to cause long-term loss in biopsychosocial functioning if they shatter a person’s views of the world (Horowitz, 2001; Janoff-Bulman, 2006). However, researchers rarely have the opportunity to assess worldviews prior to a PTE. It is possible that preloss worldviews play an important role in both the adaptive and maladaptive management of a response to a PTE. There is also general agreement that our broadest, most abstract schemas are least subject to direct feedback and are essentially conservative. The change that occurs in our narrow, concrete schemas facilitate a future-orientated process of action and feedback. Thus, a changed worldview or trauma reactive belief, as an action and feedback process mechanism, may mediate the effect flexible and pragmatic thinking has on our trauma response experience or level of subjective distress following a PTE.
Extending the bivariate correlations among trauma reactive beliefs, resilience, and trauma response, a mediation model demonstrated that full mediation occurred through the trauma reactive beliefs variable. That is, higher levels of resilience result in the later development of fewer trauma response symptoms because they lead to fewer changed worldviews or trauma reactive beliefs, which in turn leads to lower levels of subjective distress or impact of event. Given the demonstrated large indirect effect, the small effective sample size and the fact that path a was larger than path b (i.e., two design issues that reduce the power of the test of mediation) were not considered in the interpretation of the results.

One issue that must be acknowledged when interpreting mediation analyses is that there are likely to be other models that are consistent with the data that are also correct. The number of alternative models is greater when the data are cross-sectional and correlational (Baron & Kenny, 1986). Moreover, with correlational data, it is more accurate to avoid causal language and, taking a liberal stance, all that can be said is that the causal model is consistent with the data. That stated, low levels of anticipatory anxiety, uncertainty, and lack of internal locus of control appear to be core active ingredients that buffer resilient people against a significant trauma response following a PTE. The evidence that low levels of trauma reactive beliefs are critical active ingredients within adult resilience also aligns with Horowitz’s (2001) information processing theory of stress response symptom formation.

**Theoretical Implications of the Findings Relevant to Aim 1**

If media exposure moderates the strength of the association between resilience and trauma response, it is plausible that it must impact through some intrapsychic mediator. Based on psychoanalytic theory, potential candidates for this mediation includes Horowitz’s (2001) completion principle and Freud’s (1920) conceptualisation of repetition compulsion.
The Completion Principle

A PTE is, by definition, one that is not fully in accord with a person’s usual inner working models (Horowitz, 2001). It contains either too much or too little of a particular familiar situation. More often, it is the unfamiliar situation or event that threatens to disturb healthy levels of biopsychosocial functioning and the expectation that things will remain constant. When an unfamiliar or threatening event occurs, the news of the event must be reappraised so that it either conforms to inner models or is reappraised as unimportant, or else inner representations must be revised so that they match the changed circumstances.

The information in novel and stressful events such as a large-scale terrorist attack involving Australian citizens, who have historically been free of the threat of terrorism, cannot be processed rapidly or automatically. Therefore, the point of completion is not easily achieved, and so the active memory retention is not terminated (Horowitz, 2001). These actively stored contents will be repeatedly represented. Encoded information about a PTE is both an unconscious and conscious experience. It becomes a conscious experience only when it is converted into representational form. Consciousness is most useful for working through representations that have high personal relevance that do not match successfully with existing schemas. Each episode of conscious representation triggers a resumption of both conscious and unconscious processing. Completion also requires the resolution of differences between new information and enduring models. Therefore, the news of a large-scale terrorist attack involving a large proportion of Australian citizens in the dead and injured population is incongruent with prevailing worldviews (i.e., Bali is a safe place & Australians are not targets for terrorist attacks). Horowitz (2001) argues that related to the completion principle is the “compulsion to look” following a PTE, which has “an adaptational function based on
the need to find out about any possible danger in novel situations” (p. 291). As seen in Figure 6.1, the compulsion to look is illustrated in a photographic image of a woman getting dressed while watching a repeated TV broadcast of the September 11 terrorist attack. Although Horowitz gives an account of how the mind continues to process new information consciously until completion, he does not sufficiently explain the completion process at the unconscious level. This thesis argues that the related but distinct concept of repetition compulsion more comprehensively explains the process of completion when encoded information exists at the prerepresentational (i.e., unconscious) form.

**Repetition Compulsion and the Media Exposure-Resilience-Trauma Response Link**

In order to understand why the woman watched repeated TV coverage of the terrorist attack, the discussion revisits Freud’s early work (1914, 1919, 1920) through the lens of object relations theory.

*Figure 6.1. Photograph taken by amateur photographer following September 11, 2001.*
Based on the object relations model of Freud’s early concept of repetition compulsion, it is possible that repetition compulsion was operating as a mediator in the TV viewing-resilience-trauma response link following the Bali bombing. Like the completion principle, repetition compulsion (i.e., the compulsion to look) may give a person an opportunity to work through, process, assimilate, and accommodate a PTE. The repetition of certain behaviours initially helps the individual to adaptively master and control the impact of the PTE. The purpose of this coping style is to maintain a sense of safety, positive self-representations, and to prevent fragmentation of the ego. In this regard, it is an attempt to achieve mastery of the external environment. Horowitz anticipated that with cognitive resolution and control, the repetition behaviour would quickly diminish and the person would no longer need to continually repeat those behaviours. Yet, in the present study, high TV viewing was positively correlated with symptoms strongly linked with repetition compulsion ten months after the event: avoidance, intrusion, and hyperarousal. People who were high in resilience and who viewed a high amount of TV viewing increased their trauma response equivalent to that of people who are low in resilience. However, contrary to expectation, there was no association between hours of TV viewing and both immature object relations and pervasive splitting, which suggests that amount of TV viewing is not linked to psychopathology.

One explanation for these counterintuitive findings involve the idea that repetition compulsion consists of two kinds with divergent outcomes ranging from adaptive through to maladaptive (Freud, 1920; Loewald, 1971). The first Freud called “active behaviour” (p.16) and Loewald termed it “active-recreation”. The second Freud referred to as “passive experience” (p.16) and Loewald termed it “passive reproduction”. For Freud, the perpetual
recurrence of the same thing is not of clinical importance when it relates to the active behaviour on the part of the person concerned. Rather, he attributes psychopathology to the person who appears to have a passive experience “over which he has no influence”.

Here, Freud (1920) refers to the observation of a child throwing a wooden reel with a piece of string attached to it (i.e., the game of Fort-da). The first type is called “active behaviour”, an unconscious, wishful, and “perceptual recurrence of the same thing” (p.16). It is a transformation toward a higher level of flexible and pragmatic development under the ego’s organising control, which is characteristic of ego-resilience. As such, it is seen to lean toward the adaptive end of the trauma response continuum. In contrast, the second, more maladaptive type of repetition is called “passive experience”, an unconscious experience of repetition with no evolution of transformation because of repression of the ego’s organising effect. In Freud’s account, after an initial passive situation where the child was overwhelmed by the event, by repeating it, the child adopted an internal locus of control, which then enabled the game of fort-da to be an active process. By actively participating in reexperiencing the initial affect, the child turns the initial unpleasurable experience into one of pleasure. It could be argued that the continuous and compulsive TV viewing of Bali bombing for several months afterwards was not only a response to the shock, trauma, and strong emotions unleashed by the initial unpleasant experience. It could also be part of an attempt to understand and piece together the fragments of information into some meaningful narrative. The question is when does repetitive behaviours become maladaptive?

Based on Freud’s (1920) account of active and passive repetition compulsion, it is possible that people who were high in resilience and who viewed a lot of purposeful TV coverage of the Bali bombing and its aftermath were gradually eroding their resilience and
raising their level of trauma response, as they were unable to pass over the passive experience of the original memory trace, of which they have minimal control, to the active behaviour of TV viewing for the purpose of processing and synthesising information. In contrast, it could be argued that it takes very little passive repetition compulsion to experience substantial trauma response for people low in resilience. That is, there is an erosion effect for high resilience and a fast effect for low resilience. For those people high in resilience, by actively repeating what had been passively endured, the perception of mastery could be potentially accomplished (although in actuality, it is rarely achieved) (Levy, 2000). The continuous need to view and revisit the catastrophe of the bombing is similar to obsessive haunting, a cultural performance of witnessing, a longing to return to, and escape from, the violent scene. Notably, hyperarousal was present in those individuals who watched high levels of Bali bombing TV coverage and this decreased capacity to modulate physiological arousal leads to a reduced ability to use symbols and fantasy to cope with the event-related stress. In other words, hyperarousal interferes with the capacity to make a calm, flexible, and rational evaluation, characteristic of resilience, and prevents resolution and integration of the experience of the event. In Kitron’s (2003) words, “paradoxically, just when the hope for a new experience is reawakened...defensive repetition is prophylactically operated as a protective fuse, so as to prevent the threat of full-blown catastrophe” (p. 434).

In summation, it could be argued that those people who watched high hours of purposeful TV viewing of the Bali bombing were avoiding the disturbing original memory trace of the event but not what Horowitz (2001) refers to as the replicas (i.e., subsequent media representations of the original event) that belong to poorly structured secondary registrations of the original disturbing event. From this perspective, the more adaptive active
type of repetition compulsion come under the pleasure principle with some delays according to the reality principle, whereas the more maladaptive passive type is the actualisation of an unconscious trauma so that it can be retrospectively mastered. The more adaptive type defends a person from potentially pleasurable wishes, while the maladaptive form has an opposite functioning: the primary affect being defended against is intense unpleasure associated with painful traumatic experiences of loss of control and overstimulation. Indeed, in relation to September 11, Zizek (2003) asserts that “we were all forced to experience what the ‘compulsion to repeat’ and jouissance beyond the pleasure principle are: we wanted to see it again and again: the same shots were repeated ad nauseum” (p. 12).

Further research needs to be conducted on why immature object relations and pervasive splitting, which are crucial aspects of psychopathology, were not associated with high TV viewing in this study, given the erosion effect in people high in resilience. Clearly, this outcome is not a straightforward issue of exposure and trauma, but that emotional reactions figure, and that there may be some self-selection operating in those highly resilient people who watched a might amount of potentially traumatic visual material. Moreover, future research would benefit from employing an alternative methodology to analysing the nature of the relationship among TV viewing, resilience, and trauma response. Rather than focusing on responses from the media coverage of the bombing as indications of media effects, it would be of benefit to understand how emotional responses and cognitive processing models are intertwined rather than separate kinds of responses. For example, by drawing on object relations theory, it could be shown how news narratives focalise and set up particular kinds of identification that audiences engage with in an ongoing process of making sense of not only of the bombing itself but also of the self-in-relation-to-others.
Anticipatory Anxiety and the Trauma Reactive Beliefs-Resilience-Trauma Response Link

Trauma reactive beliefs fully mediated the relationship between resilience and trauma response. Anticipatory anxiety, uncertainty, and lack of internal locus of control were the beliefs most affected by the Bali bombing. Anticipatory anxiety denotes those circumstances in which the response arises as a consequence of cues signalling the future occurrence of some aversive event (e.g., a terrorist attack). The person under stress feels anxious, experiences symptoms of hyperarousal and intrusion, and, given the choice, either avoids or tries to alter the situation (Barlow, 2002). This was evidenced by the positive correlation between anticipatory anxiety and trauma response. In the case of the Bali bombing, the level of destruction and loss was significant and, as a result, cues signalling a future attack (e.g., further bomb threats & raising the level of security alert at the ten-month point) could be associated with the events of the bombing and cause a change in worldviews and an increase in trauma reactive beliefs.

Two temporal factors that seem to influence hyperarousal are the imminence of the PTE and the amount of time the person has to worry about the event (Paterson & Neufeld, 1987). A perception of event severity is necessary in order for anticipatory anxiety to occur, because without event severity there is nothing to fear. Yet, this is not sufficient, because without some degree of imminence the event will never occur. Imminence, then, is also necessary but not sufficient to produce anticipatory anxiety. A threatening event must be perceived as having some likelihood of occurring. Moreover, when the event is imminent, the anticipatory anxiety will be greater the longer the incubation period (i.e., the anticipation). In the case of the Bali bombing on October 12, 2002, there were immediate threats of further attacks on Bali (Belsham, 2003). The incubation period at the point of
testing had extended over a period of ten months without a subsequent attack (this occurred two months later). It could be that many people continued to experience anticipatory anxiety, uncertainty, and lack of control, which in turn caused them to experience significant levels of hyperarousal, thereby diminishing their flexible and pragmatic coping.

There is evidence that in other countries, such as Israel, where the threat of a terrorist attack is continuous, on the whole a significant number of people are resilient and may even habituate to the chronic level of threat (Shalev, Tuval, Frenkiel-Fishman, Hader, & Eth, 2006). It is unclear whether there is a point at which the postulation that anticipatory anxiety is greater when threat is imminent no longer holds true due to habituation. In other words, in the present study, it remains to be determined at what point this tenet no longer holds true as the experience of terrorism is new for the majority of Australian citizens. Notably, the data collection coincided with the Australian Federal Government revising national alert levels, raising public awareness and engaging in domestic security through targeted information campaigns revising and expanding travel advisory services for Australians traveling overseas, and increasing security for public events. However, it cannot be concluded that these associated events accounted for the elevated level of trauma reactive beliefs in those people who experienced a significant trauma response.

In summary, the first aim of the present study was to explore the association of media exposure to trauma response and resilience as an exemplar of effective trauma management. A substantial proportion of variance in overall trauma response was explained by TV viewing. Although low TV viewers endorsed greater life purpose and satisfaction than high TV viewers, both high and low TV viewers were equally buffered by self-confidence during stress. Interestingly and contrary to prediction, there was no association between hours of TV
viewing of the Bali bombing and both quality of object relations and the splitting defence, which suggests that degree of psychopathology is essentially unrelated to viewing behaviour. Rather, there appears to be a further intrapsychic variable mediating the TV-resilience-trauma response link. A moderation model then demonstrated that there is no difference in trauma levels across high and low TV viewing for low resilient people. However, for people high in resilience, high TV viewing was associated with higher levels of trauma response than low TV viewing. It was suggested that in a process of unconscious self-selection into high and low TV viewing groups, active repetition compulsion (i.e., adaptive) influences the resilience-trauma response link under the condition of low TV viewing and passive repetition compulsion (i.e., maladaptive) influences the link under the condition of high TV viewing. Further research is needed to operationalise repetition compulsion and to explore how these two types of repetition compulsion impact on the resilience-trauma response link.

**Aim 2: To Explore the Potential Association of Resilience to the Intrapsychic Mechanisms of Object Relations, Narcissism, and Splitting.**

Comparative analyses support the hypothesis that people who identified with pervasive splitting and immature object relations were significantly different in their mean resilience and trauma response scores from those respondents who identified with minimal splitting and mature object relations, as predicted (Hypotheses 3.1, 3.2). Also as expected, there was a significant difference in mean resilience scores between those people who identified with modest narcissism and those individuals who identified with grandiose narcissism (Hypothesis 4.1). However, contrary to expectation, those people who identified with modest narcissism did not differ in their mean trauma response scores to those people who identified with grandiose narcissism (Hypothesis 4.2).
Bivariate correlations among the object relations and splitting defence scales and constituent subscales were correlated with resilience in the negative direction (Hypothesis 3.1), and substantively correlated with trauma response in the positive direction (Hypothesis 3.2), as predicted. The associations were strong with the exception of the narcissism subscale, which was found to be only mildly associated with resilience in the negative direction, contrary to prediction (Hypothesis 4.1). Furthermore, inconsistent with predictions, narcissism was unrelated to loss of psychosocial support, impact of event, and trauma reactive beliefs (Hypothesis 4.2). In contrast, and as expected, narcissism was positively associated with splitting of self-representations (Hypothesis 4.3). Finally, as predicted, overt narcissism was positively related to splitting of self-representations but not splitting of family- and others-representations, whereas covert narcissism was positively related with all three intrapsychic representations (Hypothesis 4.4).

As these ten hypotheses provided the necessary preliminary steps for the testing of mediation and moderation, a discussion of the results of the bivariate correlations is integrated into the discussion of the mediation and moderation models. Hypotheses 3.1 and 3.2 relate to the mediation models developed in Research Questions 3 and 4. Hypotheses 4.1 and 4.3 relate to Research Question 5. Finally Hypothesis 4.4 relates to Research Question 6.

**Research Question 3: Do Object Relations Mediate the Relationship Between Resilience and Trauma Response?**

Results of the comparative analyses of differences in both impact of event and resilience scores across immature and mature quality of object relations support Kernberg’s (1984) theoretical proposition that the highest (mature) and lowest (immature) level of object relations can be detected at the surface level of functioning. Means and standard deviations
for the middle group can be found in Appendix B.1. Noteworthy, the means and standard deviations of the impact of event scale for the middle object relations group were smaller than the mature group. Although no conclusions can be drawn regarding the finding, it is possible that people with mature object relations also have the greatest degree of empathy. This, in turn, may have contributed to a degree of subjective distress as the person identifies vicariously with the victims, which could be reflected in a larger mean impact of event score than the middle group where empathy is less developed.

The preliminary finding of a bivariate association of object relations with both resilience and trauma response support the theoretical assumption that certain intrapsychic processes facilitate effective trauma management following an initial response to a PTE (Horowitz, 2001; Kernberg, 1975, 1976). To date, no empirical research has explored the associations among these variables, therefore preventing a discussion on the relationship of current findings to past research. Instead, the discussion first focuses on the results of the bivariate and multivariate analyses followed by their theoretical implications.

With the exception of narcissism, the object relations dimensions were substantially and positively related to the impact of the event and its aftermath, as predicted. For those people who experienced a significant trauma response, there appears to be certain conflictual wishes, aims, and motivations defensively dissociated from the rest of the personality because of the anxiety they would entail. These include an unconscious wish to merge and feelings of oneness with others (i.e., symbiotic merging), and a fear of losing one’s identity, of absorption in the other, or of being actively taken over by someone else’s mind (i.e., fear of engulfment). They also include difficulty in tolerating separation from significant others and the fear of abandonment (i.e., separation anxiety), and an avoidance and lack of
relationship with others leading to a withdrawal into one’s own world (i.e., social isolation). Similarly, egocentricity related to the impact of the Bali bombing. Mistrust of others’ motivations is characteristic of this dimension, as well as the belief that others exist only in relation to self. Empathy is also absent as are relationships based on reciprocity.

Notably, narcissism was unrelated to overall trauma response in general and impact of event in particular. Although no conclusions can be drawn regarding the lack of association, it would appear that unless a PTE relates to a direct and imminent threat to one’s selfhood and physical wellbeing, the information processing style of the non-threatened narcissistic personality is one of “fluid shifts in meaning” rather than flexible and pragmatic thinking (Horowitz, 2001). These fluid shifts permit the maintenance of emotional distance from a PTE, thereby facilitating a neutral trauma response in order to place the self in a better light than others who experience the same or similar events. It also may be that people who endorse high narcissism develop worldviews that are distinct from people low in narcissism, or hold a different set of just-world beliefs to others.

In contrast, with the exception of narcissism, the dimensions of object relations were strongly and negatively associated with resilience, as predicted. Narcissism was mildly and negatively associated with resilience, which was in the opposite direction to that predicted based on narcissists’ predilection for self-enhancement. Although no conclusions can be drawn regarding the direction of the association, it would appear that positive psychological attitudes, which characterise resiliency, are distinct from self-enhancement attitudes, which characterise narcissism. It may be that narcissism is more accurately identified with a specific strategy of self-enhancement, one that involves expressing and maintaining positive psychological attitudes toward the “self-in-relation-to-others”. Indeed, the measure of
positive psychological attitudes explicit to resilience used a non-comparative format. That is, the questions did not require the respondents to compare their attitudes in relation to others. This design possibly enabled the narcissism dimension to relate inversely to resilience.

To further make sense of why narcissism behaved differently than the other object relations dimensions, there is little reason to believe that people uniformly respond at a particular level or that they even respond on a particular level on all the object relations dimensions at a single time (Westen, 1991). The object relations dimensions purportedly relate to the developmental issues of the preoedipal period (Zvelc, 1998). However, it is possible that the narcissism dimension was not measuring preoedipal narcissistic object relations but rather oedipal or phallic narcissism, which incorporates other dimensions of narcissism such as self-concept and self-esteem (Kernberg, 1984). As such, it is possible that people responded to the narcissism measure in a different way to the other measures that align themselves strongly with the preoedipal period.

Extending the bivariate correlations among object relations, resilience, and trauma response, a mediation model demonstrated that partial mediation occurred through object relations. That is, high levels of resilience result in lesser impact of the event because it leads to lower levels of object relations (i.e., more mature), which in turn leads to less trauma response symptoms. In terms of design issues (i.e., reduced power due to the small effective sample size, lack of comparability between path a & path b, & the relations between path a exceeding path b), the extent to which object relations mediated the relation between resilience and trauma response may have been underestimated (Lenth, 2001). In terms of methodological issues, research remains divided as to whether self-report inventories are capable of assessing object relations or whether they only can be inferred and measured.
through derivatives and not assessed directly (Huprich & Greenberg, 2003). It is possible that the object relations inventory used in the present study measured derivatives of object relations (or part-objects) that may have been reflected in the finding for partial mediation.

In terms of causation, a substantive argument can be made that resilience (predictor) preceded both object relations (mediator) and trauma response/impact of event (outcome). This is consistent with the third wave of resilience research that is concerned with identifying the innate motivational forces and processes that foster resilience. However, in regard to an alternative model, it could be the case that those people who are experiencing fewer trauma response symptoms such as avoidance, intrusion, and hyperarousal are more likely to endorse impaired object relations (i.e., less egocentricity, fear of engulfment, separation anxiety, social isolation, & symbiotic fusion). That is, the outcome causes the mediator. The present study also did not control for other factors that may be related to or cause both a significant trauma response and impaired object relations, such as defence mechanisms. All that can be concluded at this point is that the data are consistent with models in which impaired object relations causes trauma response and trauma response causes impaired object relations. It also must be acknowledged that the mediational relations evidenced might not have been evident if other variables that cause both impaired object relations and trauma response had been included in the model. Thus, Research Question 4 assessed whether the splitting defence mediated the link between impaired object relations and resilience.

**Research Question 4: Does the Splitting Defence Mediate the Relationship Between Object Relations and Resilience?**

Results of the comparative analyses of differences in both impact of event and resilience scores across minimal and pervasive splitting support Kernberg’s (1975)
theoretical proposition that the highest and lowest levels of splitting can be detected at the surface level of functioning. Means and standard deviation for the middle group can be found in Appendix B.1. As was the case with the object relations middle group, the means and standard deviations for the impact of event were smaller than the minimal group. Although no conclusion can be drawn regarding the trend, it is possible that, minimal splitting was not sufficient to cause the dissociation that accompanies avoidance, intrusion, and hyperarousal.

The preliminary findings of bivariate associations among splitting and both object relations and resilience support the theoretical assumption that certain intrapsychic processes facilitate effective trauma management following a PTE (Horowitz, 2001; Kernberg, 1975, 1976). It also is consistent with previous research on the association between object relations and splitting (Curtis, 1998; Gould et al., 1996; Greene, 1996). As predicted, the strong positive association between object relations and splitting indicates that the greater the reliance on splitting, the more the endorsement of a poorly differentiated, isolated, egocentric, anxious, and narcissistic view of the self-in-relation-to-the-world. This empirical association is directly consonant with Kernberg’s (1976) view of the reciprocity between the degree of reliance on splitting and the relative primitivity of one’s internalised object relational paradigms. The findings for a strong positive relationship among resilience and both splitting and object relations also provide preliminary support for the notion that descriptive-level resilience phenomena can be meaningfully linked to underlying psychological variables, and in particularly to the psychostructural defensive processes.

Extending on the bivariate correlations among splitting, object relations, and resilience, a mediation model demonstrated that full mediation occurred through splitting. That is, low levels of immature object relations resulted in high levels of resilience because this led to
lower levels of splitting, which in turn led to higher levels of resilience. Given the
demonstrated large indirect effect, the two design issues that reduce the power of the test of
mediation (i.e., small effective sample size & the fact that path a was larger than path b) were
not considered in the interpretation of the results (Frazier et al., 2004; Lenth, 2001).

In terms of causation, a substantive argument can be made that object relations
(predictor) preceded both splitting (mediator) and resilience (outcome). This is consistent
with Kernberg’s object relations theory, which asserts that object relations exist from birth
(albeit in a poorly differentiated form), and that the process of splitting, which begins around
the sixth month of life precedes self- and object-representations temporally (see Figure 1.1 in
the Introduction, p. 35). This stage corresponds roughly to the separation-individuation stage
delineated by Mahler et al. (1975). However, in regard to an alternative model, it could be
the case that people who are experiencing more resilience are more likely to endorse lower
levels of splitting (i.e., that the outcome causes the mediator) as they have the capacity to
tolerate ambivalence. The present study also did not control for other factors that may be
related to or cause both resilience and splitting, such as personality traits. All that can be
concluded at this point is that the data are consistent with models in which splitting causes
resilience and resilience causes splitting.

It also must be acknowledged that the mediational relations evidenced might not have
been evident if other variables that cause both splitting and resilience had been included in
the model. Alternatively, consideration needs to be given to variables that may influence this
potential mediation. Therefore, due to the unexpectedly weak and inconsistent relations
between the narcissism dimension of object relations and resilience, the next research
question was designed as a moderation model based on existing theory (Kernberg, 1975,
1976) and research (Curtis, 1998; Gould et al., 1996). Specifically, it addresses when or under what conditions narcissism most influences the robust relationship between splitting of self-representations and resilience.

**Research Question 5: Does Narcissism Moderate the Relationship Between Splitting of Self-Representations and Resilience?**

Results of the comparative analyses of differences in both impact of event and resilience scores across modest and grandiose narcissism support Kernberg’s (1984) theoretical proposition that the highest and lowest level of narcissism can be detected at the surface level of functioning. Means and standard deviation for the middle group can be found in Appendix B.1. In contrast to the object relations and splitting middle groups, the mean resilience score was only 3.94 points higher than the grandiose group. This is consistent with Kernberg’s (1984) assertion that the middle and higher narcissism groups cannot be easily differentiated at the surface level of adaptation due to the rapid fluctuations between grandiose beliefs and grandiose fantasies that are mediated by unmodulated aggression and rage. The extent to which aggression has not been integrated into the pathological grandiose self is usually revealed only in the transference setting. In contrast, there was no significant difference in impact of event scores for the three narcissism groups, which further supports Horowitz’s (2001) argument that narcissistic responses to stress only manifest if there is a direct and imminent threat to one’s physical self, or dominate self-representation.

The preliminary finding of a strong negative association between splitting of self-representations and resilience is consistent with Curtis (1998) and Gould et al.’s (1996) research that explored the link between splitting and three robust correlates of resilience: positive affectivity, self-esteem, and dogmatism. Gould et al. found that splitting of self-
representations is a substantive negative correlate of positive affectivity and a substantive positive correlate of dogmatism. Dogmatism is inversely related to flexible and pragmatic coping and positive affectivity is positively related to positive psychological attitudes, which are characteristics of adult resilience. Also, both Curtis and Gould et al. demonstrated a strong negative association between splitting of self-representations and self-esteem, which is consistent with object relations theory. According to Kernberg (1976, 1986) pervasive splitting of self-representations is a cause of self-instability, identity diffusion, and poor interpersonal relationships, whereas minimal, temporary, and reversible splitting of self-representations is a cause of a self-continuity, good differentiation of self and other, vital interpersonal relationships, and psychological resilience. Indeed, temporary, reversible splitting especially of self-representations is ubiquitous and necessary for us to be able to suspend emotion in order to make a cognitive decision or judgment (Segal, 1964).

Extending the bivariate association between splitting of self-representations and resilience, a continuous (moderator)/continuous (predictor) variable design demonstrated a moderation model suggestive of a stronger than additive effect (Cohen et al., 2003). Splitting of self-representations decreased as resilience increased. Under the condition of low splitting of self-representations, the three levels of narcissism differentially effected resilience scores. Under the condition of high splitting of self-representations, the three levels of narcissism made no difference to resilience scores. If narcissism had not been included as a moderator, it could be concluded that splitting of self-representations had a substantive negative relation with resilience, which masked the fact that the relation was stronger under the condition of high narcissism than under the condition of either medium or low narcissism. The higher the level of grandiosity and egocentricity, the more ambivalent affects and self-representations
cannot be tolerated, resulting in a rigid and polarised ego structure, whereby “all-bad” self-representations are projected into the other. The self then becomes depleted of ego content, thereby diminishing the capacity for flexible and pragmatic thinking. In contrast, the lower the level of grandiosity and omnipotence, the more ambivalence can be tolerated.

There are three major considerations that impact on moderation models when using the continuous (moderator)/continuous (predictor) variable design (Frazier et al., 2004). First, is the reliability of the measures. Measurement error in individual variables (either predictor or moderator) dramatically reduces the reliability of the interaction term constructed from them (Aiken & West, 1991). In the present study, the reliability of the measure of narcissism was less than adequate (0.78). Lower reliability of the interaction term increases its standard error and reduces the power of the test. For example, Aiken and West showed that the power of the test of the interaction is reduced by half with reliabilities around 0.80 rather than 1.00. The second issue concerns restriction in range, which also reduces the test of the power of moderation. Range restriction means that not all people in a population have an equal probability of being selected for the sample. As would be expected in a general adult population, the narcissism measure showed mild restriction in the upper range, with an acceptable skewness of 0.29 and kurtosis of -0.008.

A final consideration that impacts on moderation models is choice in the outcome variable. Lower reliability of an outcome variable reduces correlations with predictors, thus lowering the overall $R^2$ value and the power of the test (Frazier et al. 2004). In the present case, the measure of resilience had a high reliability of 0.97. Furthermore, if the outcome measure does not have enough response options (i.e., is too coarse) to reflect the interaction, there will be a loss in power. The outcome measure also has to have as many response
options as the product of the response options of the predictor and moderator variables. For example, if both the predictor and moderator are measured with 5-point Likert scales, the true moderator effect will contain $5 \times 5$ conceptually distinct latent responses. Therefore, the outcome measure will need to have 25 response options (25-point scale) to capture the true moderator effect. This present design used a $7 \times 5$ response option. That stated, there is no published trauma response measure that has sufficient response options (i.e., 35), therefore, the effects of scale coarseness on power was difficult to avoid. Although experimental designs have more power, this study used a correlational design, as this is the design most often used to examine moderator effects in counselling psychology (see Frazier et al., 2004).

Having established the existence of a significant interaction between narcissism and the effect of splitting of self-representations in predicting resilience, the next and final step in the design study was to examine whether splitting of self-representations accounts for or mediates the link between resilience and both overt and covert narcissism.

**Research Question 6: Does Splitting of Self-Representations Mediate the Relationship Between Covert Narcissism and Resilience and Overt Narcissism and Resilience?**

Two mediation models addressed this two-part question. The first part explored the potential link of splitting of self-representations to both covert narcissism and resilience. The preliminary findings of bivariate associations among these variables support the theoretical assumption that certain intrapsychic processes are associated with effective trauma management following a PTE (Kernberg, 1975, 1976). It also supports previous studies that have found a strong positive relationship between splitting of self-representations and covert narcissism (Curtis, 1998), and a strong negative relationship between covert narcissism and resilience (Rose, 2002). As predicted, covert narcissism was positively associated with all
three components of splitting of representations: self, others, and family. This is consistent with theoretical and empirical claims that covert narcissism is located at the unhealthy end of the narcissism continuum as splitting is more pervasive (Watson et al., 1999-2000).

Extending the bivariate correlations among splitting of self-representations, covert narcissism, and resilience, a mediation model demonstrated full mediation occurred through splitting of self-representations. That is, a lower level of covert narcissism results in a higher level of resilience because it leads to lower levels of splitting of self-representations, which in turn leads to higher levels of resilience. Given the demonstrated full indirect effect, the two design issues relating to mediation (path a and path b were not comparable & the moderate to low internal reliability of the measure of covert narcissism), were not considered in the interpretation of the results.

In terms of causation, a substantive argument can be made that covert narcissism (predictor) preceded both splitting of self-representations (mediator) and resilience (outcome). This is consistent with object relations theory, which asserts that the presence of grandiose fantasies is a primitive defensive response to early parental insensitivity (Kernberg, 1976). If these largely unconscious feelings of grandeur and accompanying self-representations remain unmodified, they manifest in adulthood as a constellation of deficiencies such as a lack in confidence in self and life, life purpose and satisfaction, self-esteem, and happiness. Indeed, the construction of meaning and life purpose is made difficult due to the negative colouration of narcissistic depletion, resulting in inner emptiness, boredom, ontological insecurity, and existential anxiety. In other words, pervasive splitting of self-representations and negative valence by the ego, as agent, thwarts the covert narcissist’s very attempts to make the self the orchestrator or even the source of resilience.
In regard to an alternative mediation model, it could be the case that people who are experiencing more resilience are more likely to endorse lower levels of splitting of self-representations (i.e., that the outcome causes the mediator) as they have the capacity to tolerate cognitive and affective ambivalence. The present study also did not control for other factors that may be related to or cause both resilience and splitting of self-representations, such as self-esteem or self-serving bias. All that can be concluded at this point is that the data are consistent with models in which splitting of self-representations causes resilience and resilience causes splitting of self-representations. It also must be acknowledged that the mediational relations evidenced might not have been evident if other variables that cause both splitting of self-representations and resilience had been included in the model. Alternatively, consideration needs to be given in future studies to other intrapsychic variables that may influence potential mediation (i.e., projective identification).

The second part of the final research question explored the potential links among splitting of self-representations and both overt narcissism and resilience. Results of the preliminary bivariate analyses found that overt narcissism was associated with only splitting of self-representations (i.e., was unrelated to others- & family-representations), as predicted. This is consistent with theoretical claims and empirical data that suggest overt resilience is located toward the healthy end of the narcissism continuum as it is less pervasive (Watson et al., 1999-2000). The splitting of self-representations-overt narcissism link notwithstanding, overt narcissism (as predictor) failed to correlate with resilience (as outcome). This correlation (path a) is required to be significant according to Baron and Kenny’s (1986) 4-step procedure for the testing of mediation. As such, mediation could not be established
based on the present configuration of variables. The discussion now turns to the theoretical implications of the findings related to the second aim of the study.

**Theoretical Implication of the Findings for Aim 2**

The findings for Aim 2 provide support for an association between the surface manifestation of personality constructs and intrapsychic organising variables. As narcissistic investment and object investment occur simultaneously, and are organised by the experience of splitting and the splitting of experience (i.e., splitting is an agent as well as content), a discussion of narcissism must occur contemporaneously with a discussion of splitting. The failure of a measure of overt narcissism to correlate with a measure of resilience against the backdrop of a strong negative correlation between a measure of covert narcissism and a measure of resilience raises the issue of whether the two types of splitting identified by Kernberg (1974) (i.e., vertical & horizontal) affect overt and covert narcissism differentially.

A vertical split suggests a separation of sectors that lie side by side, which use the classic structural model (Kernberg, 1974). This is where contradictory self-representations (i.e., grandiosity vs. vulnerability) have more or less equal access to consciousness, and the other keeps one at bay through the mechanism of disavowal. Since the various selves are said to be present in consciousness, the symptoms are inconsistent and contradictory. As a result, one particular self-representation can exist and manifest “in depth” with a conscious and unconscious component, separate from the other self-representations, or from the central integrating ego. In other words, vertical splitting allows for the side-by-side existence of disparate but cohesive personality attributes with different goals, values, morals, and attitudes that do not communicate with each other. Essentially, intrapsychic material is not repressed in vertical splitting, but its emotional significance is ignored.
Then there are horizontal splits, which use the classical topographical model (Kernberg, 1974). Here, there is a division between upper and lower sectors, whereby unacceptable impulses and defences are kept out of consciousness by the mechanism of repression. However, as the infantile grandiose self is present in a repressed state, the horizontal split deprives the reality ego of normal narcissistic supplies, which leads to symptoms of narcissistic deficiency and vulnerability such as diminished confidence in self and life, sense of inferiority, absence of zest for work, lack of motivation, depression. The effects exerted by the horizontally split-off narcissistic configurations are profound and permanent.

**Effect of Horizontal and Vertical Splitting on Resilience and Overt and Covert Narcissism**

The results of the first mediation model suggest that, as a causative or mediator agent, the process of splitting self-representations by the ego forces a split in the self, so that a good part of the self (i.e., empathic to victims) in relation to a good object (i.e., mother as sympathetic to victims) is split off from a bad part of the self (i.e., xenophobic) in relation to a bad object (i.e., anger toward family & others who may hold opposing views of the terrorist attack). Eventually, the ego, as content, becomes depleted leading to a vulnerable, rigid, depressed, and hypersensitive that lacks resilience, characteristic of covert narcissism. Although the Splitting Index does not directly measure these two types of splitting, it is plausible that horizontal splitting of self-representations contributed to the substantive negative association between covert narcissism and resilience in that the narcissistic deficiency and vulnerability prevented certain respondents from endorsing positive psychological attitudes, confidence in life and self, life purpose and meaning, and self-confidence during stress, all of which are characteristics of adult resilience.
In contrast, the lack of correlation between overt narcissism and resilience can be interpreted using the concepts of both vertical and horizontal splitting. According to Kernberg (1986a, b) and Kohut (1971), there are certain people, more numerous than the former, in whom the unmodified grandiose self-representations are excluded from the domain of the reality sector of the psyche by the vertical split. Since the grandiose self can be said to be present in consciousness, it affects many activities and attitudes of these personalities. These individual’s overt attitudes are, however, inconsistent. One the one hand, they are arrogant and intemperately assertive with regard their grandiosity. On the other hand, in addition to their conscious but vertically split-off grandiosity, since they harbor a silently repressed grandiose self, which is inaccessibly buried by a horizontal split, these individuals manifest symptoms of narcissism that are fluctuating and contradictory.

It is possible that the failure of the overt measure of narcissism to relate to the measure of resilience in this study is because certain respondents experienced a mix of inferior and superior, and grandiose and vulnerable, self-representations present in a fluctuating state at the level of consciousness. In turn, this rapid fluctuation caused by the vertical split could have contributed to inconsistent and contradictory responding on the resilience scale, which required respondents to report their experience of positive psychological attitudes across a variety of situations. Indeed, Kohut (1971) asks the question of overt narcissists in relation to the fluctuating and inconsistent manifestation of attitudes, emotions, cognitions, and behaviours: “Why is it that the psyche’s right hand (the centrally located reality ego with its low self-esteem, lack of initiative, and its shame propensity and hypochondria) does not know what its left hand (the grandiose, split-off sector) is doing) (p. 242).
Although no conclusions can be drawn regarding the lack of association between overt narcissism and resilience, it is possible that a pencil and paper inventory that purports to emphasise the grandiosity and egocentricity characteristics of overt narcissism would fail to correlate with a measure of positive psychological attitudes due to rapidly fluctuating and contradictory self-representations. This is consistent with the theories of Kernberg (1974), Kohut (1971) and the more recent socio-cognitive “self-regulatory model” of narcissism proposed by Morf and Rhodewalt (2001), where the grandiose self is like the Taj Mahal, “perpetually under construction”. In respect to the current study, when respondents were asked to complete a number of psychological inventories over a short period, it may be that the grandiose self could not maintain its dominance long enough to complete the narcissism inventory without contradiction. It also may be that the inventory of positive psychological attitudes provided an opportunity to construct the self in an overly favourable light. Indeed, the lack of correlation between overt narcissism and resilience suggests that temporary events or psychological states may have a salient effect on narcissistic responding.

Implication of the Study’s Findings

Counselling Implications

On important implication is that the intrapsychic correlates of resilience can inform psychotherapeutic treatment of individuals with more prolonged or significant symptomatology related to a PTE. As terrorism is a new phenomenon within Anglo-American culture, there is the need to develop a new treatment intervention that specifically targets the psychological sequelae following a terrorist attack. Implicit in these implications is the notion that resilience does not obviate the need for the development and implementation of novel counselling interventions that focus on the adult (and child) general
population. Such novel counselling interventions need to develop more exact measures for differentiating recovery from resilience following a PTE (Bonanno, 2004). Thorough pre- and post-event assessments need to be developed to prevent people experiencing the two distinct trauma management trajectories from being lumped into one treatment group (Raphael, 2005). Pathologising what may be a normative response to a non-normative but increasingly frequent event risks destabilising the innate resilience process inherent in effective trauma management. A related implication from this study concerns whether the mental health consequences in individuals indirectly and remotely exposed to terrorism are qualitatively or quantitatively different from those who have been directly exposed.

The present study found that terrorism creates a ripple of ongoing worry and anticipatory anxiety in those people who experienced a significant trauma response in contrast to those who experienced resilience to terrorism. In the framework of terrorism, it is unclear what constitutes normative reactions to perceived potential threat. The level of worry and any resulting functional impairment (e.g., refusal to fly on an aeroplane or travel to certain countries) is likely to vary considerably (Manguen & Litz, 2007). It also is unclear what constitutes a level of anxiety and impairment that necessitates counselling intervention, especially given that even in the face of imminent terror and the threat of ongoing terrorism, most anticipatory anxiety symptoms dissipate over time (Barlow, 2002). The additive effect of anticipatory anxiety is also not known, yet, based on the present findings, the real threat of imminent attack may be related to how quickly those exposed to terrorism can return to predisaster level of biopsychosocial functioning. The theoretical implications arising from the fact that testing occurred ten months following the bombing involve the key variable of the passage of time. If a terrorism attack represents the beginning or continuation of a
situation or threat, the timeline for resilience versus vulnerability may be shifted. It may be more realistic to conceptualise normal responses to terrorism to be present for a longer period of time than one-month after the initial event as delineated by DSM-IV-TR.

The preliminary findings of this study suggest that the ideal form of adaptation and coping is uncertain. For example, is a degree of hypervigilance and psychological preparation such as anticipation required in a potentially dangerous and malevolent world? Psychological adaptation to direct exposure to specific terrorism events is well-captured by existing models of traumatic stress intervention. A counselling intervention needs to be generated that depicts how the general population’s functioning is impacted by uncertain future exposure to terrorism. In this context, functional impact, as opposed to psychopathology would be the most important outcome measure. This is because the threat of future attacks is not a traumatic event according to the DSM-IV-TR, and exclusive reliance on symptom-based outcomes does not sufficiently capture individuals’ resilience.

At this point there are no effective and widely available interventions designed specifically to promote resilience to terrorism and prevent the onset of trauma-related disorders in the general adult (or child) population. The priorities for future research include identifying the minimum treatment necessary to successfully prevent trauma related problems and to examine the optimum circumstances (e.g., time elapsed since the trauma, who is most likely to benefit) for providing the appropriate interventions.

In contrast, there are well-developed therapeutic interventions for those people who experience the intrapsychic correlates of resilience demonstrated in this thesis. These therapeutic interventions vary from short-term cognitive therapy to long-term psychoanalytic psychotherapy. For example, while the construct of splitting is rooted in psychoanalytic
theory and practice, it can be approached from a cognitive perspective as well (Horowitz, 2004). There is considerable similarity between the psychoanalytic representational world that is organised into two distinct spheres (i.e., good & bad) and the cognitive constellation of schemas that hold either positive or negative relationship information. It is possible that the mix of cognitive and analytic approaches allows for effective short-term treatment of functional impairment in certain individuals following a large-scale terrorist attack.

Although some authors (Kernberg, 1976; Kohut, 1971) have indicated that splitting is a hallmark of primitive character disorders, others have emphasised its ubiquity (Grotstein, 1981; Klein, 1946; Segal, 1964). Even these latter authors, however, have not systematically explored how the concept of splitting can be used in the counselling context with higher functioning people. It is not clear why there has been a delay in applying the concept to healthier people. Virtually all other defence mechanisms, beginning with Freud’s (1900) recognition of repression in both normals and neurotics, have been applied to healthier as well as more disturbed people (see Cramer, 2000; Vaillant, 2000).

More adaptive defence mechanisms than splitting are delineated in the DSM-IV-TR and described by Vaillant (2000). Although closer to consciousness than mechanisms like splitting and projective identification, mature mechanisms remain defences and so cannot be voluntarily deployed. One such adaptive or mature defence that may inform counselling interventions is anticipation. This is especially the case given the level of anticipatory anxiety evident in people’s cognition following the Bali bombing that fully mediated the link between resilience and trauma response. The rationale for prescribing the defence of anticipation is that it could replace anticipatory anxiety therefore lowering the level of psychological distress and increasing the level of resilience. The defence of anticipation
reflects the capacity to perceive future danger affectively as well as cognitively in small doses. Of all the mature defences, anticipation rearranges internal and external reality the least. Rather than use splitting, anticipation spreads anxiety out over time. It involves the “self-inoculation” of taking one’s affective discomfort in small anticipatory doses thereby freeing the person to think calmly and reflectively rather than reactively. In Bion’s (1962) words, this allows a person to develop a capacity for “learning from experience”.

The lack of association between narcissism and both prolonged media exposure and impact of event shown in the present study has implications for counselling interventions for therapeutic interventions. It is likely that those people high in grandiose narcissism would not present for counselling following exposure to the media coverage of a large-scale terrorist attack. This is because this group of people tends to respond to stress only when either their physical self or idealised self is threatened. Due to their capacity to polarise good and bad, they prevent a state of negative trauma response by sliding the meaning of events in order to place the self in a more favourable light. If, however, they were to present for counselling, they would be at risk of displaying marked xenophobia and hatred of the terrorists and their respective ethnic and/or religious group, as overt narcissists project bad attributes onto others and internalise good qualities. In turn, this presents a major problem for the therapist in terms of interpreting the narcissistic transference material.

For those individuals who experience an increase in their impaired object relations, grandiose narcissism, and pervasive splitting, characteristic of NPD, Levy, Clarkin, Yeomans, Scott, Wasserman, and Kernberg (2006) have designed an intensive form of psychoanalytic psychotherapy known as Transference-Focused Psychotherapy (TFP). The aim of the treatment is focused on the integration of the split-off parts of the self and object
representations. It views the self as holding internalised aspects of self- and object-representations (family & significant others) that are affectively charged. The distorted perceptions of self, others, and affective valences are the focus of treatment as they emerge in the relationship with the therapist (i.e., transference). Lack of integration of the concepts of self and of significant others becomes evident in nonreflective, contradictory or chaotic descriptions of self and others, and a lack of capacity to integrate or even to become aware of these contradictions. The constant interpretation of these distorted perceptions is considered the mechanism of change. According to Levy et al., TFP consists of three-steps: (a) the diagnostic description of a particular internalised object relation in the transference, (b) the diagnostic elaboration of the corresponding self –representation and object-representation, and (c) the integration of the split-off self-representations, leading to an integrated sense of self and others, which resolves identity diffusion and pervasive splitting.

A failure on the therapist’s behalf to address the lack of normal identity integration translates into a continuation of a lack of capacity for a mature empathy with others, and a lack of mature evaluation of other people, who are seen either as idealised, persecutory or devalued. The therapeutic endeavor is a difficult process as these clients have great difficulty establishing and sustaining intimate relationships, selecting appropriate partners, assessing their own interests and commitments to work, profession, social life, ethical, and aesthetic ideals. The reliance of these people upon primitive defenses such as splitting and projective identification not only contributes to the impairment of their social and vocational functioning, but also results in general manifestations of ego weakness, particularly a lack of impulse control and lack of anxiety tolerance. At the same time, the developmental
vicissitudes of internalised object relations permit the therapist a deeper understanding of these client’s affective responses. According to Kernberg (2001), affects always include a cognitive component, a subjective experience of a highly pleasurable or unpleasurable discharge phenomena, psychomotor activation, and, very crucially, a distinctive pattern of facial expression that originally served a communicative function directed to the caregiver. The cognitive aspect of affective responses always reflects the relationship between a self-representation and an object-representation, which facilitates the diagnosis of the activated object-relationship in each affect state that emerges in the therapeutic relationship.

Finally, the more severe the client’s narcissistic pathology, the more readily does the client project either his/her self-representation or his/her object-representation onto the therapist, while enacting the reciprocal object- or self-representation (Kernberg, 1984). This makes it possible to clarify, in the midst of intense affect activation, the nature of the relationship, and to integrate the client’s previously split off representations of self and significant others by gradual interpretation of these developments in the transference. This gradual integration of the internal world of object relations leads towards the tolerance of ambivalence and the fostering of resilience. There is a toning down and maturing of all affective experiences and emotional relations with significant others, a decrease in impulsive behaviors, a capacity for flexible and pragmatic coping, and a growing capacity for self reflection and empathy with significant others as the client’s self concept consolidates in an integrated view of him/her self, and he or she experiences the relationships with significant others in a new, integrated way.
Social Implications

An important implication of the present research for society involves perceptions of similarity to the directly exposed population. Specifically, hearing stories on TV about the victims and details of their personal lives may have increased perceptions of similarity to those victims in the current sample. For example, on the 15th September 2003 (during data collection phase), the ABC aired a program titled *After Bali*, which was a personal account of the event. The sheer volume of information and personal stories about the victims may have provided ample opportunities for downward social comparisons with the victims. After a significant negative event, especially one that implies future risk, self-evaluative activity with worse-off others can result in the need to evaluate personal safety (‘Am I safe?’) or informing practical decisions (e.g., ‘Should I fly?’). Downward social comparisons negatively affect self-perceptions and promote motivation to prevent adverse future outcomes for oneself when a person is encouraged to draw an analogy between themselves and the worse-off other. Otherwise, comparisons with worse-off others that have no future implications for the self are likely to have the opposite effect (i.e., self-enhancement).

Although identification with the victim was not specifically tested in the present study, it can be expected to occur based on the empirical literature on disasters (Norris et al., 2002). The fact that many Australians were able to see themselves as similar to those who died in the terrorist attack (i.e., ‘It could have been me’) is noteworthy, given that under most circumstances, people are motivated to see themselves as dissimilar to victims to create psychological distance and maintain a sense of control. A spin-off from this perception of similarity effect is the notion of collective identity. Clearly, collective identity was operating following the Bali bombing. Australian citizens quickly embraced the bombing as a
collective “chosen trauma” (Volkan, 2001). Volkan defines a chosen trauma as a shared mental representation of an event in a large group’s (i.e., ethnic, national, religious, & social) history in which members of the group suffered a catastrophic loss, humiliation, and helplessness at the hands of enemies. Eventually, the mental representation of such an event links all the individuals in society. Thus, such a mental representation of an historical event emerges as an historical marker. New social processes and shared behaviours will appear throughout the affected society, initiated by changes in the shared psychological states of the affected individuals. Volkan (2002) refers to this phenomenon as societal regression.

Regression is not intrinsically good or bad. Rather, it is an inevitable and necessary response to certain levels of trauma, threat, or stress. Large-group regression after a society has faced a significant trauma involving the loss of life and prestige reflects the efforts of the group to maintain, protect, modify, or repair their shared group identity. In order to achieve these efforts, the group unconsciously experiences geographical boundaries as a “second skin”. It is for these reasons that the present thesis postulates the presence of another exposure group that is related to but distinct from the remote exposure group. This “geographically” exposed group resides in a different country from where a terrorist attack occurred, but its nationality is highly represented in the directly exposed group. An implication arising from this study is that the various exposure populations need to be studied separately in order to plan appropriate interventions and prevention strategies.

**Educational Implications**

The finding that confidence in life and self is eroded in ostensibly resilient people under conditions of high media exposure has implications for prevention. It also has implications for public health policy and the media framing of terrorism. The results of the
present study, together with research by Pfefferbaum and colleagues (1999, 2000, 2003) on the effects of media exposure on children following the Oklahoma City bombing, and the epidemiological surveys of psychological reactions to September 11 by Ahern et al. (2002), Schlenger et al. (2002), Schuster et al. (2001), and Silver et al. (2002), warrant consideration by media executives, federal regulators, journalists, and, perhaps most importantly, viewers.

The news coverage guidelines articulated by the International Society for Traumatic Stress Studies (ISTSS) (http://www.istss.org) provide a starting point for what appears to be an evolving public discussion about the potential secondary effects of graphic and repeated news coverage of terrorism. Another organisation that focuses on prevention is the Dart Centre for Journalism and Trauma (http://www.dartcentre.org.australasia). The centre is part of a global network of journalists, mental health professionals, researchers, and educators who are working to encourage responsible coverage of traumatic events and to improve the interface between news media and those impacted by potentially traumatic events. Both organisations suggest that a scientific approach to the link among media exposure, trauma response, and resilience is crucial, as the controversial topic has usually been argued through anecdotes, sociological discourse, and personal impressions.

As shown in this study, it was the repetitive coverage of the Bali bombing and its aftermath that moderated the link between resilience and trauma response. Although the results are preliminary, there are a number of important implications for the media arising out of the findings. First and foremost, people should monitor and even limit their TV viewing of terrorist-related content. Viewers should also prepare for such exposure with a plan about how to reduce resulting symptoms of distress that may be triggered. For example,
less resilient people could record anniversary programs that include survivor stories so that they can regulate their exposure and decide, if and when, and how to watch these programs.

For network executives, consideration of a warning system for graphic imagery and sound appears warranted, especially for children (Pfefferbaum, 2005). Indeed, informed viewer discretion may be the most immediate preventative measure that can be taken to reduce potential impact of the event. This warning would apply not just to those people who are perceived as vulnerable but also to those people who are ostensibly resilient, as the results of this study found that both high and low resilience groups demonstrated an erosion of resilience under the condition of high TV viewing. In collaboration with the Dart Centre for Journalism and Trauma, TV networks could provide background information on what is known about such effects in news stories. In turn, viewers must take responsibility for adhering to these recommendations, and, in the case of children and adolescents, adult caregivers must ensure that children’s consumption is limited in both amount of time spent watching and type of graphic images. A corollary to this is the issue of censorship and diminished freedom of information. However, as was shown in the present study, it was the repetitive coverage of familiar or already published information over a long period that significantly influenced the association between resilience and trauma response.

Journalists have a salient role in prevention of distress following a large-scale terrorist attack. For example, journalists and reporters can change their tone from sensationalist to deliberative or from alarmist to informative. They can show less traumatising images of the scene and still convey the “truth”. The role that the journalist plays in the prevention of distress raises the issue of whether journalists may be affected by their work. Smith and Newman (2005) argue that most journalists exhibit resilience despite repeated exposure to
catastrophic events. This is evidenced by low rates of PTSD, anxiety, and depression. The exception is embedded war correspondents.

It is uncertain why most journalists do not experience an erosion of resilience over a period of time, as they witness the same content that is screened on TV as the general public. Their professional role is to disseminate information and cover salient events to the wider audience. It is their job and they are trying to do it well despite often difficult and dangerous circumstances. It could be that the immediacy of the situation forces a journalist to fast track his/her stress response as the TV ensures a degree of safety and distance from the event and therefore does not promote integration based on Horowicz’s (2001) completion principle. For instance, many journalists deal with death and devastation of a daily basis. The site of another catastrophic event may not be incongruent with a journalist’s entire worldview. Therefore, the path from active memory storage to representation and processing is uninhibited. With the relative completion of a cycle of information processing, a journalist is able to integrate the “new” information with representations and organised memories, and move on. Indeed, storage, processing, and integration may be promoted by the journalist’s constant verbal reporting of the event to the cameras. It is possible that this reporting is a form of active repetition compulsion as delineated by Freud (1920).

Methodological Considerations and Future Directions for Research

The sampling design and data collection methods of this study have a number of strengths and limitations. Specific strengths include a novel design, the uniqueness of the event, a systematic and comprehensive exploration of variables, and a focus on both adult resilience and trauma response outcomes. It also includes a relatively large sample of Australian citizens, a single exposure group, a breadth of the predictor variables, the
development of moderation and mediation models to explore third variable effects, and the use of depth psychology to inform the interpretation of data. The methodological limitations and related future directions for research that are discussed in the following section include timing, sampling and comparison groups, measurement, design, and interpretation of data.

**Timing**

A potential limitation of the present study was that data collection did not take place until ten months following the Bali bombing. During this phase, the Australian media had begun to increase the amount of coverage of the bombing and its aftermath as the one-year anniversary was approaching. It is possible that a significant percentage of TV viewing hours related to this later time rather than the initial post bombing stage. Another issue is that measuring overall TV exposure by having respondents indicate how many hours they purposefully watched over a ten-month period based on four time categories (i.e., 0-5, 6-10, 11-15, 16 & over) is a crude estimate. Future research would benefit from more refined approaches to gathering data about TV viewing such as allowing respondents to indicate the estimated number of hours. This would allow TV viewing hours to be a continuous variable, which has implications for more complex statistical procedures and analyses.

A second limitation of the present study involves recall bias. Memory can be unreliable in two ways. First, some details of an experience may never be noticed or stored in memory. Second, information may be added later if memories are “rehearsed,” that is, events are recalled by thinking or talking about them, and then re-stored in memory. Rehearsal increases the ease with which we can recall memories, and failure to rehearse or recall a memory for a long time can make it difficult or impossible to retrieve it when it is wanted. That is, if respondents watched a lot of TV in the days immediately following the
event and then nothing since, they will recall having viewed less TV at the ten-month period. However, rehearsal can also contaminate the original memory. When the memory of an event is recalled to consciousness, other new “facts” about the event are added as the event is embellished, made socially acceptable, redefined to fit present-day conceptions, or appended in additional ways. When the memory is again stored in long-term memory, it may be stored in an altered fashion that includes new information. If the altered memory is the one that is most rehearsed, then it becomes the perceived “real” memory.

It is possible that over the ten-month time frame, the amount of purposeful TV viewing recalled may be unrelated to psychological impact, or, the recall of media exposure may no longer be reliable. Also, if respondents had been surveyed in the days immediately following the bombing, a different picture of the associations among media exposure, resilience, and trauma exposure may have been presented. In support of the present design, which measured TV viewing of the Bali bombing ten months following the attack, it could be argued that although early postdisaster research findings may have provided a valuable glance at the nation’s mental health shortly after the Bali bombing, these data do not necessarily predict what might be expected over time.

**Sampling and Comparison Groups**

The recruitment of respondents in the present study used the snowball sampling technique to reduce the potential for sampling bias attributable to mental health effects of the terrorist attack. The response rate of 68% provided moderate potential for nonresponse bias. The concern about sampling bias was not mitigated, as the study did not demonstrate close demographic conformity with comparison census data from the general population represented by the sample. Moreover, the lack of pre-Bali bombing comparison data leaves
some uncertainty about the degree to which the findings of this study can be assumed to be
directly related to the terrorist attack. As this study did not use a random sampling
methodology, it cannot be claimed that the sample is representative of the Australian general
population. However, it is important to state that the overarching aim of the study was to
explore the relationship among key variables within the sample rather than seeking to assess
the prevalence of specific characteristics within a particular population.

Another related sampling bias is self-selection bias. This bias includes low rates of
participation by individuals with insufficient personal interest in the Bali bombing to
participate. People who were uninterested in examining their own reactions, or who felt so
overwhelmed that they avoided any further reminders of the event are probably
underrepresented. Distribution bias was a potential influence on the statistical outcomes.
Respondents were drawn from a single geographic location and were predominately white, in
their 20s, more educated, and casually partnered. These demographics are reflective of the
area surveyed (inner Melbourne), however, they limit the study’s generalisability. Although
it was possible to test the major hypotheses and explore the research questions, a larger, more
diverse sample that is representative of Australia may better demonstrate the relationships
among resilience, intrapsychic processes, trauma reactive beliefs, and trauma response.

The present study used a cross-sectional design to explore adult resilience to the Bali
bombing. Resilience itself is a complex notion that is not easily reduced to any single
construct. As a result, cross-sectional associations can be difficult to interpret in the area of
study of resilience. Longitudinal studies are therefore needed to provide a prospective
evaluation of resilience to terrorism, although it is acknowledged that these would be
difficult to conduct given the nature of terrorist attacks. A prospective study would be able to
inform whether resilience predated media exposure, protected against post-trauma symptomatology, or, if through circumstances, some individuals developed further resilience following the Bali bombing. Despite the need to conduct studies that use a prospective design in contrast to a cross-sectional design, it is important to state that what are being captured in this study are the retrospective meanings of those adult’s resilience to terrorism and what is significant for them in terms of their unique perceptions of the bombing.

**Measurement**

First and foremost, there are few “gold standard” instruments for most of the independent and dependent variables of interest. At the time of the data collection phase, the IPPA-32R was the only published instrument designed to measure adult resilience. It is a wave two resilience measure, using the scheme outlined by Richardson (2002). It assesses characteristics of resilience, and does not assess the resiliency process or provide information about the theory of resilience. One limitation of this study is that a divergent validity analysis was not undertaken. Together with the inconsistent correlations with narcissism and its two variants, it is possible that the IPPA-32R reflects the heterogeneity of the construct.

The measurement of object relations employed by this study is in the early stage of development and can only be used for research purposes. It remains to be determined whether the TOR cross-validates with another self-report measure of object relations such as the Bell’s Object Relations and Reality Test Inventory (BORRTI; Bell, 1991). Construct validity using established measures of object relations developed for assessing other forms of data such as unstructured interviews, narratives, psychotherapy vignettes, and early memories, is also recommended (e.g., *Kleinian Psychoanalytic Diagnostic Scale-Revised* [KPDS]; Aquilar et al., 1996; *Social Cognition and Object Relations Scales-Revised*...
This is important given there is ongoing debate as to whether self-report inventories are capable of assessing object relations. In Huprich and Greenberg’s (2003) review of the empirical publications from the 1990s on the assessment of object relations, they found substantial convergence across the different measures, which support the validity of the construct, despite its complexity. In fact, they acknowledge that different approaches to assessment such as employing both subjective and projective measures appear necessary to obtain a full picture of the construct.

The results of the exploratory factor analysis confirmed a two-factor solution. Future research is required to conduct a confirmatory factor analysis of the narcissism scale as well as conducting convergent validations with a measure of overt narcissism (e.g., Narcissistic Personality Inventory, Raskin & Hall, 1979) and covert narcissism (e.g., Hypersensitive Narcissism Scale, Hendin & Cheek, 1997) respectively.

Data consisting of simple symptom counts and symptoms frequency/severity counts, as is the case of the self-report measures used in this study, have limited validity. In respect to the intrapsychic variables of object relations, narcissism, and splitting, signs and/or symptoms do not constitute a psychological disorder. Diagnostic criteria for disorders include not only specified combinations of symptoms, but also requirements for duration of the symptoms and effects of the individual’s ability to function (North & Pfefferbaum, 2002). Additionally, the symptoms must be new after the event to be counted. In terms of trauma response, the IES-R does not distinguish new symptoms associated with the event from endemic symptoms such as sleeplessness that affect many people from one time or another. Failure to address this issue in the assessment of the impact of the Bali bombing ten months after the event may have resulted in an inflated prevalence rate of trauma response.
Design Issues Relating to Moderation and Mediation

Moderation. One issue to consider as a limitation of the present design study relates to the categorical variable (i.e., TV viewing) in the first mediation model. Unequal sample sizes across groups decrease power (Cohen et al., 2003). For example, with two groups, power decreases as the sample size proportions vary from 0.50/0.50, regardless of the total sample size. With a sample size of 170, the power to detect a difference of 0.40 in a correlation between two groups (e.g., a correlation between a predictor and outcome of 0.2 for low TV viewing & 0.6 for high TV viewing) is more than 0.80 if the two groups are equal in size. However, if the sample proportion is 0.10/0.90, power is about .40. In this study, the proportion was 0.60/0.40 (low TV, n = 102; high TV, n = 68); therefore, power is 0.694 (based on a computation by Aguinis & Pierce 1998). Taking this mild limitation into consideration, the design maximised the power of the test of moderation effects by determining and obtaining the sample size needed to achieve adequate power based on estimated effect sizes, and testing the homogeneity of error variance assumption. It also chose highly reliable continuous variables, obtained measures of continuous predictor and moderator variables that are normally distributed, and used outcome measures that are reliable. Future research designs may choose to use an alternative statistical procedure such as structural equation modelling (SEM) that avoids the limitations inherent in ordinary least squares regression.

Mediation. Although SEM is also the preferred method for performing mediational analyses, the present design was unable to recruit a sufficiently large sample (i.e., at least 200) to perform SEM analyses. SEM controls for measurement error and provides information on the degree of fit of the entire model. Despite the limitation of sample size, the
design employed the next most commonly used approach in the psychological literature. This was the 4-step hierarchical regression method outlined by Baron and Kenny (1986). As with the moderation models, there are factors that affect the power of the test of mediation. Each of the four models experienced minor problems that potentially impact on power such as the relation between predictor and outcome variable and effective sample size. However, with the exception of the last mediation model, all models satisfied the four steps required to test mediation, and results were robust across models.

**Interpretation of the Data**

Although this study established preliminary evidence for media exposure moderating the strength of the link between resilience and trauma response and intrapsychic processes mediating the link between resilience and trauma response, the results must be interpreted cautiously to avoid causality where it is not justified. This avoids the classical logical error *post hoc, ergo propter hoc* (after the fact, therefore because of the fact). At the present time, there is insufficient evidence conclusively implicating the media in causing an erosion of resilience to a large-scale terrorist attack. Future research should investigate the intrapsychic variables that may make people more or less predisposed to the influence of repetitive and prolonged media exposure, the role of various mediums (i.e., audio-visual, print, Internet), aspects of the content, and positive outcomes. Moreover, a mediation model could clarify whether increased TV viewing reveals an important contributing cause, was an early component of the distress syndrome, was an artifact caused by recall bias, or was an indicator of an intrapsychic process or mechanism. It could be that predisposing intrapsychic factors (e.g., repetition compulsion) determine much of the variance concerning who remains resilient and who does not.
Conclusion

In conclusion, the present research used a psychoanalytic object relations account of adult resilience to systematically and comprehensively identify intrapsychic correlates that maintain resilience following indirect exposure to the media coverage of the Bali bombing in an adult population of Australian citizens. Psychoanalytic theory provides us with the concept of structural intrapsychic change as a basic criterion of resilience to adversity. The object relations account as delineated by Kernberg’s psycho-structural metapsychology was selected because it focuses on unconscious organisational processes that influence cognitive appraisal processes that purportedly predicate resilience. A key finding of concern was that confidence in life and self gradually eroded in resilient people under the condition of high media exposure. It also was found that individuals differ in their vulnerability and resilience following exposure to the media’s representation of a large-scale terrorist attack.

Since causation could not be established, it is important that potential mediators be further identified. The instruments developed to measure intrapsychic processes such as the splitting defence and quality of object relations in this thesis provide more direct evidence of the role of unconscious processes than previously available, and have the potential to further refine the understanding of how unconscious processes moderate and mediate affect, behaviour, and cognition following a potentially traumatic event. In the current era of ubiquitous media presence, the potential impact of viewing terrorism and other potentially traumatic events on TV will only grow as a concern. A greater understanding of the intrapsychic processes and mechanisms behind the observed associations among media exposure, resilience, and trauma response may help us to understand and better prepare for the effects of future terrorist attacks.
References


Appendix A.1: Letter to Participants

Project Title:

*Media Exposure to Terrorism: An Investigation of Adult Resilience to the Bali Bombing.*

Investigators:

*Annie Curtis and Dr Glen Bates*

We are conducting a survey to explore the relationship among terrorism and a number of psychological variables: psychosocial resources, impact of event, worldviews, and self- and other-representations. One recent terrorist event was the Bali bombing on October 12, 2002. The comments in the study are typical of what you can read or view in the daily media. They are not necessarily the views of the investigators, or of Swinburne University of Technology. The results of the study may prove beneficial in understanding what psychological factors contribute to adult Australians’ resilience to terrorism.

The study is designed in two parts. Your have the opportunity to be involved in one or both parts. Your participation is completely voluntary. Your initial agreement to participate does not stop you from discontinuing and you are free to withdraw at any time. If you volunteer to participate in *Part One* of the study, you will be asked to complete a questionnaire booklet, which takes approximately 90 minutes. It includes questions about your exposure to the bombing, its impact on you, your attitudes about the event and the world in general, confidence in life and self, and your relationship with your self, family, and others. Following these questions, you will be asked to write about your perspective on the bombing. Your anonymously returning the questionnaire in the pre-paid envelope provided will be taken as informed consent to participate, and any information obtained will be completely confidential.

If you wish to participate in *Part Two* of the study, please write your first name and a contact number on the sheet provided. Personal details will only be used to arrange a time for you to participate after which this information will be destroyed. In *Part Two*, you will be asked to tell us your perspective on the events of ordinary daily life that are depicted on printed cards. Most people find this exercise interesting. It takes approximately 60 minutes and will be conducted at the Hawthorn campus. At some future point, results of one or both parts of the study may be published in an academic journal. Only grouped results will be published and no person’s responses will be identifiable. Only the principal investigator will have access to the data obtained in Parts One and Two, as well as the codes used to conceal you identity in Part Two.
The research conforms to the principles set out in the Swinburne University of Technology Policy on Research Ethics. Participation in this study likely poses no risks beyond those you already experienced in the months following the bombing. Any questions regarding the project can be directed to the principal investigator Annie Curtis on 92145554 or senior investigator Dr Glen Bates on 92148100. Should you wish to discuss your reactions to the Bali bombing or this study, you can contact the Centre for Psychological Services phone 92148653 or Lifeline phone counselling on 131114.

If you have any queries or concerns that the senior investigator was unable to satisfy, contact:

    The Chair, SBS Research Ethics Committee  
    School of Social and Behavioural Science Mail H24  
    Swinburne University of Technology  
    HAWTHORN VIC 3122

If you have a complaint about the way you were treated during this study, please write to:

    The Chair, Human Research Ethics Committee  
    Swinburne University of Technology  
    PO Box 218  
    HAWTHORN VIC 3122

Please retain this information for your records. Thank You for Your Consideration.
Appendix A.2: Recruitment overhead flier

SWINBURNE UNIVERSITY OF PSYCHOLOGY
DEPARTMENT OF PSYCHOLOGY

Researchers: Annie Curtis and Dr. Glen Bates

Title of Study:

*Media Exposure to Terrorism: An Investigation of Adult Resilience to the Bali Bombing*

People differ in how they respond to potentially traumatic events. Some people manage their response in such a way that they become distressed and fearful, whereas other people manage their response in a flexible and adaptive way.

One potentially traumatic event was the recent Bali bombing in Indonesia. The media, in particular the medium of television, extensively covered the event in Australia. This included the initial event on October 12, 2002, the police investigation, suspects’ trials, and personal accounts of the events by victims, survivors, their friends and families. It also included the memorial services in both Australia and Bali and the Australian Government’s response to terrorism in general.

We are interested in your attitudes to terrorism in general and the Bali bombing in particular, regardless of where you think you stand on this topic.

The study is in two parts. Participation in the first part will involve completing a questionnaire booklet consisting of various inventories concerned with your worldviews, impact of the event, representations of your self and others, coping style, and attitudes. There is also room for you to respond in writing to four questions about your perspective of the Bali bombing. The expected time to comfortably complete the task is 90 minutes.

If, after completing the questionnaire booklet, you are interested in further participation, in the form of a group exercise concerning your perspectives on the events of ordinary daily life depicted on a set of printed cards, please complete the additional information form at the back of the questionnaire booklet that refers to Part Two of the study.

Please return the completed questionnaire booklets in the reply-paid envelope attached to the questionnaire booklet or drop it of at the central depository on the University grounds. Your responses will be treated confidentially. No identifying information will be linked to your responses.

If you have any queries about this research, please contact my supervisor Dr Glen Bates at Swinburne University of Technology on (03) 9214 8100.

Thank you for your consideration and potential participation.
Appendix A.3: Questionnaire Booklet
EXPOSURE TO THE EVENT

Please respond to each question by ticking the appropriate box.

1. Were you residing, visiting, or holidaying in Bali at the time of the terrorist attack?
   - Yes
   - No (if “No”, skip to question 2)

   a) Were you directly (that is, in the vicinity of the Sari Club or Paddy’s Bar) exposed to the Bali bombing terrorist attack?
      - Yes
      - No

   b) Were you physically injured in any way?
      - Yes
      - No

   c) How strongly did you believe that your own life was threatened at the time?
      - Not at all
      - Yes, but not seriously
      - Yes, seriously

2. Was your spouse or partner, any member of your family, or a close friend directly exposed to the attack?
   - Yes
   - No (if “No”, skip to question 3)

What was his or her relationship(s) to you? ______________________________

Did the person or any of the people you know lose their lives?
   - Yes (if “Yes”, skip to question 3)
   - No (please answer question “c” below)

b) Beginning at the time of the attack, which of the following statements best describes your experience?
   - I found out within a few hours that (he/she/they) had escaped.
   - I found out within the same day that (he/she/they) had escaped.
   - I found out more than a day after that (he/she/they) had escaped.
3. Did you contact the Australian Government’s Department of Foreign Affairs and Trade’s “Helpline” and or website, Centrelink’s “Bali Disaster Hotline”, a travel agency, or workplace to assist you in seeking information concerning the safety or welfare of Australians known to you who were visiting or residing in Bali?
   - Yes
   - No

4. When did you first learn of the October 12 2002 Bali bombing terrorist attack?
   - Sunday morning via the television
   - Sunday afternoon via the television and/or hearing about it from others
   - The following day (Monday) at work, university, or other location
   - During the remainder of the week

5. Did you find yourself talking to members of your household to gain support and comfort (or ringing friends or relatives to talk to them about what you had witnessed)?
   - Yes
   - No

7. When you first watched or listened to reports of the terrorist attack, what was your immediate emotion (feeling) (please tick only one box)?
   - Grateful
   - Fear
   - Closeness
   - Sadness
   - Curious
   - Anger

8. After the Bali bombing on October 12, 2002, how many hours of television coverage of the event and its aftermath did you purposely view up to and including today?
   - 0 - 5 hours
   - 6 - 10 hours
   - 11 – 15 hours
   - 16 and over hours

9. Have you attempted to talk to others about your thoughts and feelings surrounding the terrorist attack but found that others actively discouraged you from talking about it?
   - Yes, quite a bit
   - Yes, somewhat
   - Yes, just a little bit
   - No, not at all

10. Unfortunately, some people were affected by the terrorist attack because of their ethnic heritage or religious background or other people’s perceptions of their heritage or background. Did you or do you continue to fear for your safety, well being, or acceptance because of your ethnicity or religion or another’s belief about your ethnicity or religion?
11. Overall, considering both big ways and little ways that you were touched by the events of the Bali bombing, how stressful would you say your life has been since then. Please answer this question by circling a number on a scale from 1 to 10 below, where 1 means that you have not personally been stressed or distressed at all, and 10 means that you have been terribly or extremely stressed or distressed.

1          2          3          4          5          6          7          8          9          10
not stressed                        extremely distressed
ATTITUDES TO THE BOMBING

Please use the scale below to indicate the degree of your current attitude to the October 12, 2002 Bali bombing terrorist attack. The statements are typical of what is presented by the daily media. They are not necessarily the views of the researcher, or of Swinburne University of Technology. Select one of the numbers according to how you feel, where:

1: Not at all  2: 3: 4: 5: 6: 7: A great deal

1. Australia should withdraw its support of the US-led “war against terrorism” and concentrate on its economic and social problems at home?

2. The Australian Government has been pressured by the USA to join the allied forces for fear that the USA may place economic sanctions on Australia.

3. Since the Bali terrorist attack, Australian people have become suspicious of and wary toward Muslim people who are currently living in or visiting Australia.

4. The Bali bombing has exploded the belief that Bali was a safe, holiday paradise.

5. The Bali bombing was directed at Australian citizens on holiday in Bali.

6. The Australian Government is using the death of 88 Australians in the Bali attack as justification for both aligning itself with the USA, and sending troops to fight “terrorism” in Iraq.

7. The Australian Government booklet “Lets look out for Australia” which provides information about the counter-terrorism measures it has produced since the Bali attack, is too confronting and patriotic; and as a result, many Australians have rejected or ignored its message.

8. The Bali bombing was the highest loss of Australian lives in any peacetime disaster. The bombing came almost 13 months after September 11. To what extent has the bombing caused Australia to lose its sense of political neutrality, isolation, and national safety?
LPR

Occasionally, events like the Bali bombing terrorist attack on October 12, 2002, can change the way people view themselves, other people, or the world in general.

How true are the following statements about you?

1. You feel less safe than you did before the Bali Bombings. Is this...

   Not at all true  A little true  Somewhat true  Very true  Extremely true
   1               2                 3            4               5

2. Compared to how you felt before the disaster, you feel less able to control the forces that will influence your life.

   Not at all true  A little true  Somewhat true  Very true  Extremely true
   1               2                 3            4               5

3. You feel more pessimistic about the possibility of there ever being peace in the world.

   Not at all true  A little true  Somewhat true  Very true  Extremely true
   1               2                 3            4               5

4. You feel more pessimistic about your own future well-being.

   Not at all true  A little true  Somewhat true  Very true  Extremely true
   1               2                 3            4               5

5. You were disappointed in yourself because of things you felt, said, or did around the time of the bombings.

   Not at all true  A little true  Somewhat true  Very true  Extremely true
   1               2                 3            4               5

6. You were disappointed by other people you were close to because of things they said or did not say afterwards.

   Not at all true  A little true  Somewhat true  Very true  Extremely true
   1               2                 3            4               5

7. You have less faith in Australia’s Government to protect you from terrorism than you did before the bombings.

   Not at all true  A little true  Somewhat true  Very true  Extremely true
   1               2                 3            4               5
8. There is at least one person that you like less than you used to because of things he or she said or did afterward.

   Not at all true  A little true  Somewhat true  Very true  Extremely true
   1               2               3               4               5

9. There is at least one person that you feel closer than you used to because of things he or she said or did afterward.

   Not at all true  A little true  Somewhat true  Very true  Extremely true
   1               2               3               4               5

10. You became less confident in your own abilities to cope with major crises.

    Not at all true  A little true  Somewhat true  Very true  Extremely true
    1               2               3               4               5

11. You were disappointed to find that someone you thought you could count on for support was not helpful to you.

    Not at all true  A little true  Somewhat true  Very true  Extremely true
    1               2               3               4               5

12. You honestly believe that you should have provided more emotional support to other people than you were able to, and this has changed the way you think about yourself.

    Not at all true  A little true  Somewhat true  Very true  Extremely true
    1               2               3               4               5
Below is a list of difficulties people sometimes have after stressful life events. Please read each item, and then indicate how distressing each difficulty has been for you during the past 7 days with respect to the October 12 2002 Bali bombing terrorist attack. How much were you distressed or bothered by these difficulties?

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<th></th>
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<th>Not at all</th>
<th>A little bit</th>
<th>Moderately</th>
<th>Quite a bit</th>
<th>Extremely</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Any reminder brought back feelings about it.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>2</td>
<td>I had trouble staying asleep.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>3</td>
<td>Other things kept making me think about it.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>4</td>
<td>I felt irritable and angry.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>I avoided letting myself get upset when I thought about it or was reminded of it.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>6</td>
<td>I thought about it when I didn’t mean to.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>7</td>
<td>I felt as if it hadn’t happened or wasn’t real.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>8</td>
<td>I stayed away from reminders about it.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>9</td>
<td>Pictures about it popped into my mind.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>10</td>
<td>I was jumpy and easily startled.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>11</td>
<td>I tried not to think about it.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>12</td>
<td>I was aware that I still had a lot of feelings about it, but I didn’t deal with them.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>13</td>
<td>My feelings about it were kind of numb.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>14</td>
<td>I found myself acting or feeling like I was back at that time.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>15</td>
<td>I had trouble falling asleep.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>16</td>
<td>I had waves of strong feelings about it.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>
17 I tried to remove it from my memory.
18 I had trouble concentrating.
19 Reminders of it caused me to have physical reactions, such as sweating, trouble breathing, nausea, or a pounding heart.
20 I had dreams about it.
21 I felt watchful and on guard.
22 I tried not to talk about it.
WVS

Directions: Please answer the following questions about how you view the world and yourself using the scale below. Place the appropriate number in the brackets at the end of each question.

1 = Strongly Agree, 2 = Mostly Agree, 3 = Mostly Disagree, 4 = Strongly Disagree

1. I am content just to be alive these days. (___)
2. People are hard to put up with. (___)
3. I can develop my personality to be whatever I want to be. (___)
4. The world is a dangerous place to be. (___)
5. Sometimes I think I am not a good person. (___)
6. Things usually work out for the best in the end. (___)
7. It is hard to tell who to trust anymore. (___)
8. For the most part, the world is a pretty safe place to live. (___)
9. I am a jinx. (___)
10. I have a hard time believing anything people say. (___)
11. People like me. (___)
12. Life is mostly fair. (___)
13. Everything always seems to go wrong with my life. (___)
14. People sometimes take me for granted. (___)
15. There really isn’t that much to be afraid of in life. (___)
16. I want to help others who are not as well off as I am. (___)
17. I do not deserve the love or respect of others. (___)
18. All of the tough times I have lived through have made me more mature. (___)
19. I feel like something bad is just waiting around the next corner to happen. (___)
20. I have lived through such bad times that the thought of dying doesn’t worry me. (___)
21. I feel like nothing can keep me from getting what I want out of life anymore. (___)
22. I am not sure about much anymore. (___)
23. Nowadays I feel like every new day I am alive is a gift. (___)
24. I am basically a good person (___)
25. The tough times in my life have made me feel closer to people than before. (___)
26. I can handle whatever comes my way now I have lived through bad times (___)
27. Life does not seem to make much sense anymore. (___)
28. I understand people better now that I have lived through some tough times. (___)
29. I sometimes feel like I deserved all of the bad things that have happened to me. (___)
30. Since I have lived through some bad times, I have a better idea of what is important to me and what is not. (___)
31. I have a harder time talking to people these days. (___)
32. I feel like I have control over my life. (___)
33. I feel cut off from people these days. (___)
34. The bad things have taught me to see how good everything can be. (___)
35. It is hard to be sure of anything these days. (___)
36. If my bad experiences in life have taught me anything, it is that some people in my life are very important to me. (___)
37. Nothing ever seems to go right for me. (___)
38. I believe I am jinxed. (___)
39. I have a hard time understanding people. (___)
40. I don’t know what to do about anything anymore. (___)
41. Most other people are basically good people. (___)
42. I sometimes feel stupid. (___)
43. I have control over what happens to me in my life. (___)
44. Few people in this world can be trusted. (___)
45. After all the tough times, I feel like I can life through anything. (___)
46. It is so easy for me to make friends. (___)
47. There are lots of things to be afraid of in this life. (___)
48. All the tough times I have lived through have made me more suspicious of people. (___)
49. I am not sure I always understand what is going on around me anymore. (___)
50. I usually feel that I am a lovable person. (___)
The following questions contain statements and their opposites about people’s perceptions on how they cope with life. Where would you place yourself on this scale? Place a circle on the number that is most true for you at this time.

1. During most of the day, my energy level is
   very high 1 2 3 4 5 6 7 very low

2. When there is a great deal of pressure being placed on me
   I remain calm 1 2 3 4 5 6 7 I get tense

3. As a whole, my life seems
   dull 1 2 3 4 5 6 7 vibrant

4. My daily activities are
   a source 1 2 3 4 5 6 7 not a source of
   of satisfaction satisfaction

5. During stressful circumstances, I experience anxiety
   all the time 1 2 3 4 5 6 7 never

6. I have come to expect that every day will be
   new 1 2 3 4 5 6 7 exactly the same
   and different

7. During stressful circumstances, I am fearful
   all the time 1 2 3 4 5 6 7 never

8. When I think deeply about life
   I feel there 1 2 3 4 5 6 7 I do not feel there is
   is any purpose to it a purpose to it
9. I feel that my life so far has been
   unproductive  1  2  3  4  5  6  7  productive

10. When I have made a mistake during a stressful situation
   I feel  1  2  3  4  5  6  7  I continue
       extreme dislike  1  2  3  4  5  6  7  to like myself
       for myself

11. I feel that the work/study/paid/unpaid I am doing
    is of no value  1  2  3  4  5  6  7  is of great value

12. I wish I were different than who I am.
    agree strongly  1  2  3  4  5  6  7  disagree strongly

13. At this time, I have
    clearly  1  2  3  4  5  6  7  no clearly
    defined goals  1  2  3  4  5  6  7  defined goals
    for my life  1  2  3  4  5  6  7  for my life

14. When a situation becomes difficult, I find myself worrying that something bad is going
to happen to me or those I love
   all the time  1  2  3  4  5  6  7  never

15. In a stressful situation
   I can  1  2  3  4  5  6  7  I cannot
       concentrate easily  1  2  3  4  5  6  7  concentrate easily

16. When I need to stand up for myself
   I cannot do easily  1  2  3  4  5  6  7  I can do it easily
17. I feel less than adequate when I am in difficult situations.

agree strongly 1 2 3 4 5 6 7 disagree strongly

18. In a difficult situation, I am confident that I will receive the help that I need.

disagree 1 2 3 4 5 6 7 agree strongly

19. I react to problems and difficulties

with a great deal of frustration

20. When sad things happen to me or other people

I cannot feel I continue to feel positive about life

21. When I think about what I have done with my life, I feel worthwhile

worthless

22. During times of stress, I feel isolated and alone.

disagree 1 2 3 4 5 6 7 agree strongly strongly

23. My present life

does not satisfy me

satisfies me

24. I feel joy in my heart

never 1 2 3 4 5 6 7 all the time

25. In really difficult situations,

I feel able to 1 2 3 4 5 6 7 I feel unable to
respond in positive ways

**26. When I need to relax during stressful times,**

I experience 1 2 3 4 5 6 7 I experience no peace

a peacefulness, only thoughts & worries

Free of thoughts & worries

**27. I feel trapped by the circumstances of my life.**

agree strongly 1 2 3 4 5 6 7 disagree strongly

**28. When I am in a frightening situation**

I panic 1 2 3 4 5 6 7 I remain calm

**29. When I think about my past**

I feel no 1 2 3 4 5 6 7 I feel many regrets

**30. Deep inside myself**

I do not 1 2 3 4 5 6 7 I feel loved

feel loved

**31. During stressful times in my life, I worry about the future**

never 1 2 3 4 5 6 7 all the time

**32. When I think about the problems that I have**

I do not 1 2 3 4 5 6 7 I feel hopeful

feel hopeful about solving them

about solving them
**TOR**

**INSTRUCTIONS:**

Please read each of the statements carefully. Circle the number next to the statement that marks the extent to which the statement is true of you.

The numbers mean:

1 = *Completely Disagree*, 2 = *Mostly Agree*, 3 = *Partly Agree/Partly Disagree*, 4 = *Mostly Agree*, 5 = *Completely Agree*.

Circle only one answer for each statement. There are no right or wrong answers. Mark each one.

<p>| | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>If the person I love left me, life wouldn’t have any meaning any more.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>2</td>
<td>I admire myself very much.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>3</td>
<td>I don’t have any good friends.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>4</td>
<td>The persona I love and myself understand each other without speaking.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>I have the feeling that nobody likes me.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>6</td>
<td>I am very good and kind to people as long as they are of some use to me.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>7</td>
<td>Contacts with other people are not important to me.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>8</td>
<td>I like doing things that are dangerous.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>9</td>
<td>I usually do the opposite to what other expect of me.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>10</td>
<td>I a relationship I expect my partner to always accommodate me.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>11</td>
<td>I don’t want to have a permanent partner because that would take away my freedom.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>12</td>
<td>I other people don’t behave as I want them to, I get very upset.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>13</td>
<td>I am distressed if I have to leave a person who I feel close to, even if only for a short time.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>14</td>
<td>I find it difficult to distinguish between my wishes and the wishes of a person I am very attracted to.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>15</td>
<td>I am being frank in answering the questions in this questionnaire.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>16</td>
<td>If I go on a short trip, I phone the people I am close to almost every day.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>17</td>
<td>I am reserved and introverted.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>18</td>
<td>Sometimes in relationships with others, I begin to lose me sense of self.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>19</td>
<td>I sometimes oppose others just to prove that they have no power over me.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>20</td>
<td>I need another person to feel whole.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>21</td>
<td>I am going to achieve more in life than other people.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>22</td>
<td>“Average” people are uninteresting to me.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>23</td>
<td>I refuse to become attached to other people because I don’t want to lose my freedom.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>24</td>
<td>If I go on a trip, I am afraid that doing so will hurt those who are close to me.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>25</td>
<td>Sometimes I manipulate other people.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>26</td>
<td>I am not close to anyone.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>
27. I have a toy or an object from my childhood that I am very attached to.
28. Some people fascinate me so much that I can’t stop thinking about them.
29. Other people are fascinated by me.
30. I feel bad if the person I love does something that goes against my wished.
31. I feel threatened when another person tries to establish a more intimate relationship with me.
32. When I am in a relationship I want to control me my partner.
33. I want to merge into ONE with the person I love.
34. I am better looking than other people.
35. I don’t need other people.
36. I am worth more than other people.
37. I would like to always live with my parents.
38. I the person I love feels bad, I also begin to feel bad.
39. Sometimes I am afraid of another person getting too close to me.
40. I feel bad if the person I love leaves me by myself.
41. I have visited all the countries in the world.
42. The most important thing in love is that my partner is always available to me.
43. Sometimes I claim rights for myself that I am not willing to grant to others.
44. I have never fallen in love.
45. Sometimes I feel as if I am almighty.
46. I am intimidated by people who want to become emotionally close to me.
47. I find it difficult to accept that there are not only things in common but also differences between myself and the person I love.
48. My relationships are brief with no strings attached.
49. I feel that there is a barrier between myself and other people.
50. I often think I am in danger of losing the person I feel close to.
51. I can’t rely on anyone but myself.
52. It is difficult for me to cope with every situation from the person I love.
53. Sometimes I feel so strong that I think that nothing bad can happen to me.
54. Sometimes I fear that another person will get overly attached to me.
55. Sometimes I feel so close to another person that I no longer know who I am.
56. When a relationship with another person involves too much commitment, I withdraw.
57. I have a special power that other people don’t possess.
58. Sometimes something unpleasant happens to me.
59. I cannot become attached to anyone.
60. Some people really impose themselves on me.
61. I would like to become famous.
62. I am mistrustful towards other people.
63. I have no one in life on whom I can rely in difficult moments.
64. If I get too close to another person, I become afraid of losing myself.
65. I the person I am very attached to has to leave a while, I take an object belonging to him/her to feel better.
66. When I am with another person I feel close too, I can read his/her mind.
67. Sometimes I feel that one of the people I am close to might die.
68. Other people seem so distant from me.  
69. If the person I love tries to do something I disagree with, I try to stop him/her.  
70. In the past week I have had at least one beverage to drink.  
71. The person I feel close to has the same opinions as I do.  
72. I want to be perfect.  
73. In a relationship, I try to chain the person to myself.  
74. I would like to escape from a relationship that is becoming more and more intimate.  
75. I don’t want to have a lot of contacts with other people.  
76. When I go to bed at night, I want to have something with me to protect me.  
77. I believe I am truly special.  
78. When I’m in a relationship, I feel trapped.  
79. When I go on a trip, I miss my family a lot.  
80. Sometimes I break all the rules to achieve what I want.  
81. I have told at least one lie in my life.  
82. I experience the person I love as part of my self.  
83. Sometimes I expect other people to know what I need without me telling them.  
84. I want other people to be the way I want them to be.  
85. I am alienated from other people.  
86. Being alone causes me to feel despair.  
87. When a person no longer gives me what I need, he/she no longer interests me.  
88. In a relationship, I do not allow my partner the things I allow myself.  
89. I believe I was born to do great things.  
90. In a relationship I become very angry when my partner doesn’t act as I want him/her to.  
91. When I am in the company of others, I want to be the centre of attention.  
92. Sometimes I behave in the same way as the person I like.  
93. In a relationship I am afraid of losing my independence.  
94. I often feel though there is no clear boundary between me and other people.  
95. I sometimes use other people to get what I want.
This questionnaire deals mainly with your general thoughts and feelings about yourself, your family, and significant others in your life. Please indicate how much you agree with each of the statements below by circling only one number for each question.

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1 2 3 4 5</td>
</tr>
</tbody>
</table>

1. I feel different about myself when I am with different people.  1 2 3 4 5

2. My mother has faults, but I have never doubted her love for me.  1 2 3 4 5

3. Being able to keep friends is one of my strong points.  1 2 3 4 5

4. My parents always took care of my needs.  1 2 3 4 5

5. My feelings about myself shift dramatically.  1 2 3 4 5

6. It is impossible to love my parents all the time.  1 2 3 4 5

7. The different parts of my personality are difficult to put together.  1 2 3 4 5

8. My feelings about my mother change from day to day.  1 2 3 4 5

9. My parents did the best they could for me.  1 2 3 4 5

10. I have doubts about my closest friends.  1 2 3 4 5

11. Sometimes I am not sure who I am.  1 2 3 4 5

12. My feelings about myself are very powerful, but they can change from one moment to the next.  1 2 3 4 5
13. My friendships are almost always satisfying.
   1  2  3  4  5

14. My feelings about myself do not change easily.
   1  2  3  4  5

15. I have had many long-lasting friendships.
   1  2  3  4  5

16. I sometimes feel “pulled apart” by my feelings about myself.
   1  2  3  4  5

17. My relationship with my family is solid.
   1  2  3  4  5

18. My feelings toward those close to me remain constant.
   1  2  3  4  5

19. I have always been aware my close friends really cared for me.
   1  2  3  4  5

20. My opinions of my friends rarely change.
   1  2  3  4  5

21. I almost always feel good about those close to me.
   1  2  3  4  5

22. I have extremely mixed feelings about my mother.
   1  2  3  4  5

23. My family was often hurtful to me.
   1  2  3  4  5

24. Who I am depends on how I am feeling.
   1  2  3  4  5
### Appendix B.1: Means and Standard Deviations for the ANOVAs Medium Group

#### Table B1.1

*Means and Standard Deviations of the Object Relations Middle Group*

<table>
<thead>
<tr>
<th>Scales and subscales</th>
<th>Object Relations</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$M$</td>
</tr>
<tr>
<td>Impact of Event-Revised</td>
<td>12.13</td>
</tr>
<tr>
<td>Avoidance</td>
<td>5.50</td>
</tr>
<tr>
<td>Intrusion</td>
<td>4.03</td>
</tr>
<tr>
<td>Hyperarousal</td>
<td>2.59</td>
</tr>
<tr>
<td>Inventory of Positive Psychological Attitudes-Revised</td>
<td>132.43</td>
</tr>
<tr>
<td>Life Purpose and Satisfaction</td>
<td>77.79</td>
</tr>
<tr>
<td>Self-Confidence During Stress</td>
<td>54.64</td>
</tr>
</tbody>
</table>

*Note.* $N = 115$.

#### Table B.1.2

*Means and Standard Deviations of the Medium Splitting Group*

<table>
<thead>
<tr>
<th>Scales and subscales</th>
<th>Splitting</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>$M$</td>
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<tr>
<td>Impact of Event-Revised</td>
<td>11.67</td>
</tr>
<tr>
<td>Avoidance</td>
<td>5.47</td>
</tr>
<tr>
<td>Intrusion</td>
<td>3.81</td>
</tr>
<tr>
<td>Hyperarousal</td>
<td>2.39</td>
</tr>
<tr>
<td>Inventory of Positive Psychological Attitudes-Revised</td>
<td>132.60</td>
</tr>
<tr>
<td>Life Purpose and Satisfaction</td>
<td>78.08</td>
</tr>
<tr>
<td>Self-Confidence During Stress</td>
<td>54.52</td>
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*Note.* $N = 104$. 

---

[Original Image Text]
Table B.1.3

*Means and Standard Deviations of the Medium Narcissism Group*

<table>
<thead>
<tr>
<th>Scales and subscales</th>
<th>Narcissism</th>
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<tbody>
<tr>
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<td></td>
<td></td>
</tr>
<tr>
<td>Impact of Event-Revised</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Avoidance</td>
<td>6.35</td>
<td>5.91</td>
</tr>
<tr>
<td>Intrusion</td>
<td>5.68</td>
<td>6.03</td>
</tr>
<tr>
<td>Hyperarousal</td>
<td>4.47</td>
<td>5.37</td>
</tr>
<tr>
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<td>123.44</td>
<td>37.66</td>
</tr>
<tr>
<td>Life Purpose and Satisfaction</td>
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<td>23.12</td>
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<tr>
<td>Self-Confidence During Stress</td>
<td>50.35</td>
<td>17.10</td>
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*Note.* N = 115.
Appendix C.1: Hierarchical Regression Analyses for Testing Moderation: Hours of TV Viewing on Resilience by Trauma Response

**Model Summary**

<table>
<thead>
<tr>
<th>Model</th>
<th>R Square</th>
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<th>Std. Error of the Estimate</th>
<th>Change Statistics</th>
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<tbody>
<tr>
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<td>.230</td>
<td>.221</td>
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<tr>
<td>2</td>
<td>.530</td>
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<td>.268</td>
<td>13.277</td>
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</table>

Predictors: (Constant), Resilience mean, television viewing

ANOVA

<table>
<thead>
<tr>
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<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Regression</td>
<td>2</td>
<td>4675.276</td>
<td>24.911</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>Residual</td>
<td>167</td>
<td>187.678</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Regression</td>
<td>3</td>
<td>3810.332</td>
<td>21.616</td>
<td>.000</td>
</tr>
<tr>
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<td>Residual</td>
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<td>176.275</td>
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</table>

Dependent Variable: Total Impact of Event-Revised [IES-R] scale

**Coefficients**

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
<th>95% Confidence Interval for B</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Constant)</td>
<td>13.470</td>
<td>- .136</td>
<td>9.875</td>
<td>.000</td>
<td>-10.777 to 16.163</td>
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<tr>
<td>Resilience mean</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 (Constant)</td>
<td>13.891</td>
<td>- .216</td>
<td>10.464</td>
<td>.000</td>
<td>11.270 to 16.512</td>
</tr>
<tr>
<td>television viewing</td>
<td>9.107</td>
<td>-.216</td>
<td>4.316</td>
<td>.000</td>
<td>4.940 to 13.273</td>
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<tr>
<td>Resilience mean</td>
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<td></td>
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<td></td>
<td></td>
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<tr>
<td>Resilience *TV interaction</td>
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<td>.181</td>
<td>3.435</td>
<td>.001</td>
<td>.077 to .284</td>
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</tbody>
</table>

Dependent Variable: Total Impact of Event-Revised [IES-R] scale
Appendix C.2: Hierarchical Regression Analyses for Testing Mediation: Trauma Reactive Beliefs on Resilience by Trauma Response

Model Summary

<table>
<thead>
<tr>
<th>Model</th>
<th>R Square</th>
<th>Change R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of Estimate</th>
<th>Change Statistics</th>
<th>F Change</th>
<th>df1</th>
<th>df2</th>
<th>Sig. F Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.599</td>
<td>.000</td>
<td>.359</td>
<td>.351</td>
<td>12.496</td>
<td>.359</td>
<td>46.792</td>
<td>2</td>
<td>.000</td>
</tr>
</tbody>
</table>

Predictors: (Constant), Total WVS "Trauma Reactive Beliefs" [TRB] subscale, Total IPPA-32R "Confidence in Life/Self" Scale

ANOVA

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Regression</td>
<td>1</td>
<td>6330.543</td>
<td>30.951</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>Residual</td>
<td>168</td>
<td>204.537</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>169</td>
<td>40692.712</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Regression</td>
<td>2</td>
<td>7307.015</td>
<td>46.792</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>Residual</td>
<td>167</td>
<td>156.160</td>
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</tr>
<tr>
<td></td>
<td>Total</td>
<td>169</td>
<td>40692.712</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Predictors: (Constant), Total IPPA-32R "Confidence in Life/Self" Scale

Predictors: (Constant), Total IPPA-32R "Confidence in Life/Self" Scale, Total WVS "Trauma Reactive Beliefs" [TRB] subscale Dependent Variable: Total Impact of Event-Revised [IES-R] scale

Coefficients

<table>
<thead>
<tr>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
<th>95% Confidence Interval for B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>Total IPPA-32R Resilience</td>
<td>4.528E-02</td>
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<tr>
<td>&quot;Trauma Reactive Beliefs&quot; [TRB] subscale</td>
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<td>.080</td>
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Dependent Variable: Total Impact of Event-Revised [IES-R] scale
Appendix C.3: Hierarchical Regression Analyses for Testing Mediation: Object Relations on Resilience by Trauma Response

Model Summary

<table>
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<tr>
<th>Model</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of Estimate</th>
<th>Change in Statistics</th>
<th>F Change</th>
<th>df1</th>
<th>df2</th>
<th>Sig. F Change</th>
</tr>
</thead>
</table>

Predictors: (Constant), Total TOR score, Total IPPA-32R "Confidence in Life/Self" Scale

ANOVA

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Regression</td>
<td>1</td>
<td>6330.543</td>
<td>30.951</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>Residual</td>
<td>168</td>
<td>204.537</td>
<td></td>
<td></td>
</tr>
<tr>
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<td>Total</td>
<td>169</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
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<td>Regression</td>
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<tr>
<td></td>
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<td>194.508</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>169</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Predictors: (Constant), Total IPPA-32R "Confidence in Life/Self" Scale

Predictors: (Constant), Total IPPA-32R "Confidence in Life/Self" Scale, Total TOR score

Dependent Variable: Total Impact of Event-Revised [IES-R] scale

Coefficients

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
<th>95% Confidence Interval for B</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
<td>Lower Bound</td>
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</table>

1 (Constant) 8.438 9.797 -.200 - .861 .390 -10.904 27.780
Total IPPA-32R -7.817E-02 .036 -2.144 .033 -.150 -.006
"Confidence in Life/Self" Scale
Total TOR score 8.070E-02 .026 .290 3.108 .002 .029 .132

Dependent Variable: Total Impact of Event-Revised [IES-R] scale
Appendix C.4: Hierarchical Regression Analyses for Testing Mediation: Splitting on Object Relations by Resilience

Model Summary

<table>
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<tr>
<th>Model</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
<th>Change Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>R Square</td>
<td>F Change</td>
<td>df1</td>
<td>df2</td>
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<td>.671</td>
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<td>.618</td>
<td>.613</td>
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Predictors: (Constant), Total TOR score
Predictors: (Constant), Total TOR score, Total SI score

ANOVA

<table>
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<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Regression</td>
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<td>119860.150</td>
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<td>.000</td>
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<td>Residual</td>
<td>146321.82</td>
<td>168</td>
<td>870.963</td>
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<td></td>
</tr>
<tr>
<td>2 Regression</td>
<td>164519.892</td>
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<td>82259.946</td>
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<td>608.755</td>
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<tr>
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</table>

Predictors: (Constant), Total TOR score
Predictors: (Constant), Total TOR score, Total SI score
Dependent Variable: Total IPPA-32R "Confidence in Life/Self" Scale

Coefficients

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
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Dependent Variable: Total IPPA-32R "Confidence in Life/Self" Scale
Appendix C.5: Hierarchical regression Analyses for Testing Moderation: Narcissism on Self-representations by Resilience

Model Summary

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<th>Std. Error of the Estimate</th>
<th>R Square Change</th>
<th>F Change</th>
<th>df1</th>
<th>df2</th>
<th>Sig. F Change</th>
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<tbody>
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Predictors: (Constant), CENTNARC, CENTSELF

ANOVA

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<th>F</th>
<th>Sig.</th>
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<tr>
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<td>710.989</td>
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<td></td>
</tr>
</tbody>
</table>

Predictors: (Constant), CENTNARC, CENTSELF

Coefficients

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
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</thead>
<tbody>
<tr>
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<td>Beta</td>
<td></td>
</tr>
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<td>CENTNARC</td>
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<td>.286</td>
<td>.145</td>
</tr>
<tr>
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<td>(Constant)</td>
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<tr>
<td></td>
<td>CENTSELF</td>
<td>-3.677</td>
<td>.267</td>
<td>-.825</td>
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<tr>
<td></td>
<td>CENTNARC</td>
<td>.590</td>
<td>.282</td>
<td>.123</td>
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<tr>
<td></td>
<td>splitting*narcissism</td>
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</table>

Dependent Variable: Total IPPA-32R "Confidence in Life/Self" Scale
Appendix C.6: Hierarchical Regression Analyses for Testing Mediation: Splitting of Self-Representations on Covert Narcissism by Resilience

Model Summary

<table>
<thead>
<tr>
<th>Model</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of Estimate</th>
<th>Change Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.718</td>
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<td>.513</td>
<td>27.705 .516 178.774 1 168 .000</td>
</tr>
<tr>
<td>2</td>
<td>.718</td>
<td>.516</td>
<td>.510</td>
<td>27.787 .000 .011 1 167 .918</td>
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</tbody>
</table>

Predictors: (Constant), Total SI "Splitting of Self" subscale

ANOVA

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Regression</td>
<td>1</td>
<td>137226.09</td>
<td>178.774</td>
<td>.000</td>
</tr>
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<td></td>
<td>Residual</td>
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<td>767.595</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
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<td>266181.97</td>
<td></td>
<td></td>
</tr>
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<td>2</td>
<td>Regression</td>
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<td>137234.26</td>
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<td>.000</td>
</tr>
<tr>
<td></td>
<td>Residual</td>
<td>167</td>
<td>772.142</td>
<td></td>
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</tr>
<tr>
<td></td>
<td>Total</td>
<td>169</td>
<td>266181.97</td>
<td></td>
<td></td>
</tr>
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</table>

Predictors: (Constant), Total SI "Splitting of Self" subscale, covert narcissism
Dependent Variable: Total IPPA-32R "Confidence in Life/Self" Scale

Coefficients

<table>
<thead>
<tr>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
</tr>
<tr>
<td>1 (Constant)</td>
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<td>6.428</td>
<td>32.560</td>
</tr>
<tr>
<td>Total SI</td>
<td>-3.200</td>
<td>.239</td>
<td>-.718</td>
</tr>
<tr>
<td>&quot;Splitting of Self&quot; subscale</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>2 (Constant)</td>
<td>210.041</td>
<td>9.620</td>
<td>21.834</td>
</tr>
<tr>
<td>Total SI</td>
<td>-3.188</td>
<td>.266</td>
<td>-.715</td>
</tr>
<tr>
<td>&quot;Splitting of Self&quot; subscale</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>covert narcissism</td>
<td>-6.238E-02</td>
<td>.606</td>
<td>-.006</td>
</tr>
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Dependent Variable: Total IPPA-32R "Confidence in Life/Self" Scale